

DOCUMENT RESUME

ED 132 309

CE 008 658

AUTHOR Thuemmel, William L.; And Others  
 TITLE Agribusiness and Natural Resources Education in Michigan. Job Competencies Needed. A Tabular Supplement to the Final Report.  
 INSTITUTION Michigan State Univ., East Lansing. Coll. of Agriculture and Natural Resources Education Inst.; Michigan State Univ., East Lansing. Dept. of Secondary Education and Curriculum.  
 SPONS AGENCY Michigan State Dept. of Education, Lansing. Vocational-Technical Education Service.  
 REPORT NO 3254-7125  
 PUB DATE Aug 75  
 NOTE 453p.; For related documents see CE 008 431 and CE 008 601

EDRS PRICE MF-\$0.83 HC-\$24.77 Plus Postage.  
 DESCRIPTORS \*Agribusiness; \*Agricultural Education; \*Agricultural Skills; Educational Research; Job Analysis; Job Skills; \*Natural Resources; Occupational Clusters; Occupational Information; Off Farm Agricultural Occupations; State Surveys; \*Tables (Data); \*Task Analysis; Vocational Agriculture  
 IDENTIFIERS Michigan

ABSTRACT

This manual contains a tabular report of the competency identification of job task analysis component (Part Two) of the research project entitled "Agribusiness and Natural Resources Education in Michigan: Employment Demand, Competencies Required, and Recommended Delivery Systems." The data is a tabular supplement to Chapter III of the final report. Lists of several hundred validated tasks or competencies are compiled into 100 tables providing information for use in developing performance objectives, instructional modules, or evaluation procedures related to 22 different occupations in the following four occupational clusters: agricultural production, environmental horticulture, farm implement repair, and biological-technical services in agriculture. Tables are arranged in seven different sets or series on the basis of similar information for each of the occupations/industries in the group. A complete analysis of one occupation can be made by use of one table of each series. (HD)

\*\*\*\*\*  
 \* Documents acquired by ERIC include many information unpublished \*  
 \* materials not available from other sources. ERIC makes every effort \*  
 \* to obtain the best copy available. Nevertheless, items of marginal \*  
 \* reproducibility are often encountered and this affects the quality \*  
 \* of the microfiche and hardcopy reproductions ERIC makes available \*  
 \* via the ERIC Document Reproduction Service (EDRS). EDRS is not \*  
 \* responsible for the quality of the original document. Reproductions \*  
 \* supplied by EDRS are the best that can be made from the original. \*  
 \*\*\*\*\*

AGRIBUSINESS AND NATURAL RESOURCES  
EDUCATION IN MICHIGAN

Job Competencies Needed

A Tabular Supplement to the  
Final Report

U.S. DEPARTMENT OF HEALTH,  
EDUCATION & WELFARE  
NATIONAL INSTITUTE OF  
EDUCATION  
THIS DOCUMENT HAS BEEN REPRO-  
DUCE EXACTLY AS RECEIVED FROM  
THE PERSON OR ORGANIZATION ORIGIN-  
ATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT  
OFFICIAL NATIONAL INSTITUTE OF  
EDUCATION POSITION OR POLICY

William L. Thuemmel, Project Director

With the Assistance of:

Raymond M. Clark

O. Donald Neaders

Agriculture and Natural Resources Education Institute  
and  
Department of Secondary Education and Curriculum  
Michigan State University  
East Lansing, Michigan 48824

August, 1975

This project was funded by the Michigan Department of  
Education, Vocational-Technical Education Service, under the  
title "Agribusiness and Natural Resources Education in Michigan:  
Employment Demand, Competencies Required, and Recommended  
Delivery Systems".

## PERSONNEL AND FACILITIES

### Project Staff--Michigan State University

William L. Thuemmel, Assistant Professor, Agriculture and Natural Resources Institute and Department of Secondary Education and Curriculum--Project Director.

Raymond M. Clark, Professor Emeritus, Department of Secondary Education and Curriculum--Part Two (Competencies Needed) Coordinator.

O. Donald Meaders, Professor, Department of Secondary Education and Curriculum--Project Consultant.

### Project Secretary

Mrs. Sandi L. Bauer

### Project Advisory Council Members

A ten-member advisory council, consisting of Michigan agribusinessmen and educators, was formed with the cooperation of the Michigan Department of Education at the project outset. The council served as a useful source of consultation and assistance to the project staff throughout the duration of the study. The members of the council are listed in Appendix B.

### Data Collection Field Coordinators

Fourteen teachers of vocational agriculture assisted in the collection of task analysis field data. The teachers were selected on the basis of proximity to the area of the state where employment in the selected occupational clusters is concentrated. The teachers are listed in Appendix C.

### Office Space and Equipment

Office space and equipment used in the conduct of the project were provided by the Agriculture and Natural Resources Education Institute, Michigan State University. Computer services for processing the task analysis data were provided by the Ingham Intermediate School District Computer Center, Mason, Michigan.

## ACKNOWLEDGMENTS

The opposite page contains the names of several individuals and organizations whose cooperative support has made this report possible. Some specific contributions are worthy of further appreciation and acknowledgment.

First, the project director expresses appreciation to his staff colleagues, Professors Raymond M. Clark and O. Donald Meaders, for their meaningful contributions and timely assistance to the task analysis portion of the project.

Second, grateful acknowledgment is expressed to Dr. Carroll H. "Jake" Wamhoff, Director, Agriculture and Natural Resources Education Institute, and his staff, for their helpful support in the administration of the project. Special recognition is also in order for Mrs. Sandi L. Bauer, who has so ably served as project secretary.

Third, appreciation is extended to the members of the Project Advisory Council and to the teachers of vocational agriculture who served well in their respective roles as advisors and interviewers. The cooperation of the businesses and producers that supplied the data and the assistance the personnel at the Ingham Intermediate School District Computer Center, who processed the data, is acknowledged.

Finally, recognition is granted to the Vocational-Technical Education Service, Michigan Department of Education, and to the Department of Secondary Education and Curriculum, College of Education, Michigan State University for their support of the project.

## ABSTRACT

Title of Project: Agribusiness and Natural Resources Education in Michigan: Job Competencies Needed; A Tabular Supplement to the Final Report.

Project Director:\* William L. Thuemmel

Contracting Agency: Agriculture and Natural Resources Education Institute  
and  
Department of Secondary Education and Curriculum  
Michigan State University

Beginning and Ending Dates: April 1, 1974 through August 31, 1975.

Purpose.--To provide a tabular report on the competencies needed for agricultural job entry upon graduation from high school as identified and validated by analyses of job tasks in the project entitled "Agribusiness and Natural Resources Education in Michigan: Manpower Needs, Competencies Needed, and School Program Characteristics".

Method.--A task analysis process was used to identify and validate job tasks in four major occupational areas: Agricultural Production, Environmental Horticulture, Farm Implement Repair, and the Biological-Technical Services in Agriculture. A total of 112 workers representing 21 different industries in the four occupational areas were involved in the validation of task items. The respondents indicated: (1) if the item represented an entry level skill or knowledge; and (2) the relative importance of each item for beginning workers. Job skills were "accepted" if 40 percent or more of the responses were in the affirmative. Job knowledges were evaluated in a similar manner, except the minimum acceptance level was

---

\*With the assistance of: Raymond M. Clark and O. Donald Meaders.

lowered to 33 percent. Accepted job tasks or needed competencies within an occupational cluster which are common to all surveyed industries were identified as were those which are industry specific. The findings are reported in 100 tables.

Findings.--Analyses of job tasks resulted in the identification and validation of several hundred competencies (skills and knowledges) as being needed by entry level workers for employment in occupations within the four clusters studied. Considerable variation existed in the degree of specialization of workers in the same occupation. Within an occupational cluster there is evidence of much commonality of needed competencies among jobs together with a distinct need for specialization as preparation for work in a specific industry.

TABLE OF CONTENTS

PERSONNEL AND FACILITIES . . . . .	ii
ACKNOWLEDGMENTS . . . . .	iii
ABSTRACT . . . . .	iv
LIST OF TABLES . . . . .	vii
AN INTRODUCTION TO THE TABULAR SUPPLEMENT . . . . .	1
SUPPLEMENTARY TABLES . . . . .	5
APPENDICES	
Appendix	
A. Task Analysis Survey Instruments (Selected Pages Only) . . . . .	231
B. List of Project Advisory Council Members . . . . .	251
C. Teachers of Agriculture Who Assisted in Collection of Field Data . . . . .	253

## LIST OF TABLES

Table		Page
SERIES A		
S-1	Respondents in <u>Agricultural Production</u> by Job Title, Years of Experience in Occupation, and Farming Industries in Which Engaged . . . . .	8
S-2	Respondents in <u>Environmental Horticulture</u> by Job Title, Years of Experience in Occupation, and Industries in Which Engaged . . . . .	10
S-3	Respondents in <u>Farm Implement Repair</u> by Job Title and Years of Experience in Occupation . . . . .	11
S-4	Respondents in the <u>Biological-Technical Services in Agriculture</u> by Job Titles, Years of Experience in Occupation, and Industries in Which Engaged . . . . .	12
SERIES B		
S-5	Percentage Distribution of Job Skills Needed, or Not Needed by Respondents for Occupational Entry into Their Selected Industries in <u>Agricultural Production</u> . . . . .	14
S-6	Percentage Distribution of Job Knowledges Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in <u>Agricultural Production</u> . . . . .	15
S-7	Percentage Distribution of Job Skills Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in <u>Environmental Horticulture</u> . . . . .	28
S-8	Percentage Distribution of Job Knowledges Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in <u>Environmental Horticulture</u> . . . . .	34
S-9	Percentage Distribution of Job Skills Needed, or Not Needed, by Respondents for Occupational Entry into <u>Farm Implement Repair</u> . . . . .	38
S-10	Percentage Distribution of Job Knowledges Needed, or Not Needed, by Respondents for Occupational Entry into <u>Farm Implement Repair</u> . . . . .	44



Table	Page
S-11 Percentage Distribution of Job Skills Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in <u>Biological-Technical Services in Agriculture</u> .	48
S-12 Percentage Distribution of Job Knowledges Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in <u>Biological-Technical Services in Agriculture</u> . . . . .	56

SERIES C

S-13 A Matrix of Unvalidated Job Skills and Their Associated Job Knowledges for <u>Agricultural Production</u> . . . . .	63
S-14 A Matrix of Unvalidated Job Skills and Their Associated Job Knowledges for <u>Environmental Horticulture</u> . . . . .	70
S-15 A Matrix of Unvalidated Job Skills and Their Associated Job Knowledges for <u>Farm Implement Repair</u> . . . . .	72
S-16 A Matrix of Unvalidated Job Skills and Their Associated Job Knowledges for <u>Biological-Technical Services in Agriculture</u>	76

SERIES D

Agricultural Production

S-17 Job Skills Accepted as Entry Level for Employment in <u>Dairy Farming</u> . . . . .	80
S-18 Job Skills Accepted as Entry Level for Employment in <u>Bush and/or Vine Fruit Farming</u> . . . . .	81
S-19 Job Skills Accepted as Entry Level for Employment in <u>Tree Fruit Farming</u> . . . . .	82
S-20 Job Skills Accepted as Entry Level for Employment in <u>Grain and/or Bean Farming</u> . . . . .	83
S-21 Job Skills Accepted as Entry Level for Employment in <u>Livestock (Beef, Swine, Sheep) Farming</u> . . . . .	84
S-22 Job Skills Accepted as Entry Level for Employment in <u>Poultry Farming</u> . . . . .	85
S-23 Job Skills Accepted as Entry Level for Employment in <u>Vegetable, Beet, and/or Potato Farming</u> . . . . .	86

Table	Page
<u>Environmental Horticulture</u>	
S-24 Job Skills Accepted as Entry Level for Employment in the <u>Arboriculture Industry</u> . . . . .	87
S-25 Job Skills Accepted as Entry Level for Employment in the <u>Bedding Plant Industry</u> . . . . .	88
S-26 Job Skills Accepted as Entry Level for Employment in the <u>Garden Center Industry</u> . . . . .	89
S-27 Job Skills Accepted as Entry Level for Employment in the <u>Groundskeeping and/or Park Industry</u> . . . . .	90
S-28 Job Skills Accepted as Entry Level for Employment in the <u>Landscaping Industry</u> . . . . .	91
S-29 Job Skills Accepted as Entry Level for Employment in the <u>Nursery Production Industry</u> . . . . .	92
S-30 Job Skills Accepted as Entry Level for Employment in the <u>Turf and Sprinkler Industry</u> . . . . .	93
 <u>Farm Implement Repair</u>	
S-31 Job Skills Accepted as Entry Level for Employment in <u>Farm Implement Repair</u> . . . . .	94
 <u>Biological-Technical Services in Agriculture</u>	
S-32 Job Skills Accepted as Entry Level for Employment in <u>Agricultural Chemical Biological-Technical Services</u> . . . . .	96
S-33 Job Skills Accepted as Entry Level for Employment in <u>Animal Laboratory Biological-Technical Services</u> . . . . .	97
S-34 Job Skills Accepted as Entry Level for Employment in <u>Food Processing Biological-Technical Services</u> . . . . .	98
S-35 Job Skills Accepted as Entry Level for Employment in <u>Grain, Feed, and/or Seed Biological-Technical Services</u> . . . . .	99
S-36 Job Skills Accepted as Entry Level for Employment in <u>Waste Disposal Biological-Technical Services</u> . . . . .	100
S-37 Job Skills Accepted as Entry Level for Employment in <u>Water Resources Biological-Technical Services</u> . . . . .	101

SERIES E

Agricultural Production

S-38	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Dairy Farming</u> . . . . .	104
S-39	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Bush and/or Vine Fruit Farming</u> . . . . .	108
S-40	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Tree Fruit Farming</u> . . . . .	110
S-41	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Grain and/or Bean Farming</u> . . . . .	114
S-42	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Livestock (Beef, Swine, Sheep) Farming</u> . . . . .	118
S-43	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Poultry Farming</u> . . . . .	122
S-44	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Vegetable, Beet, and/or Potato Farming</u> . . . . .	124

Environmental Horticulture

S-45	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the <u>Arboriculture</u> Industry . . . . .	126
S-46	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the <u>Bedding Plant</u> Industry . . . . .	128
S-47	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the <u>Garden Center</u> Industry . . . . .	129
S-48	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the <u>Groundskeeping and/or Park</u> Industry . . . . .	130
S-49	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the <u>Landscaping</u> Industry . . . . .	132
S-50	Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the <u>Nursery Production</u> Industry . . . . .	134



Table	Page
S-51 Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the <u>Turf and Sprinkler Industry</u> . . . . .	136
 <u>Farm Implement Repair</u>	
S-52 Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Farm Implement Repair</u> . . . . .	138
 <u>Biological-Technical Services in Agriculture</u>	
S-53 Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Agricultural Chemical Biological-Technical Services</u> . . . . .	142
S-54 Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Animal Laboratory Biological-Technical Services</u> . . . . .	144
S-55 Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Food Processing Biological-Technical Services</u> . . . . .	145
S-56 Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Grain, Feed, and/or Seed Biological-Technical Services</u> . . . . .	146
S-57 Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Waste Disposal Biological-Technical Services</u> . . . . .	150
S-58 Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into <u>Water Resources Biological-Technical Services</u> . . . . .	151

SERIES F

Agricultural Production

S-59 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Dairy Farming</u> . . . . .	154
S-60 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Bush and/or Vine Fruit Farming</u> . . . . .	156

Table	Page
S-61 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Tree Fruit Farming</u> . . . . .	158
S-62 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Grain and/or Bean Farming</u> . . . . .	160
S-63 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Livestock (Beef, Swine, Sheep) Farming</u> . . . . .	162
S-64 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Poultry Farming</u> . . . . .	164
S-65 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Vegetable, Beet, and/or Potato Farming</u> . . . . .	166

Environmental Horticulture

S-66 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the <u>Arboriculture</u> Industry . . . . .	168
S-67 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the <u>Bedding Plant</u> Industry . . . . .	169
S-68 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the <u>Garden Center</u> Industry . . . . .	170
S-69 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the <u>Groundskeeping and/or Park</u> Industry . . . . .	172
S-70 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the <u>Landscaping</u> Industry . . . . .	174
S-71 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the <u>Nursery Production</u> Industry . . . . .	176
S-72 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the <u>Turf and Sprinkler</u> Industry . . . . .	178

Table	Page
<u>Farm Implement Repair</u>	
S-73 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Farm Implement Repair</u> . . . . .	180
<u>Biological-Technical Services in Agriculture</u>	
S-74 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Agricultural Chemical Biological-Technical Services</u> . . . . .	182
S-75 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Animal Laboratory Biological-Technical Services</u> . . . . .	183
S-76 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Food Processing Biological-Technical Services</u> . . . . .	184
S-77 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Grain, Feed, and/or Seed Biological-Technical Services</u> . . . . .	185
S-78 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Waste Disposal Biological-Technical Services</u> . . . . .	186
S-79 Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into <u>Water Resources Biological-Technical Services</u> . . . . .	187

SERIES G

Agricultural Production

S-80 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Dairy Farming</u> . . . . .	190
S-81 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Bush and/or Vine Fruit Farming</u> . . . . .	191

Table	Page
S-82 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Tree Fruit Farming</u> . . . . .	192
S-83 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Grain and/or Bean Farming</u> . . . . .	193
S-84 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Livestock (Beef, Swine, Sheep) Farming</u> . . . . .	194
S-85 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Poultry Farming</u> . . . . .	195
S-86 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Vegetable, Beet, and/or Potato Farming</u> . . . . .	196

Environmental Horticulture

S-87 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the <u>Arboriculture</u> Industry . . . . .	197
S-88 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the <u>Bedding Plant</u> Industry . . . . .	198
S-89 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the <u>Garden Center</u> Industry . . . . .	200
S-90 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the <u>Groundskeeping and/or Park</u> Industry . . . . .	202
S-91 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the <u>Landscaping</u> Industry . . . . .	203
S-92 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the <u>Nursery Production</u> Industry . . . . .	204
S-93 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the <u>Turf and Sprinkler</u> Industry . . . . .	205

Table	Page
<u>Farm Implement Repair</u>	
S-94 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Farm Implement Repair</u> . . . . .	206
 <u>Biological-Technical Services in Agriculture</u>	
S-95 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Agricultural Chemical Biological-Technical Services</u> . . . . .	208
S-96 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Animal Laboratory Biological-Technical Services</u> . . . . .	212
S-97 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Food Processing Biological-Technical Services</u> . . . . .	216
S-98 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Grain, Feed, and/or Seed Biological-Technical Services</u> . . . . .	220
S-99 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Waste Disposal Biological-Technical Services</u> . . . . .	222
S-100 Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into <u>Water Resources Biological-Technical Services</u> . . . . .	226



## AN INTRODUCTION TO THE TABULAR SUPPLEMENT

This report is a tabular presentation of the competency identification of job task analysis component (Part Two) of the research project entitled "Agribusiness and Natural Resources Education in Michigan: Employment Demand, Competencies Required, and Recommended Delivery Systems". The final report of the above project was prepared under the title "Agribusiness and Natural Resources in Michigan: Manpower Needs, Competencies Needed, and School Program Characteristics". The data contained herein are a tabular supplement to Chapter III, the narrative summary of the competencies needed component of the Final Report.<sup>1</sup>

Both the Tabular Supplement and Chapter III of the Final Report were prepared in response to the following research project objective: What are the competencies needed for entrance and advancement in the agriculturally related jobs? However, unlike the Final Report, this report contains the actual validated competencies needed for entrance and advancement in the agriculturally related jobs. Due to the large quantity of tabular data resulting from the analyses of job tasks and the technical purposes for which the data were intended, it was decided to present the tabular data under separate cover. Accordingly, the lists of several hundred validated tasks or competencies were compiled into 100 tables and are presented herein.

---

<sup>1</sup>Much of the content of both the Tabular Supplement and Chapter III of the Final Report was adapted from information which had been submitted to the project director by Dr. Raymond M. Clark in fulfillment of his responsibility as coordinator of the competencies needed component of the study.

The competencies needed or analyses of job tasks portion of the study included the four occupational clusters, and their component industries, as listed:

<u>Cluster</u>	<u>Component Industries Surveyed</u>
Agricultural Production	Dairy Farming Bush and/or Vine Fruit Farming Tree Fruit Farming Grain and/or Bean Farming Livestock (Beef, Swine, Sheep) Farming Poultry Farming Vegetable, Beet, and/or Potato Farming
Environmental Horticulture	Arboriculture Industry Bedding Plant Industry Garden Center Industry Groundskeeping and/or Park Industry Landscaping Industry Nursery Production Industry Turf and Sprinkler Industry
Farm Implement Repair	Farm Implement Repair
Biological-Technical Services in Agriculture	Agricultural Chemical Biological-Technical Services Animal Laboratory Biological-Technical Services Grain, Feed, and/or Seed Biological-Technical Services Food Processing Biological-Technical Services Waste Disposal Biological-Technical Services Water Resources Biological-Technical Services

Each of the occupations/industries was analyzed to identify the tasks (skills and knowledges) needed by high school graduates for entry into the occupation/industry. Job knowledges were associated with specific skills and, when accepted, were considered essential for proper performance of the job skill.

Returns from respondents were summarized by computer. Skills were marked "accept" when 40 percent of the workers who were interviewed indicated the item was entry level. Knowledges were marked "accept" when 30 percent of the respondents listed them as essential. Items not marked "accept" were marked "review" (rejected).

Reference to the List of Tables, pages vii-xv, will indicate that they are arranged in seven different sets or series (A-G) on the basis of similar information for each of the occupations/industries in the group. Sets of tables can be identified by similarity of titles. A complete analysis of one occupation will require the reader to use one table from each series.

A review of appropriate tables will enable the reader to identify the skills which were "accepted" by respondents for each of the occupations/industries listed above. Also, the associated knowledges may be identified and their "accept" or "review" status can be determined. In some cases workers (respondents) rejected knowledges which the experts had considered necessary for performance of the associated skill. When instructional modules based on the findings of this study are prepared, it is recommended that the associated knowledges that are needed for teaching the skill be included in the program. However, educators should review their instructional programs very carefully and omit those knowledges that are not essential for performance of the needed skills.

An examination of the appropriate tables will indicate the commonality of skill and knowledge items among occupations within a cluster. This will enable educators to identify and develop instructional modules which will be common to a larger group of students and to also identify modules needed

for students to prepare for a specific occupation/industry which they wish to enter.

One series of tables (Series F) lists the disposition of "accepted" job knowledges associated with job skills. In reviewing the tables in this series, the reader should keep in mind that it is desirable to include in the instructional program only those knowledges that are essential for acceptable performance of an entry level skill. In some cases many knowledges are marked "accept" but they are not associated with "accepted" skills. These should not be included in the instructional program. On the other hand, some of the tables (see Series B and E) reject all, or nearly all, knowledges. In these cases, it is likely that educators will reinstate some knowledges as they develop instructional modules.

Skills and associated knowledges which were rejected may be studied to determine if they should be included in instructional programs leading to advancement. It is felt that some of the items marked "review" represented skills and knowledges not commonly needed by beginning workers, but rather are needed for advancement in occupations within the industry.

By carefully examining the "accepted" skills and the associated knowledges for an occupation, the educator will be able to: (1) prepare performance objectives, with each one covering one or a group of skills and associated knowledges; (2) plan instructional modules needed for helping students to meet the objectives; and (3) prepare evaluation procedures to determine the performance of each individual student.

SUPPLEMENTARY TABLES

SERIES A

RESPONDENTS BY JOB TITLE, YEARS OF EXPERIENCE  
IN OCCUPATION, AND FARMING INDUSTRIES IN WHICH  
ENGAGED.

Table S-1.--Respondents in Agricultural Production by Job Title, Years of Experience in Occupation, and Farming Industries in Which Engaged.

Respondent Identification Code No.	Job Title N=46	Years of Experience in Occupation <sup>a</sup>	Farming Industries in Which Engaged <sup>b</sup>							
			Dairy	Bush/Vine Fruit	Tree Fruit	Grain/Bean	Livestock (Beef/Swine/Sheep)	Poultry	Vegetable/Beet/Potato	
101	Farmer	5								X
102	Farm Foreman	6								X
103	Farmer	15								X
104	Farm--Equipment Operator	4					X			X
105	Farm Hand, General	6					X			X
106	Farmer	15					X			X
107	Farmer	15					X			X
108	Farmer	6					X	X		X
109	Farmer	15	X				X	X		X
110	Farmer	6		X			X	X		X
111	Farmer	30	X				X			X
112	Farmer	15		X	X		X			X
113	Farmer	10		X			X			X
114	Farmer	2					X			
115	Farmer	6					X			
116	Farmer	10					X			
117	Farmer	29					X			
118	Farmer	30					X			
119	Farmer	1					X	X		
120	Farmer	8					X	X		
121	Farmer	9					X	X		
122	Farmer	18					X	X		
123	Farmer	15					X	X		
124	Farmer	4	X				X	X		
125	Farm Hand, General I	5	X		X		X	X		
126	Farm Manager	5					X	X	X	
127	Farmer	31					X	X	X	
128	Farmer	4	X				X			
129	Farmer	4	X				X			
	Farmer	4	X				X			

8

24

23

131	Farmer	20				X				X
132	Farmer	20				X				X
133	Farmer	30				X				X
134	Farmer	12				X				X
135	Farmer	30	X						X	
136	Farmer	14	X		X				X	
137	Farmer	15	X							
138	Farmer	16	X							
139	Farmer	18	X							
140	Farmer	30	X							
141	Farmer	32	X							
142	Farm Hand, General I	5								
143	Farm Hand, General II	1				X				X
144	Farmer	15				X				
145	Farmer	4		X						
146	Farm Manager (Vineyard)	10		X						
Total			14	5	5	30	14	6	13	

<sup>a</sup>The mean years of experience in occupation was 13.2.

<sup>b</sup>The mean number of farming industries per respondent was 1.9.



Table S-2.--Respondents in Environmental Horticulture by Job Title, Years of Experience in Occupation, and Industries in Which Engaged.

Respondent Identification Code No.	Job Title N=26	Years of Experience in Occupation <sup>a</sup>	Industries in Which Engaged <sup>b</sup>						
			Arboriculture	Bedding Plants	Garden Center	Grounds- keeping/Parks	Landscaping	Nursery Production	Turf and Sprinkler
201	Laborer, Nursery	1		X	X			X	
202	Nursery Farmer	2		X	X			X	
203	Salesperson, House Plants	2		X	X			X	
204	Nursery Worker	6		X	X			X	
205	Laborer, Nursery	15		X	X	X	X	X	X
206	Nursery Manager	1			X		X	X	X
207	Greenhouse Worker	1		X				X	
208	Laborer, Nursery	4		X				X	
209	Nursery Foreman	4					X	X	
210	Nursery Person	5	X			X	X	X	
211	Landscape Foreman	26				X	X	X	X
212	Laborer, Nursery	1					X	X	X
213	Site Developer	25					X	X	X
214	Nursery Worker	2			X				
215	Nursery Manager	25		X	X				
216	Landscaper	1	X	X		X	X		
217	Landscaper	4	X	X		X	X		X
218	Laborer, Landscape	1					X		
219	Landscape Foreman	3	X				X		X
220	Laborer, Landscape	1					X		X
221	Landscape, Superintendent	18					X		X
222	Laborer, Landscape	2				X			
223	27 Groundskeeper	2				X			
224	Tree Trimmer	6	X			X			
225	Tree Trimmer	1	X						
226	Tree Trimmer	1	X						
<b>Total</b>			<b>7</b>	<b>10</b>	<b>8</b>	<b>9</b>	<b>13</b>	<b>13</b>	<b>9</b>

10

28

<sup>a</sup>The mean years of experience in occupation was 6.2.

<sup>b</sup>mean number of industries per respondent was 2.7.

Table S-3.--Respondents in Farm Implement Repair by Job Title and Years of Experience in Occupation.

Respondent Identification Code No.	Job Title N=17	Years of Experience in Occupation <sup>a</sup>
301	Farm-Equipment Mechanic	1
302	Farm-Equipment Mechanic	1
303	Farm-Machinery Set-up Man	1
304	Farm-Machinery Set-up Man	2
305	Farm-Equipment Mechanic	2
306	Manager, Farm Equipment	3
307	Farm-Equipment Mechanic	3
308	Farm-Equipment Mechanic	4
309	Farm-Equipment Mechanic/Service Manager	4
310	Farm-Equipment Mechanic	5
311	Farm-Equipment Mechanic	5
312	Farm-Equipment Mechanic	5
313	Farm-Equipment Mechanic	8
314	Farm-Equipment Parts Manager	15
315	Farm-Equipment Service Manager	15
316	Farm-Equipment Service Manager	25
317	Farm-Equipment Company Manager	26

<sup>a</sup>The mean years of experience in occupation was 7.4.

Table S-4.--Respondents in the Biological-Technical Services in Agriculture by Job Title, Years of Experience in Occupation, and Industries in Which Engaged.

Respondent Identification Code No.	Job Title N=23	Years of Experience in Occupation <sup>a</sup>	Industries in Which Engaged <sup>b</sup>					
			Agricultural Chemical	Animal Laboratory	Food Processing	Grain/Feed/Seed/Services	Waste Disposal	Water Resources
401	Manager, Meat Processing Plant	1			X			
402	Manager, Fruit Processing Plant	4			X			
403	Chemist, Wire	10			X			
404	Assistant Manager, Food Processing	18			X			
405	Vice President, Quality Control	37			X			
406	Sales Representative, Ag Chemicals	8	X		X		X	X
407	Manager, Fruit Processing Plant	17	X		X		X	X
408	Waste-Disposal Operator	1			X		X	X
409	Manager, Milk Processing Plant	36			X		X	
410	Sales Representative, Ag Chemicals	10	X		X	X		
411	Veterinary Assistant	3		X				
412	Veterinary Assistant	3		X				
413	Veterinary Assistant	5		X				
414	Veterinary Assistant	5		X				
415	Biologist/Ecologist	3		X			X	X
416	Lead Operator, Fertilizer Plant	1	X				X	X
417	Superintendent, Grain Elevator	18	X			X		
418	Technician, Civic Engineer	8					X	X
419	Warehouseman	1				X		
420	Operator, Feed Mill	2				X		
421	Sales Representative, Feed Company	10				X		
422	Waste-Treatment Operator	2					X	
423	Waste-Treatment Superintendent	5					X	
<b>Total</b>			<b>5</b>	<b>5</b>	<b>10</b>	<b>5</b>	<b>9</b>	<b>6</b>

12

31

30 <sup>a</sup>The mean years of experience in occupation was 9.0.  
<sup>b</sup>The mean number of industries per respondent was 1.7.

SERIES B

PERCENTAGE DISTRIBUTION OF JOB SKILLS NEEDED,  
OR NOT NEEDED, BY RESPONDENTS FOR OCCUPATIONAL  
ENTRY INTO THEIR SELECTED INDUSTRIES.

Table S-5--Percentage Distribution of Job Skills Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in Agricultural Production.

Code Number	Job Skills	Selected Farming Industries <sup>a</sup>					R=Rejected/Not Needed <sup>b</sup>	
		Dairy	Bush/Vine Fruit	Tree Fruit	Grain/Bean	Livestock (Beef/Swine/Sheep)	Poultry	Vegetable/Beet/Potato
		% (N=14)	% (N=5)	% (N=5)	% (N=30)	% (N=14)	% (N=6)	% (N=13)
85001	Determine best use for each land capability class on the farm.	71	60	80	73	92	83	53
85002	Identify type of farming appropriate for the land capability classes of the farm.	71	60	80	76	85	83	61
85003	Use results of soil tests to specify fertilizer analysis for each crop on the farm.	85	60	80	90	78	100	76
85004	Identify crops appropriate for the soils for the farm.	71	60	80	80	85	50	69
85005	Specify amount of fertilizer per acre for crops to be grown on the farm.	71	80	60	80	64	83	69
85006	Determine form of plant food to use on the crops of the farm (dry, liquid, gas).	42	100	40	70	57	66	53
85007	Specify kind & amount of liming material to reach desired pH level in the soil.	57	60	60	70	57	83	61
85008	Specify drainage programs consistent with the crop & the soil type.	50	60	60	66	71	50	46
85009	Maintain organic matter level in the soil.	64	60	60	73	78	66	69
85010	Prepare soil for the crops to be grown.	71	80	60	90	85	83	76
85011	Maintain desirable soil tilth in the soils of the farm.	71	80	60	86	78	100	84
85012	Take soil samples to deliver to the soil testing laboratory.	64	80	60	73	57	66	53
85013	Choose appropriate tillage equipment for the kind of soil & the crops to be grown on the farm.	78	80	60	90	78	66	84
85014	Choose appropriate varieties of each crop.	85	60	80	90	78	66	76
85015	Plant seeds and/or plants at appropriate rate & spacing in the row & in row width.	85	100	80	96	92	83	92
85016	Plant seeds and/or plants at appropriate depth.	85	80	80	96	85	83	92
85017	Control weeds in crops using appropriate methods & materials.	92	100	80	93	92	100	76
85018	Control diseases & insects of each crop grown on the farm.	78	100	80	86	92	100	61
85019	Harvest the crop at the appropriate stage of maturity.	92	100	80	90	92	83	76
85020	Store the crop under appropriate conditions.	92	60	80	90	92	83	76
85021	Deliver the crop to the market in acceptable condition.	92	80	80	83	92	66	69
85022	Condition the crop after harvest (drying, controlled atmosphere).	71	60	80	80	78	66	69
85023	Grade the crop for market.	42	80	80	46	64	R16	61

85024	Use growth regulators on crops where these are appropriate.	R35	40	80	40	50	50	R23
85025	Dispose of crop residues in such a way as to avoid pollution.	50	100	80	63	64	50	46
85026	Determine production performance of each farm enterprise in relation to an acceptable standard (tele-farm, best 25 or 50% of farms, etc.).	50	80	80	70	64	83	53
85027	Compare costs in relation to production with acceptable standards: Labor costs/acre of a crop; Labor costs/100# of meat; Machinery costs/acre, etc.	71	40	60	83	85	100	61
85028	Keep farm accounts which will allow comparison of performance with farms reported by tele-farm.	71	60	80	86	71	83	69
85029	Keep farm accounts which will provide information needed for income tax reports.	85	80	80	86	85	100	69
85030	Adjust the farming program based on crop & livestock reports from USDA and/or reports from other reliable sources.	57	R 0	60	56	57	R16	R30
85031	Adjust inputs (labor, machinery, fertilizer, feed, etc.) based on relative costs & anticipated return.	78	60	80	80	78	83	61
85032	Identify sources of farm supplies.	85	80	80	86	78	66	84
85033	Determine most economical sources of supply.	85	60	80	93	85	83	76
85034	Identify outlets for products of the farm.	78	80	80	86	85	83	69
85035	Determine outlets offering best return for farm products.	78	80	80	86	85	83	69
85036	Perform budgeting skills for both the whole farm & individual enterprises.	64	60	80	76	78	83	53
85037	Conduct a business meeting of people engaged in agriculture or agricultural business.	50	R20	60	66	64	83	46
85038	Prepare a written analysis of a current agricultural issue, situation or problem.	50	40	80	R36	42	R33	R38
85039	Make an oral presentation of a current agricultural issue, situation or problem before a group of persons engaged in agriculture or agricultural business.	50	R20	60	50	64	50	R30
85040	Successfully participate in activities of the local FFA chapter or other organization involving a broad spectrum of activities.	64	R20	60	80	92	66	69
85041	Participate as a member in a farmers organization.	71	60	60	76	78	66	76
85042	Participate in a local community organization.	71	R20	60	70	71	50	69
85043	Select the type of livestock appropriate for the farm.	78	R20	40	63	85	83	R30
85044	Select a breed of livestock appropriate for the farm.	78	R20	40	63	55	83	R30
85045	Select high-performing stock for the breeding program of the farm.	92	R20	40	56	85	66	R38
85046	Feed livestock for most economical production.	85	R20	40	70	92	100	R39
85047	Specify appropriate rations for livestock at various levels of maturity.	85	R20	40	73	92	100	46
85048	Specify appropriate rations for livestock at various levels of production.	78	R20	40	70	85	100	R38
85049	Use sanitation practices with livestock to avoid diseases and/or parasites.	85	R20	40	73	92	100	R38

15

SERIES B

Code Number	Job Skills	Selected Farming Industries <sup>a</sup>					R=Rejected/Not Needed <sup>b</sup>	
		Dairy	Bush/Vine Fruit	Tree Fruit	Grain/Bean	Livestock (Beef/Swine/Sheep)	Poultry	Vegetable/Beet/Potato
		% (N=14)	% (N=5)	% (N=5)	% (N=30)	% (N=14)	% (N=6)	% (N=13)
85050	House livestock for optimum production.	85	R20	40	73	92	100	R38
85051	Assemble livestock products produced on the farm (such as milk & eggs) under appropriate conditions.	85	R20	40	63	71	66	53
85052	Deliver livestock & livestock products to the market under appropriate conditions.	85	R20	40	70	85	66	53
85053	Castrate livestock (calves, lambs, swine, & others) where appropriate.	64	R20	40	56	85	R33	46
85054	Dehorn calves.	71	R20	40	46	64	R33	46
85055	Dehorn feeder cattle.	71	R20	40	40	50	R16	R38
85056	Operate a milking machine.	92	R20	40	46	50	R16	46
85057	Clean a milking machine.	85	R20	40	46	50	R16	46
85058	Operate an egg grader.	R21	R20	40	R30	R28	50	R38
85059	Candle eggs.	R21	R20	40	R30	R28	50	R38
85060	Estimate grade of livestock & livestock products.	64	R20	R20	63	71	83	R23
85061	Mark livestock for identification.	78	R20	40	56	78	R33	53
85062	Identify gasoline fueled & diesel fueled engines.	92	100	100	96	92	100	100
85063	Identify two-stroke & four-stroke cycle engines.	85	80	60	70	71	83	76
85064	Clean the carburetor of a gasoline fueled engine.	64	80	60	73	85	66	76
85065	Adjust the carburetor of a gasoline fueled engine.	64	80	60	73	85	66	76
85066	Check the fluid level of battery cells.	78	100	80	83	85	50	92
85067	Charge a battery according to specifications.	64	100	80	70	71	60	84
85068	Connect booster cables properly.	78	100	100	83	85	66	92
85069	Check specific gravity of electrolyte & temperature to compensate the reading.	57	40	80	53	64	R33	53
85070	Install a battery in a tractor or other farm or garden machinery.	78	100	100	80	85	66	84
85071	Clean battery terminals.	78	100	80	76	85	66	76
85072	Remove & replace starter from tractor.	64	100	80	66	85	50	69
85073	Check & adjust or replace distributor points & condensers.	64	100	80	73	85	66	76
85074	Check, clean, & adjust spark plugs.	85	100	80	76	85	50	76
85075	Replace ignition secondary wires.	42	80	60	60	85	50	61

B

16

38

85076	Flush the cooling system.	64	80	60	73	85	50	69
85077	Prepare & check cooling system against freezing.	78	100	80	90	92	50	92
85078	Clean outside of radiator to assure proper cooling.	85	100	100	86	100	50	92
85079	Check & replace fan belt.	85	80	80	80	78	50	76
85080	Clean & maintain cooling capacity of air cooled engine.	64	100	80	76	71	50	84
85081	Check oil level in an internal combustion engine.	92	100	100	80	92	66	92
85082	Change oil in internal combustion engines.	85	100	80	90	92	66	92
85083	Change oil filter in internal combustion engines.	85	100	80	83	92	66	76
85084	Change or clean air cleaner in internal combustion engines.	85	100*	80	86	92	50	92
85085	Clean and/or lubricate linkage on internal combustion engines.	78	100	80	80	92	50	84
85086	Clean & lubricate the steering mechanism of a tractor.	85	100	80	86	100	66	84
85087	Check and/or replace transmission fluid in internal combustion engine driven machines.	71	100	80	86	92	66	92
85088	Check & replace lubricant in differentials of tractors and/or other farm machinery.	71	100	80	90	85	50	84
85089	Clean & lubricate wheel bearings of tractors & other farm machinery.	64	100	80	80	85	50	84
85090	Check & adjust brakes on tractors & other power driven farm machinery.	71	100	80	65	85	50	69
85091	Determine when brakes need replacement or major repair.	92	100	80	80	78	50	92
85092	Check and/or replace fluid in hydraulic brake system.	71	100	80	76	92	66	76
85093	Check operation of hydraulic lift and/or hydraulic system of other farm machinery.	78	100	80	90	92	66	84
85094	Perform maintenance operations on the hydraulic system as specified in the manual.	71	80	60	83	100	66	69
85095	Determine length & size of V-belt needed for specified power transmission.	71	100	80	76	71	50	92
85096	Install pulleys as specified for specific machinery.	64	80	80	80	71	50	84
85097	Identify situations in which electric power is appropriate.	57	80	80	73	78	50	61
85098	Lubricate electric motors.	85	80	80	86	92	50	84
85099	Prepare plans for use of electric power for intermittent power as pumping water, cooling milk, operating conveyors.	57	40	50	60	64	66	46
85100	Prepare plans for use of electric power for heating (as in milkhouse, pads for pigs, chick brooders, etc.).	42	40	60	50	50	66	53
85101	Prepare plans for use of electric power for grain dryers, ventilators, air conditioners, etc.	R35	60	60	50	42	66	53
85102	Inflate tires.	78	100	100	73	78	50	69
85103	Identify machinery parts by code number.	57	80	80	60	71	50	76
85104	Operate all farm equipment commonly used in the area.	78	100	80	80	85	66	84

17

B



Continued.

Job Skills	Selected Farming Industries <sup>a</sup>						R=Rejected/Not Needed <sup>b</sup>
	Dairy	Bush/Vine Fruit	Tree Fruit	Grain/ Bean	Livestock (Beef/Swine/ Sheep)	Poultry	Vegetable/ Beet/ Potato
	% (N=14)	% (N=5)	% (N=5)	% (N=30)	% (N=14)	% (N=6)	% (N=13)
Use all farm equipment commonly used in the area.	85	100	80	83	92	66	84
Diagnose malfunctioning of farm equipment commonly used in the area.	85	100	80	90	85	66	100
Identify defective parts on farm equipment.	92	100	100	93	100	83	92
Replace defective parts on farm equipment.	78	100	80	96	100	100	92
Identify farm equipment parts by the code number on the part.	50	80	80	76	71	50	84
Calibrate seeding equipment to apply specified rates per acre.	85	80	80	90	85	50	84
Calibrate fertilizer & chemical applicator equipment to apply specified rates per acre.	85	100	80	96	85	66	92
Inventory needed repairs in a farm building (includes roof, siding, walls, floors & foundations).	78	80	80	76	78	66	69
Select materials for appropriate repairs.	57	60	60	80	78	66	61
Make specified building repairs under the direction of a supervisor.	85	80	60	86	92	66	84
Follow practices to avoid injury to workers and/or livestock when making repairs.	92	80	80	93	92	66	100
Follow practices to avoid damage to buildings and/or contents when making repairs.	85	80	80	90	85	66	92
Select appropriate paint and/or preservative for maintenance of buildings.	71	60	60	66	64	R33	53
Maintain buildings (interior & exterior) according to specifications of a supervisor.	64	100	80	76	85	50	69
Adjust building ventilation & air conditioning equipment for optimum conditions.	71	60	60	80	78	50	69
Repair material handling equipment (conveyors, elevators, litter cleaners, etc.).	92	60	60	86	78	83	76
Repair or replace farm fence, roads, & other farmstead facilities.	78	80	60	76	78	83	76

18

Of 37 responses for the seven selected farming industries in agricultural production were reported from only 46 individuals; i.e., the mean number of farming industries per respondent was 1.9.

If 40 percent or more of the respondents indicated a skill was needed for job entry, the job skill was accepted; if less than 40 percent, the skill was declared "not needed" (rejected). The prefix "R" indicates the percentage was less than 40 and, hence, the skill was not needed (rejected) for entry.

42

Table S-6.--Percentage Distribution of Job Knowledge Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in Agricultural Production.

Code Number	Job Knowledge	Selected Farming Industries <sup>a</sup>						R=Review <sup>b</sup>
		Dairy	Bush/Vine Fruit	Tree Fruit	Grain/Bean	Livestock (Beef/Swine/Sheep)	Poultry	Vegetable/Beet/Potato
		% (N=14)	% (N=5)	% (N=5)	% (N=30)	% (N=14)	% (N=6)	% (N=13)
85501	Characteristics that determine land capability class.	R21	R20	40	R16	R21	R16	R15
85502	Factors which limit capability of soil.	42	40	60	33	42	50	R23
85503	Relationship of land capability & type of farming which is appropriate.	R28	40	40	36	R28	50	38
85504	Relationship of land capability classes & crops which are appropriate.	R21	60	40	33	35	50	38
85505	Optimum levels of NPK & minor elements for specific crops.	57	40	40	46	50	83	R30
85506	Relative costs of various forms of plant nutrients (liquid, solid, gas).	R21	40	40	33	35	50	R 7
85507	Relative rates of availability of various forms of plant nutrients (liquid, solid, gas).	35	R20	40	R23	R28	R16	R23
85508	pH levels required by various crops for optimum production.	50	R20	40	R30	42	50	R23
85509	Kinds of liming materials commonly available in the area.	R21	40	60	R13	R21	R16	R23
85510	Effectiveness of various kinds of liming materials on the soils of the area.	R28	40	80	33	35	R16	R15
85511	Relation of drainage to production of various crops of the area.	42	R20	60	R23	42	33	R 0
85512	Function of organic matter in the soil.	R14	40	R20	R26	42	33	R23
85513	Various methods of adding organic matter to the soil.	R21	40	R20	R20	35	33	R15
85514	Water requirements of crops commonly grown in the area.	R14	40	40	R20	R21	R16	R30
85515	Methods of determining quantity of water needed to supplement natural rainfall for specified crops.	R 7	60	60	R10	R21	R16	R23
85516	Characteristics of a desirable seed bed for crops to be grown in the area.	57	60	40	43	64	50	R30
85517	What tillage equipment & methods will result in a desirable seed bed.	57	80	60	53	64	66	38
85518	Factors affecting soil tilth.	R21	80	40	46	35	50	38
85519	Depth from which to take samples for soil tests.	R28	40	40	R30	R21	33	R15
85520	The area to be represented by a specific soil sample.	R28	40	40	R30	R21	R16	R23
85521	Characteristics of a composite soil sample.	R28	R20	R20	R23	R28	R16	R15
85522	The effect of each kind of tillage equipment on soil.	42	80	40	50	42	33	46
85523	The soil properties that determine soil management groups & units.	R28	R 0	40	R13	R21	R16	R15

B

20

44

43

85524	The adaptability of crops to various soils of the area.	57	40	60	53	57	66	38
85525	The characteristics of various crop varieties.	50	40	60	36	35	R16	R30
85526	The most appropriate varieties for various soil types of the area.	42	60	60	43	42	33	R30
85527	The seed treatments appropriate for seeds to be planted.	42	40	60	43	50	R16	R30
85528	The optimum rates of seeding for each of the crops grown in the area.	57	40	60	50	42	33	38
85529	The optimum rates of planting for each of the crops which are produced from plants.	42	R20	60	R30	35	R16	38
85530	The optimum spacing & row width for seeds and/or plants grown in the area.	57	R20	60	36	50	R16	38
85531	The appropriate depth of planting for seeds or plants grown in the area.	42	40	60	40	64	33	46
85532	The kinds of chemicals to be used to control weeds for specific crops in the area.	64	60	80	60	64	50	46
85533	The time of application of herbicides for specific crops of the area.	64	60	80	60	71	66	46
85534	The residual effects of herbicides on future crops to be grown in the soil.	71	60	80	60	71	66	46
85535	The effective means of controlling weeds by cultivation.	42	40	60	43	50	50	R30
85536	The common diseases & insects affecting crops & measures for their control.	57	60	60	53	57	66	46
85537	The characteristics of the crop indicating when it should be harvested.	64	80	60	43	42	R16	38
85538	The harvesting methods used to retain quality of the crop.	57	80	40	56	57	50	61
85539	The storage methods to retain desired qualities.	42	60	40	43	50	R16	53
85540	The characteristics of a crop for optimum market condition.	50	80	40	53	57	33	61
85541	The methods for maintaining optimum market condition while moving a crop to market.	42	60	60	43	35	33	53
85542	The methods of conditioning crops after harvest (drying, cooling, controlled atmosphere, etc.).	R28	R20	40	R26	42	33	R30
85543	Characteristics of grades of each crop.	R28	40	40	R16	35	R16	R30
85544	The growth regulators & their characteristics.	R14	40	60	R10	R14	R 0	R23
85545	The purposes of each kind of growth regulator.	R14	40	60	R16	R28	R16	R23
85546	The effect of crop residues on the environment.	R 0	R20	R20	R16	R21	33	R 7
85547	How to treat residues to minimize damage by pollution.	R 7	40	40	R23	R21	33	R15
85548	Factors affecting the size of the farm business.	42	R20	60	R30	42	33	38
85549	The factors affecting the organization of the farm business including partnerships & corporations.	42	R20	60	36	50	50	38
85550	The percent of tillable acres of each crop on the farm for best land use & for efficient labor diversification.	42	R20	60	R30	64	R16	R30
85551	The crop yield per acre of each crop on the farm.	R21	R 0	40	R26	35	33	R23
85552	The crop costs per tillable acre for each crop on the farm.	42	40	60	53	64	66	R30

21

∞

Table S-6.--Continued.

Code Number	Job Knowledges	Selected Farming Industries <sup>a</sup>						R=Review <sup>b</sup>
		Dairy	Bush/Vine Fruit	Tree Fruit	Grain/Bean	Livestock (Beef/Swine/Sheep)	Poultry	Vegetable/Beet/Potato
		% (N=14)	% (N=5)	% (N=5)	% (N=30)	% (N=14)	% (N=6)	% (N=13)
85553	The value per tillable acre of each crop grown on the farm.	42	40	60	43	50	33	R30
85554	Total cost per animal of each kind of livestock on the farm.	42	R20	40	40	64	50	R15
85555	Production per animal for each kind of livestock on the farm.	64	R20	40	46	71	50	R23
85556	Dollar return per unit for each kind of livestock on the farm.	42	R20	40	40	71	66	R15
85557	How the farm records compare with similar farms in the tele-farm program.	35	R20	60	R16	35	R16	R 7
85558	Relation of the USDA Livestock & Crop reports & reports from other reliable sources to price fluctuations of farm products.	R14	R 0	R20	R13	R21	R16	R 7
85559	The effects of input on the production costs per unit.	35	R20	40	R23	35	R16	R23
85560	Sources of farm supplies.	R28	40	40	R23	R21	R16	R23
85561	Availability of supplies at the time they are needed.	64	60	40	43	42	50	38
85562	Outlets for farm products.	42	80	40	36	42	R16	61
85563	Ability of outlets for farm products to receive the product at the time it is available.	35	60	R20	36	42	33	46
85564	What a financial statement indicates.	64	R20	60	56	71	83	38
85565	What an income & expense statement is & how it is used to determine profit & loss.	57	R20	60	56	64	83	46
85566	The basic tax laws including: income tax, workmen's compensation, minimum wage, & property tax.	50	40	80	46	57	83	46
85567	The basic economic principles including: diminishing returns, substitution of inputs: capital-labor substitution, & rates of return.	R28	40	80	R30	42	66	R23
85568	Standard parliamentary procedures such as "Roberts Rules Order".	R14	R20	R 0	R16	R14	R16	R 7
85569	The current agricultural issues.	R14	R 0	R 0	R20	R14	66	R 7
85570	How to prepare an analysis of an issue or problem.	R14	R20	R20	R16	35	33	R 7
85571	The fundamental differences between a corporate & cooperative business organization & the advantages of each.	R 7	40	R20	R13	R21	33	R 7
85572	The factors determining kind of livestock appropriate for the farm.	50	R20	40	R26	57	R16	R23
85573	Characteristics of breeds of livestock.	R28	R 0	R20	R10	R14	R 0	R 0
85574	The breeding services available.	42	R 0	R20	R16	R21	R 0	R 7
85575	High-performing blood-lines in relation to production.	R28	R20	R20	R20	R28	R16	R15

85576	Relation of kinds of feed available to kind of livestock appropriate for the farm.	42	R20	40	R23	50	R16	R15
85577	Methods of balancing rations for specific kinds of livestock.	64	R20	40	33	57	R16	R23
85578	Relation of livestock production ability to feeding program.	57	R20	40	36	64	R16	R23
85579	Feed requirements of livestock at various levels of maturity.	64	R20	40	33	50	R16	R23
85580	The proportion of feed nutrients in grains & forage to be fed to livestock.	42	R20	40	R26	57	R16	R15
85581	Sanitation practices to be followed in the livestock feeding program.	R28	R20	R20	33	50	R16	R23
85582	Sanitation practices to be followed in providing water for livestock.	R21	R20	R20	R30	50	33	R23
85583	Sanitation program to be followed in livestock housing, feed lots, & pastures.	35	R20	R20	40	50	66	R23
85584	Housing requirements of livestock in terms of temperature.	35	R20	R20	33	50	50	R15
85585	Housing requirements of livestock in terms of ventilation.	42	R20	R20	R23	35	R16	R15
85586	Housing requirements of livestock in terms of humidity.	42	R20	R20	R23	R28	R16	R15
85587	Requirements for holding and/or storage of livestock products to retain maximum quality.	42	R20	R20	R23	35	R 0	R30
85588	Conditions needed to maintain maximum quality while moving products to market.	42	R20	R20	R26	42	R 0	R15
85589	Sanitation practices to be followed in castrating and/or dehorning livestock.	50	R20	R20	36	57	R16	R30
85590	How to avoid potential dangers to the cow through improper use of a milking machine.	64	R20	40	R30	35	R16	R15
85591	The weight per dozen of various grades of eggs.	R14	R 0	R20	R 6	R 7	R16	R 0
85592	The interior characteristics of eggs which determine grade.	R14	R 0	R20	R10	R14	R 0	R 7
85593	Characteristics of livestock which determine grade.	R14	R20	R20	R16	R28	R 0	R15
85594	The grades of various livestock products & the characteristics of the product that determine grade.	R28	R20	R20	R26	42	R16	R15
85595	The breed association requirements for identification of animals.	R28	R 0	R20	R13	R14	R 0	R 0
85596	How to observe livestock & how to interpret the observations.	R28	R 0	40	33	57	33	R 7
85597	The basic principles of operation of 4-stroke cycle engines.	R14	R20	R20	R16	R14	R 0	R30
85598	The basic principles of operation of 2-stroke cycle engines.	R14	R20	R20	R13	R 7	R 0	R23
85599	The basic differences between diesel & gasoline fueled engines.	50	R20	40	36	42	50	46
85600	The common agricultural uses of the various types of engines.	R21	R20	R20	R16	R14	R 0	R30
85601	The specifications & directions in the manual for cleaning and/or adjusting the carburetor of a gasoline fueled engine.	35	40	40	R16	R21	R 0	R23
85602	The materials & processes used in battery construction.	R21	R 0	40	R 6	R14	R 0	R 7
85603	The methods of series & parallel connections to increase battery voltage or capacity.	R 7	R20	40	R20	35	R16	R23
85604	The reasons for battery preventive maintenance & results of neglect.	57	R 0	40	R26	35	R16	R23

23

23

Code Number	Job Knowledges	Selected Farming Industries <sup>a</sup>						R=Review <sup>b</sup>
		Dairy	Bush/Vine Fruit	Tree Fruit	Grain/Bean	Livestock (Beef/Swine/Sheep)	Poultry	Vegetable/Beet/Potato
		% (N=14)	% (N=5)	% (N=5)	% (N=30)	% (N=14)	% (N=6)	% (N=13)
85605	The chemical processes that take place during battery charge & discharge.	R14	R 0	40	R 3	R 7	R 0	R 0
85606	The battery's function in the charging & starting system.	42	R 0	40	R13	R14	R 0	R15
85607	The causes & results of battery sulfation.	R21	R 0	40	R 6	R21	R 0	R 7
85608	The safety precautions to be observed when charging or servicing a battery.	64	40	60	33	35	R16	R30
85609	The composition of battery electrolyte.	R 0	R 0	R 0	R 3	R 7	R 0	R 7
85610	The capacity ratings of batteries.	R 7	R 0	R20	R 6	R 7	R 0	R 7
85611	The criteria used in selecting a replacement battery.	R14	R20	R20	R10	R14	33	R 7
85612	Relationship of voltage, amperage, & resistance as expressed by Ohm's Law.	R 7	R 0	40	R 3	R 7	R 0	R 0
85613	The ignition timing & it's relationship to crankshaft position, engine speed, & load.	R21	R 0	40	R16	R21	R16	R30
85614	The function of ignition coil & condenser.	R14	R 0	40	R16	R21	R 0	R30
85615	The construction of spark plug & selection.	R21	R 0	40	R13	R21	R 0	R15
85616	The purpose & method of flushing cooling system.	R21	R 0	40	R10	R 7	R 0	R 7
85617	The instructions in the manual for servicing the cooling system.	50	R20	40	R23	R28	R 0	R23
85618	The instructions in manual governing size of fan belt.	R14	R20	R20	R20	R21	R16	R23
85619	The instructions in manual governing adjustment of fan belt.	R28	R20	R20	R23	R28	R16	30
85620	Directions in manual for checking and/or changing oil in internal combustion engine being serviced.	50	40	40	43	42	33	61
85621	The code specifications for weights & grades of lubricants specified in manual.	50	60	40	40	R28	R16	61
85622	Instructions in manual for cleaning and/or changing air cleaners.	50	60	40	40	35	R 0	69
85623	The instructions in manual for cleaning and/or lubricating linkages in internal combustion engines.	R21	R20	40	R13	R14	R 0	38
85624	The instructions in the manual for lubricating the steering mechanism of the tractor.	R21	R20	40	R25	R28	33	38
85625	The instructions in manual for checking & replacing transmission fluid.	R28	60	40	40	42	33	69
85626	The instructions in manual for checking and/or changing lubricant in differential of tractors and/or other farm machines.	R28	60	40	43	42	33	69

85627	Methods & specifications for cleaning, lubricating, & adjusting wheel bearings in tractors & other farm machinery.	42	40	40	R26	R21	R 0	53
85628	The importance of need for lubrication of all moving parts of all farm machinery.	50	60	40	50	42	50	69
85629	Manual specifications for adjustment of brakes.	R21	60	40	R26	R28	33	46
85630	Specifications in manual regarding condition of brake linings.	R21	40	40	R13	R 7	R 0	R23
85631	Specifications in manual regarding choice & use of hydraulic brake fluid.	R21	40	40	R23	R28	R16	R30
85632	Manual for specifications regarding performance of the hydraulic system.	R21	60	40	R16	R14	R 0	R30
85633	Maintenance specifications of the hydraulic system in the manual.	R14	80	40	33	R21	R 0	69
85634	How to measure for length of belt needed.	R21	80	40	40	35	R16	53
85635	How to determine size of V-belt needed for specified pulleys.	R21	80	40	33	35	R16	46
85636	How to compute pulley sizes to control speeds of driven machines.	R21	40	R20	R26	R28	33	R30
85637	Characteristics of electric power that give it advantages over power from internal combustion engines.	R 0	40	R20	R 6	R14	R16	R 7
85638	Potential danger to motors of over lubricating.	35	40	40	40	35	33	53
85639	Basic controls for electric equipment as thermostats, pressure switches, time clocks, etc.	R28	40	R20	R30	R14	33	46
85640	Need for proper inflation of tires.	50	80	40	43	50	33	53
85641	Inflation directions for tires of machine being serviced.	57	80	60	46	50	33	76
85642	Use of manual and/or parts catalogs to locate replacement parts for farm machinery.	42	40	40	33	35	33	46
85643	The function of each piece of farm equipment used in the area.	35	60	60	43	R28	33	76
85644	When farm equipment is operating correctly.	57	80	60	53	57	50	69
85645	The relationship of the various parts of each piece of farm equipment so that defects can be quickly detected.	50	60	80	46	57	50	61
85646	The use of the manual in adjusting pieces of farm equipment for optimum operation.	78	60	80	50	50	R16	61
85647	The relation of accurate calibration of farm machines to optimum yields per acre.	50	40	80	53	50	50	69
85648	Visual evidences indicating need for repair of all parts of a building.	57	40	40	36	50	50	38
85649	Kinds & uses of materials commonly used in repair of farm buildings.	35	40	40	R26	R28	33	38
85650	How to make measurements for specified repairs & how to make the repairs.	50	40	40	40	50	50	46
85651	Correct choice & use of tools for installing specified repairs in farm buildings.	50	40	40	36	42	33	53
85652	Potential hazards such as falling, electrical hazards, fire, water, etc.	85	60	80	56	71	50	61
85653	Potential damage from fire, water, & contamination, etc.	71	60	80	43	57	33	61

25

5

Code Number	Job Knowledges	Selected Farming Industries <sup>a</sup>						R=Review <sup>b</sup>
		Dairy	Bush/Vine Fruit	Tree Fruit	Grain/ Bean	Livestock (Beef/Swine/ Sheep)	Poultry	Vegetable/ Beet/ Potato
		% (N=14)	% (N=5)	% (N=5)	% (N=30)	% (N=14)	% (N=6)	% (N=13)
85654	The purpose of kinds of paint & preservatives in the maintenance of farm buildings.	R21	40	40	R20	35	33	R23
85655	The appropriate techniques for applying paint & preservatives for optimum preservation of buildings.	42	R20	40	R30	R28	R16	38
85656	The optimum temperature, humidity & air circulation for specified livestock, poultry, other kinds of livestock & for fruits, vegetables, & farm crops.	R28	R20	40	R23	R28	33	R23
85657	The principles of operation of handling equipment (conveyors, elevators, guages, etc.).	42	40	40	43	50	66	46
85658	The functions of farmstead equipment which depend on proper installation.	R28	40	R20	R30	35	33	38

<sup>a</sup>The 87 responses for the seven selected farming industries in agricultural production were reported from only 46 individuals; i.e., the mean number of farming industries per respondent was 1.9.

<sup>b</sup>If 33 percent or more of the respondents indicated a knowledge was "essential" for job entry, the job knowledge was accepted; if less than 33 percent, the knowledge was reviewed. When the job skill associated with the reviewed knowledge was accepted, the associated knowledge marked "review" was also accepted. However, if the job skill associated with the reviewed knowledge was rejected, the associated knowledge was also rejected.



Table S-7--Percentage Distribution of Job Skills Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in Environmental Horticulture.

Code Number	Job Skills	Selected Industries <sup>a</sup>					R=Rejected/Not Needed <sup>b</sup>	
		Arbori- culture	Bedding Plants	Garden Center	Grounds- keeping	Land- scaping	Nursery Production	Turf and Sprinkler
		% (N=7)	% (N=10)	% (N=8)	% (N=9)	% (N=13)	% (N=13)	% (N=9)
85001	Bud graft.	R28	R 0	R12	R11	R23	R 7	R33
85002	Make stem cuttings.	R14	R20	R37	R 0	R23	R23	R33
85003	Make root cuttings.	R28	R30	62	R11	R30	R38	R33
85004	Make cleft, whip, tongue, & side grafts.	R28	R20	R37	R11	R23	R23	R33
85005	Select cutting & grafting stock.	42	R20	R37	R22	R30	R30	R33
85006	Store cutting & grafting stock.	R28	R20	R12	R11	R23	R23	R22
85007	Line out rooted cuttings.	R28	R30	R37	R22	R38	46	44
85008	Fertilize rooted cuttings.	R28	R20	R25	R22	R38	R38	44
85009	Prepare media for growing rooted cuttings.	R28	40	50	R22	46	46	55
85010	Sow seeds of plants.	R28	40	R37	R33	R38	46	55
85011	Provide suitable seed-bed for various seeds.	R28	50	62	44	53	61	66
85012	Transplant seedlings.	42	60	75	44	61	76	77
85013	Adjust lighting for optimum growth of seedlings.	42	R20	R37	R33	46	R38	55
85014	Control temperature for optimum growth of seedlings.	42	40	62	R33	46	46	55
85015	Control moisture for optimum growth of seedlings.	42	50	62	R33	46	53	55
85016	Identify trees & shrubs used for environmental purposes to species.	100	40	R37	88	92	61	88
85017	Plant bare root trees & shrubs.	85	40	R37	100	84	61	88
85018	Prepare balled trees.	71	R20	R25	88	76	53	77
85019	Plant balled trees.	85	R30	R25	100	92	53	88
85020	Plant trees & shrubs with tree spade.	71	R30	R25	100	84	53	77
85021	Prune transplanted trees & shrubs used for environmental purposes.	100	R20	R12	88	84	46	77
85022	Prune flowering trees & shrubs.	100	R20	R12	77	84	46	77
85023	Prune standard trees which are used for environmental purposes.	100	R20	R12	66	84	46	77
85024	Prune coniferous species which are used for environmental purposes.	100	R20	R12	77	84	46	77
85025	Fertilize trees & shrubs by various methods.	85	R30	R25	100	92	53	88
85026	Adjust fertilizer applicators for broadcast application.	42	R30	R25	88	92	53	88

8

28

58

85027	Trace a wound in a tree.	100	R30	R25	77	92	53	100
85028	Clean wound cavities in trees.	100	R30	R25	77	84	53	88
85029	Finish cavity treatment in a tree.	100	40	R37	77	84	61	88
85030	Recognize insect problems in trees & shrubs.	100	40	R37	77	84	61	88
85031	Recognize disease problems in trees & shrubs.	100	40	R37	77	84	61	88
85032	Recognize environmental problems affecting trees and/or shrubs.	85	R30	R25	66	76	53	77
85033	Control insects & diseases in trees and/or shrubs.	85	40	R37	88	84	61	88
85034	Recommend trees and/or shrubs for various needs & environmental situations.	71	R20	R12	66	84	46	77
85035	Use related equipment; pruning tools, sprayers, planters, rope, etc.	100	R30	R25	88	100	53	100
85036	Adjust controls to maintain optimum temperature in the greenhouse.	R14	40	50	R11	R15	R38	R11
85037	Adjust controls to maintain optimum humidity in the greenhouse.	R14	40	50	R11	R15	R38	R11
85038	Adjust controls to maintain optimum lighting in the greenhouse.	R14	40	50	R11	R15	R38	R11
85039	Use appropriate sanitation practices in the greenhouse.	R14	50	62	R 0	R15	46	R22
85040	Prepare nursery stock for potting & perform potting operation.	42	70	87	44	46	76	44
85041	Recognize when to water & when to refrain from watering.	42	70	87	44	46	76	44
85042	Select fertilizer & make application.	42	50	75	44	46	61	44
85043	Plant nursery stock as specified by plan.	71	40	R37	100	84	61	77
85044	Prune & shape nursery stock at planting time.	100	40	R37	100	92	61	100
85045	Select items of nursery stock according to specifications on plan or order.	71	R30	R25	66	84	53	77
85046	Estimate relative quality of items of nursery stock of same genus & species.	71	R30	R37	66	84	53	77
85047	Suggest species & variety of trees, shrubs, or plants to meet needs of customer (size, shape, color, habit of growth, etc.)	71	R30	R37	66	76	53	77
85048	Identify specimens of nursery stock in terms of genus, species, & variety using label.	71	R30	R37	66	76	53	77
85049	Assess local soil conditions.	57	R20	R25	55	69	53	77
85050	Properly handle & store nursery stock (bare root, container, balled & burlapped) while out of the ground.	85	R30	R25	66	84	53	88
85051	Distinguish differences in various peat mosses & mulches.	57	R30	R25	55	76	46	77
85052	Prepare seed bed for lawn.	42	R10	R12	66	61	R30	66
85053	Seed a lawn.	42	R20	R25	77	76	46	88
85054	Prepare a lawn for sodding.	42	R20	R25	77	76	46	88
85055	Lay sod for a lawn.	42	R20	R25	77	84	46	100
85056	Protect & water a seeded lawn until seeding is established.	42	R20	R25	77	84	46	100

Table S-7.--Continued.

Code	Job Skills	Selected Industries <sup>a</sup>					R=Rejected/Not Needed <sup>b</sup>	
		Arbori- culture	Bedding Plants	Garden Center	Grounds- keeping	Land- scaping	Nursery Production	Turf and Sprinkler
		% (N=7)	% (N=10)	% (N=8)	% (N=9)	% (N=13)	% (N=13)	% (N=9)
85057	Establish sod on a sodded lawn.	42	R20	R25	66	69	R38	77
85058	Fertilize an established lawn.	42	R20	R25	77	76	46	100
85059	Control weeds in an established lawn.	57	R20	R25	88	76	53	88
85060	Control common diseases in lawn grasses.	42	R20	R25	77	76	53	83
85061	Mow & maintain an established lawn.	R14	R20	R25	66	69	46	88
85062	Irrigate lawns on the basis of the use & needs of the lawn.	42	R20	R25	77	76	53	88
85063	Adjust hand sprayers for satisfactory operation.	42	50	75	55	76	61	88
85064	Adjust compressed air sprayers for satisfactory operation.	42	50	62	55	69	61	77
85065	Adjust small power sprayers for satisfactory operation.	57	50	62	77	84	69	88
85066	Adjust dusters for satisfactory operation.	57	50	62	55	76	61	88
85067	Adjust hedge shears for satisfactory operation.	42	40	50	66	76	61	77
85068	Adjust pruning equipment for satisfactory operation.	71	R30	R37	65	76	61	77
85069	Adjust chain saws for satisfactory operation.	100	40	R37	77	84	61	88
85070	Adjust lawn mowers for satisfactory operation.	42	R30	R37	66	76	53	100
85071	Adjust power tillers for satisfactory operation.	57	R30	R37	77	84	61	100
85072	Adjust garden tractors for satisfactory operation.	57	R30	R37	66	84	61	100
85073	Operate hand sprayers.	57	60	62	88	84	69	88
85074	Operate compressed air sprayers.	71	50	50	77	84	69	88
85075	Operate small power sprayers.	71	40	R37	100	92	61	100
85076	Operate dusters.	71	50	R37	77	84	61	88
85077	Operate lawn mowers.	R28	R30	R25	77	61	46	77
85078	Operate power tillers.	57	R21	R12	88	84	46	88
85079	Operate garden tractors.	57	R30	R37	88	76	61	88
85080	Use hand garden tools (hoe, rake, shovel, hand cultivator).	57	40	50	88	76	61	77
85081	Use garden pruners.	71	50	50	100	84	69	88
85082	Use pruning saws.	100	40	R37	100	84	61	88
85083	Meet the customer & maintain good communication under any given circumstances.	65	60	75	77	76	61	66
85084	Identify common weeds, shrubs & ornamental plants from specimens brought in by customers.	71	70	75	77	76	69	77

85085	Identify common disease and/or insect damage on plants brought in by customers.	71	66	67	66	76	76	77
85086	Suggest controls for weeds, insects or diseases presented by the customer.	71	70	77	77	84	76	88
85087	Explain dilutions, methods of application & safety cautions to be followed in use of chemicals.	57	60	75	55	69	69	77
85088	Demonstrate equipment & relate to customers situation.	57	40	50	55	69	53	77
85089	Explain function of fertilizer, pesticides & herbicides & relate them to customer needs.	71	70	87	77	84	76	88
85090	Present other garden merchandise (such as ornamentals, bird feeders, trellises, etc.).	R14	R30	R37	R22	R38	R30	R33
85091	Close the sale.	R14	R30	50	R11	R30	R30	R33
85092	Record the sale: (prepare receipt, make charge record, receive payment, make change).	42	40	62	R33	46	46	44
85093	Construct a plan for a vegetable garden including layout, variety of vegetables, estimates of maturing dates, etc.	R28	R30	R37	R22	R23	R15	R22
85094	Plan the installation of an overhead or underground sprinkler system for parks and/or grounds.	R28	R10	R12	R11	R30	R15	44
85095	Specify power (electric or other) needed to operate the proposed system.	R28	R10	R12	R11	R30	R15	44
85096	Install an underground sprinkler system in accordance with the plan.	42	R30	R37	R33	R38	R30	55
85097	Install an overhead sprinkler system in accordance with the plan.	R28	R20	R25	R22	R38	R23	55
85098	Install a mist system in the greenhouse.	R28	R20	R25	R22	R23	R23	R22
85099	Specify necessary water supply installations for satisfactory operation.	42	R20	R25	R22	R38	R30	44
85100	Recommend to customers the fertilizer, mowing, weed control, & disease & insect control practices to follow in maintaining lawns & grounds.	71	R30	R25	66	53	R23	55
85101	Maintain lawns in accordance with the directions of the customer.	71	R30	R25	66	76	R30	77
85102	Maintain shrubs in accordance with maintenance specifications.	71	R30	R25	77	69	R30	66
85103	Fertilize shrubs & flower borders in accordance with maintenance specifications.	71	40	R37	77	61	R30	66
85104	Control insects & diseases of shrubs & flower borders in accordance with maintenance specifications.	71	40	R37	77	69	R38	77
85105	Prune shrubs in accordance with the maintenance specifications.	85	40	R37	77	92	46	100
85106	Maintain trees through the use of fertilizers.	100	R30	R25	77	76	46	68
85107	Maintain trees by control of insects & diseases.	100	R30	R25	77	84	46	88
85109	Maintain trees through pruning.	100	R30	R25	77	76	46	88

Table S-7.--Continued.

Code Number	Job Skills	Selected Industries <sup>a</sup>					R=Rejected/Not Needed <sup>b</sup>	
		Arbori- culture	Bedding Plants	Garden Center	Grounds- keeping	Land- scaping	Nursery Production	Turf and Sprinkler
		% (N=7)	% (N=10)	% (N=8)	% (N=9)	% (N=13)	% (N=13)	% (N=9)
85109	Maintain flower borders through the choice of perennials, blooming at different seasons during the year.	42	R30	R17	55	53	R30	55
85110	Estimate hours of labor required for grounds maintenance during a season.	71	R30	R12	44	53	R23	55
85111	Estimate the supplies needed for grounds maintenance during a season.	57	R30	R12	55	53	R23	66

<sup>a</sup>The 69 responses for the seven environmental horticulture occupational areas were reported from only 26 individuals, i.e., the mean number of environmental horticulture occupational areas reported per respondent was 2.7.

<sup>b</sup>If 40 percent or more of the respondents indicated a job skill was needed for entry, then the skill was accepted; if less than 40 percent, the skill was not needed (rejected). The prefix "R" indicates the percentage was less than 40 and, hence, the job skill was not needed (rejected) for job entry.

Table S-8.--Percentage Distribution of Job Knowledges Needed, or Not Needed, by Respondents for Occupational Entry into their Selected Industries in Environmental Horticulture.

Code Number	Job Knowledges	Selected Industries <sup>a</sup>						R=Review/Not Needed <sup>b</sup>
		Arbori- culture	Bedding Plants	Garden Center	Grounds- keeping	Land- scaping	Nursery Production	Turf and Sprinkler
		% (N=7)	% (N=10)	% (N=8)	% (N=9)	% (N=13)	% (N=13)	% (N=9)
85501	Proper time to make bud grafts.	R28	R 0	R 0	R 0	R 7	R 0	R11
85502	Kinds of cuttings.	R28	R30	37	R 0	R 7	R23	R11
85503	Environmental conditions needed for successful cuttings & grafts both before & after the process.	R28	R10	R25	R 0	R 7	R 7	R11
85504	Media needed for growing rooted cuttings.	R14	R20	R25	R 0	R15	R23	R22
85505	Effect of intensity of light on growing cuttings.	R 0	R10	R12	R 0	R 0	R 7	R 0
85506	Effect of hours of light on growing cuttings.	R 0	R10	R12	R 0	R 0	R 7	R 0
85507	Appropriate seeding conditions for various kinds of seeds.	R14	R10	R12	R 0	R15	R15	R22
85508	Appropriate media for growing seedlings.	R14	R30	50	R 0	R23	38	33
85509	How to control growth of plants through lighting.	R 0	R20	R25	R11	R15	R23	R22
85510	Effects of temperature on growth of seedlings.	R14	R20	R25	R11	R23	R23	33
85511	Characteristics of seedlings which indicate quality.	R14	R20	R25	R11	R30	R30	44
85512	Effects of moisture on optimum growth of seedlings.	R14	R20	37	R11	R30	R30	44
85513	Basic tree functions especially related to planting & pruning of trees & shrubs.	57	R30	R25	R22	46	R23	55
85514	Soil characteristics related to growth of trees & shrubs.	R28	R30	R25	R22	38	R23	44
85515	Fertilizer labeling.	42	R20	R12	33	30	R15	44
85516	Responses of trees & shrubs to specific planting methods.	42	R30	R25	44	53	R30	66
85517	Needs for pruning of trees & shrubs.	85	40	37	44	61	38	77
85518	Timing of pruning of trees & shrubs.	71	40	37	44	61	38	77
85519	Pruning tools.	71	40	37	44	61	38	66
85520	Pruning safety practices.	71	R30	R25	33	53	R30	66
85521	Fertilization methods for trees & shrubs.	42	40	37	33	61	38	77
85522	Fertilization timing for trees & shrubs.	R28	40	42	33	53	38	66
85523	Environmental relationships of grass & trees.	42	40	R25	33	R30	R15	33
85524	Wound healing in trees.	71	R20	R12	33	38	R15	44
85525	Tree wound dressings.	57	R30	R25	44	38	R23	44
85526	Tools for cavity & wound treatment.	57	R30	R12	44	R30	R15	33
85527	Disease control methods for trees & shrubs.	42	40	37	33	53	R30	66
85528	Insect control methods for trees & shrubs.	42	40	37	33	61	38	77

8

34

68

67



85529	Non-biological stresses affecting trees.	R14	R20	R25	R11	R15	R15	R11
85530	Read pesticide labels.	42	R30	37	33	53	38	55
85531	Planting techniques for trees & shrubs.	R28	R30	37	R22	61	38	66
85532	Planting timing for trees & shrubs.	R28	R30	37	R22	46	R30	55
85533	Nursery specifications for grading trees & shrubs.	R14	R20	R12	R22	R30	R15	33
85534	Pesticide safety regulations.	71	R30	37	44	53	38	55
85535	Optimum temperature for plants in the greenhouse.	R14	R10	R12	R 0	R 7	R 7	R11
85536	Optimum humidity for plants in the greenhouse.	R14	R10	R12	R 0	R 7	R 7	R11
85537	Optimum lighting for plants in the greenhouse.	R14	R10	R12	R 0	R 7	R 7	R11
85538	Appropriate fungicides for use in greenhouse.	R 0	R10	R25	R 0	R 7	R15	R11
85539	Appropriate insecticides for use in the greenhouse.	R 0	R10	R25	R 0	R 7	R15	R11
85540	Different water requirements in relation to different plants, container types, & planting media.	R 0	R30	62	R 0	R 7	R23	R11
85541	Forms of fertilizer, fertilizer analysis, rates of application & meaning of instructions on the package.	R14	R20	37	R 0	R23	R30	33
85542	Planting techniques such as depth to plant, spread of roots, size of hole, absence of air spaces, etc.	57	60	62	44	76	61	88
85543	How to read a plan.	42	40	37	33	61	R30	66
85544	Need for balance of leaf surface & root surface at planting time.	42	50	50	44	69	53	88
85545	Optimum season for planting nursery stock.	R28	50	37	44	53	46	66
85546	Characteristics of nursery stock which indicates quality.	R28	50	50	44	61	53	77
85547	Characteristics of plants in the nursery & how to relate them to customers situations.	42	R30	37	44	46	R23	55
85548	Significance of labels for identifying genus, species & variety.	57	40	50	55	61	38	60
85549	Local soil types & how they compare as to texture, drainage, pH, & fertility.	R28	40	37	44	53	36	66
85550	Various methods of transplanting & handling nursery stock & precautions necessary to assure success.	42	60	62	44	69	61	88
85551	Different peat mosses, mulches, & other soil amendment materials & the characteristics of each.	R28	50	50	33	38	R30	44
85552	How soil amendment materials may be used to improve various soil situations.	R28	40	37	33	38	R23	44
85553	Characteristics of seed bed for lawn to be seeded.	R14	R20	R25	R22	38	R23	55
85554	Various rates of seeding for grass seed.	R23	R30	R25	33	46	R23	55
85555	Appropriate base for lawn to be sodded.	R28	R30	R25	33	46	R23	55
85556	Kinds of protection needed by newly seeded lawn.	42	R30	R25	33	53	R23	66
85557	Moisture, shade & protection needed for establishment of seeded and/or sodded lawns.	42	R30	R25	55	53	R30	66
85558	Fertilizer formula-NPK & its application to lawn fertilization.	42	R30	R12	33	46	R15	55
85559	Methods for control of lawn weeds.	42	40	R25	55	46	R30	55

Table S-8.--Continued.

Code Number	Job Knowledges	Selected Industries <sup>d</sup>						R=Review/Not Needed <sup>b</sup>	
		Arbori- culture	Bedding Plants	Garden Center	Grounds- keeping	Land- scaping	Nursery Production		Turf and Sprinkler
		% (N=7)	% (N=10)	% (N=8)	% (N=9)	% (N=13)	% (N=13)		% (N=9)
85559	Mowing & maintenance techniques for maintenance of a healthy lawn.	R23	40	37	44	61	46	77	
85561	The weekly irrigation requirements of a lawn under varying intensity of use.	42	40	R25	33	38	R15	44	
85562	How spray materials must be applied to be effective.	42	R30	37	44	53	R30	56	
85563	How sprayers may be used to properly apply materials.	42	R30	37	44	61	38	77	
85564	How dusters may be used to properly apply materials.	42	R30	37	44	53	R30	66	
85565	How to use hedge shears for satisfactory work.	R20	R20	R12	44	R30	R15	33	
85566	How to use pruning equipment to avoid unnecessary damage to plants.	57	R30	R25	44	46	R30	55	
85567	How to use chain saws to avoid unnecessary damage to trees.	42	R30	R25	44	38	R30	44	
85568	Safety practices to follow in the use of chain saws.	71	40	50	55	61	61	77	
85569	Importance of adjustment of lawn mowers for satisfactory operation.	R14	40	37	33	46	46	55	
85570	Basic principles of adjustment of power tillers.	R14	R30	R25	33	46	38	55	
85571	Basic principles involved in the adjustment of garden tractors.	R14	R20	R12	33	R30	R15	33	
85572	Safety factors to be followed in the operation of hand sprayers.	42	R30	R25	44	53	38	66	
85573	Safety factors to be followed in the operation of compressed air sprayers.	42	R30	R25	44	46	R30	55	
85574	Safety factors to be followed in the operation of power sprayers.	42	R30	R25	44	46	R30	55	
85575	Safety factors to be followed in the operation of dusters.	42	R30	R25	44	46	R30	55	
85576	Safety factors to be followed in the operation of lawn mowers.	42	R20	R12	44	46	R23	55	
85577	Safety factors to be followed in the operation of power tillers.	42	R20	R12	44	46	R23	55	
85578	Safety factors to be followed in the operation of garden tractors.	42	R20	R12	44	46	R23	55	
85579	Basic steps in selling.	R14	R30	R25	R22	R15	R 7	R11	
85580	How to compute dilutions of chemicals based on directions on label.	R14	50	75	33	53	53	66	
85581	Function of equipment offered for sale.	R28	40	62	R22	38	38	44	
85582	How various types of fertilizers & pesticides & herbicides function.	42	50	62	33	R30	R30	33	

8

36

72

71



85583	Fundamentals of classification systems used for identification of plants, insects, & fungus diseases.	R28	50	75	44	38	38	44
85584	Kinds of safety practices to be followed in demonstrating garden equipment.	R28	40	37	33	53	38	66
85585	Types & characteristics of vegetables that can be grown in a home garden & how they may be cared for for optimum yield.	R28	R30	37	33	R23	R15	R22
85586	Coverage of each sprinkler head.	R14	50	37	R22	R30	R30	33
85587	Pressure needed for satisfactory operation of proposed sprinkler system.	R14	R30	37	R22	R30	R30	33
85588	The power (electrical or other) needed for operation of proposed sprinkler system.	R14	R20	R25	R22	R30	R23	33
85589	The need for frost protection for the system.	R14	R30	37	R22	R23	R23	R22
85590	The opportunities for electrical & water supply controls available.	R28	40	R25	33	R30	R23	33
85591	The essential practices necessary for the maintenance of lawns.	42	R30	R25	44	46	R15	55
85592	Fertilizers to use for the maintenance of shrubs.	R28	R30	R25	44	38	R15	44
85593	Disease & insect control measures for the maintenance of shrubs.	R28	R30	R25	44	38	R15	44
85594	Pruning practices needed for the maintenance of shrubs.	71	R30	R25	55	61	R30	77
85595	Fertilizer to use for the maintenance of trees.	57	R30	R25	55	53	R23	66
85596	Disease & insect control measures for maintenance of trees.	57	R30	R25	55	46	R15	55
85597	Pruning practices for maintenance of trees.	71	R30	R25	65	61	R30	77
85598	Major perennial flowers for use as basic items in borders.	R28	R20	R 0	R22	R15	R 0	R11
85599	Periods of bloom & colors of basic items in the flower borders.	R28	R20	R 0	R22	R15	R 0	R11
85600	Time needed for completion of maintenance operations specified by the customer.	R28	R30	R12	33	R30	R 7	33
85601	Supplies (fertilizers, chemicals, annual & perennial plants, etc.) needed for maintenance of grounds according to specifications of the customers.	42	R30	R25	33	46	R15	55

37

<sup>d</sup>The 65 responses for the seven environmental horticulture occupational areas were reported from only 26 individuals, i.e., the mean number of environmental horticulture occupational areas reported per respondent was 2.7.

<sup>e</sup>If 33 percent or more of the respondents indicated a knowledge was "essential" for job entry, the job knowledge was accepted; if less than 33 percent, the knowledge was reviewed. When the job skill associated with the reviewed knowledge was accepted, the associated knowledge marked "review" was also accepted. However, if the job skill associated with the reviewed knowledge was rejected, the associated knowledge was also rejected.

Table S-9.--Percentage Distribution of Job Skills Needed, or Not Needed, by Respondents for Occupational Entry into Farm Implement Repair.

B

Code Number	Job Skills	R=Rejected/ Not Needed <sup>a</sup> % (N=17)	Code Number	Job Skills	R=Rejected/ Not Needed <sup>a</sup> % (N=17)
85001	Identify diesel fueled internal combustion engine.	88	85023	Set the machine for arc cutting.	41
85002	Identify gasoline fueled internal combustion engine.	100	85024	Set the flame of the oxy-acetylene welder.	94
85003	Identify 4-stroke cycle engine.	88	85025	Set the regulator of the oxy-acetylene welder: (a) correct air pressure & (b) correct gas pressure.	94
85004	Identify 2-stroke cycle engine.	82	85026	Select correct torch tip for the job.	94
85005	Check & clean (or replace) the filters in the fuel line of a gasoline fueled engine.	94	85027	Properly light the torch.	94
85006	Clean the carburetor of a gasoline fueled engine.	94	85028	Use the torch with correct positions & movements.	94
85007	Adjust the carburetor of a gasoline fueled engine.	100	85029	Adjust oxy-acetylene flames for cutting metal.	94
85008	Identify hand & power tools commonly used for farm implement repair.	100	85030	Accurately flame cut thin & thick steel sections.	88
85009	Correctly use hand & power tools commonly found in the farm implement repair shop.	100	85031	Adjust air & gas line on the regulator.	94
85010	Observe & follow safety practices when working in the farm machinery repair shop.	100	85032	Select correct cutting torch for cutting various metal sizes.	64
85011	Set & adjust the controls on the oxy-acetylene welding equipment commonly found in the farm implement repair shop & for the kind of job to be done.	94	85033	Use cutting attachments for changing a welding torch to a cutting torch.	82
85012	Set & adjust the controls on the arc welding equipment commonly found in the farm implement repair shop & for the kind of job to be done.	94	85034	Clean cutting tips.	88
85013	Select appropriate welding rods for the kind of job to be done.	88	85035	Use torch guides & mechanical guides.	64
85014	Prepare metal for welding.	94	85036	Select nozzle size for the job.	64
85015	Perform the flat and/or position welds commonly needed for repair of farm implements.	82	85037	Set correct gas for welding.	R29
85016	Strike an arc with various types of current.	82	85038	Set the water valve if torch is water cooled.	47
85017	Shut down welding machine.	88	85039	Read the flow meter & understand CFH units of flow.	R23
85018	Set the current for various types of metals: (a) alternating current, (b) straight polarity, (c) reverse polarity.	52	85040	Select the inert gas for the job.	47
85019	Read charts for setting of equipment.	22	85041	Correctly add welding rod metal to the weld.	64
85020	Select correct size & shape of electrode for DSCP, DCRP, or AC current.	58	85042	Use clamps & clamping fixtures.	76
85021	Set amperage for welding various thicknesses of metal.	70	85043	Get metal (bolts, rivets, holes).	64
85022	Set the feed for feeding the wire into the arc.	R35	85044	Prepare joints for welding.	82
			85045	Weld in horizontal, vertical & overhead positions.	70
			85046	weld pipe.	52
			85047	Check, clean, or replace spark plugs.	100
			85048	Check, clean, or replace distributor points or condenser.	100
			85049	Check or replace coil.	100
			85050	Check specific gravity of electrolyte & temperature compensate in the reading.	94

38

76

85051	Perform a visual inspection of battery conditions.	94
85052	Install a battery.	94
85053	Clean battery terminals.	94
85054	Check charging system operation.	100
85055	Connect booster cables properly.	94
85056	Activate new dry-charged batteries.	94
85057	Charge batteries according to specifications.	94
85058	Check & set ignition timing.	100
85059	Inspect, replace, & adjust headlights & bulbs.	82
85060	Check and/or replace fuses.	82
85061	Check fluid level of battery cells & restore to proper level.	82
85062	Connect the generator-regulator tester into charging system.	76
85063	Locate wiring diagram in Service Manual & to trace out circuits.	76
85064	Perform a generator output test.	70
85065	Check voltage limiter setting & adjust.	64
85066	Check the current regulator setting & adjust.	64
85067	Check the cut-out relay operation & adjust.	64
85068	Test for voltage drop in the charging circuit.	64
85069	Repair & replace generator for service.	70
85070	Adjust belt tension.	82
85071	Visually inspect generator/regulator & connecting wiring.	76
85072	Disassemble & inspect generator.	76
85073	Check armature for shorts, opens, & grounds.	70
85074	Check field coils for shorts, opens, & grounds.	70
85075	Inspect & replace generator bearings.	70
85076	Replace generator brushes.	70
85077	Turn armature commutator on the lathe.	R35
85078	Undercut commutator mica-separators.	41
85079	Assemble & polarize the generator.	64
85080	Polarize generator field coils.	64
85081	Perform an alternator output test.	64
85082	Check field relay operation.	58
85083	Check voltage limiter setting.	52
85084	Repair and/or replace alternator for service.	58
85085	Visually inspect alternator, regulator, & connecting wiring.	82

85086	Disassemble & inspect alternator.	58
85087	Test rotor for opens, shorts, & grounds.	52
85088	Test stator for opens, shorts, & ground:	52
85089	Check & replace alternator bearings.	64
85090	Replace alternator brushes.	64
85091	Test diodes with ohmmeter or test lamp.	58
85092	Replace diodes.	58
85093	Solder diode connecting leads.	58
85094	Assemble alternator.	64
85095	Adjust voltage limiter.	52
85096	Check starter draw using hand induction ammeter.	52
85097	Check starter draw using battery starter/tester.	52
85098	Isolate charging problem to ampere hour regulator or wiring.	R35
85099	Check for starter voltage drop.	52
85100	By-pass starter solenoid or switch to check operation.	82
85101	Remove & replace starter from vehicle.	94
85102	Remove & replace solenoid from starter.	94
85103	Replace starter solenoid contacts & terminals.	47
85104	Disassemble & inspect starter.	76
85105	Test armature for shorts, opens, & grounds.	58
85106	Test field coils for shorts, opens, & grounds.	58
85107	Replace starter bushings.	76
85108	Replace starter brushes.	70
85109	Turn commutator on the armature lathe.	44
85110	bench test starter.	64
85111	Check operation of ignition by-pass.	58
85112	Check & replace starter drive.	76
85113	Use a test light to determine if voltage is present at a specified component.	88
85114	By-pass switches or relay to check for operation.	76
85115	Use a snort-finder or similar method to locate grounds.	64
85116	Perform drilling, mounting & electrical work involved in mounting electrical accessories.	88
85117	Remove & replace electrical units such as radios, headlights, gas gauges, etc.	94
85118	Use voltmeter, ammeter, and ohmmeter to test circuits & components.	70

Table S-9.--Continued.

Code Number	Job Skills	R=Rejected/ Not Needed <sup>a</sup> % (N=17)	Code Number	Job Skills	R=Rejected/ Not Needed <sup>a</sup> % (N=17)
85119	Remove & replace various wiring harnesses using a service manual.	88	85146	Check timing of valve opening & closing in an internal combustion 4-cycle engine.	70
85120	Make a wire splicing with soldered joints or solderless connectors.	82	85147	Check seating of valve in an internal combustion 4-cycle engine.	76
85121	Check dwell & rpm with tach-dwell meter & adjust to specifications.	70	85148	Adjust tappet clearance.	88
85122	Set ignition timing & is able to find tune-up specifications in the shop manual.	83	85149	Make cylinder compression tests.	88
85123	Check cooling system for leaks.	88	85150	Time crankshaft & camshaft.	70
85124	Check and/or replace all belts as needed.	83	85151	Check & correct vital fluid levels (differential, transmission, engine) following the manufacturers recommendations.	100
85125	Check level of coolant in radiator & adjust as needed.	88	85152	Change engine oil & filter.	100
85126	Drain & flush cooling system--winterize to minus 30°F.	82	85153	Change transmission & hydraulic fluid & filters.	100
85127	Flush & clean radiator.	76	85154	Check oil level in internal combustion engine.	100
85128	Replace seals or gaskets in the cooling system.	82	85155	Change oil in internal combustion engine.	100
85129	Check & replace hoses in the cooling system.	68	85156	Change oil filter in internal combustion engine.	94
85130	Check pressure caps on the radiator & replace as needed.	82	85157	Clean and/or lubricate linkages in internal combustion engines.	70
85131	Check thermostat & replace as needed.	94	85158	Clean & lubricate wheel bearings of tractors & other farm machines.	94
85132	Inspect and/or replace water pump.	82	85159	Check & adjust brakes on tractors & other power driven farm machines.	82
85133	Repair minor radiator leaks.	83	85160	Determine when brakes need replacement or major repair.	82
85134	Test & determine antifreeze protection.	94	85161	Check and/or replace fluid in hydraulic brake system.	82
85135	Clean outside of radiator to assure cooling.	88	85162	Clean-up & deglaze brake disks that have useable life left in them.	52
85136	Clean & maintain the cooling capacity of an air-cooled engine.	76	85163	Install seals & O-rings as required in brake systems.	58
85137	Solder & repair leaks in the cooling system.	41	85164	Check cylinder compression & interpret the readings (both wet & dry).	82
85138	Clean & inspect valves.	76	85165	Remove & replace the distributor.	82
85139	Clean & inspect cylinder heads.	76	85166	Check & adjust or replace distributor points & condensers.	88
85140	Measure valve guide diameter & out-of-round.	58	85167	Adjust valves.	88
85141	Honor & ream valve guide to original diameter.	52	85168	Adjust idle speed & mixture.	88
85142	Reface valves.	76	85169	Check & replace air filter.	94
85143	Grind valve seats.	76			
85144	Check valve seat contact.	76			
85145	Check valve spring tension.	76			

85170	Remove & replace power steering pump & bleed the system.	52	85204	Remove & replace intake manifold & heads.	76
85171	Inspect cylinder head for warpage & cracks.	70	85205	Disassemble cylinder heads.	70
85172	Assemble cylinder heads.	70	85206	Determine length & size of V-belt for specified power transmission.	R35
85173	Remove & replace valve lifters.	70	85207	Install pulleys as specified for specific machines.	58
85174	Inspect push rods for wear & trueness.	64	85208	Use service manual trouble shooting procedures for transmission.	76
85175	Inspect & recondition rocker arm assembly.	70	85209	Disassemble, inspect, & reassemble transmission.	47
85176	Align & install timing gears.	70	85210	Adjust the transmission bands of a fluid transmission system.	R31
85177	Visually inspect camshaft & lifters.	70	85211	Adjust the linkage of a standard transmission system.	52
85178	Measure camshaft journals to determine size & wear.	64	85212	Check level of transmission fluid.	94
85179	Adjust solid lifter valve lash.	76	85213	Change transmission fluid.	88
85180	Adjust hydraulic lifter lash.	64	85214	Overhaul & repair universal joint assemblies & shields used in conjunction with universal joint power drives.	82
85181	Disassemble & inspect engine visually.	76	85215	Check operation of hydraulic lift and/or hydraulic system of other farm machines.	52
85182	Remove & install cam bearings.	70	85216	Perform maintenance operations on the hydraulic system as specified in the manual.	70
85183	Hone cylinder walls.	64	85217	Identify seal & O-ring wear & to recognize what caused wear.	64
85184	Clean ring grooves.	76	85218	Install or replace seals & O-rings using recommended practices & procedures.	70
85185	Check piston ring & gap.	76	85219	Overhaul & repair hydraulic cylinders common to agricultural hydraulic systems.	58
85186	Check piston ring side clearance.	76	85220	Identify situations in which electric power is appropriate	47
85187	Mike a piston to determine size.	76	85221	Lubricate electric motors.	70
85188	Mike the crankshaft to determine journal size, out-of-round & taper.	76	85222	Determine size & type of electric motors for specified jobs.	R17
85189	Check crankshaft end play.	76	85223	Inflate tires.	94
85190	Fit & install rear main bearing oil seal.	64	85224	Add liquids to tires for increased weight.	82
85191	Compress piston rings & install pistons.	76	85225	Change tire on tractor and/or other farm machinery & mount & dismount tires from rim.	88
85192	Check rod & main journal oil clearance.	70	85226	Replace tire valve stems.	82
85193	Remove & replace cylinder heads.	76	85227	Repair tires (tubes & casings).	82
85194	Torque connecting rod caps.	70	85228	Replace rear wheel bearings.	70
85195	Check piston pin fit.	64	85229	Replace rear wheel grease seals.	76
85196	Rebuild & check oil pump.	52	85230	Change differential fluid.	88
85197	Test fuel pump pressure, volume, & vacuum.	58	85231	Check differential fluid level.	100
85198	Remove & replace fuel pump.	70	85232	Listen to customer statement of problem & identify cause of malfunction.	88
85199	Check, clean, and/or replace fuel filter.	75			
85200	Bend & flare tubing to make fuel line.	76			
85201	Remove & replace carburetor.	76			
85202	Overhaul carburetor including: disassembling, cleaning, installing new parts, making all adjustments, re-assembling, test.	70			
85203	Trouble shoot carburetor.	76			

Table S-9.--Continued.

Code Number	Job Skills	R=Rejected/ Not Needed <sup>a</sup> %	(N=17)	Code Number	Job Skills	R=Rejected/ Not Needed <sup>a</sup> %	(N=17)
85233	Ask questions of the customer to help identify cause of malfunction.	88		85240	Sell miscellaneous products	47	
85234	Explain to the customer what must be done to correct the malfunction.	76		85241	Order parts & to follow-through on the parts ordered.	47	
85235	Explain to the customer what actually was done to correct the malfunction.	76		85242	Operate farm equipment commonly used in the area.	76	
85236	Show replaced parts to the customer & explain need for replacement.	82		85243	Adjust farm equipment commonly used in the area.	82	
85237	Offer continued service and/or related merchandise to meet needs of the customer.	76		85244	Diagnose malfunctioning of farm equipment.	76	
85238	Complete a service repair order.	70		85245	Identify defective parts on farm equipment.	82	
85239	Translate the customer complaints or requests into mechanics instructions.	82		85246	Replace defective parts on farm equipment.	88	
				85247	Locate the parts in the parts book.	76	

<sup>a</sup>: 40 percent or more of the respondents indicated a skill was needed for job entry, the job skill was accepted; if less than 40 percent, the skill was declared "not needed" (rejected). The prefix "R" indicates the percentage was less than 40 and, hence, the skill was not needed (rejected) for job entry.

Table S-10.--Percentage Distribution of Job Knowledges Needed, or Not Needed, by Respondents for Occupational Entry into Farm Implement Repair.

Code Number	Job Knowledges	R=Review <sup>d</sup> % (N=17)	Code Number	Job Knowledges	R=Review <sup>d</sup> % (N=17)
85501	Basic principles of operation of compressor ignition engines.	70	85524	The characteristics of appropriate oxy-acetylene flames for various purposes.	R11
85502	Basic principles of operation of spark ignition engines.	82	85525	The various gases used for welding.	R 5
85503	Basic differences between diesel & gasoline fueled engines.	70	85526	Tables & charts for use in welding problems commonly found in repairing & maintaining farm machinery.	R17
85504	Advantages & common agricultural uses of the various types of engines.	R29	85527	Materials & chemistry of battery operation.	R29
85505	The use of electrical (air stream) in the manual for cleaning interior insulating surfaces in the fuel line of a gasoline fuel engine.	64	85528	Series & parallel circuits to increase battery output voltage or current flow.	47
85506	The use of electrical (frictions) in the manual for cleaning and/or resetting the distributor of a gasoline fueled engine.	47	85529	Reasons for battery preventive maintenance & results of neglect.	52
85507	The kind & purpose of hand & power tools commonly found in the farm implement repair shop.	64	85530	The battery's function in the charging & starting system.	64
85508	The use & purpose of measurement of tools commonly used in the farm implement repair shop.	64	85531	The causes & results of battery sulfation.	35
85509	The measuring instruments commonly used in the farm implement repair shop.	52	85532	The safety precautions to be observed when charging & servicing a battery.	76
85510	The safety practices to be followed when using hand or power tools in the farm implement repair shop.	94	85533	Battery charging voltage as related to state of charge, charging rates, & battery condition.	R29
85511	The purpose of the controls on the oxy-acetylene welder.	53	85534	Measurement & significance of specific gravity.	35
85512	The purpose of the controls on the arc welder.	56	85535	The criteria used in selecting a replacement battery.	R11
85513	The appropriate size & kind of rod for specified welding jobs.	R23	85536	The use & operation of the generator-alternator-regulator tester.	R11
85514	The condition of metal needed for satisfactory welds on farm equipment.	R17	85537	The relationship between voltage, current, resistance, & power as stated by Ohm's Law.	R11
85515	The appropriate kind of welds commonly needed on farm equipment.	R17	85538	Basic electricity & magnetism.	R17
85516	The use of tables & charts used in connection with welding jobs.	R11	85539	Operating principles of the DC generator & electro-magnetic induction.	R17
85517	Settings of arc welder (amperage, voltage, polarity).	R23	85540	How to trace circuits in the wiring diagram.	R29
85518	Polarity, direct & alternating current.	R11	85541	Understands the use of & differences between "A" and "B" circuit generators.	R 5
85519	Safety practices for the welder.	82	85542	Direct & alternating current principles.	R17
85520	Safety practices to equipment when welding (fires, damage to buildings, livestock, etc.).	82	85543	Electrical & equipment nomenclature.	R17
85521	The effect of heat on metals.	R23	85544	The operation of the voltage & current limiters.	R11
85522	The characteristics of a satisfactory weld.	41	85545	The operation of the cut-out relay.	R17
85523	The melting temperature of various metals used in farm machinery & equipment.	R 5	85546	Testing procedures for locating shorts, opens, or grounds in armature & field coils.	R23
			85547	The procedure for isolating generator from regulator problems.	R17



5548	The use & operation of the armature lathe.	R 5
5549	Operation & use of non-type timing lights.	R 5
5550	The different settings for an auto-voltage regulator.	R 5
5551	The use of the volt meter in checking voltage drop.	R11
5552	The tailoring of the voltage regulator settings for specific applications.	R 5
5553	The principles involved in polarizing the generator.	R 5
5554	The use & operation of the battery starting system.	R11
5555	Operating principles of the series-wound motor.	R 5
5556	The test procedures for isolating starter problems.	R11
5557	Starter test procedures.	R11
5558	Stem pin and nut.	R23
5559	Starters and their classification.	R11
5560	Wear and current capacity.	R11
5561	The operation & servicing of fuses & circuit breakers.	R23
5562	Characteristics of series & parallel circuits.	R23
5563	Operation principles of switches, relays, oil bonds, time delay switches & cages, differential gages, pressure & heat sensitive switches.	R17
5564	The procedures for checking for & isolating a defective unit.	R29
5565	The operation & use of ammeter, ohmmeter, and voltmeter.	R 5
5566	The relationship between dwell & point gap.	41
5567	The relationship between dwell & timing.	47
5568	The interpretation & use of scope wave forms.	R 5
5569	Ignition timing & it's relationship to crankshaft position, engine speed, & load.	47
5570	The function of the ignition coil & condenser.	47
5571	Spark plug construction & selection.	47
5572	The condition of plug firing tip as an indicator of engine condition.	52
5573	Purpose & method of flushing cooling system.	52
5574	Instructions in the manual for servicing the cooling system.	58
5575	Instruction in manual governing adjustment of fan belt.	52
5576	Instruction in manual for checking & replacing water pump on an engine.	47
5577	Specifications in the manual for pressure to be maintained.	35
5578	Chemicals & equipment needed to clean & flush radiator.	R 5
5579	Types & uses of gaskets & gasket remnants.	R29
5580	Flushing coolant through cooling system.	R29
5581	Uses of the various engine coolants & anti-freezes.	35

5582	Instructions in the manual for checking timing of valves on an internal combustion 4-cycle engine.	47
5583	Methods for checking seating of valves in an internal combustion 4-cycle engine.	35
5584	Specifications in the manual for grinding or replacement of valves.	47
5585	Interpretation & use of cylinder compression readings.	47
5586	The purpose & use of various types of valve guide oil seals.	R17
5587	Cylinder head design & construction.	R 5
5588	The use of the valve rocker.	47
5589	The use of the micrometer.	64
5590	Manuals & valve lifter & operation.	R11
5591	The valve train lubrication system.	R11
5592	Cam shaft operation.	41
5593	Check procedures for timing gears.	52
5594	Valve timing & methods for checking.	41
5595	The purpose of valve lash.	53
5596	Directions in manual for checking and/or changing oil in internal combustion engine.	76
5597	Code specifications for weights & grades of oil specified in manual.	52
5598	Instructions in manual for cleaning & lubricating free radical clutch plates.	52
5599	Instructions in manual for checking & replacing transmission & hydraulic fluid.	52
5600	Code designations for transmission fluids.	41
5601	Instructions in manual for checking and/or changing lubricant in differential of tractors and/or other farm machines.	53
5602	Method & specification for cleaning, lubricating, & adjusting wheel bearings in tractors & other farm machines.	64
5603	Manual specifications for wheel bearings for the specific machine.	35
5604	Manual specifications for adjustment of brakes.	35
5605	Specifications in manual regarding condition of brake linings.	R23
5606	Specifications in manual regarding choice & use of hydraulic brake fluid.	R17
5607	Use of cylinder compression readings.	53
5608	Cylinder design & construction.	R23
5609	Engine operation & construction (2 & 4 cycle).	47



Table S-10.--Continued.

Code Number	Job Knowledges	R=Review <sup>a</sup> % (N=17)	Code Number	Job Knowledges	R=Review <sup>a</sup> % (N=17)
85610	Other types of engines.	R11	85633	Specifications for parts of the hydraulic system as specified in the manual.	R23
85611	Engine block construction & common wear points.	R11	85639	Characteristics of electric power that give it advantages over power from internal combustion engines.	R11
85612	Cylinder wall measuring & manufacturing.	R23	85640	Potential danger to motors by over lubricating.	R17
85613	Fit, expansion, & contraction of metals.	R11	85641	Basic controls for electric equipment as thermostats, pressure switches, time clocks, etc.	R 5
85614	The oil position of the bearings.	R11	85642	Ability of electric motors of various types to start under load.	R 5
85615	Operating conditions of engine bearings.	R17	85643	Ability of electric motors to operate under continuous load.	R 5
85616	Fit and seal of friction & valving procedure.	R23	85644	Kinds of motors to use under hazardous conditions (as in wet conditions, in dusty atmosphere, etc.).	R17
85617	Oil & seal & fit treatment.	52	85645	Relationship of size of wire, distance, & voltage to carrying capacity of wire.	R11
85618	The oil lubrication system.	58	85646	Kinds of controls available & functions of each kind.	R 5
85619	Procedures for changing the oil pump.	R29	85647	Need for proper inflation of tires.	58
85620	Procedures construction & operation.	35	85648	Inflation directions for tires of machinery being serviced.	58
85621	Review of the manufacturers specifications & tolerances.	70	85649	Materials to use for adding weight to tires.	52
85622	The components & inspection of a crankshaft.	52	85650	How to relate customer statements to typical malfunction.	R23
85623	Interference, lubrication & construction.	R29	85651	Kinds of questions to ask to bring out common causes of malfunction.	R29
85624	The use of a torque wrench.	70	85652	How to translate the job to be done into language the customer can understand.	R29
85625	The tensioning & methods of checking.	64	85653	How to explain what was done so that the customer is satisfied the job was completed efficiently & satisfactorily.	35
85626	Full pump construction & operation.	R23	85654	Needs of the customer for additional services.	R23
85627	Level and adjusting procedure.	R23	85655	Needs of the customer for related merchandise.	R17
85628	Calculation construction.	R29	85656	The use of a service repair order.	R23
85629	Customer list & adjustment procedures.	35	85657	Common complaints & problems & the way in which the complaints should be written.	R23
85630	How to measure for length of belt needed.	R29	85658	The commonly sold related parts.	R11
85631	How to determine size of V-belt needed for specified pulleys.	R23	85659	The parts ordering procedure.	R 5
85632	The instructions in the manual for the transmission system being serviced.	35			
85633	The instructions in the manual for adjusting a standard transmission system.	R29			
85634	Specifications of transmission fluid for the specific machine.	35			
85635	Principles of bearing adjustment.	R23			
85636	Appropriate manual for specifications regarding performance of the system.	R29			
85637	Tolerances for parts of hydraulic system as specified in the manual.	R17			

85660	The ways of assigning work to various mechanics.	R 5	85664	The parts catalogs of various farm machinery companies.	R11
85661	The function of each piece of farm equipment used in the area.	35	85665	The use of the manual in adjusting pieces of farm equipment for optimum operation.	35
85662	When the farm equipment is operating correctly.	35			
85663	The relationship of the various parts of each piece of equipment so that defects can be quickly detected.	R29			

<sup>a</sup>If 33 percent or more of the respondents indicated a knowledge was "essential" for job entry, the job knowledge was accepted; if less than 33 percent, the knowledge was reviewed. When the job skill associated with the reviewed knowledge was accepted, the associated knowledge marked "review" was also accepted. However, if the job skill associated with the reviewed knowledge was rejected, the associated knowledge was also rejected.

Table S-11.--Percentage Distribution of Job Skills Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in Biological-Technical Services in Agriculture.

Code Number	Job Skills	Selected Industries <sup>a</sup>				R=Rejected/Not Needed <sup>b</sup>	
		Agricultural Chemical	Animal Laboratory	Food Processing	Grain/Feed/Seed Services	Waste Disposal	Water Resources
		% (N=5)	% (N=5)	% (N=10)	% (N=5)	% (N=9)	% (N=6)
85001	Approach, handle, & work with live animals to prevent personal injury.	40	80	R20	80	R11	R16
85002	Approach, handle, & work with live animals & birds in a humane way.	40	80	R20	80	R11	R16
85003	Diplomatically approach people when enforcing laws & regulations.	40	80	40	40	R33	50
85004	Clean & sterilize laboratory glassware, equipment, & instruments used in administering prescribed medicines & treatments to animals & birds.	R20	60	R10	60	R11	R16
85005	Prepare & read the results of bacteria & mold cultures.	R 0	40	R10	R20	R22	R33
85006	Take blood samples.	R 0	R 0	R 0	R20	R 0	R 0
85007	Perform blood testing procedures.	R 0	R20	R 0	R20	R 0	R 0
85008	Maintain breeding records of animals & birds.	R20	60	R10	40	R11	R16
85009	Recognize early signs of abnormal health conditions in animals & birds.	40	60	R10	80	R11	R16
85010	Administer medication as prescribed.	R20	60	R10	60	R11	R16
85011	Dehorn animals when needed.	R20	R 0	R10	60	R 0	R 0
85012	Castrate animals.	R20	R 0	R10	40	R 0	R 0
85013	Dock limbs & remove tails from pigs.	R20	R 0	R10	40	R 0	R 0
85014	Formulate rations as directed.	40	80	R10	80	R11	R16
85015	Observe animals for heat & signs of parturition.	R20	60	R10	60	R 0	R 0
85016	Assist animals in parturition.	R 0	40	R10	60	R 0	R 0
85017	Treat newborn animals to prevent infection.	R20	40	R10	60	R 0	R 0
85018	Assist newborn animals to nurse.	R20	40	R10	60	R 0	R 0
85019	Give animals or birds prescribed injections to prevent diseases & nutritional deficiencies.	R20	R20	R10	60	R 0	R 0
85020	Remove needle teeth of young pigs.	R20	R 0	R10	60	R 0	R 0
85021	Shear sheep.	R 0	R 0	R 0	40	R 0	R 0
85022	Maintain shears, clippers, drench guns, & syringes in good repair.	R20	60	R10	60	R11	R16
85023	Maintain animals & birds in sanitary conditions.	R20	100	R20	60	R11	R16
85024	Restrain animals & birds for minor surgery & medical treatment.	R20	80	R10	40	R 0	R 0

85025	Properly prepare & move animals & birds ready for shipment.	R20	60	R20	60	R11	R16
85026	Groom & exhibit animals & birds (pure bred herds & flocks).	R20	R20	R10	R20	R11	R16
85027	Artificially inseminate animals.	R 0	R 0	R 0	R20	R 0	R 0
85028	Grade wool.	R 0	R 0	R 0	R20	R 0	R 0
85029	Recognize & treat for internal parasites.	R20	60	R10	60	R11	R16
85030	Recognize & treat for external parasites.	R20	80	R10	60	R11	R16
85031	Attach milking machines properly.	R20	R20	R10	60	R 0	R 0
85032	Cool & store milk properly.	R20	R20	R10	60	R 0	R 0
85033	Clean & sterilize milking machines, pipelines, & milk storage equipment.	R20	R20	R20	60	R11	R 0
85034	Maintain milking animals in sanitary conditions (including udder clipping).	40	R20	R10	80	R 0	R 0
85035	Formulate rations & feed according to production of the animal or bird.	40	R20	R10	100	R 0	R 0
85036	Formulate diets for animals or birds following prescribed instructions.	40	60	R10	80	R11	R16
85037	Properly formulate & administer diets & special treatments for animals & birds.	R 0	R20	R 0	60	R 0	R 0
85038	Assist in sacrificing laboratory animals or birds under the supervision of a research assistant for the purpose of collecting experimental data.	R 0	R20	R 0	R20	R11	R16
85039	Carry out breeding, feeding, & management programs for animals & birds.	R20	60	R10	80	R11	R16
85040	Prepare animals for surgery under the supervision of a veterinarian or research worker.	R 0	60	R 0	R 0	R 0	R 0
85041	Perform surgery on animals under the supervision of a veterinarian or research assistant.	R 0	R 0	R 0	R 0	R 0	R 0
85042	Collect semen for preservation & use.	R 0	R 0	R 0	R20	R 0	R 0
85043	Process semen for preservation & use.	R 0	R20	R 0	R20	R 0	R 0
85044	Prepare processed semen for shipment.	R 0	R 0	R 0	R20	R 0	R 0
85045	Feed & care for animals at animal breeding units (studs).	R 0	40	R 0	40	R11	R16
85046	Seal semen to prospective users.	R 0	R 0	R 0	R20	R 0	R 0
85047	Recognize unsanitary conditions at stockyards & in trucks transporting livestock.	R20	R20	R20	80	R 0	R 0
85048	Recognize unsanitary conditions in pet stores, animal pounds, & kennels.	R20	60	R10	60	R11	R16
85049	Recognize inhumane treatment of animals & birds.	R20	60	R20	60	R11	R16
85050	Recognize abnormal health conditions in live animals & birds to be slaughtered for human consumption.	R20	R20	R20	80	R 0	R 0
85051	Recognize abnormal conditions in meat animals during slaughter for human consumption.	R20	R 0	R20	80	R 0	R 0
85052	Recognize unsanitary conditions in slaughter houses & meat processing plants.	40	R20	R30	80	R11	R16

Table S-11.--Continued.

Code Number	Job Skill	Selected Industries <sup>a</sup>				R=Rejected/Not Needed <sup>b</sup>	
		Agricultural Chemical	Animal Laboratory	Food Processing	Grain/Feed/Seed Services	Waste Disposal	Water Resources
		% (N=5)	% (N=5)	% (N=10)	% (N=5)	% (N=9)	% (N=6)
85053	Recognize unsanitary conditions in dairy plants & on dairy farms.	60	R20	R30	80	R33	R33
85054	Perform tests for presence of Brucellosis.	R 0	R 0	R 0	R20	R 0	R 0
85055	Prepare cultures for coliform count, sour cream, & buttermilk.	R 0	R 0	R10	R20	R11	R 0
85056	Analyze milk for coliform, sour cream, & buttermilk.	R 0	R 0	R10	R20	R11	R 0
85057	Sanitize milk.	R 0	R 0	R10	R20	R11	R 0
85058	Sanitize dairy plant equipment.	R20	R 0	R20	40	R22	R16
85059	Test milk for buttermilk.	R 0	R 0	R10	40	R11	R 0
85060	Test milk for solids not fat.	R 0	R 0	R10	40	R11	R 0
85061	Test milk products for acidity.	R 0	R 0	R10	40	R11	R 0
85062	Compute production records for dairy cows.	R20	R20	R10	60	R 0	R 0
85063	Advise on proper arrangement of milking equipment on dairy farms & in the milk house.	R20	R 0	R10	40	R 0	R 0
85064	Recognize dairy hand health problems resulting from improper operation of milking equipment & procedures.	R20	R20	R20	60	R11	R 0
85065	Operate an incubator.	R 0	R20	R 0	40	R 0	R 0
85066	Blend broiler birds.	R 0	R 0	R 0	R20	R 0	R 0
85067	Carry out prescribed vaccination programs.	R20	R 0	R10	60	R 0	R 0
85068	Reel for animals.	R20	R 0	R10	40	R 0	R 0
85069	Keep breeding records on fur-bearing animals.	R20	R20	R10	60	R 0	R 0
85070	De-bank chicks.	R20	R 0	R10	60	R 0	R 0
85071	"Dub" chicks.	R20	R 0	R10	60	R 0	R 0
85072	Grade eggs.	R20	R 0	R10	60	R 0	R 0
85073	Check eggs for fertility.	R20	R20	R10	40	R 0	R 0
85074	Break up, swine, & lamb carcasses into wholesale cuts.	R 0	R20	R10	R20	R 0	R 0
85075	Identify kinds of meat commonly offered on the meat market.	R20	R20	R20	40	R 0	R 0
85076	Test meat & meat products for moisture.	R 0	R20	R10	R20	R 0	R 0
85077	Test meat & meat products for fat content.	R 0	R20	R10	R20	R 0	R 0
85078	Select & blend meats & other ingredients for processed meats according to a prescribed formula.	R 0	R20	R10	R20	R 0	R 0
85079	Cure fresh & processed meats.	0	R 0	R 0	R20	R 0	R 0

85080	Cut up poultry carcasses.	R20	R 0	R10	40	R 0	R 0
85081	Take samples of water supplies & run-off to test for contamination by agricultural chemical residues.	40	R20	40	R20	55	66
85082	Take samples of water supplies to test for use in processing fruit & vegetable products.	40	R20	40	R20	44	66
85083	Take samples of water supplies to test for contamination from plants and/or animal residues.	R20	R20	R30	R20	55	60
85084	Take samples of water to test for mineral content.	R 0	R20	R20	R20	R33	R33
85085	Make & record condition of private wells & to report potential sources of contamination.	R20	R20	R20	R20	44	50
85086	Clean & sterilize glassware & other utensils for testing water.	R 0	R20	R20	R20	44	R33
85087	Determine evidence of contamination of water supplies due to seepage through the soil.	R20	R20	R30	R20	55	50
85088	Construct a water disposal system under supervision.	R20	R 0	R30	R20	44	50
85089	Take samples of water to test for presence of phosphates & heavy metals (cadmium, mercury, etc.)	R20	R20	R30	R20	55	50
85090	Prepare samples of forage for grading.	R20	R 0	R10	60	R 0	R 0
85091	Prepare samples of forage for testing residues.	60	R 0	R20	60	R22	R33
85092	Identify kinds of forages.	40	R20	R10	60	R22	R33
85093	Prepare a sample of forages to determine nutritive value.	40	R 0	R10	60	R11	R16
85094	Identify weed & other plant mixtures & contaminants in forage samples.	40	R 0	R10	40	R11	R16
85095	Prepare forage samples for testing of moisture.	40	R 0	R10	40	R11	R16
85096	Collect & prepare samples of silage to test for acidity.	40	R 0	R10	60	R11	R16
85097	Collect & prepare samples of forage to test for fiber content.	40	R 0	R10	40	R11	R16
85098	Determine when forage is dried enough for baling or harvesting.	40	R 0	R10	60	R11	R16
85099	Sample experimental plots under the direction of a supervisor.	60	R 0	R20	40	R22	R33
85100	Interpret seed analysis data on the package of forage crop seeds.	40	R 0	R10	40	R11	R16
85101	Analyze a sample of forage crop seeds for purity & contamination.	40	R 0	R10	60	R11	R16
85102	Inoculate legume seeds preparatory to planting.	R20	R 0	R10	60	R 0	R 0
85103	Recognize effects of herbicide residues on succeeding crops.	40	R 0	R30	60	R11	R16
85104	Perform germination test on forage crop seeds.	R20	R 0	R10	40	R 0	R 0
85105	Inspect fields of forage crops & rogue diseased and/or undesirable plants under the direction of a supervisor.	40	R 0	R20	60	R11	R16
85106	Identify insect & nematode damage in vegetable & potato crops.	40	R 0	40	40	R11	R16
85107	Recognize potential insect damage & recommend preventive measures.	R20	R 0	R20	R20	R11	R16
85108	Recognize disease damage of vegetable & potato crops & recommend control measures.	40	R 0	40	R20	R22	R33
85109	Inspect fields of vegetables and/or potatoes & rogue diseased plants under the direction of a supervisor.	R20	R 0	R10	40	R11	R16
85110	Inspect and/or test vegetables or potatoes to determine optimum harvest time.	R20	R 0	R30	40	R11	R16

51

B

Table 2-11--continued.

Code	Description	Selected Industries <sup>d</sup>				R=Rejected/Not Needed <sup>b</sup>	
		Agricultural Orchard	Animal Laboratory	Food Processing	Grain/Feed/ Seed Services	Waste Disposal	Water Resources
		(N=1)	(N=5)	(N=10)	(N=5)	(N=9)	(N=6)
85101	Inspect fruit for quality and maturity for sale.	40	R 0	40	40	R22	R33
85102	Inspect fruit for quality and maturity for sale in markets.	40	R 0	40	40	R22	R33
85103	Inspect fruit for quality and maturity for sale in specific markets, such as restaurants, hotels, etc.	40	R 0	R20	40	R11	R16
85104	Inspect fruit for quality and maturity for sale in schools.	40	R 0	R20	40	R11	R16
85105	Inspect fruit for quality and maturity for sale in institutions.	40	R 0	R 0	40	R 0	R 0
85106	Inspect fruit for quality and maturity for sale in restaurants.	40	R 0	R10	40	R11	R16
85107	Inspect fruit for quality and maturity for sale in the area.	40	R 0	R10	40	R11	R16
85108	Inspect fruit for quality and maturity for sale in the area.	40	R 0	50	40	R22	R33
85109	Inspect fruit for quality and maturity for sale in the area and inspect for damage.	40	R 0	R20	R20	R22	R33
85110	Inspect fruit for quality and maturity for sale in the area.	40	R 0	R10	40	R22	R33
85111	Inspect fruit for quality and maturity for sale in the area.	40	R 0	R10	R20	R22	R33
85112	Inspect fruit for quality and maturity for sale in the area.	40	R 0	R20	R20	R 0	R 0
85113	Inspect fruit for quality and maturity for sale in the area.	40	R 0	40	R20	R22	R33
85114	Inspect fruit for quality and maturity for sale in the area.	40	R 0	40	R20	R22	R33
85115	Inspect fruit for quality and maturity for sale in the area.	40	R 0	R30	R20	R22	R33
85116	Inspect fruit for quality and maturity for sale in the area.	60	R 0	50	R20	R33	50
85117	Inspect fruit for quality and maturity for sale in the area.	60	R 0	40	R20	R33	50
85118	Inspect fruit for quality and maturity for sale in the area.	40	R 0	R30	R20	R22	R33
85119	Inspect fruit for quality and maturity for sale in the area.	40	R 0	40	R20	R22	R33
85120	Select fruit to various commercial uses (fruits to be used for cooking, freezing, canning, or sale for marketing as fresh fruit, etc.).	40	R 0	40	R20	R22	R33
85121	Prepare fruit for a variety of uses to meet specific market demands.	R20	R 0	R20	R20	R11	R16
85122	Prepare fruit for wine making.	R 0	R 0	R10	R20	R 0	R 0
85123	Inoculate fruit juices for fermentation under direction of a supervisor.	R 0	R 0	R10	R20	R 0	R 0
85124	Check results of experimental projects under the direction of a supervisor.	60	R 0	R20	R20	R33	50

52

85133	Prepare samples for determining protein content of shelled corn, grains, & beans.	R20	R 0	R 0	60	R11	R16
85134	Prepare samples for determining fat content of corn, grains, & beans.	R 0	R 0	R 0	60	R 0	R 0
85135	Prepare samples for determining carbohydrate content of grain & beans.	R 0	R 0	R 0	60	R 0	R 0
85136	Prepare samples for determining moisture content of grains & beans.	40	R 0	R 0	80	R11	R16
85137	Determine germination rate of seeds.	40	R 0	R10	60	R11	R16
85138	Prepare samples for determining percent of damaged kernels in grain & bean samples.	40	R 0	R10	60	R11	R16
85139	Cross-pollinate corn under the direction of a supervisor.	40	R 0	R 0	40	R11	R16
85140	Dry grains & beans.	40	R 0	R10	60	R11	R16
85141	Treat seed grains & beans for prevention of diseases under the direction of a supervisor.	60	R 0	R20	60	R22	R33
85142	Prepare samples of grains and/or beans for determination of grade.	R20	R 0	R 0	60	R11	R16
85143	Identify evidence of insect damage in growing grain.	60	R 0	R20	40	R22	R33
85144	Recognize indication of diseases in growing grain or beans.	60	R 0	R20	60	R22	R33
85145	Apply controls for insects or diseases affecting growing grain or beans under the direction of a supervisor.	60	R 0	R20	60	R22	R33
85146	Apply controls of insects affecting grain or beans in the bin or crib under the direction of a supervisor.	60	R 0	R20	60	R22	R33
85147	Determine time to harvest sweet corn for optimum quality.	R20	R 0	R 0	R20	R11	R16
85148	Determine moisture content in popcorn for optimum popping.	R20	R 0	R 0	R20	R11	R16
85149	Prepare samples of grains or beans for determining appropriate market grade.	R 0	R 0	R 0	60	R 0	R 0
85150	Prepare samples of grains or beans for checking for weight per bushel.	R20	R 0	R 0	40	R11	R16
85151	Prepare samples of grains or beans to check for contamination.	R20	R 0	R10	60	R11	R16
85152	Prepare samples of grains or beans for checking for mechanical damage.	40	R 0	R10	40	R22	R33
85153	Collect samples of grain or beans for analysis.	R20	R 0	R 0	40	R11	R16
85154	Allocate various classes of grains or beans to appropriate market uses.	R20	R 0	R 0	40	R11	R16
85155	Sample experimental plots under the direction of a supervisor.	60	R 0	R10	40	R22	R33
85156	Mix & grind feed grain & supplements to specifications.	R 0	R 0	R 0	60	R 0	R 0
85157	Inspect fields for certified seed production under the direction of a qualified supervisor.	R20	R 0	R 0	R20	R11	R16
85158	Prepare samples of seeds for certification.	R 0	R 0	R 0	R20	R 0	R 0
85159	Inspect fields of grain or beans & rogue diseased and/or undesirable plants under the direction of a supervisor.	40	R 0	R10	R20	R22	R33
85160	Specify soil preparation & seeding for a lawn appropriate for the area.	40	R 0	R10	R20	R33	50

53

5



Table S-11.--Continued.

Code Number	Job Skills	Selected Industries <sup>a</sup>					R=Rejected/Not Needed <sup>b</sup>
		Agricultural Chemical	Animal Laboratory	Food Processing	Grain/Feed/Seed Services	Waste Disposal	Water Resources
		% (N=5)	% (N=5)	% (N=10)	% (N=5)	% (N=9)	% (N=5)
85161	Choose appropriate varieties of lawn grasses for specified conditions.	R20	R 0	R10	R20	R22	R33
85162	Specify mowing procedures appropriate for various kinds of established lawns.	R20	R 0	R10	R20	R22	R33
85163	Take soil samples to test for nutrients.	60	R 0	50	40	R33	50
85164	Take soil samples to identify soil types.	40	R 0	R10	40	R22	R33
85165	Test soils for nutrients under the direction of qualified supervisor.	R20	R 0	R 0	R20	R11	R15
85166	Test soils for pH under the direction of a qualified supervisor.	40	R 0	R10	40	R22	R33
85167	Prepare samples of soil for testing for organic matter content.	40	R 0	R10	40	R11	R16
85168	Select & apply materials to modify pH of soils to desired levels under direction of a qualified supervisor.	40	R 0	R20	40	R11	R16
85169	Determine moisture level in soils using approved testing equipment.	R 0	R 0	R10	R20	R22	R33
85170	Apply a quantity of irrigation water specified by a supervisor.	40	R 0	R20	R20	44	66
85171	Test, collect, & prepare soil run-off samples for pollutants.	R20	R 0	R20	R20	R33	50
85172	Apply, under supervision, prescribed quantities of plant nutrients for specific returns.	60	R 0	R20	40	R33	50
85173	Apply, under supervision, kinds of soil modifying materials to accomplish specified results.	40	R 0	R10	R20	R33	50
85174	Sterilize soil for greenhouse as specified by a supervisor.	R 0	R 0	R 0	R20	R 0	R 0
85175	Carry out practices for control of soil erosion as prescribed by a supervisor.	40	R 0	R10	40	R22	R33
85176	Demonstrate practices recommended to control soil erosion on the soils of the area.	40	R 0	R20	R20	44	66
85177	Identify soil capability classes.	40	R 0	R10	R20	R33	50
85178	Recommend appropriate crops in line with the soil capability classes.	40	R 0	R10	40	R33	50
85179	Lay out experimental plots under the direction of a supervisor.	40	R 0	R10	R20	R33	50
85180	Sample & measure results of experimental plots under the direction of a supervisor.	40	R 0	R10	R20	R33	50
85181	Follow a specified program of lawn fertilization & irrigation.	40	R 0	R10	R20	R33	50
85182	Establish a program of weed control based on recommendations of the Cooperative Extension Service or other reliable agency.	40	R 0	R10	40	R22	R33
85183	Set up artificial lights for growing plants according to specifications.	40	R 0	R10	R20	R22	R33

85184	Set up a hydroponics system according to specifications.	R 0	R 0	R 0	R20	R 0	R 0
85185	Arrange lighting system according to specifications to control time of blooming of plants.	R 0	R 0	R 0	R20	R 0	R 0
85186	Adjust temperature controls to control plant growth.	R 0	R 0	R 0	R20	R 0	R 0
85187	Prepare & apply hormones to control plant growth according to specifications.	R 0	R 0	R 0	R20	R 0	R 0
85188	Create specified climate for various types of plants.	R 0	R 0	R 0	R20	R 0	R 0
85189	Sterilize soil for greenhouse and/or experimental work.	R20	R 0	R10	R20	R11	R16
85190	Establish a schedule to produce specified crops at specified times.	R20	R 0	R 0	R20	R22	R33
85191	Control plant disease & insects in the greenhouse.	40	R 0	R10	R20	R22	R33
85192	Mix & apply chemicals to greenhouse plants for control of diseases & insects.	40	R 0	R10	R20	R22	R33
85193	Make tissue tests of plants to determine nutrient level & needs.	60	R 0	R20	40	R22	R33
85194	Meet nutrient needs of plants by foliar feeding.	60	R 0	R20	40	R22	R33
85195	Meet nutrient needs of plants by application of nutrients to the soil.	60	R 0	R20	40	R33	50
85196	Grow seedlings for experimental purposes, under the direction of a supervisor.	60	R 0	R20	40	R33	50

<sup>a</sup>The 40 responses for the six selected industries in the Biological-Technical Services in Agriculture were reported from only 23 individuals, i.e., the mean number of industries per respondent was 1.7.

<sup>b</sup>If 40 percent or more of the respondents indicated a skill was needed for job entry, the job skill was accepted; if less than 40 percent, the skill was declared "not needed" (rejected). The prefix "R" indicates the percentage was less than 40 and, hence, the skill was not needed (rejected) for job entry.

UN

Table S-12.--Percentage Distribution of Job Knowledges Needed, or Not Needed, by Respondents for Occupational Entry into Their Selected Industries in Biological-Technical Services in Agriculture.

Code Number	Job Knowledges	Selected Industries <sup>a</sup>					R=Review <sup>b</sup>
		Agricultural Chemical	Animal Laboratory	Food Processing	Grain/Feed/Seed Services	Waste Disposal	Water Resources
		% (N=5)	% (N=7)	% (N=10)	% (N=5)	% (N=9)	% (N=6)
85501	The temperament of the animals or birds being studied.	R 0	0	R 0	R 20	R 11	R 16
85502	The correct way to approach animals or birds.	R 0	0	R 0	R 20	R 11	R 16
85503	The correct use of restraining techniques & devices.	R 0	40	R 0	R 20	R 11	R 16
85504	The use of protective devices.	R 0	R 20	R 0	R 20	R 11	R 16
85505	The necessary precautions to take in handling animals or birds suspected of disease or sickness.	R 20	40	R 10	40	R 11	R 16
85506	Which diseases are communicable to man & by what methods.	R 20	R 20	P 10	60	R 11	R 16
85507	The limit of stress for the animal or bird being handled.	R 0	R 20	R 0	R 0	R 0	R 0
85508	The laws & regulations governing the care & treatment of animals & birds.	R 0	R 20	R 0	40	R 11	R 16
85509	Different ways people may react when informed of violations of laws or regulations regarding animals & birds.	R 0	R 0	R 0	R 0	R 0	R 0
85510	The importance of obtaining cooperation without the use of threats or the force of the law.	P 20	R 0	R 10	R 0	R 11	R 16
85511	The need for clean & sterilized laboratory equipment.	R 0	80	R 0	R 0	R 11	R 16
85512	The materials & techniques used in cleaning & sterilizing glassware & equipment.	R 0	40	R 0	R 0	R 11	R 16
85513	Materials used in making laboratory cultures.	R 0	40	R 0	R 0	R 11	R 16
85514	Techniques used in making laboratory cultures.	R 0	R 20	R 0	R 0	R 11	R 16
85515	How to determine & record results of laboratory cultures.	R 0	R 20	R 0	R 0	R 11	R 16
85516	The basic anatomy & physiology of the animal or bird being worked with.	R 0	R 20	R 0	R 0	R 11	R 16
85517	How to preserve blood samples.	P 0	R 20	R 0	R 0	R 0	R 0
85518	Exact procedure to perform tests being made.	R 0	40	R 0	R 0	R 11	R 16
85519	How to record & interpret observations of tests made.	P 0	R 20	R 0	R 20	R 11	R 16
85520	Importance of maintaining accurate breeding records.	R 0	40	R 0	R 20	R 11	R 16
85521	Methods of recording data related to breeding, production, health, & reaction of animals or birds.	R 0	R 0	R 0	R 20	R 0	R 0
85522	How to prepare breeding certificates & applications for registration papers.	R 0	R 0	R 0	R 0	R 0	R 0
85523	Normal health behavior of animals or birds.	R 0	60	R 0	R 20	R 11	R 16

56

110



85524	How to recognize abnormal behavior & relate it to the health of animals or birds.	R 0	R20	R 0	R20	R11	R16
85525	Cautions to be observed when administering medication to animals or birds.	R 0	60	R 0	40	R11	R16
85526	Reasons for dehorning cattle.	R 0	R 0	R 0	R20	R 0	R 0
85527	The use of various dehorning methods & devices.	R 0	R 0	R 0	R20	R 0	R 0
85528	The need for close observation of animals following dehorning.	R 0	R20	R 0	40	R 0	R 0
85529	Basic reproductive anatomy of animals to be castrated.	R 0	R 0	R 0	R20	R 0	R 0
85530	The use of the equipment for castrating animals.	R 0	R 0	R 0	R 0	R 0	R 0
85531	The need for sanitary conditions for castrating animals.	R 0	40	R 0	40	R 0	R 0
85532	The reasons for treatment of wounds following castration.	R20	R20	R10	40	R 0	R 0
85533	The need for docking lambs & removing tails from pigs.	R 0	R 0	R 0	R 0	R 0	R 0
85534	The need for proper use of disinfectants when docking lambs & removing tails from pigs.	R 0	R 0	R 0	R20	R 0	R 0
85535	The kinds & use of instruments for docking lambs & removing tails from pigs.	R 0	R 0	R 0	R 0	R 0	R 0
85536	Importance of proper formulation of feeds.	R 0	60	R 0	R20	R11	R16
85537	Importance of checking labels on all ingredients used in formulating feeds.	R 0	40	R 0	40	R11	R16
85538	Use of control panel for formulation of feeds.	R 0	R 0	R 0	R20	R 0	R 0
85539	Signs of heat & parturition.	R 0	R20	R 0	R 0	R 0	R 0
85540	Basic anatomy of female reproductive tract.	R 0	40	R 0	R 0	R11	R16
85541	Proper position of young animal at time of parturition.	R 0	R 0	R 0	R 0	R 0	R 0
85542	Procedures for assisting animals at time of parturition.	R 0	R 0	R 0	R20	R 0	R 0
85543	Need for thorough sanitation when assisting animal at parturition.	R 0	40	R 0	R20	R 0	R 0
85544	How infections enter newborn animal or bird.	R 0	R20	R 0	R20	R 0	R 0
85545	Correct use of disinfectants in treating newborn animals or birds.	R 0	40	R 0	R20	R11	R16
85546	Importance of newborn animal receiving colostrum (first milk).	R 0	R20	R 0	R20	R 0	R 0
85547	How to induce the nursing procedure in young animals.	R 0	R20	R 0	R20	R 0	R 0
85548	The importance of following directions in administering treatments.	R 0	60	R 0	40	R11	R16
85549	The importance of sanitation in the use of syringes.	R 0	60	R 0	60	R11	R16
85550	The precautions to take in administering injections & medicines.	R 0	80	R 0	40	R11	R16
85551	Reasons for removing needle teeth from pigs.	R 0	R 0	R 0	R 0	R 0	R 0
85552	The equipment to use, the proper age, & the proper procedure for removing needle teeth.	R 0	R 0	R 0	R 0	R 0	R 0
85553	How to catch sheep for shearing.	R 0	R 0	R 0	R 0	R 0	R 0
85554	How to hold sheep.	R 0	R20	R 0	R 0	R 0	R 0
85555	How to adjust shearing equipment.	R 0	R 0	R 0	R20	R 0	R 0
85	to pick up & tie wool properly.	R 0	R 0	R 0	R20	R 0	R 0



Table S-12.--Continued.

Code Number	Job Knowledges	Selected Industries <sup>a</sup>						R=Review <sup>b</sup>
		Agricultural Chemical	Animal Laboratory	Food Processing	Grain/Feed/Seed Services	Waste Disposal	Water Resources	
		% (N=5)	% (N=5)	% (N=10)	% (N=5)	% (N=9)	% (N=6)	
85567	How to properly oil, clean, & service small equipment used in raising livestock.	R 0	R20	R 0	R20	R 0	R 0	
85568	How to repair sheep shears, electric clippers, & other equipment.	R 0	R 0	R 0	R 0	R 0	R 0	
85569	Importance of maintaining sanitary conditions for animals & birds.	R 0	60	R10	R20	R11	R16	
85570	The use of disinfectants in maintaining sanitary conditions.	R 0	60	R10	R20	R11	R16	
85571	The effective use of pressure points in restraining animals.	R 0	R20	R10	40	R 0	R 0	
85572	Regulations regarding medicated feed & drug withdrawal periods.	R 0	R20	R10	40	R 0	R 0	
85573	The effects of prior treatment on stress of animals during shipment.	R 0	R20	R10	R 0	R 0	R 0	
85574	The effect of prior treatment on sale price of animals.	R 0	R20	R10	R 0	R 0	R 0	
85575	The techniques used in providing for minimum stress of animals during shipment.	R 0	R20	R10	R20	R 0	R 0	
85576	Accepted showing or sale appearance for the species, breed, & age of animal or bird being groomed.	R 0	R 0	R 0	R 0	R 0	R 0	
85577	Methods of grooming animals or birds for show or sale.	R 0	R 0	R 0	R 0	R 0	R 0	
85578	The use of grooming equipment.	R 0	R20	R 0	R 0	R11	R16	
85579	Basic reproductive physiology of the female animal.	R 0	40	R 0	R 0	R11	R16	
85580	The care & handling of fresh & frozen semen.	R 0	R 0	R 0	R20	R 0	R 0	
85581	The use of equipment for artificial insemination.	R 0	R 0	R 0	R20	R 0	R 0	
85582	The characteristics of the fleece of wool which determines its grade.	R 0	R 0	R 0	R 0	R 0	R 0	
85583	The reasons for grading wool.	R 0	R 0	R 0	R 0	R 0	R 0	
85584	Grades of wool.	R 0	R 0	R 0	R 0	R 0	R 0	
85585	The accepted procedure for grading wool.	R 0	R 0	R 0	R 0	R 0	R 0	
85586	How to recognize the presence of internal parasites in animals & birds.	R 0	R 0	R 0	R20	R 0	R 0	
85587	How to collect a fecal sample & preserve for later examination.	R 0	40	R 0	R 0	R11	R16	
85588	The correct use of materials in the control of internal parasites in animals & birds.	R 0	40	R 0	R20	R11	R16	
85589	The life-cycle of internal parasites of animals & birds.	R 0	60	R 0	R 0	R11	R16	
85590	Correct procedure for administering materials for the control of internal parasites of animals & birds.	R 0	R 0	R 0	40	R 0	R 0	
85591	How to recognize & identify the presence of external parasites of animals & birds.	R 0	R20	R 0	40	R11	R16	

85582	The importance of the correct use of materials for control of external parasites of animals & birds.	R 0	40	R 0	40	R11	R16
85583	The structure of the cow's udder.	R 0	R20	R 0	R20	R 0	R 0
85584	The damage that will result to a cow's udder when a milking machine is attached improperly.	R 0	R 0	R 0	R20	R 0	R 0
85585	The operation of milking machines.	R 0	R20	R 0	R20	R 0	R 0
85586	How to attach a milking machine properly.	R 0	R 0	R 0	R20	R 0	R 0
85587	The importance & operations for proper cooling & storage of milk.	R 0	R 0	R 0	R20	R 0	R 0
85588	The basic bacteriology affecting milk cooling & storage.	R 0	R20	R 0	R 0	R 0	R 0
85589	The importance of sanitizing milk handling & storage equipment.	R 0	R20	R 0	R20	R 0	R 0
85590	How to recognize abnormal appearance or behavior of animal & relate to health of animal.	R 0	R20	R 0	R20	R11	R16
85591	How to take temperature of an animal.	R 0	40	R 0	R20	R11	R16
85592	Basic nutrition of animals & birds.	R 0	40	R 0	R20	R11	R16
85593	The nutritive requirements & eating habits of animals.	R 0	40	R 0	R20	R11	R16
85594	The procedures for carrying out a sanitation program.	R 0	60	R 0	R20	R11	R16
85595	Humane procedures in sacrificing laboratory animals.	R 0	R20	R 0	R20	R11	R16
85596	The importance of sterile conditions in preparing animals for surgery.	R 0	80	R 0	R20	R11	R16
85597	Procedures to follow when preparing animals for surgery.	R 0	60	R 0	R20	R11	R16
85598	The reaction of the public to clean & sanitary conditions for animals & birds.	R 0	40	R 0	R 0	R 0	R 0
85599	The breeding habits of the animal & bird.	R 0	R 0	R 0	R20	R 0	R 0
85600	The basic procedures to be following in collecting semen.	R 0	R 0	R 0	R20	R 0	R 0
85601	The characteristics of the semen from the animal concerned.	R 0	R 0	R 0	R20	R 0	R 0
85602	The need for temperature control, sanitation, & freedom from contamination when preparing semen for preservation.	R 0	R20	R 0	R20	R 0	R 0
85603	Freezing & storage conditions needed for preservation of semen.	R 0	R20	R 0	R20	R 0	R 0
85604	Conditions needed for successful shipment of semen.	R 0	R 0	R 0	R20	R 0	R 0
85605	The need for & the procedures to be followed in maintaining sanitary conditions while inseminating animals.	R 0	R 0	R 0	R20	R 0	R 0
85606	The nutrient requirements of animals to be used for the production of high quality semen.	R 0	R 0	R 0	R20	R 0	R 0
85607	The physical needs (exercise, temperature, & housing) for animals used in the production of semen.	R 0	R 0	R 0	R20	R 0	R 0
85608	The production records of animals from which semen is offered.	R 0	R20	R 0	R20	R 0	R 0
85609	The cross-breeding program to be followed for best results.	R 0	R20	R 0	R20	R 0	R 0
85610	The appearance of animals infected with internal & external parasites.	R 0	R20	R 0	R20	R11	R16
85611	The importance of sanitary conditions at stockyards & in trucks.	R 0	R20	R 0	R20	R 0	R 0

59

6

Table S-12.--Continued.

Code Number	Job Knowledges	Selected Industries <sup>a</sup>						R=Review <sup>b</sup>
		Agricultural Chemical	Animal Laboratory	Food Processing	Grain/Feed/Seed Services	Waste Disposal	Water Resources	
		% (N=5)	% (N=5)	% (N=10)	% (N=5)	% (N=9)	% (N=6)	
85612	The laws & regulations governing sanitation at stockyards & in trucks.	R 0	R 0	R 0	R 0	R 0	R 0	
85613	Procedures for cleaning & disinfecting stockyards & livestock trucks.	R 0	R20	R 0	R20	R 0	R 0	
85614	The habits of the kind of animals or birds being confined.	R 0	40	R 0	R20	R11	R16	
85615	The various symptoms of diseases of animals that may render them unfit for human food.	R20	R 0	R10	40	R 0	R 0	
85616	The appearance of animals which may have been injured or over heated in transit.	R 0	R 0	R 0	R20	R 0	R 0	
85617	Basic physiology sufficient to locate parts of animals that serve as possible indicators of diseased conditions.	R 0	R20	R 0	R20	R11	R16	
85618	The differences in appearance of normal, healthy organs of an animal & those indicating disease.	R 0	R20	R 0	R20	R11	R16	
85619	The importance of maintaining sanitary conditions at slaughter houses & meat processing plants.	R 0	R20	R10	R20	R 0	R 0	
85620	The laws & regulations governing sanitation at slaughter houses & meat processing plants.	R 0	R 0	R10	R20	R 0	R 0	
85621	The areas & equipment to be checked most often & thoroughly for improper sanitation.	R 0	R 0	R10	R20	R 0	R 0	
85622	The laws & regulations regarding the handling of milk & milk products.	R 0	R20	R 0	R20	R 0	R 0	
85623	The importance of sanitary conditions in the production & processing of milk.	R 0	R 0	R10	R20	R11	R 0	
85624	Procedures for making a test for Brucellosis.	R 0	R 0	R 0	R20	R 0	R 0	
85625	Procedures for reading & recording results of test for Brucellosis.	R 0	R 0	R 0	R20	R 0	R 0	
85626	Importance of pure cultures.	R 0	R 0	R 0	R20	R 0	R 0	
85627	Procedures for growing pure cultures.	R 0	R 0	R 0	R20	R 0	R 0	
85628	Basic chemical & physical reactions in the manufacturing of milk products.	R 0	R 0	R 0	R20	R 0	R 0	
85629	The standards that milk products must meet.	R 0	R20	R10	R20	R11	R 0	
85630	The procedures to be followed in the manufacturing of milk products.	R 0	R 0	R10	R20	R11	R 0	
85631	Importance of milk pasturization.	R 0	R20	R10	R20	R11	R 0	
85632	The importance to the producer & processor of an accurate butterfat test.	R 0	R 0	R10	R20	R11	R 0	

85633	The procedure for making & reading a butterfat test.	R O	R O	R10	R20	R11	R O
85634	Procedure for testing milk for solids not fat.	R O	R O	R10	R20	R11	R O
85635	Procedures for making tests of milk products for acidity.	R O	R O	R10	R20	R11	R O
85636	Procedures for calculating dairy production records.	R O	R O	R O	R20	R O	R O
85637	Milking arrangements & milking equipment which results in the efficient handling of dairy cows & production of high quality milk.	R O	R O	R O	R20	R O	R O
85638	How to check for mastitis.	R O	R O	R O	R20	R O	R O
85639	How to check milking procedures to reduce udder problems.	R O	R O	R O	R20	R O	R O
85640	Optimum conditions necessary for proper incubation of eggs.	R O	R O	R O	R20	R O	R O
85641	The different requirements for incubation of eggs for various species of fowl.	R O	R O	R O	R20	R O	R O
85642	Importance of blood test of birds.	R O	R O	R O	R20	R O	R O
85643	The condition under which desirable pelts are produced.	R O	R O	R O	R20	R O	R O
85644	Pelting procedure.	R O	R O	R O	R20	R O	R O
85645	The care & treatment of pelt after removing from animal.	R O	R O	R O	R20	R O	R O
85646	The structure of the beak of the bird.	R O	R O	R O	R O	R O	R O
85647	The use of equipment & procedure for de-beaking.	R O	R O	R O	R20	R O	R O
85648	The purpose of "dubbing chicks".	R O	R O	R O	R O	R O	R O
85649	The characteristics of eggs which determine grade.	R O	R O	R O	R20	R O	R O
85650	Changes in eggs that are fertile.	R O	R O	R O	R20	R O	R O
85651	The structure of carcasses.	R O	R O	R10	R20	R O	R O
85652	The function of the various muscle areas & the relation to tenderness & use of wholesale cuts.	R O	R O	R10	R20	R O	R O
85653	The distinguishing characteristics of meats from different species of meat animals.	R O	R O	R10	R20	R O	R O
85654	The distinguishing characteristics between meat from skeletal muscles & meat from edible organs.	R O	R O	R O	R20	R O	R O
85655	Procedure for performing & interpreting tests for moisture in meat & meat products.	R O	R O	R O	R20	R O	R O
85656	The function of ingredients added to processed meats.	R O	R O	R O	R O	R O	R O
85657	The laws & regulations governing processed meats.	R O	R O	R O	R20	R O	R O
85658	The methods used to cure meat & meat products.	R O	R O	R O	R20	R O	R O
85659	The use of materials added to meat for curing.	R O	R O	R O	R20	R O	R O
85660	The basic anatomy of the poultry carcass.	R O	R O	R O	R20	R O	R O
85661	Techniques for testing water for chemical & organic contamination.	R O	R20	R10	R20	44	33
85662	The sources of contamination in water supplies.	R20	R20	R20	R20	55	50
85663	The characteristics of water needed for processing fruits & vegetables.	R O	R O	R10	R20	R11	R16
85664	Procedures which are followed for testing water for mineral content.	R O	R20	R10	R20	33	33



Table S-12.--Continued.

Code Number	Job Knowledges	Selected Industries <sup>a</sup>					R=Review <sup>b</sup>
		Agricultural Chemical	Animal Laboratory	Food Processing	Grain/Feed/Seed Services	Waste Disposal	Water Resources
		% (N=5)	% (N=5)	% (N=10)	% (N=5)	% (N=9)	% (N=6)
85665	Chemical & bacteriological procedures for testing water for contamination.	R 0	R20	R10	R20	44	33
85666	Laboratory procedures for cleaning & sterilizing glassware & other utensils.	R 0	R20	R 0	R20	R22	R16
85667	Effect of phosphates in run-off water on the plant & animal life in lakes & streams.	R20	R20	R10	R 0	44	50
85668	How water travels through the soil & the effect of continuous saturation of the soil.	R20	R20	R10	R 0	66	66
85669	The principles underlying water disposal systems designed to avoid contamination & having adequate percolation.	R20	R20	R10	R20	66	66
85670	The effect of water additives on the plant parts being washed.	R 0	R20	R10	R20	R22	33
85671	Distinguishing characteristics of grades of forage.	R20	R 0	R 0	40	R11	R16
85672	Tests which will indicate chemical contamination of forage.	R 0	R 0	R 0	R20	R 0	R 0
85673	Identification characteristics of forages.	R20	R 0	R 0	40	R11	R16
85674	Use of tables to determine nutritive value of forages.	R20	R 0	R 0	40	R11	R16
85675	Tests which will indicate protein & energy values of forages.	R 0	R 0	R 0	40	R 0	R 0
85676	Techniques to follow to determine moisture content of forages.	R20	R 0	R 0	40	R11	R16
85677	Importance of accuracy in sampling experimental plants or forage crops.	R20	R 0	R 0	40	R11	R16
85678	The significance of the feed analysis label when purchasing and/or selling seeds for forage crops.	R20	R 0	R10	60	R 0	R 0
85679	The role of nitrogen fixing bacteria in legume crops.	R20	R 0	R 0	R20	R11	R16
85680	The kind of inoculants appropriate for legumes.	R20	R 0	R10	40	R 0	R 0
85681	The significance of molds in forages to be used for livestock feed.	R 0	R 0	R 0	40	R 0	R 0
85682	The possible effects of herbicide residues on succeeding crops in terms of yield and/or contamination.	60	R 0	R20	60	R22	33
85683	The seeding modifications to be made as a result of specified germination tests.	R20	R 0	R 0	R20	R11	R16
85684	Purpose of field inspection in terms of purity of seed & freedom from disease.	R20	R 0	R 0	40	R11	R16
85685	The characteristics of insect damage of vegetable & potato crops.	40	R 0	R20	R20	R22	33
85686	The conditions likely to result in an outbreak of insect and/or diseases of potatoes or vegetables.	40	R 0	R20	R20	R22	33

85687	The characteristics of potatoes and/or vegetables representing optimum conditions for harvest.	R20	R 0	R20	R20	R11	R16
85688	The identifying characteristics determining grade of vegetables and/or potatoes.	R 0	R 0	R10	R20	R 0	R 0
85689	The optimum storage condition for each kind of vegetable & potato commonly grown in the area.	R 0	R 0	R20	R20	R 0	R 0
85690	The characteristics of vegetables & potatoes for specified purposes (as drying, freezing, canning, baking, etc.).	R 0	R 0	R10	R20	R 0	R 0
85691	Disease tolerances of various varieties of vegetables & potatoes.	40	R 0	R20	R20	R22	33
85692	The identifying characteristics of vegetable plants commonly grown in the area.	40	R 0	R20	R20	R22	33
85693	The significance of seed analysis when purchasing and/or selling vegetable seeds.	R 0	R 0	R10	R20	R 0	R 0
85694	The importance of growing vegetables & potatoes free of varietal mixtures & diseases.	40	R 0	R10	R20	R22	33
85695	Characteristic damage caused by various types of insects affecting fruits common to the area.	40	R 0	R10	R20	R22	33
85696	Methods for determining potential build-up of harmful insects.	40	R 0	R10	R20	R22	33
85697	The economic & legal aspects of program to remove diseased fruit trees & bushes.	40	R 0	R10	R20	R22	33
85698	Tests commonly used to determine sugar and/or acidity content of fruits.	R 0	R 0	R10	R20	R 0	R 0
85699	Tests to be used to determine presence of undesirable (or illegal) chemical residues.	R 0	R 0	R10	R20	R 0	R 0
85700	The characteristics of each specific kind of fruit which determines market grade.	R 0	R 0	R10	R20	R 0	R 0
85701	The effect of diseases, insects, & mechanical injury on fruit in terms of the market channels it will enter.	40	R 0	R20	R20	R22	33
85702	The fermentation process in wine making.	R 0	R 0	R10	R 0	R 0	R 0
85703	The factors affecting the flavor of fruit juices.	R 0	R 0	R10	R20	R 0	R 0
85704	The fermentation process.	R 0	R 0	R10	R20	R 0	R 0
85705	The importance of accuracy in checking experimental results.	R20	0	R10	R20	R11	R16
85706	Methods of running laboratory tests for the protein content of grain & beans.	R 0	R 0	R 0	40	R 0	R 0
85707	Methods of running laboratory tests to determine fat content of grain & beans.	R 0	R 0	R 0	40	R 0	R 0
85708	Methods of running laboratory tests for determining moisture content of grain & beans.	R20	R 0	R 0	40	R11	R16
85709	The approved methods for making germination tests of seeds.	R 0	R 0	R 0	R20	R 0	R 0
85710	How to interpret results of germination tests.	R20	R 0	R 0	R20	R11	R16
85711	Principles of cross-pollination.	R20	R 0	R 0	R20	R11	R16
85712	Process & procedure in producing hybrid seed corn.	R20	R 0	R 0	R20	R11	R16
85713	Methods commonly used for drying grains & beans.	R20	R 0	R 0	R20	R11	R16

63

6

Table S-12.--Continued.

Code Number	Job Knowledges	Selected Industries <sup>a</sup>					R=Review <sup>b</sup>
		Agricultural Chemical	Animal Laboratory	Food Processing	Grain/Feed/Seed Services	Waste Disposal	Water Resources
		% (N=5)	% (N=5)	% (N=10)	% (N=5)	% (N=9)	% (N=6)
85714	Recommendations for treating seed grains & beans for control of diseases common to the grain and/or beans grown in the area.	40	R 0	R10	40	R22	33
85715	The characteristics of damage caused by diseases in grains and/or beans commonly grown in the area.	40	R 0	R10	40	R22	33
85716	Control measures recommended for diseases of grains or beans commonly grown in the area.	40	R 0	R10	40	R22	33
85717	Control measures recommended for insects affecting grain or beans commonly grown in the area.	40	R 0	R10	40	R22	33
85718	Changes taking place after harvest of sweet corn & other vegetables.	40	R 0	R10	R20	R22	33
85719	Precautions to avoid contamination of food and/or seed & to avoid pollution of the environment (air, water, etc.) when grains or beans are being treated for diseases or insects.	60	R 0	R20	40	R22	33
85720	Methods of determining optimum time to harvest sweet corn.	R20	R 0	R 0	R20	R11	R16
85721	Methods of determining optimum time to harvest popcorn.	R20	R 0	R 0	R20	R11	R16
85722	The principles & methods to be followed in determining grades of grains or beans.	R 0	R 0	R 0	40	R 0	R 0
85723	Standard USDA procedures of collecting samples of market grain or beans in bins, railroad cars, or bags.	R20	R 0	R 0	R20	R11	R16
85724	Standard USDA procedures for collecting samples of seed grain or beans for analysis.	R20	R 0	R 0	R20	R11	R16
85725	Appropriate market uses for various market grades of grain or beans.	R 0	R 0	R 0	R20	R 0	R 0
85726	The program of certified seed production.	R 0	R 0	R 0	R20	R 0	R 0
85727	The conditions needed for the successful establishing of a lawn.	R20	R 0	R10	R20	R22	33
85728	The characteristics of lawn grass needed for various conditions.	R 0	R 0	R 0	R20	R11	R16
85729	The growth characteristics of lawn grasses which determine mowing conditions.	R 0	R 0	R 0	R20	R11	R16
85730	Recommendations of the soil conservation service and/or the cooperative extension service for taking soil samples.	40	R 0	R10	R20	33	50
85731	The characteristics of soil types which are used for identification.	40	R 0	R10	R20	33	50
85732	The techniques & materials used for testing soils for pH, NPK, minor elements, & organic matter.	40	R 0	R10	R20	R22	33
85733	The use of cooperative extension materials for determining amount of material to use for modifying pH of soils to specified levels.	40	R 0	R10	R20	R22	33
85734	The technique for use of soil moisture testers.	40	R 0	R10	R20	R22	33

85735	Kinds of practices recommended for specific kinds of erosion (windbreaks, waterways, contouring, etc.).	40	R 0	R10	R20	33	50
85736	The characteristics of each soil capability class found in the area.	R20	R 0	R 0	R20	R22	33
85737	The type or kind of crops which are best adapted to the soil capability classes.	R20	R 0	R 0	R20	R22	33
85738	The need for accuracy in laying out & checking results of experimental plots.	R20	R 0	R 0	R20	R11	R16
85739	The plant food & moisture requirements for a healthy lawn.	R20	R 0	R 0	R20	R22	33
85740	The principles of weed control by cultivation, cultural practices, & chemicals.	40	R 0	R10	R20	33	50
85741	Precautions to be observed when using chemicals for weed control.	60	R 0	R20	40	R22	33
85742	Designation of lights for growing plants in terms of color, brilliance, & exposure time.	R 0	R 0	R 0	R20	R 0	R 0
85743	The principles underlying a hydroponic system.	R 0	R 0	R 0	R20	R 0	R 0
85744	The effect of lights on plant growth.	R 0	R 0	R 0	R20	R 0	R 0
85745	The effect of temperature on plant growth.	R20	R 0	R 0	R20	R11	R16
85746	The effects of hormones on types of plant growth (Gibberelic acid, etc.).	R20	R 0	R10	R20	R11	R16
85747	Climatic adaptations of various kinds of plants (desert; water; humidity, etc.).	R20	R 0	R 0	R20	R11	R16
85748	Methods of sterilizing soil.	R 0	R 0	R 0	R20	R 0	R 0
85749	The normal time from planting to harvest of various kinds of crops.	R20	R 0	R 0	40	R11	R16
85750	The practices that may cause variations in the time schedule of plants from planting to harvest.	R20	R 0	R 0	R20	R11	R16
85751	The use of sanitation, chemicals, & other means of controlling diseases & insects on greenhouse plants.	R 0	R 0	R 0	R20	R 0	R 0
85752	The direction for use of chemicals for control of diseases & insects.	60	R 0	R20	40	R22	33
85753	The significance of tissue tests of plants.	R20	R 0	R 0	R20	R11	R16
85754	Plant physiology in relation to foliar feeding.	R20	R 0	R 0	R 0	R11	R16
85755	Physiology of plants in relation to feeding through the roots.	R20	R 0	R 0	R 0	R11	R16
85756	The need for strict adherence to directions when doing experimental work.	R20	R 0	R10	R 0	R22	R16

65

<sup>a</sup>The 40 responses for the six selected industries in the biological-technical services in agriculture were reported from only 23 individuals; i.e., the mean number of industries per respondent was 1.7.

<sup>b</sup>If 33 percent or more of the respondents indicated a knowledge was "essential" for job entry, the job knowledge was accepted; if less than 33 percent, the knowledge was reviewed. When the job skill associated with the reviewed knowledge was accepted the associated knowledge marked "review" was also accepted. However, if the job skill associated with the reviewed knowledge was rejected, the associated knowledge was also rejected.

66

SERIES C

A MATRIX OF UNVALIDATED JOB SKILLS AND THEIR  
ASSOCIATED JOB KNOWLEDGES

Table S-13.--A Matrix of Unvalidated Job Skills and Their Associated Job Knowledges for Agricultural Production.

Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers
85001	85501 85502	85016	85531	85030	85558 85559	85048	85578 85579 85580
85002	85501 85503 85504	85017	85532 85533 85534 85535	85031	85559	85049	85581 85582 85583
85003	85505	85018	85527 85536	85032	85560 85561	85050	85584 85585 85586
85004	85504	85019	85537 85538	85033	85560 85561	85051	85587
85005	85505 85506 85507	85020	85539 85540 85541 85542	85034	85562	85052	85588
85006	85506	85021	85543 85540 85541	85035	85563	85053	85589
85007	85508 85509 85510	85022	85542	85036	85564 85565 85566 85567	85054	85589
85008	85511 85512 85513 85514 85515	85023	85543	85037	85568	85055	85589
85009	85513	85024	85544 85545	85038	85569 85570	85056	85590
85010	85516 85517	85025	85546 85547	85039	85569 85570	85057	85591 85592
85011	85518	85026	85548 85549 85550 85551	85040	85571	85058	85591 85592
85012	85519 85520 85521	85027	85552 85553 85554 85555 85556	85041	85571	85059	85592
85013	85522 85523	85028	85557	85042	85571	85060	85593 85594
85014	85524 85525 85526	85029	85556 85566	85043	85572 85576	85061	85595 85596
85015	85528 85529 85530 85547			85044	85573	85062	85599
				85045	85574 85575	85063	85597 85598 85600
				85046	85576	85064	85601
				85047	85576 85578 85577	85065	85601
						85066	85602 85604

SERIES C

68



85067	85605 85608 85607	85091	85630	85115	85652
85068	85603 85606	85092	85631	85116	85653
85069	85609 85608	85093	85632	85117	85654
85070	85610 85611 85612 85603	85094	85632 85633	85118	85655
85071		85095	85634	85119	85656
85072		85096	85635 85636	85120	85657
85073	85614	85097	85637	85121	85658
85074	85615	85098	85638		
85075	85613	85099	85639		
85076	85616	85100	85639		
85077	85616 85617	85101	85639		
85078	85617	85102	85640 85641		
85079	85618	85103	85642		
85080		85104	85643 85644		
85081	85620	85105	85644		
85082	85620	85106	85645 85646		
85083	85620 85621	85107	85646		
85084	85622	85108	85646		
85085	85623	85109			
85086	85624	85110	85647		
85087	85625	85111	85647		
85088	85626	85112	85648		
85089	85627 85628	85113	85649		
85090	85629	85114	85650 85651		

Table S-14.--A Matrix of Unvalidated Job Skills and Their Associated Job Knowledges for Environmental Horticulture.

Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers
85001	85501 85502 85503	85019	85532 85514 85531	85033	85528 85530 85527 85534	85051	85551 85552
85002	85502 85503 85504 85505	85020	85516 85531 85532	85034	85531 85532 85533	85052	85553
85003	85503 85504 85505 85506	85021	85517 85518 85519	85035		85053	85554
85004	85503	85022	85517 85518 85519 85520	85036	85535	85054	85555
85005	85502 85503	85023	85517 85518 85519 85520	85037	85536	85055	85555
85006	85503	85024	85517 85518 85519 85520	85038	85537	85056	85556 85557
85007	85504	85025	85515 85521 85522	85039	85538 85539	85057	85555
85008	85504 85503	85026	85521 85522 85523	85040	85540 85541	85058	85558
85009	85504	85027	85524	85041	85540 85541	85059	85559
85010	85507 85508	85028	85524 85525 85526	85042	85540 85541	85060	85560
85011	85508	85029	85524 85525 85526	85043	85542 85543 85545	85061	85560 85561
85012	85508 85509 85510	85030	85528	85044	85544	85062	85561
85013	85509	85031	85527	85045	85543 85546	85063	85562 85563 85572
85014	85510 85511	85032	85529	85046	85546	85064	85563
85015	85512			85047	85547	85065	85563
85016	85513			85048	85548	85066	85564
85017	85514			85049	85549	85067	85565
85018	85514			85050	85550	85068	85566
						85069	85567 85568
						85070	85569
						85071	85570



85072	85571	85094	85586
85073	85572		85587
85074	85573	85095	85588
85075	85574		85587
85076	85575	85096	85588
85077	85576	85097	85589
85078	85577		85586
85079	85578		85587
85080		85098	85588
85081	85519	85099	85589
	85520		85590
85082	85519	85100	85586
	85520		85587
85083	85579		85588
	85581	85101	85591
	85584		85592
85084	85583	85102	85593
85085	85583		85594
85086	85580	85103	85592
	85582		85593
85087	85580	85104	85593
85088	85584	85105	85594
	85579		85594
	85581	85106	85595
85089	85584		85601
	85579	85107	85596
85090	85579	85108	85601
85091	85579	85109	85597
85092	85579		85598
85093	85585	85110	85599
			85601
		85111	85601

Table S-15.--A Matrix of Unvalidated Job Skills and Their Associated Job Knowledges for Farm Implement Repair.

Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers
85001	85501 85502	85020	85518 85519	85039	85525	85057	85532 85533 85537
				85040			
85002	85501 85502 85503	85021	85515 85517 85512	85041	85524 85526		
				85042			
85003	85500 85502 85503	85022	85512	85043	85523	85059	85540 85541 85542 85543 85544
		85023	85516	85044	85514		
85004	85502 85504 85505 85506	85024	85524	85045	85515	85060	85545 85561
		85025	85524 85525 85526	85046	85515		
		85026	85526 85523 85521	85047	85571 85572		
85007	85506	85027	85519 85520	85048	85539 85543 85570	85061	85534
85008	85507			85049	85546 85570		
85009	85508 85509 85510	85028	85522	85050	85527 85529 85534	85062	85538 85541 85547
85010	85510	85029	85523 85526				
85011	85511	85030	85523 85526	85051	85530 85532	85063	85540
85012	85512						
85013	85513	85031	85524 85526	85053	85527	85064	85565 85536
85014	85514	85032	85526				
85015	85515	85033	85526	85054	85530 85533	85065	85544 85550 85552
85016	85516 85517	85034					
85017	85511	85035	85526	85055	85528	85066	85542 85550
85018	85516 85517	85036	85526				
85019	85516	85037	85526	85056	85527 85532	85067	85563
		85038					



85070		85093		85119		85142	85588
85071	85550 85563	85094		85120		85143	85583
85072	85564	85095	85544	85121	85566	85144	85583
85073	85548 85546	85096	85554	85122	85549	85145	85590
85074	85546 85557	85097	85554	85123		85146	85582
85075		85098	85556	85124	85574 85575	85147	85583
85076	85546 85557 85564	85099	85556 85558	85125		85148	85595 85590
85077	85548	85100		85126	85573 85581 85578	85149	85585
85078	85548	85101	85555	85127	85573	85150	85594 85593 85592 85591
85079	85553	85102		85128	85574 85579	85151	85596 85597 85599 85600 85601
85080	85553	85103		85129	85574 85577		
85081	85564 85565	85104		85130			
85082	85563	85105	85546	85131	85574 85577	85152	85596
85083	85564	85106	85546	85132	85576	85153	85599 85504
85084		85107		85133		85154	85596
85085	85550 85563	85108		85134	85574 85580	85155	85597
85086	85547	85109	85548	85135		85156	85598
85087	85546	85110	85557	85136		85157	
85088	85546	85111	85559	85137		85158	85602 85603
85089		85112	85558	85138	85587	85159	85604
85090		85113		85139	85587	85160	85605
85091	85565	85114	85546 85563	85140	85584 85589	85161	85606 85599
85092		85115	85546	85141	85588	85162	85605
		85116					
		85117					
		85118	85565				

Table S-15.--Continued.

Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers
85163	85606	85178	85614	85196	85616	85218	85638
85164	85607		85615		85617		
	85608		85620	85197	85626	85219	85638
	85585	85592	85627		85220	85639	
85165		85179	85595	85198			85642
							85643
85166	85539	85180	85595	85199	85505	85221	85640
			85590				
85167	85613	85181	85608	85200		85222	85641
	85582		85609	85201	85621		85644
85168	85506		85010				85645
	85629			85202	85506		85646
	85628	85182	85592	85203	85506	85223	85647
			85624				85648
85169	85621	85183	85614	85204		85224	85649
	85505						
85170	85621	85184	85621	85205	85608	85225	
			85623				
85171	85608	85185	85617	85206	85630	85226	
	85619		85618	85631	85631		85227
	85609						
	85610			85207	85631		
85172	85608	85186	85622	85208	85636	85228	85603
	85611	85187	85616				85602
85173	85584	85188	85620	85209	85632	85229	85603
	85586		85621		85210		85633
85174	85592	85189		85211	85632	85230	85601
	85590				85633		
	85613		85190	85616			
	85621		85618	85212	85634	85232	85650
85175	85586	85191	85623	85213	85634	85233	85651
	85613						
	85621	85192	85616	85214	85636	85234	85652
85176	85621	85193	85608	85215	85638	85235	85653
	85625	85194	85624	85216	85638	85236	85653
	85594						
85177		85195	85616	85217	85638	85237	85654
			85621				85655

85238	85656
85239	85657 85660
85240	85658
85241	85659
85242	85661 85662
85243	85662
85244	85663
85245	85664
85246	85665
85247	85664

Table S-16.--A Matrix of Unvalidated Job Skills and Their Associated Job Knowledges for Biological-Technical Services in Agriculture.

Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers
85001	85501 85502	85014	85536 85537 85538	85026	85556 85557 85558	85038	85595 85596 85597 85598
85002	85503 85504	85015	85539 85540	85027	85569 85570 85571	85039	85599 85598 85593
85003	85508 85509 85510	85016	85539 85540 85541 85542 85543 85544	85028	85072 85073 85074 85075	85040	85596 85597
85004	85505 85511 85512					85041	85596 85597
85005	85513 85514 85515	85017	85544 85545 85546	85029	85576 85577 85578 85579 85580	85042	85600 85601
85006	85516 85517	85018	85546 85547	85030	85581 85582	85043	85602 85603 85604
85007	85518 85519	85019	85548 85549 85550	85031	85583 85584 85585 85586	85044	85604 85605
85008	85520 85521 85522	85020	85551 85552			85045	85606 85607 85608
85009	85523 85506 85507 85524	85021	85553 85554 85555 85556	85032	85587 85588 85589	85046	85608 85609
85010	85525	85022	85555 85557 85558	85033	85587 85588 85589	85047	85610 85611 85612 85613
85011	85526 85527 85528	85023	85559 85560	85034	85594 85590 85591	85048	85614
85012	85529 85530 85531 85532	85024	85561	85035	85592 85593	85049	85611 85614
85013	85533 85534 85535	85025	85562 85563 85564 85565	85036	85592 85593	85050	85615 85616
				85037	85592 85593	85051	85617 85618

C

76

144

143



85052	85619 85620 85621	85070	85646 85647	85091	85672	85115	85693 85694
85053	85622 85623	85071	85648	85092	85673	85116	85694 85695 85696
85054	85624 85625	85072	85649	85093	85674 85675 85676	85117	85692
85055	85626 85627 85630	85073	85650	85094	85681	85118	85696
85056	85626 85627 85630 85628	85074	85651 85652	85095	85676 85677	85119	85696
85057	85629 85630 85631	85075	85653 85654	85096	85677	85120	85701
85058	85623 85621	85076	85655	85097	85677	85121	85697
85059	85632 85633	85077		85098	85676	85122	85698
85060	85634	85078	85656	85099	85677	85123	85700
85061	85635	85079	85657 85658 85659	85100	85678	85124	85700
85062	85636	85080	85660	85101	85678	85125	85701
85063	85637	85081	85661 85662	85102	85679 85680	85126	85699
85064	85638 85639	85082	85663 85670 85664	85103	85682	85127	
85065	85640 85641	85083	85665 85666	85104	85683	85128	85701
85066	85642	85084	85664	85105	85684	85129	85700
85067	85642	85085	85665 85669	85106	85685	85130	85702 85703
85068	85643 85644 85645	85086	85666	85107	85686	85131	85702 85703 85704
85069	85644 85645	85087	85667 85668	85108	85684	85132	85705
		85088	85669	85109	85685	85133	85706
		85089	85661	85110	85687	85134	85707
		85090	85671	85111	85688	85135	85707
				85112	85689	85136	85708
				85113	85690	85137	85709 85710
				85114	85691 85692		

Table S-16.--Continued.

Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers	Job Skill Code Number	Job Knowledge Code Numbers
85138	85715	85154	85725	85178	85737		
85139	85711 85712	85155	85726	85179	85738		
85140	85713	85156		85180	85738		
85141	85714	85157	85726	85181	85739		
85142	85715	85158	85726	85182	85740 85741		
85143	85717 85715	85159	85726	85183	85742		
85144	85716 85715	85160	85727	85184	85743		
85145	85716 85717 85719	85161	85728	85185	85744		
85146	85716 85717 85719	85162	85729	85186	85745		
85147	85718 85720	85163	85730	85187	85746		
85148	85721	85164	85731	85188	85747		
85149	85722 85723 85724	85165	85732	85189	85748		
85150	85722 85723 85724	85166	85733	85190	85749 85750		
85151	85722 85723 85724	85167	85732	85191	85751		
85152	85722 85723 85724	85168	85733	85192	85752		
85153	85722 85723 85724	85169	85734	85193	85753		
		85170	85735	85194	85754		
		85171	85736	85195	85755		
		85172	85732	85196	85756		
		85173	85733				
		85174					
		85175	85735				
		85176	85735				
		85177	85736 85737				

78

148

47



SERIES D

JOB SKILLS ACCEPTED AS ENTRY LEVEL FOR EMPLOYMENT

Table S-17.--Job Skills Accepted as Entry Level for Employment in Dairy Farming.

Job Skill Code No. <sup>a</sup>	N=14 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=14 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=14 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=14 No.	%	Total Weight <sup>b</sup>
85001	10	71	29.4	85032	12	85	30.5	85063	12	85	33.9	85092	10	71	30.1
85002	10	71	28.7	85033	12	85	32.5	85064	9	64	28.0	85093	11	78	34.0
85003	12	85	33.6	85034	11	78	29.7	85065	9	64	28.0	85094	10	71	29.8
85004	10	71	30.5	85035	11	78	31.5	85066	11	78	36.8	85095	10	71	29.4
85005	10	71	34.0	85036	9	64	28.0	85067	9	64	30.1	85096	9	64	28.0
85006	6	42	21.7	85037	7	50	21.7	85068	11	78	37.8	85097	8	57	25.2
85007	8	57	25.9	85038	7	50	19.9	85069	8	57	23.8	85098	12	85	32.9
85008	7	50	25.9		7	50	21.0	85070	11	78	32.2	85099	8	57	25.2
85009	9	64	27.3		9	64	25.2	85071	11	78	33.6	85100	6	42	22.4
85010	10	71	33.6		10	71	27.6	85072	9	64	28.7	85102	11	71	37.1
85011	10	71	30.8		10	71	26.2	85073	9	64	28.7	85103	8	57	28.0
85012	9	64	27.3	85043	11	78	30.1	85074	12	85	32.9	85104	11	78	35.7
85013	11	78	32.2	85044	11	78	30.4	85075	6	42	22.4	85105	12	85	35.4
85014	12	85	33.6	85045	13	92	37.8	85076	9	64	27.3	85106	12	85	32.9
85015	12	85	37.1	85046	12	85	38.5	85077	11	78	37.8	85107	13	92	33.3
85016	12	85	38.2	85047	12	85	36.4	85078	12	85	36.1	85108	11	78	33.6
85017	13	92	43.3	85048	11	78	36.8	85079	12	85	36.1	85109	7	50	25.2
85018	11	78	35.0	85049	12	85	39.6	85080	9	64	28.0	85110	12	85	38.5
85019	13	92	36.1	85050	12	85	33.6	85081	13	92	42.5	85111	12	85	39.2
85020	13	92	34.7	85051	12	85	32.9	85082	12	85	37.8	85112	11	78	29.0
85021	13	92	35.4	85052	12	85	32.9	85083	12	85	37.1	85113	8	57	28.7
85022	10	71	25.5	85053	9	64	25.2	85084	12	85	37.1	85114	12	85	30.4
85023	6	42	21.7	85054	10	71	30.1	85085	11	78	32.6	85115	13	92	37.8
85025	7	50	24.5	85055	10	71	28.7	85086	12	85	35.7	85116	12	85	35.0
85026	7	50	24.5	85056	13	92	39.9	85087	10	71	32.9	85117	10	71	28.7
85027	10	71	28.7	85057	12	85	37.1	85088	10	71	32.9	85118	9	64	28.0
85028	10	71	28.0	85060	9	64	27.3	85089	9	64	32.2	85119	10	71	28.7
85029	12	85	37.8	85061	11	78	31.5	85090	10	71	30.8	85120	13	92	36.8
85030	8	57	25.2	85062	13	92	39.9	85091	13	92	33.6	85121	11	78	31.9
85031	11	78	32.2												

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

Table S-18.--Job Skills Accepted as Entry Level for Employment in Bush and/or Vine Fruit Farming.

Job Skill Code No. <sup>a</sup>	N=5 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=5 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=5 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=5 No.	%	Total Weight <sup>b</sup>
85001	3	60	34.0	85026	4	80	30.0	85075	4	80	34.0	85100	2	40	22.0
85002	3	60	34.0	85027	2	40	26.0	85076	4	80	32.0	85101	3	60	32.0
85003	3	60	28.0	85028	3	60	28.0	85077	5	100	42.0	85102	5	100	40.0
85004	3	60	32.0	85029	4	80	32.0	85078	5	100	38.0	85103	4	80	34.0
85005	4	80	36.0	85031	3	60	34.0	85079	4	80	38.0	85104	5	100	44.0
85006	5	100	32.0	85032	4	80	32.0	85080	5	100	42.0	85105	5	100	40.0
85007	3	60	28.0	85033	3	60	32.0	85081	5	100	44.0	85106	5	100	46.0
85008	3	60	28.0	85034	4	80	38.0	85082	5	100	42.0	85107	5	100	42.0
85009	3	60	32.0	85035	4	80	34.0	85083	5	100	34.0	85108	5	100	40.0
85010	4	80	38.0	85036	3	60	32.0	85084	5	100	40.0	85109	4	80	34.0
85011	4	80	34.0	85038	2	40	26.0	85085	5	100	38.0	85110	4	80	36.0
85012	4	80	36.0	85041	3	60	26.0	85086	5	100	38.0	85111	5	100	42.0
85013	4	80	38.0	85062	5	100	42.0	85087	5	100	42.0	85112	4	80	30.0
85014	3	60	32.0	85063	4	80	36.0	85088	5	100	40.0	85113	3	60	26.0
85015	5	100	42.0	85064	4	80	36.0	85089	5	100	40.0	85114	4	80	34.0
85016	4	80	32.0	85065	4	80	34.0	85090	5	100	44.0	85115	4	80	38.0
85017	5	100	42.0	85066	5	100	40.0	85091	5	100	42.0	85116	4	80	36.0
85018	5	100	44.0	85067	5	100	40.0	85092	5	100	40.0	85117	3	60	30.0
85019	5	100	42.0	85068	5	100	42.0	85093	5	100	42.0	85118	5	100	34.0
85020	3	60	28.0	85069	2	40	26.0	85094	4	80	36.0	85119	3	60	30.0
85021	4	80	38.0	85070	5	100	40.0	85095	5	100	40.0	85120	3	60	26.0
85022	3	60	24.0	85071	5	100	42.0	85096	4	80	34.0	85121	4	80	32.0
85023	4	80	36.0	85072	5	100	40.0	85097	4	80	34.0				
85024	2	40	26.0	85073	5	100	42.0	85098	4	80	32.0				
85025	5	100	38.0	85074	5	100	42.0	85099	2	40	26.0				

<sup>a</sup> See Table S-5 for job skill descriptions.

<sup>b</sup> Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

Table S-19.--Job Skills Accepted as Entry Level for Employment in Tree Fruit Farming.

Job Skill Code No. <sup>a</sup>	N=5 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=5 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=5 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=5 No.	%	Total Weight <sup>b</sup>
85001	4	80	34.0	85031	4	80	38.0	85062	5	100	42.0	85092	4	80	38.0
85002	4	80	34.0	85032	4	80	38.0	85063	3	60	38.0	85093	4	80	36.0
85003	4	80	32.0	85033	4	80	38.0	85064	3	60	34.0	85094	3	60	32.0
85004	4	80	36.0	85034	4	80	38.0	85065	3	60	32.0	85095	4	80	36.0
85005	3	60	30.0	85035	4	80	38.0	85066	4	80	38.0	85096	4	80	34.0
85006	2	40	20.0	85036	4	80	36.0	85067	4	80	36.0	85097	4	80	32.0
85007	3	60	24.0	85037	3	60	24.0	85068	5	100	42.0	85098	4	80	34.0
85008	3	60	30.0	85038	4	80	26.0	85069	4	80	32.0	85099	3	60	32.0
85009	3	60	22.0	85039	3	60	24.0	85070	5	100	38.0	85100	3	60	32.0
85010	3	60	30.0	85040	3	60	28.0	85071	4	80	36.0	85101	3	60	36.0
85011	3	60	26.0	85041	3	60	24.0	85072	4	80	40.0	85102	5	100	40.0
85012	3	60	32.0	85042	3	60	24.0	85073	4	80	40.0	85103	4	80	36.0
85013	3	60	34.0	85043	2	40	20.0	85074	4	80	38.0	85104	4	80	40.0
85014	4	80	38.0	85044	2	40	22.0	85075	3	60	26.0	85105	4	80	40.0
85015	4	80	36.0	85045	2	40	22.0	85076	3	60	28.0	85106	4	80	38.0
85016	4	80	40.0	85046	2	40	20.0	85077	4	80	40.0	85107	5	100	40.0
85017	4	80	38.0	85047	2	40	18.0	85078	5	100	42.0	85108	4	80	32.0
85018	4	80	38.0	85048	2	40	18.0	85079	4	80	38.0	85109	4	80	36.0
85019	4	80	38.0	85049	2	40	20.0	85080	4	80	38.0	85110	4	80	40.0
85020	4	80	32.0	85050	2	40	18.0	85081	5	100	44.0	85111	4	80	40.0
85021	4	80	36.0	85051	2	40	18.0	85082	4	80	38.0	85112	4	80	36.0
85022	4	80	30.0	85052	2	40	16.0	85083	4	80	38.0	85113	3	60	32.0
85023	4	80	32.0	85053	2	40	14.0	85084	4	80	38.0	85114	3	60	26.0
85024	4	80	30.0	85054	2	40	14.0	85085	4	80	38.0	85115	4	80	40.0
85025	4	80	34.0	85055	2	40	14.0	85086	4	80	38.0	85116	4	80	36.0
85026	4	80	36.0	85056	2	40	18.0	85087	4	80	38.0	85117	3	60	34.0
85027	3	60	32.0	85057	2	40	16.0	85088	4	80	38.0	85118	4	80	36.0
85028	4	80	34.0	85058	2	40	8.0	85089	4	80	38.0	85119	3	60	30.0
85029	4	80	34.0	85059	2	40	8.0	85090	4	80	38.0	85120	3	60	32.0
85030	3	60	30.0	85061	2	40	14.0	85091	4	80	38.0	85121	3	60	34.0

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category  $\times$  weighted value of category).

Table S-20.--Job Skills Accepted as Entry Level for Employment in Grain and/or Bean Farming.

Job Skill Code No. <sup>a</sup>	N=30 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=30 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=30 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=30 No.	%	Total Weight <sup>b</sup>
85001	22	73	31.1	85031	24	80	33.7	85064	22	73	30.5	85093	27	90	36.0
85002	23	76	30.4	85032	26	86	31.6	85065	22	73	30.1	85094	25	83	32.7
85003	27	90	36.6	85033	28	93	35.4	85066	25	83	35.2	85095	23	76	32.5
85004	24	80	31.0	85034	26	85	36.4	85067	21	70	31.2	85096	24	80	32.8
85005	24	80	33.7	85035	26	86	36.5	85068	25	83	37.4	85097	22	73	28.7
85006	21	70	27.6	85036	23	76	34.7	85069	16	53	24.0	85098	26	86	33.9
85007	22	70	29.9	85037	20	66	25.6	85070	24	80	33.4	85099	18	60	26.7
85008	20	66	28.8	85039	15	50	22.3	85071	23	76	32.8	85100	15	50	25.1
85009	22	73	30.8	85040	24	80	31.2	85072	20	66	28.9	85101	15	50	26.5
85010	27	90	42.2	85041	23	76	30.3	85073	22	73	32.0	85102	22	73	34.0
85011	26	86	34.3	85042	21	70	27.4	85074	23	76	31.9	85103	18	60	28.4
85012	22	73	31.1	85043	19	63	26.8	85075	18	60	26.9	85104	24	80	34.4
85013	27	90	37.7	85044	19	63	24.6	85076	22	73	29.7	85105	25	83	33.2
85014	27	90	34.5	85045	20	66	29.9	85077	27	90	38.4	85106	27	90	36.5
85015	29	96	38.4	85046	21	70	32.1	85078	26	85	34.9	85107	28	93	37.4
85016	29	96	38.7	85047	22	73	30.7	85079	24	80	33.8	85108	29	96	37.0
85017	28	93	38.0	85048	21	70	29.5	85080	23	76	33.5	85109	23	76	31.1
85018	26	86	36.6	85049	22	73	33.4	85081	27	90	41.9	85110	27	90	37.5
85019	27	90	37.3	85050	22	73	29.8	85082	27	90	38.5	85111	29	96	40.1
85020	27	90	36.4	85051	19	63	29.1	85083	25	83	37.5	85112	23	76	29.6
85021	25	83	35.4	85052	21	70	28.2	85084	26	85	35.2	85113	24	80	30.5
85022	24	80	30.4	85053	17	56	24.6	85085	24	80	31.9	85114	26	86	33.0
85023	14	46	21.7	85054	14	46	21.0	85086	26	86	37	85115	28	93	39.4
85024	12	40	21.5	85055	12	40	19.9	85087	26	86	35.0	85116	27	90	37.4
85025	19	63	29.1	85056	14	46	23.8	85088	24	80	32.7	85117	20	66	28.0
85026	21	70	28.3	85057	14	46	21.9	85089	24	80	33.5	85118	23	76	30.3
85027	25	83	34.2	85060	19	63	26.1	85090	20	66	30.1	85119	24	80	31.7
85028	26	86	32.7	85061	17	56	25.5	85091	24	80	30.9	85120	26	86	34.4
85029	26	86	38.8	85062	29	96	41.7	85092	23	76	31.3	85121	23	76	30.8
85030	17	56	24.7	85063	21	70	31.3								

<sup>a</sup> See Table S-5 for job skills descriptions.

<sup>b</sup> Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$  (percentage of responses per category  $\times$  weighted value of category).

Table S-21.--Job Skills Accepted as Entry Level for Employment in Livestock (Beef, Swine, Sheep) Farming.

Job Skill Code No. <sup>a</sup>	N=20 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=20 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=20 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=20 No.	%	Total Weight <sup>b</sup>
85001	13	92	36.0	85031	11	78	35.0	85061	10	71	26.2	85093	13	92	34.6
85002	12	85	31.8	85032	11	78	29.0	85064	12	85	33.6	85094	14	100	35.3
85003	11	78	31.5	85033	12	85	35.0	85065	12	85	31.8	85095	10	71	32.2
85004	12	85	31.3	85034	12	85	35.7	85066	12	85	34.0	85096	10	71	30.8
85005	9	64	30.1	85035	12	85	37.1	85067	10	71	29.4	85097	11	78	27.6
85006	8	57	25.9	85036	11	78	33.6	85068	12	85	36.4	85098	13	92	36.1
85007	8	57	26.6	85037	9	64	25.2	85069	9	64	25.9	85099	9	64	28.7
85008	10	71	28.7	85038	6	42	21.0	85070	12	85	35.4	85100	7	50	25.2
85009	11	78	30.1	85039	9	64	24.8	85071	12	85	33.6	85101	6	42	27.3
85010	12	85	37.1	85040	13	92	33.6	85072	12	85	33.6	85102	11	78	35.0
85011	11	78	32.6	85041	11	78	29.4	85073	12	85	36.8	85103	10	71	29.4
85012	8	57	28.0	85042	10	71	27.6	85074	12	85	32.9	85104	12	85	36.8
85013	11	78	33.6	85043	12	85	35.4	85075	12	85	31.5	85105	13	92	34.3
85014	11	78	32.9	85044	12	85	31.8	85076	12	85	30.4	85106	12	85	35.7
85015	13	92	37.8	85045	12	85	36.4	85077	13	92	38.5	85107	14	100	40.3
85016	12	85	35.7	85046	13	92	41.0	85078	14	100	37.1	85108	14	100	36.1
85017	13	92	39.9	85047	13	92	37.5	85079	11	78	33.3	85109	10	71	28.0
85018	13	92	37.1	85048	12	85	35.4	85080	10	71	31.9	85110	12	85	38.5
85019	13	92	37.5	85049	13	92	40.6	85081	13	92	41.8	85111	12	85	39.2
85020	13	92	37.5	85050	13	92	35.7	85082	13	92	40.3	85112	11	78	29.7
85021	13	92	37.1	85051	10	71	31.5	85083	13	92	39.6	85113	11	78	30.8
85022	11	78	31.8	85052	12	85	34.3	85084	13	92	35.7	85114	13	92	33.9
85023	9	64	24.5	85053	12	85	33.6	85085	13	92	30.8	85115	13	92	39.9
85024	7	50	24.5	85054	9	64	25.9	85086	14	100	33.9	85116	12	85	37.5
85025	9	64	31.5	85055	7	50	24.5	85087	13	92	36.8	85117	9	64	28.7
85026	9	64	28.0	85056	7	50	25.2	85088	12	85	34.0	85118	12	85	31.8
85027	12	85	35.7	85057	7	50	23.8	85089	12	85	34.7	85119	11	78	31.9
85028	10	71	31.5	85058	10	71	33.6	85090	12	85	35.4	85120	11	78	33.3
85029	12	85	40.4	85061	11	78	33.6	85091	11	78	31.5	85121	11	78	32.6
85030	8	57	26.6	85062	13	92	43.9	85092	13	92	34.3				

<sup>a</sup>See Table S-5 for job skills descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

Table S-22.--Job Skills Accepted as Entry Level for Employment in Poultry Farming.

Job Skill Code No. <sup>a</sup>	N=6 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=6 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=6 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=6 No.	%	Total Weight <sup>b</sup>
85001	5	83	31.2	85032	4	66	28.0	85067	3	50	30.0	85097	3	50	28.2
85002	5	83	29.9	85033	5	83	32.6	85068	4	66	31.5	85098	3	50	28.2
85003	6	100	41.3	85034	5	83	37.7	85070	4	66	27.9	85099	4	66	24.7
85004	3	50	26.0	85035	5	83	34.4	85071	4	66	27.9	85100	4	66	26.4
85005	5	83	36.0	85036	5	83	32.8	85072	3	50	21.1	85101	4	66	26.4
85006	4	66	29.7	85037	5	83	29.9	85073	4	66	26	85102	3	50	26.2
85007	5	83	36.0	85039	3	50	24.6	85074	3	50	21.6	85103	3	50	24.5
85008	3	50	24.0	85040	4	66	28.0	85075	3	50	22.9	85104	4	66	32.8
85009	4	66	29.2	85041	4	66	30.8	85076	3	50	24.5	85105	4	66	30.8
85010	5	83	39.7	85042	3	50	24.5	85077	3	50	27.4	85106	4	66	31.2
85011	6	100	39.2	85043	5	83	36.1	85078	3	50	24.5	85107	5	83	37.6
85012	4	66	32.6	85044	5	83	31.5	85079	3	50	26.2	85108	6	100	35.0
85013	4	66	34.6	85045	4	66	32.6	85080	3	50	26.5	85109	3	50	26.5
85014	4	66	32.8	85046	6	100	45.2	85081	4	66	30.8	85110	3	50	25.7
85015	5	83	34.3	85047	6	100	42.9	85082	4	66	30.8	85111	4	66	30.8
85016	5	83	34.4	85048	6	100	42.9	85083	4	66	29.1	85112	4	66	26.4
85017	6	100	41.3	85049	6	100	43.0	85084	3	50	26.2	85113	4	66	24.7
85018	6	100	39.2	85050	6	100	36.3	85085	3	50	24.5	85114	4	66	27.8
85019	5	83	36.0	85051	4	66	34.5	85086	4	66	29.6	85115	4	66	29.1
85020	5	83	34.4	85052	4	66	30.8	85087	4	66	31.4	85116	4	66	29.1
85021	4	66	29.3	85058	3	50	24.5	85088	3	50	26.5	85118	3	50	24.4
85022	4	66	30.9	85059	3	50	24.5	85089	3	50	26.5	85119	3	50	27.7
85024	3	50	19.6	85060	5	83	29.4	85090	3	50	22.8	85120	5	83	33.1
85025	3	50	29.4	85062	6	100	40.0	85091	3	50	19.8	85121	5	83	31.5
85026	5	83	29.8	85063	5	83	29.4	85093	4	66	29.7				
85027	6	100	39.2	85064	4	66	27.5	85094	4	66	29.6				
85028	5	83	32.7	85065	4	66	26.3	85095	3	50	26.2				
85029	6	100	47.9	85066	3	50	22.8	85096	3	50	24.5				
85031	5	83	42.8												

<sup>a</sup>See Table S-5 for job skills descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

85

7

Table S-23.--Job Skills Accepted as Entry Level for Employment in Vegetable, Beet, and/or Potato Farming.

Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>
5001	7	53	25.7	85029	9	69	29.6	85070	11	84	35.5	85096	11	84	32.3
5002	8	61	27.3	85031	8	61	30.8	85071	10	76	36.1	85097	8	61	27.0
5003	10	76	30.1	85032	11	84	32.6	85072	9	69	31.7	85098	11	84	31.4
5004	9	69	26.5	85033	10	76	32.1	85073	10	76	34.1	85099	6	46	23.3
5005	9	69	27.3	85034	9	69	33.2	85074	10	76	33.3	85100	7	53	23.5
5006	7	53	21.1	85035	9	69	30.6	85075	8	61	28.8	85101	7	53	26.2
5007	8	61	23.0	85036	7	53	28.0	85076	9	69	30.5	85102	9	69	32.1
5008	6	46	22.1	85037	6	46	21.8	85077	12	92	40.9	85103	10	76	32.2
5009	9	69	31.2	85040	9	69	27.5	85078	12	92	37.4	85104	11	84	36.0
5010	10	76	36.0	85041	10	76	28.7	85079	10	76	35.8	85105	11	84	33.0
5011	11	84	33.1	85042	9	69	26.3	85080	11	84	36.9	85106	13	100	40.7
5012	7	53	26.5	85047	6	46	21.1	85081	12	92	44.8	85107	12	92	39.2
5013	11	84	34.7	85051	7	53	26.6	85082	12	92	38.1	85108	12	92	34.7
5014	10	76	26.2	85052	7	53	24.2	85083	10	76	36.4	85109	11	84	33.4
5015	12	92	36.2	85053	6	46	22.2	85084	12	92	36.2	85110	11	84	36.0
5016	12	92	36.9	85054	6	46	21.3	85085	11	84	33.5	85111	12	92	38.5
5017	10	76	29.2	85055	6	46	25.4	85086	11	84	33.5	85112	9	69	28.3
5018	8	61	30.0	85057	5	46	22.4	85087	12	92	37.1	85113	8	61	28.6
5019	10	76	32.5	85061	7	53	24.3	85088	11	84	35.8	85114	11	84	30.5
5020	10	76	31.8	85062	13	100	44.2	85089	11	84	35.5	85115	13	100	38.4
5021	9	69	32.8	85063	10	76	35.6	85090	9	69	30.9	85116	12	92	36.3
5022	9	69	25.6	85064	10	76	30.4	85091	12	92	30.8	85117	7	53	25.7
5023	8	51	26.1	85065	10	76	32.0	85092	10	76	32.2	85118	9	69	27.9
5025	6	46	23.2	85066	12	92	37.1	85093	11	84	35.4	85119	9	69	29.0
5026	7	53	24.9	85067	11	84	33.9	85094	9	69	29.4	85120	10	76	32.0
5027	8	61	27.3	85068	12	92	40.1	85095	12	92	33.9	85121	10	76	30.3
5028	9	69	24.6	85069	7	53	23.7								

<sup>a</sup> See Table S-5 for job skill descriptions.

<sup>b</sup> Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

88



Table S-24.--Job Skills Accepted as Entry Level for Employment in the Arboriculture Industry.

Job Skill Code No. <sup>a</sup>	N=7 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=7 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=7 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=7 No.	%	Total Weight <sup>b</sup>
85005	3	42	19.6	85034	5	71	30.8	85060	3	42	22.4	85083	6	85	41.1
85012	3	42	21.0	85035	7	100	50.0	85062	3	42	19.6	85084	5	71	30.8
85013	3	42	19.6	85040	3	42	19.6	85063	3	42	22.4	85085	5	71	26.6
85014	3	42	19.6	85041	3	42	19.6	85064	3	42	22.4	85086	5	71	33.6
85015	3	42	21.0	85042	3	42	19.6	85065	4	57	25.2	85087	4	57	30.8
85016	7	100	37.8	85043	5	71	35.5	85066	4	57	25.2	85088	4	57	26.6
85017	6	85	29.4	85044	7	100	45.3	85067	3	42	21.0	85089	5	71	33.6
85018	5	71	30.8	85045	5	71	33.6	85068	5	71	29.4	85092	3	42	16.8
85019	6	85	36.4	85046	5	71	33.6	85069	7	100	42.5	85096	3	42	19.7
85020	5	71	35.5	85047	5	71	32.2	85070	3	42	22.4	85099	3	42	21.1
85021	7	100	42.5	85048	5	71	33.6	85071	4	57	25.2	85100	5	71	30.8
85022	7	100	46.7	85049	4	57	25.2	85072	4	57	23.8	85101	5	71	29.4
85023	7	100	43.9	85050	6	85	39.2	85073	4	57	28.0	85102	5	71	30.8
85024	7	100	39.2	85051	4	57	29.4	85074	5	71	29.4	85103	5	71	32.2
85025	5	85	39.2	85052	3	42	26.6	85075	5	71	30.6	85104	5	71	29.4
85026	3	42	25.2	85053	3	42	26.6	85076	5	71	30.8	85105	6	85	36.4
85027	7	100	40.6	85054	3	42	25.2	85078	4	57	25.2	85106	7	100	39.2
85028	7	100	40.6	85055	3	42	25.2	85079	4	57	25.2	85107	7	100	41.0
85029	7	100	40.6	85056	3	42	23.8	85080	4	57	25.2	85108	7	100	45.3
85030	7	100	42.0	85057	3	42	23.8	85081	5	71	36.9	85109	3	42	26.6
85031	7	100	42.0	85058	3	42	23.8	85082	7	100	40.6	85110	5	71	33.6
85032	6	85	37.8	85059	4	57	25.2					85111	4	57	32.2
85033	6	85	39.2												

<sup>a</sup>See Table S-7 for job skills descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

87

0

Table S-25.--Job Skills Accepted as Entry Level for Employment in the Redding Plant Industry.

Job Skill Code No. <sup>a</sup>	N=10 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=10 No.	%	Total Weight <sup>b</sup>
85009	4	40	23.0	85055	5	50	23.0
85010	4	40	26.0	85066	5	50	23.0
85011	5	50	24.0	85067	4	40	18.0
85012	6	60	30.0	85069	4	40	23.0
85014	4	40	22.0	85073	6	60	28.0
85015	5	50	24.0	85074	5	50	26.0
85016	4	40	15.0	85075	4	40	23.0
85017	4	40	14.0	85076	5	50	25.0
85029	4	40	22.0	85080	4	40	27.0
85030	4	40	21.0	85081	5	50	26.0
85031	4	40	22.0	85082	4	40	23.0
85033	4	40	22.0	85083	6	60	32.0
85036	4	40	19.0	85084	7	70	34.0
85037	4	40	19.0	85085	6	60	29.0
85038	4	40	18.0	85086	7	70	33.0
85039	6	60	27.0	85087	6	60	29.0
85040	7	70	27.0	85088	4	40	24.0
85041	7	70	28.0	85089	7	70	33.0
85042	5	50	25.0	85092	4	40	27.0
85043	4	40	22.0	85103	4	40	21.0
85044	4	40	21.0	85104	4	40	22.0
85063	5	50	23.0	85105	4	40	20.0
85064	5	50	25.0	85109	4	40	21.0

<sup>a</sup> See Table S-7 for job skills descriptions.

<sup>b</sup> Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$  (percentage of responses per category X weighted value of category).

Table S-26.--Job Skills Accepted as Entry Level for Employment in the Garden Center Industry.

Job Skill Code No. <sup>a</sup>	N=8 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=8 No.	%	Total Weight <sup>b</sup>
85003	5	62	29.8	85066	5	62	26.0
85009	4	50	28.4	85067	4	50	20.9
85011	5	62	28.1	85073	5	62	27.3
85012	6	75	38.6	85074	4	50	23.6
85014	5	62	28.5	85080	4	50	31.1
85015	5	62	28.1	85081	4	50	23.6
85036	4	50	22.1	85083	6	75	37.5
85037	4	50	22.1	85084	6	75	36.1
85038	4	50	20.9	85085	7	87	37.2
85039	5	62	27.2	85086	7	87	38.1
85040	7	87	31.2	85087	6	75	35.0
85041	7	87	36.2	85088	4	50	28.6
85042	6	75	32.5	85089	7	87	35.6
85063	6	75	27.2	85091	4	50	24.6
85064	5	62	28.5	85092	5	62	38.3
85065	5	62	26.0				

<sup>a</sup>See Table S-7 for job skills descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$  (percentage of responses per category X weighted value of category).

89

0

Table S-27.--Job Skills Accepted as Entry Level for Employment in the Groundskeeping and/or Park Industry.

Job Skill Code No. <sup>a</sup>	N=9 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=9 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=9 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=9 No.	%	Total Weight <sup>b</sup>
85011	4	44	22.0	85035	8	88	41.8	85060	7	77	30.8	85081	9	100	41.8
85012	4	44	20.9	85040	4	44	20.9	85061	6	66	29.7	85082	9	100	40.7
85016	8	88	35.2	85041	4	44	22.0	85062	7	77	28.6	85083	7	77	38.5
85017	9	100	37.4	85042	4	44	20.9	85063	5	55	26.4	85084	7	77	35.2
85018	8	88	37.4	85043	9	100	41.8	85064	5	55	26.4	85085	6	66	29.7
85019	9	100	40.7	85044	9	100	41.8	85065	7	77	29.7	85086	7	77	36.3
85020	9	100	39.6	85045	6	66	30.8	85066	5	55	26.4	85087	5	55	29.7
85021	8	88	37.4	85046	6	66	30.8	85067	6	66	25.3	85088	5	55	27.5
85022	7	77	37.4	85047	6	66	33.0	85068	6	66	28.6	85089	7	77	34.1
85023	6	66	33.0	85048	6	66	33.0	85069	7	77	34.1	85100	6	66	30.8
85024	7	77	34.1	85049	5	55	26.4	85070	6	66	28.6	85101	6	66	30.8
85025	9	100	41.8	85050	6	66	34.1	85071	7	77	30.8	85102	7	77	34.1
85026	8	88	35.2	85051	5	55	28.6	85072	6	66	27.5	85103	7	77	34.1
85027	7	77	34.1	85052	6	66	28.6	85073	8	88	34.1	85104	7	77	34.1
85028	7	77	35.2	85053	7	77	31.9	85074	7	77	31.9	85105	7	77	35.2
85029	7	77	36.3	85054	7	77	30.8	85075	9	100	37.4	85106	7	77	37.4
85030	7	77	37.4	85055	7	77	30.8	85076	7	77	33.0	85107	7	77	38.5
85031	7	77	38.5	85056	7	77	33.0	85077	7	77	30.8	85108	7	77	37.4
85032	6	66	34.1	85057	6	66	29.7	85078	8	88	33.0	85109	5	55	27.5
85033	8	88	40.7	85058	7	77	31.9	85079	8	88	33.0	85110	4	44	28.6
85034	6	66	30.8	85059	8	88	33.0	85080	8	88	33.0	85111	5	55	31.9

<sup>a</sup>See S-7 for job skills descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

Table S-28.--Job Skills Accepted as Entry Level for Employment in the Landscaping Industry.

Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>
85009	6	46	24.8	85033	11	84	41.5	85059	10	76	34.4	85081	11	84	40.6
85011	7	53	25.7	85034	11	84	31.8	85060	10	76	33.3	85082	11	84	40.6
85012	8	61	27.8	85035	13	100	44.6	85061	9	69	30.9	85083	10	76	40.7
85013	6	46	23.9	85040	6	46	21.1	85062	10	76	32.5	85084	10	76	36.0
85014	6	46	23.2	85041	6	46	23.0	85063	10	76	33.0	85085	10	76	33.6
85015	6	46	25.1	85042	6	46	21.9	85064	9	69	31.7	85086	11	84	36.8
85016	12	92	37.3	85043	11	84	38.4	85065	11	84	34.3	85087	9	69	33.9
85017	11	84	35.6	85044	12	92	42.5	85066	10	76	33.3	85088	9	69	31.7
85018	10	76	38.3	85045	11	84	38.8	85067	10	76	30.2	85089	11	84	36.5
85019	12	92	43.2	85046	11	84	36.8	85068	10	76	33.2	85092	6	46	21.7
85020	11	84	37.2	85047	10	76	35.6	85069	11	84	37.2	85100	7	53	29.1
85021	11	84	40.7	85048	10	76	35.2	85070	10	76	34.0	85101	10	76	32.6
85022	11	84	41.5	85049	9	69	26.9	85071	11	84	34.2	85102	9	69	34.0
85023	11	84	41.5	85050	11	84	39.3	85072	11	84	33.6	85103	8	61	33.2
85024	11	84	39.9	85051	10	76	33.4	85073	11	84	36.1	85104	9	69	30.0
85025	12	92	43.2	85052	8	61	34.0	85074	11	84	36.7	85105	12	92	39.3
85026	12	92	37.4	85053	10	76	33.2	85075	12	92	36.1	85106	10	76	35.7
85027	12	92	36.3	85054	10	76	36.8	85076	11	84	36.5	85107	11	84	38.5
85028	11	84	37.2	85055	11	84	36.0	85077	8	61	30.5	85108	10	76	36.0
85029	11	84	38.3	85056	11	84	36.1	85078	11	84	33.0	85109	7	53	28.1
85030	11	84	41.8	85057	9	69	33.2	85079	10	76	34.6	85110	7	53	28.1
85031	11	84	42.6	85058	10	76	34.4	85080	10	76	35.2	85111	7	53	29.6
85032	10	76	33.9												

<sup>a</sup>See Table S-7 for job skill descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight=(percentage of responses per category X weighted value of category).

Table S-29.--Job Skills Accepted as Entry Level for Employment in the Nursery Production Industry.

Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=13 No.	%	Total Weight <sup>b</sup>
85007	6	46	18.9	85030	8	61	29.4	85054	6	46	22.5	85075	8	61	25.1
85009	6	46	24.8	85031	8	61	30.2	85055	6	46	20.9	85076	8	61	25.4
85010	6	46	29.6	85032	7	53	22.6	85056	6	46	22.5	85077	6	46	23.2
85011	8	61	23.4	85033	8	61	30.2	85058	6	46	22.5	85078	6	46	21.7
85012	10	76	32.9	85034	6	46	19.2	85059	7	53	23.5	85079	8	61	26.5
85014	6	46	25.6	85035	7	53	27.9	85060	7	53	22.3	85080	8	61	33.3
85015	7	53	28.0	85039	6	46	22.4	85051	6	46	20.2	85081	9	69	30.6
85016	8	61	24.6	85040	10	76	29.4	85062	7	53	22.7	85082	8	61	29.0
85017	8	61	26.2	85041	10	76	30.6	85063	8	61	28.2	85083	8	61	30.8
85018	7	53	28.8	85042	8	61	29.2	85064	8	61	28.4	85084	9	69	31.8
85019	7	53	27.3	85043	8	61	28.2	85065	9	69	28.2	85085	10	76	33.8
85020	7	53	24.3	85044	8	61	28.6	85066	8	61	27.6	85086	10	76	31.9
85021	6	46	24.8	85045	7	53	23.4	85067	8	61	25.5	85087	9	69	33.6
85022	6	46	24.8	85046	7	53	23.0	85068	8	61	27.4	85088	7	53	27.2
85023	6	46	24.8	85047	7	53	25.0	85069	8	61	27.4	85089	10	76	31.5
85024	6	46	24.0	85048	7	53	25.0	85070	7	53	25.8	85092	6	46	27.2
85025	7	53	26.2	85049	7	53	20.2	85071	8	61	25.5	85105	6	46	21.3
85026	7	53	24.2	85050	7	53	27.2	85072	8	61	25.5	85106	6	46	21.3
85027	7	53	22.3	85051	6	46	20.8	85073	9	69	27.9	85107	6	46	22.5
85028	7	53	24.2	85053	6	46	19.3	85074	9	69	27.9	85108	6	46	22.5
85029	8	61	27.0												

<sup>a</sup> See Table S-7 for job skill descriptions.

<sup>b</sup> Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$  (percentage of responses per category X weighted value of category).

Table S-30.--Job Skills Accepted as Entry Level for Employment in the Turf and Sprinkler Industry.

Job Skill Code No. <sup>a</sup>	N=9 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=9 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=9 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=9 No.	%	Total Weight <sup>b</sup>
85007	4	44	16.5	85032	7	77	33.0	85060	8	88	39.6	85084	7	77	38.5
85008	4	44	20.9	85033	8	88	44.0	85061	8	88	37.4	85085	7	77	35.2
85009	5	55	27.5	85034	7	77	29.7	85062	8	88	39.6	85086	8	88	39.6
85010	5	55	26.4	85035	9	100	45.1	85063	8	88	37.4	85087	7	77	36.3
85011	6	66	29.7	85040	4	44	19.8	85064	7	77	35.2	85088	7	77	33.0
85012	7	77	35.2	85041	4	44	20.9	85065	8	88	36.3	85089	8	88	37.4
85013	5	55	25.3	85042	4	44	20.9	85066	8	88	36.3	85092	4	44	23.1
85014	5	55	24.2	85043	7	77	37.4	85067	7	77	33.0	85094	4	44	17.6
85015	5	55	26.4	85044	9	100	46.2	85068	7	77	35.2	85095	4	44	17.6
85016	8	88	37.4	85045	7	77	37.4	85069	8	88	40.7	85096	5	55	22.0
85017	8	88	35.2	85046	7	77	37.4	85070	9	100	41.8	85097	5	55	22.0
85018	7	77	40.7	85047	7	77	37.4	85071	9	100	39.6	85099	4	44	18.7
85019	8	88	40.7	85048	7	77	35.2	85072	9	100	39.6	85100	5	55	31.9
85020	7	77	35.2	85049	7	77	30.8	85073	8	88	38.5	85101	7	77	34.1
85021	7	77	39.6	85050	8	88	40.7	85074	8	88	38.5	85102	6	66	35.2
85022	7	77	41.8	85051	7	77	33.0	85075	9	100	39.6	85103	6	66	36.3
85023	7	77	39.6	85052	6	66	39.6	85076	8	88	37.4	85104	7	77	31.9
85024	7	77	37.4	85053	8	88	38.5	85077	7	77	36.3	85105	9	100	40.7
85025	8	88	44.0	85054	8	88	42.9	85078	8	88	37.4	85106	8	88	38.5
85026	8	88	38.5	85055	9	100	41.8	85079	8	88	40.7	85107	8	88	40.7
85027	9	100	37.4	85056	9	100	42.9	85080	7	77	37.4	85108	8	88	39.6
85028	8	88	38.5	85057	7	77	38.5	85081	8	88	42.9	85109	5	55	28.6
85029	8	88	39.6	85058	9	100	42.9	85082	8	88	42.9	85110	5	55	28.6
85030	8	88	44.0	85059	8	88	41.8	85083	6	66	41.8	85111	6	66	31.9
85031	8	88	45.1												

<sup>a</sup>See Table S-7 for job skill descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

Table S-31.--Job Skills Accepted as Entry Level for Employment in Farm Implement Repair.

Job Skill Code No. <sup>a</sup>	N=17 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=17 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=17 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=17 No.	%	Total Weight <sup>b</sup>
85001	15	88	40.8	85034	15	88	28.8	85068	11	64	27.9	85102	16	94	37.2
85002	17	100	43.9	85035	11	64	23.6	85069	12	70	30.3	85103	8	47	22.5
85003	15	88	36.3	85036	11	64	27.3	85070	14	82	38.2	85104	13	76	29.2
85004	14	82	36.3	85038	8	47	23.6	85071	13	76	35.7	85105	10	58	23.1
85005	16	94	40.6	85040	8	47	20.6	85072	13	76	30.9	85106	10	58	23.1
85006	16	94	38.9	85041	11	64	28.7	85073	12	70	29.1	85107	13	76	27.4
85007	17	100	37.2	85042	13	76	30.3	85074	12	70	29.1	85108	12	70	27.4
85008	17	100	42.7	85043	11	64	28.5	85075	12	70	29.7	85109	8	44	20.4
85009	17	100	42.8	85044	14	82	33.3	85076	12	70	31.5	85110	11	64	26.1
85010	17	100	48.4	85045	12	70	26.1	85078	7	41	21.9	85111	10	58	22.4
85011	16	94	36.7	85046	9	52	21.3	85079	11	64	28.5	85112	13	76	30.3
85012	16	94	36.5	85047	17	100	43.9	85080	11	64	29.1	85113	15	88	32.9
85013	15	88	36.5	85048	17	100	44.5	85081	11	64	29.1	85114	13	76	29.3
85014	16	94	34.7	85049	17	100	42.6	85082	10	58	24.9	85115	11	64	24.9
85015	14	82	30.3	85050	16	94	38.5	85083	9	52	23.7	85116	15	88	33.3
85016	14	82	30.9	85051	16	94	42.4	85084	10	58	27.9	85117	16	94	37.7
85017	15	88	34.7	85052	16	94	42.5	85085	14	82	36.3	85118	12	70	28.5
85018	9	52	25.5	85053	16	94	42.5	85086	10	58	26.1	85119	15	88	32.3
85019	14	82	32.7	85054	17	100	39.0	85087	9	52	24.9	85120	14	82	35.7
85020	10	58	26.7	85055	16	94	43.7	85088	9	52	24.3	85121	12	70	29.7
85021	12	70	30.3	85056	16	94	40.6	85089	11	64	26.7	85122	15	88	37.7
85023	7	41	22.5	85057	16	94	41.3	85090	11	64	27.9	85123	15	88	37.5
85024	16	94	37.1	85058	17	100	42.1	85091	10	58	26.1	85124	15	88	37.0
85025	16	94	38.3	85059	14	82	34.1	85092	10	58	25.5	85125	15	88	35.2
85026	16	94	35.3	85060	14	82	34.5	85093	10	58	26.1	85126	14	82	33.9
85027	16	94	39.5	85061	14	82	38.1	85094	11	64	27.9	85127	13	76	32.1
85028	16	94	35.3	85062	13	76	31.5	85095	9	52	23.7	85128	14	82	31.5
85029	16	94	36.1	85063	13	76	32.9	85096	9	52	23.7	85129	15	88	35.4
85030	15	88	31.2	85064	12	70	29.1	85097	9	52	21.2	85130	14	82	30.9
85031	16	94	37.7	85065	11	64	27.3	85099	9	52	24.3	85131	16	94	34.3
85032	11	64	26.0	85066	11	64	26.0	85100	14	82	33.3	85132	14	82	31.5
85033	14	82	28.5	85067	11	64	26.6	85101	16	94	39.0	85134	16	94	39.0





85135	15	88	37.1	85171	12	70	29.3	85208	13	76	31.5	85246	15	88	36.4
85136	13	76	31.1	85172	12	70	29.3	85209	8	47	22.5	85247	13	76	32.7
85137	7	41	20.1	85173	12	70	29.3	85211	9	52	21.9				
85138	13	76	32.1	85174	11	64	27.9	85212	16	94	40.2				
85139	12	70	30.3	85175	12	70	29.1	85213	15	89	34.8				
85140	10	58	26.1	85176	12	70	30.3	85214	14	82	29.2				
85141	9	52	23.7	85177	12	70	29.1	85215	9	52	25.5				
85142	13	76	32.1	85178	11	64	26.1	85216	12	70	27.9				
85143	13	76	32.1	85179	13	76	30.3	85217	11	64	25.5				
85144	13	76	32.7	85180	11	64	27.9	85218	12	70	26.7				
85145	13	76	29.1	85181	13	76	31.5	85219	10	58	27.3				
85146	12	70	30.9	85182	12	70	26.7	85220	8	47	21.7				
85147	13	76	32.1	85183	11	64	27.3	85221	12	70	27.9				
85148	15	88	36.5	85184	13	76	28.5	85223	16	94	39.4				
85149	15	88	37.1	85185	13	76	29.1	85224	14	82	30.3				
85150	12	70	34.5	85186	13	76	30.3	85225	15	88	34.0				
85151	17	100	46.3	85187	13	76	30.3	85226	14	82	34.0				
85152	17	100	46.3	85188	13	76	30.9	85227	14	82	33.3				
85153	17	100	44.5	85189	13	76	28.4	85228	12	70	27.5				
85154	17	100	45.7	85190	11	64	27.9	85229	13	76	28.7				
85155	17	100	45.7	85191	13	76	30.3	85230	15	88	34.7				
85156	16	94	42.7	85192	12	70	31.5	85231	17	100	39.6				
85157	12	70	32.7	85193	13	76	31.5	85232	15	88	34.7				
85158	16	94	39.5	85194	12	70	32.7	85233	15	88	36.5				
85159	14	82	31.7	85195	11	64	28.5	85234	13	76	30.9				
85160	14	82	32.3	85196	9	52	24.9	85235	13	76	30.5				
85161	14	82	32.5	85197	10	58	23.1	85236	14	82	32.1				
85162	9	52	23.0	85198	12	70	29.1	85237	13	76	31.1				
85163	10	58	24.9	85199	13	76	33.3	85238	12	70	31.5				
85164	14	82	32.7	85200	13	76	31.5	85239	14	82	34.5				
85165	14	82	32.9	85201	15	88	36.4	85240	8	47	20.7				
85166	15	88	37.7	85202	12	70	27.5	85241	8	47	23.1				
85167	15	88	34.9	85203	13	76	28.1	85242	13	76	30.3				
85168	15	88	34.7	85204	13	76	30.9	85243	14	82	32.7				
85169	16	94	39.6	85205	12	70	29.1	85244	13	76	32.1				
85170	9	52	25.5	85207	10	58	25.4	85245	14	82	33.3				

<sup>a</sup>See Table S-9 for job skill descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

Table S-32.--Job Skills Accepted as Entry Level for Employment in Agricultural Chemical Biological-Technical Services.

Job Skill Code No. <sup>a</sup>	No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	No.	%	Total Weight <sup>b</sup>
85001	2	40	16.0	85108	2	40	22.0	85159	2	40	18.0
85002	2	40	16.0	85111	2	40	20.0	85160	2	40	16.0
85003	2	40	16.0	85112	2	40	18.0	85163	3	60	26.0
85009	2	40	24.0	85113	2	40	22.0	85164	2	40	20.0
85014	2	40	16.0	85119	2	40	24.0	85166	2	40	20.0
85034	2	40	20.0	85120	3	60	28.0	85167	2	40	20.0
85035	2	40	20.0	85121	2	40	18.0	85168	2	40	20.0
85036	2	40	18.0	85123	2	40	24.0	85170	2	40	22.0
85037	2	40	18.0	85124	2	40	20.0	85172	3	60	26.0
85052	2	60	20.0	85125	3	60	32.0	85173	2	40	18.0
85031	2	40	22.0	85126	3	60	22.0	85175	2	40	22.0
85032	2	40	22.0	85127	2	40	22.0	85176	2	40	18.0
85033	2	40	22.0	85128	2	40	18.0	85177	2	40	22.0
85034	2	40	22.0	85132	3	60	28.0	85178	2	40	24.0
85035	2	40	20.0	85136	2	40	24.0	85179	2	40	20.0
85036	2	40	20.0	85137	2	40	20.0	85180	2	40	20.0
85037	2	40	20.0	85138	2	40	18.0	85181	2	40	20.0
85038	2	40	16.0	85139	2	40	20.0	85182	2	40	24.0
85039	2	40	18.0	85140	2	40	22.0	85183	2	40	16.0
85040	2	40	20.0	85141	3	60	24.0	85191	2	40	22.0
85041	3	60	24.0	85143	3	60	30.0	85192	2	40	22.0
85042	2	40	20.0	85144	3	60	30.0	85193	3	60	18.0
85043	2	40	18.0	85145	3	60	18.0	85194	3	60	18.0
85044	2	40	20.0	85146	3	60	14.0	85195	3	60	24.0
85045	2	40	16.0	85152	2	40	18.0	85196	3	60	20.0
85046	2	40	18.0	85155	3	60	26.0				

<sup>a</sup>See Table S-11 for job skill descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

Table S-33.--Job Skills Accepted as Entry Level for Employment in  
Animal Laboratory Biological-Technical Services.

Job Skill Code No. <sup>a</sup>	N=5 No.	%	Total Weight <sup>b</sup>
85001	4	80	38.0
85002	4	80	38.0
85003	4	80	34.0
85004	3	60	30.0
85005	2	40	22.0
85008	3	60	24.0
85009	3	60	30.0
85010	3	60	32.0
85014	4	80	32.0
85015	3	60	22.0
85016	2	40	18.0
85017	2	40	18.0
85018	2	40	20.0
85022	3	60	24.0
85023	5	100	40.0
85024	4	80	30.0
85025	3	60	22.0
85029	3	60	28.0
85030	4	80	30.0
85036	3	60	28.0
85039	3	60	26.0
85040	3	60	28.0
85045	2	40	22.0
85048	3	60	30.0
85049	3	60	30.0

<sup>a</sup>See Table S-11 for job skill descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight=Σ(percentage of responses per category X weighted value of category).

Table S-34.--Job Skills Accepted as Entry Level for Employment  
in Food Processing Biological-Technical Services.

Job Skill Code No. <sup>a</sup>	N=10		Total Weight <sup>b</sup>
	No.	%	
85003	4	40	18.0
85031	4	40	22.0
85032	4	40	23.0
85106	4	40	20.0
85108	4	40	22.0
85111	4	40	21.0
85112	4	40	20.0
85118	5	50	25.0
85120	4	40	21.0
85123	4	40	23.0
85125	5	50	29.0
85126	4	40	20.0
85128	4	40	24.0
85163	5	50	21.0

<sup>a</sup> See Table S-11 for job skill descriptions.

<sup>b</sup> Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$  (percentage of responses per category X weighted value of category).

Table S-35.--Job Skills Accepted as Entry Level for Employment in Grain, Feed, and/or Seed Biological-Technical Services.

Job Skill Code No. <sup>a</sup>	N=15 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=15 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=15 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=15 No.	%	Total Weight <sup>b</sup>
85001	4	80	36.0	85037	3	60	24.0	85093	3	60	26.0	85138	4	80	28.0
85002	4	80	36.0	85039	4	80	34.0	85094	2	40	22.0	85139	2	40	22.0
85003	2	40	22.0	85045	2	40	22.0	85095	2	40	22.0	85140	3	60	28.0
85004	3	60	24.0	85047	4	80	32.0	85096	3	60	22.0	85141	3	60	26.0
85008	2	40	24.0	85048	3	60	22.0	85097	2	40	16.0	85142	3	60	26.0
85009	4	80	44.0	85049	3	60	28.0	85098	3	60	28.0	85143	2	40	20.0
85010	3	60	28.0	85050	4	80	36.0	85099	2	40	16.0	85144	3	60	28.0
85011	3	60	22.0	85051	4	80	36.0	85100	2	40	18.0	85145	3	60	18.0
85012	2	40	24.0	85052	4	80	32.0	85101	3	60	26.0	85146	3	60	20.0
85013	2	40	24.0	85053	4	80	32.0	85102	3	60	28.0	85149	3	60	26.0
85014	4	80	38.0	85058	2	40	22.0	85103	3	60	26.0	85150	2	40	24.0
85015	3	60	26.0	85059	2	40	22.0	85104	2	40	18.0	85151	3	60	26.0
85016	3	60	24.0	85060	2	40	22.0	85105	3	60	22.0	85152	2	40	22.0
85017	3	60	24.0	85061	2	40	22.0	85106	2	40	18.0	85153	2	40	24.0
85018	3	60	24.0	85062	3	60	30.0	85109	2	40	18.0	85154	2	40	20.0
85019	3	60	24.0	85063	2	40	24.0	85110	2	40	14.0	85155	2	40	20.0
85020	3	60	22.0	85064	3	60	28.0	85111	2	40	14.0	85156	3	60	28.0
85021	2	40	18.0	85065	2	40	20.0	85112	2	40	14.0	85163	2	40	22.0
85022	3	60	22.0	85067	3	60	28.0	85113	2	40	14.0	85164	2	40	22.0
85023	3	60	28.0	85068	2	40	16.0	85114	2	40	18.0	85166	2	40	20.0
85024	2	40	16.0	85069	3	60	22.0	85115	2	40	14.0	85167	2	40	18.0
85025	3	60	24.0	85070	3	60	24.0	85116	2	40	12.0	85168	2	40	20.0
85029	3	60	26.0	85071	3	60	24.0	85517	2	40	14.0	85172	2	40	20.0
85030	3	60	26.0	85072	3	60	22.0	85118	2	40	16.0	85175	2	40	16.0
85031	3	60	30.0	85073	2	40	20.0	85120	2	40	18.0	85178	2	40	22.0
85032	3	60	32.0	85075	2	40	20.0	85133	3	60	26.0	85182	2	40	20.0
85033	3	60	32.0	85080	2	40	18.0	85134	3	60	26.0	85193	2	40	18.0
85034	4	80	40.0	85090	3	60	22.0	85135	3	60	26.0	85194	2	40	18.0
85035	5	100	42.0	85091	3	60	22.0	85136	4	80	32.0	85195	2	40	18.0
85036	4	80	28.0	85092	3	60	26.0	85137	3	60	26.0	85196	2	40	16.0

<sup>a</sup>See Table S-11 for job skill descriptions.

<sup>b</sup>Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight= $\Delta$ (percentage of responses per category X weighted value of category).

69

D

Table S-36.--Job Skills Accepted as Entry Level for Employment  
in Waste Disposal Biological-Technical Services.

Job Skill Code No. <sup>a</sup>	N=9		Total Weight <sup>b</sup>
	No.	%	
85081	5	50	26.4
85082	4	44	24.2
85083	5	55	24.2
85085	4	44	20.9
85086	4	44	20.9
85087	5	55	25.3
85088	4	44	24.2
85089	5	55	26.4
85170	4	44	20.9
85176	4	44	17.6

<sup>a</sup> See Table S-11 for job skill descriptions.

<sup>b</sup> Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total Weight= $\Delta$  (percentage of responses per category X weighted value of category).

Table S-37.--Job Skills Accepted as Entry Level for Employment in Water Resources Biological-Technical Services.

Job Skill Code No. <sup>a</sup>	N=6 No.	%	Total Weight <sup>b</sup>	Job Skill Code No. <sup>a</sup>	N=6 No.	%	Total weight <sup>b</sup>
85003	3	50	26.2	85170	4	66	29.6
85081	4	66	31.0	85171	3	50	19.5
85082	4	66	31.0	85172	3	50	19.5
85083	3	50	24.6	85173	3	50	17.6
85085	3	50	22.9	85176	4	66	24.3
85087	3	50	25.7	85177	3	50	22.9
85088	3	50	27.7	85178	3	50	24.5
85089	3	50	24.6	85179	3	50	17.6
85125	3	50	24.5	85180	3	50	17.6
85126	3	50	18.3	85181	3	50	17.6
85132	3	50	22.5	85195	3	50	19.5
85160	3	50	19.5	85196	3	50	16.0
85163	3	50	22.5				

<sup>a</sup> See Table S-11 for job skill descriptions.

<sup>b</sup> Each skill response was weighted according to its relative importance as follows: Not Needed=1; Minor Importance=2; Some Importance=3; Very Important=4; and Essential=5. Total weight=Δ(percentage of responses per category X weighted value of category).

SERIES E

DISPOSITION OF JOB KNOWLEDGES ASSOCIATED WITH  
ACCEPTED JOB SKILLS FOR ENTRY



Table S-38.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Dairy Farming.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges								
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>							
85001	85501		X	85015	85528	X		85029	85556	X								
	85502	X			85529	X			85566	X								
85002	85501		X	85016	85530	X		85030	85558		X							
	85503		X		85647		X		85559	X								
	85504		X		85531	X		85031	85559	X								
85003	85505	X			85017	85532	X			85032	85560		X					
85004	85504		X	85533	X			85561	X									
		85534	X			85535	X		85033	85560		X						
85005	85505	X		85018	85527	X		85561	X									
	85506		X		85536	X		85034	85562	X								
85507	X						85035		85563	X								
85006	85506		X	85019	85537	X		85036	85564	X								
85007	85508	X		85538	X				85565	X								
				85509		X	85020	85539	X		85566	X						
				85510		X		85540	X		85567	X						
85008	85511	X		85541	X		X	85037	85568		X							
				85512		X	85021					85543		X	85038	85569		X
				85513		X						85540	X			85570		X
				85514		X	85541					X			85039	85571		X
				85515		X	85022					85542		X	85040	85571		X
85009	85513		X	85023	85543		X	85041	85571		X							
85010	85516	X		85025	85546		X	85042	85571		X							
	85517	X			85547		X		85043	85572	X							
85011	85518		X	85026	85548	X		85044	85573		X							
					85549	X						85045	85574	X				
					85520	X		85575	X									
85521	X		85551		X		85046	85576	X									
85013	85522	X		85027	85552	X		85044	85573		X							
	85523		X		85553	X						85045	85574	X				
85014	85524	X			85554	X			85575	X			X					
					85525	X		85555	X		85046	85576	X					
					85526	X		85556	X						85028	85557	X	
				85028	85557	X												

SERIES E

101

85047	85576 85577 85578	X X X	
85048	85578 85579 85580	X X X	
85049	85581 85582 85583		X X
85050	85584 85585 85586	X X X	
85051	85587	X	
85052	85588	X	
85053	85589	X	
85054	85589	X	
85055	85589	X	
85056	85590	X	
85057			
85060	85593 85594		X X
85061	85595 85596		X X
85062	85599	X	
85063	85597 85598 85600		X X X
85064	85601	X	
85065	85601	X	
85066	85602 85604	X	X
85067	85607 85605 85608	X	X X

85068	85609 85606	X	X
85069	85609 85608	X	X
85070	85610 85611 85603 85612		X X X X
85071			
85072			
85073	85614		X
85074	85615		X
85075	85613		X
85076	85616		X
85077	85616 85617	X	X
85078	85617	X	
85079	85618		X
85080			
85081	85620	X	
85082	85620	X	
85083	85620 85621	X X	
85084	85622	X	
85085	85623		X
85086	85624		X
85087	85625		X
85088	85626		X
85089	85627 85628	X X	
85090	85629		X

85091	85630		X
85092	85631		X
85093	85632		X
85094	85632 85633		X X
85095	85634		X
85096	85635 85636		X X
85097	85637		X
85098	85638	X	
85099	85639		X
85100	85639		X
85102	85640 85641	X X	
85103	85642	X	
85104	85643 85644	X X	
85105	85644	X	
85106	85645 85646	X X	
85107	85646	X	
85108	85646	X	
85109			
85110	85647	X	
85111	85647	X	
85112	85648	X	
85113	85649	X	
85114	85650 85651	X X	
85115	85652	X	

105

SERIES E



Table S-38.--Continued.

Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges	
	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85116	85653	X	85118	85655	X	85120	85657	X
85117	85654		85119	85656		85121	85658	X

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>See Table S-6 for job knowledge descriptions.

<sup>c</sup>Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-39.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Bush and/or Vine Fruit Farming.

Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges	
	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85001	85501		85015	85528	X	85028	85557	
	85502	X		85529			85557	
85002	85501		85016	85530		85029	85556	
	85503	X		85547	X		85566	X
	85504	X						
85003	85505	X	85017	85532	X	85031	85559	
85004	85504	X	85017	85533	X	85032	85560	X
				85534	X		85561	X
85005	85505	X	85018	85535	X	85033	85560	X
	85506	X		85527	X		85561	X
	85507			85536	X			
85006	85506	X	85019	85537	X	85034	85562	X
85007	85508		85019	85538	X	85035	85563	X
	85509	X						
85008	85510	X	85020	85539	X	85036	85564	
	85511			85540	X		85565	
	85512	X		85541	X		85566	X
	85513	X		85542			85567	X
	85514	X						
85009	85513	X	85021	85542	X	85038	85569	
85010	85516	X	85021	85540	X	85038	85570	X
				85541	X			
				85542	X			
85011	85518	X	85022	85542		85041	85571	X
85012	85519	X	85023	85543	X	85062	85599	
	85520	X						
85013	85521		85024	85544	X	85063	85597	
	85522	X		85545	X		85598	
	85523						85600	X
85014	85524	X	85025	85546		85064	85601	X
	85525	X		85547	X		85601	X
	85526	X						
85014	85524	X	85026	85548		85066	85602	
				85549			85604	
				85550				
				85551				
				85552	X			
85014	85524	X	85027	85553	X	85067	85605	
				85554	X		85607	
				85555			85608	X
				85556				
				85556	X			



85069	85609 85608	X	X	85089	85627 85628	X X		85109			
85070	85610 85611 85603 85612		X X X X	85090	85629	X		85110	85647	X	
85071				85091	85630	X		85111	85647	X	
85072				85092	85631	X		85112	85648	X	
85073	85614		X	85093	85632	X		85113	85649	X	
85074	85615		X	85094	85632 85633	X X		85114	85650 85651	X X	
85075	85613		X	85095	85634	X		85115	85652	X	
85076	85616		X	85096	85635 85636	X X		85116	85653	X	
85077	85616 85617		X X	85097	85637	X		85117	85654	X	
85078	85617		X	85098	85638	X		85118	85655		X
85079	85618		X	85099	85639	X		85119	85656		X
85080				85100	85639	X		85120	85657	X	
85081	85620	X		85101	85639	X		85121	85658	X	
85082	85620	X		85102	85640 85641	X X					
85083	85620 85621	X X		85103	85642	X					
85084	85622	X		85104	85643 85644	X X					
85085	85623		X	85105	85644	X					
85086	85624		X	85106	85645 85646	X X					
85087	85625	X		85107	85646	X					
85088	85626	X		85108	85645	X					

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>See Table S-6 for job knowledge descriptions.

<sup>c</sup>Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-40.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Tree Fruit Farming.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges				
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>			
85001	85501	X		85015	85528	X		85028	85557	X				
	85502	X			85529	X			85529	85556	X			
85002	85501	X		85016	85530	X		85030	85558		X			
	85503	X			85547	X			85559	X				
	85504	X			95531	X			85559	X				
85003	85505	X		85017	85532	X		85031	85559	X				
85004	85504	X			85533	X			85032	85560	X			
					85534	X				85561	X			
85005	85505	X		85018	85535	X		85033	85560	X				
	85506	X			85527	X			85561	X				
	85507	X			85536	X			85034	85562	X			
85006	85506	X		85019	85537	X		85035		85563		X		
					85538	X			85036	85564	X			
85007	85508	X		85020	85539	X		85565		X				
	85509	X			85540	X		85566		X				
	85510	X			85541	X		85567	X					
85008	85511	X		85021	85542	X		85037	85568		X			
	85512		X		85022	85543	X			85038	85569		X	
	85513		X			85540	X				85570		X	
	85514	X				85541	X				85039	85569		X
	85515	X			85023	85543	X			85570			X	
85009	85513		X	85024		85544	X		85040	85571		X		
					85545	X		85041		85571		X		
85010	85516	X		85025	85546		X		85042	85571		X		
	85517	X			85547	X		85043		85572	X			
85011	85518	X		85026	85548	X			85576	X				
					85549	X			85044	85573		X		
					85521		X	85045		85574		X		
85012	85519	X		85027	85552	X			85045	85575		X		
	85520	X			85553	X				85045	85574		X	
	85521		X		85554	X		85575				X		
85013	85522	X		85027	85555	X		85045	85574		X			
	85523	X			85556	X			85575		X			
85014	85524	X			85027	85552	X			85045	85574		X	
	85525	X				85553	X				85045	85575		X
	85526	X				85554	X					85045	85574	
85014	85526	X				85555	X				85045		85575	
				85556		X		85575				X		



85046	85576	X	
85047	85576 85577 85578	X X X	
85048	85578 85579 85580	X X X	
85049	85581 85582 85583		X X X
85050	85584 85585 85586		X X X
85051	85587		X
85052	85588		X
85053	85589		X
85054	85589		X
85055	85589		X
85056	85590	X	
85057			
85058	85591 85592		X X
85059	85592		X
85061	85595 85596	X	X
85062	85599	X	
85063	85597 85598 85600		X X X
85064	85601	X	
85065	85601	X	
85066	85602 85604	X X	
85067	85605 85607 85608	X X X	

85068	85603 85606	X X	
85069	85609 85608		X
85070	85610 85611 85603 85612		X X
85071			
85072			
85073	85614	X	
85074	85615	X	
85075	85613	X	
85076	85616	X	
85077	85616 85617	X X	
85078	85617	X	
85079	85618		X
85080			
85081	85620	X	
85082	85620	X	
85083	85620 85621	X X	
85084	85622	X	
85085	85623	X	
85086	85624	X	
85087	85625	X	
85088	85626	X	
85089	85627 85628	X X	
85090	85629	X	
85091	85630	X	

85092	85631	X	
85093	85632	X	
85094	85632 85633	X X	
85095	85634	X	
85096	85635 85636	X	X
85097	85637		X
85098	85638	X	
85099	85639		X
85100	85639		X
85101	85639		X
85102	85640 85641	X X	
85103	85642	X	
85104	85643 85644	X X	
85105	85644	X	
85106	85645 85646	X X	
85107	85646	X	
85108	85646	X	
85109			
85110	85647	X	
85111	85647	X	
85112	85648	X	
85113	85649	X	
85114	85650 85651	X X	
85115	85652	X	
85116	85653	X	

111

m



Table S-40.--Continued.

m

Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges		
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85117	85654	X									
85118	85655	X									
85119	85656	X									
85120	85657	X									
85121	85658		X								

<sup>a</sup> See Table S-5 for job skill descriptions.

<sup>b</sup> See Table S-6 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

112



Table S-41.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Grain and/or Bean Farming.

Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges		
	Code No. <sup>a</sup>	Accept	Review <sup>c</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept		Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>
85001	85501 85502	X	X	85015	85528 85529 85530 85547	X X	X	85028	85557		X
85002	85501 85503 85504	X X	X	85016	85531	X		85029	85556 85566	X X	
85003	85505	X		85017	85532 85533 85534 85535	X X X X		85030	85558 85559		X X
85004	85504	X		85018	85527 85536	X X		85031	85559		X
85005	85505 85506 85507	X X	X	85019	85537 85538	X X		85032	85560 85561	X	X
85006	85506	X		85020	85539 85540 85541 85542	X X X	X	85033	85560 85561	X	X
85007	85508 85009 85010	X	X X	85021	85543 85540 85541	X X X	X	85034	85562	X	
85008	85511 85512 85513 85514 85515		X X X X X	85022	85542		X	85035	85563	X	
85009	85513		X	85023	85543		X	85036	85564 85565 85566 85567	X X X	X
85010	85516 85517	X X		85024	85544 85545		X X	85037	85568		X
85011	85518	X		85025	85546 85547		X X	85039	85569 85570		X X
85012	85519 85520 85521		X X X	85026	85548 85549 85550 85551	X	X X X	85040	85571		X
85013	85522 85523	X	X	85027	85552 85553 85554 85555 85556	X X X X X		85041	85571		X
85014	85524 85525 85526	X X X						85042	85571		X
								85043	85572 85576		X
								85044	85573		X
								85045	85574 85575		X X
								85046	85576		X

m

114

208

207



85047	85576 85577 85578	X X	X
85048	85578 85579 85580	X X	X
85049	85581 85582 85583	X X	X
85050	85584 85585 85586	X	X X
85051	85587		X
85052	85588		X
85053	85589	X	
85054	85589	X	
85055	85589	X	
85056	85590		X
85057			
85060	85593 85594		X X
85061	85595 85596	X	X
85062	85599	X	
85063	85597 85598 85600		X X X
85064	85601		X
85065	85601		X
85066	85602 85604		X X
85067	85603 85605 85606	X	X X
85068	85603 85605		X X

85069	85609 85608	X	X
85070	85610 85611 85612 85603		X X X X
85071			
85072			
85073	85614		X
85074	85615		X
85075	85613		X
85076	85616		X
85077	85616 85617		X X
85078	85617		X
85079	85618		X
85080			
85081	85620	X	
85082	85620	X	
85083	85620 85621	X X	
85084	85622	X	
85085	85623		X
85086	85624		X
85087	85625	X	
85088	85625	X	
85089	85627 85628		X X
85090	85629		X
85091	85630		X
85092	85631		X

85093	85632		X
85094	85632 85633	X	X
85095	85634	X	
85096	85635 85636	X	X
85097	85637		X
85098	85638	X	
85099	85639		X
85100	85639		X
85101	85639		X
85102	85640 85641	X X	
85103	85642	X	
85104	85643 85644	X X	
85105	85644	X	
85106	85645 85646	X X	
85107	85646	X	
85108	85646	X	
85109			
85110	85647	X	
85111	85647	X	
85112	85648	X	
85113	85649		X
85114	85650 85651	X X	
85115	85652	X	
85116	85653	X	

115

E

Table S-41.--Continued.

F

Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges			
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept		Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>		Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>
85117	85654			X								
85118	85655			X								
85119	85656			X								
85120	85657	X										
85121	85658			X								

<sup>a</sup> See Table S-5 for job skill descriptions.

<sup>b</sup> See Table S-6 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

116

212

211

Table S-42.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Livestock (Beef, Swine, Sheep) Farming.

Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges			Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges			Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges			
	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>		Code No. <sup>b</sup>	Accept	Review <sup>c</sup>		Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	
85001	85501		X	85015	85528	X		85028	85557	X		
	85502	X			85529	X			85557	X		
85002	85501		X	85016	85530	X		85029	85556	X		
	85503		X		85547		X		85566	X		
	85504	X			85531	X			85558		X	
85003	85505	X		85017	85532	X		85030	85559	X		
85004	85504	X			85533	X			85031	85559	X	
					85534	X						
85005	85505	X		85018	85535	X		85032	85560		X	
	85506	X			85527	X			85561	X		
	85507		X		85536	X			85560		X	
85006	85506	X		85019	85537	X		85033	85561	X		
85007	85508	X			85538	X			85562	X		
	85509		X	85020	85539	X		85035	85563	X		
	85510	X			85540	X			85563	X		
			85541		X		85564		X			
85008	85511	X		85021	85542	X		85036	85565	X		
	85512	X			85543	X			85566	X		
	85513	X			85541	X			85567	X		
	85514		X		85540	X			85568		X	
	85515		X		85542	X			85569		X	
85009	85513	X		85022	85542	X		85038	85569		X	
85010	85516	X		85023	85543	X		85039	85570	X		
	85517	X			85544				85570	X		
85011	85518	X		85024	85545		X	85040	85571		X	
85012	85519		X		85546				85571		X	
	85520		X	85025	85547		X	85041	85571		X	
	85521		X		85548	X			85571		X	
85013	85522	X		85026	85549	X		85042	85571		X	
	85523		X		85550	X			85043	85572	X	
					85551	X				85576	X	
					85552	X			85573		X	
85014	85524	X		85027	85553	X		85044	85573		X	
	85525	X			85554	X			85045	85574		X
	85526	X			85555	X				85575		X
					85556	X						

118



85046	85576	X	
85047	85576 85577 85578	X X X	
85048	85578 85579 85580	X X X	
85049	85581 85582 85583	X X X	
85050	85584 85585 85586	X X	X
85051	85587	X	
85052	85588	X	
85053	85589	X	
85054	85589	X	
85055	85589	X	
85056	85590	X	
85057			
85060	85593 85594	X	X
85061	85596 85595	X	X
85062	85599	X	
85063	85597 85598 85600		X X X
85064	85601		X
85065	85601		X
85066	85602 85604	X	X
85067	85607 85605 85608	X	X X

85068	85603 85606	X	X
85069	85608 85609	X	X
85070	85610 85611 85612 85603	X	X X X
85071			
85072			
85073	85614		X
85074	85615		X
85075	85613		X
85076	85616		X
85077	85616 85617		X X
85078	85617		X
85079	85618		X
85080			
85081	85620	X	
85082	85620	X	
85083	85620 85621	X	X
85084	85622	X	
85085	85623		X
85086	85624		X
85087	85625	X	
85088	85626	X	
85089	85627 85628	X	X
85090	85629		X

85091	85630		X
85092	85631		X
85093	85632		X
85094	85632 85633		X X
85095	85634	X	
85096	85635 85636	X	X
85097	85637		X
85098	85638	X	
85099	85639		X
85100	85639		X
85101	85639		X
85102	85640 85641	X X	
85103	85642	X	
85104	85643 85644	X	X
85105	85644	X	
85106	85646 85645	X X	
85107	85646	X	
85108	85646	X	
85109			
85110	85647	X	
85111	85647	X	
85112	85648	X	
85113	85649		X
85114	85650 85651	X X	

Table S-42.--Continued.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85115	85652	X									
85116	85653	X									
85117	85654	X									
85118	85655		X								
85119	85656		X								
85120	85657	X									
85121	85658	X									

<sup>a</sup> See Table S-5 for job skill descriptions.

<sup>b</sup> See Table S-6 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledge marked "review" be accepted as needed for job entry.

Table S-43.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Poultry Farming.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85001	85501 85502	X	X	85015	85528 85529 85530 85547	X	X	85028	85557		X
85002	85501 85503 85504	X	X	85016	85531	X		85029	85556 85566	X	
85003	85505	X		85017	85532 85533 85534 85535	X		85031	85559		X
85004	85504	X		85018	85527 85536	X	X	85032	85560 85561	X	X
85005	85505 85506 85507	X	X	85019	85537 85538	X	X	85033	85560 85561	X	X
85006	85506	X		85020	85539 85540 85541 85542	X	X	85034	85562		X
85007	85508 85509 85510	X	X	85021	85543 85540 85541	X	X	85035	85563	X	
85008	85511 85512 85513 85514 85515	X	X	85022	85542	X		85036	85564 85565 85566 85567	X	
85009	85513	X		85024	85544 85545		X	85037	85568		X
85010	85516 85517	X		85025	85546 85547	X		85039	85569 85570	X	
85011	85518	X		85026	85548 85549 85550 85551	X	X	85040	85571	X	
85012	85519 85520 85521	X	X	85027	85552 85553 85554 85555 85556	X		85041	85571	X	
85013	85522 85523	X	X					85042	85571	X	
85014	85524 85525 85526	X	X					85043	85572 85576		X
								85044	85573		X
								85045	85574 85575		X
								85046	85576		X
								85047	85576 85578 85577		X

F

122

220

219

85048	85578 85579 85580		X X X
85049	85581 85582 85583	X X	X
85050	85584 85585 85586	X	X X
85051	85587		X
85052	85588		X
85058	85591 85592		X X
85059	85592		X
85060	85593 85594		X X
85062	85599	X	
85063	85597 85598 85600		X X X
85064	85601		X
85065	85601		X
85066	85602 85604		X X
85067	85605 85608 85607		X X X
85068	85603 85606		X X
85070	85610 85611 85603 85612	X	X X X
85071			
85072			
85073	85614		X
85074	85615		X
85075	85613		X
85076	85616		X
85077	85616 85617		X X
85078	85617		X
85079	85618		X
85080			
85081	85620	X	
85082	85620	X	
85083	85620 85621	X	X
85084	85622		X
85085	85623		X
85086	85624	X	
85087	85625	X	
85088	85626	X	
85089	85627 85622	X	X
85090	85629	X	
85091	85630		X
85093	85632		X
85094	85632 85633		X X
85095	85634		X
85096	85635 85636	X	X
85097	85637		X
85098	85638	X	
85099	85639	X	
85100	85639	X	
85101	85639		X
85102	85640 85641		X X
85103	85642		X
85104	85643 85644		X X
85105	85644		X
85106	85645 85646		X X
85107	85646		X
85108	85646		X
85109			
85110	85647		X
85111	85647		X
85112	85648		X
85113	85649		X
85114	85650 85651		X X
85115	85652		X
85116	85653		X
85118	85655		X
85119	85656		X
85120	85657		X
85121	85658		X

<sup>a</sup> See Table S-5 for job skill descriptions.

<sup>b</sup> See Table S-5 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.



Table S-44.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Vegetable, Beet, and/or Potato Farming.

Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges		
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85001	85501 85502		X X	85015	85528 85529 85530 85547	X X X		85029	85556 85566		X X
85002	85501 85503 85504	X X	X	85016	85531	X		85031	85559		X
85003	85505		X	85017	85532 85533 85534 85535	X X X		85032	85560 85561	X	X
85004	85504	X		85018	85527 85536		X	85033	85560 85561	X	X
85005	85505 85506 85507		X X X	85019	85537 85538	X X		85034	85562	X	
85006	85506		X	85020	85539 85540 85541 85542	X X X		85035	85563	X	
85007	85508 85509 85510		X X X	85021	85543 85540 85541		X X	85036	85564 85565 85566 85567	X X X	X
85008	85511 85512 85513 85514 85515		X X X X X	85022	85542			85037	85568		X
85009	85513		X	85023	85543			85040	85571		X
85010	85516 85517	X	X	85025	85546 85547			85041	85571		X
85011	85518	X		85026	85548 85549 85550 85551	X X		85042	85571		X
85012	85519 85520 85521		X X X	85027	85552 85553 85554 85555 85556			85047	85576 85578 85577		X X X
85013	85522 85523	X	X	85028	85557		X	85051	85587		X
85014	85524 85525 85526	X	X X					85052	85588		X
								85053	85589		X
								85054	85589		X
								85056	85590		X
								85057			

m

124



85061	85595 85596		X X
85062	85599	X	
85063	85597 85598 85600		X X X
85064	85601		X
85065	85601		X
85066	85602 85604		X X
85067	85607 85605 85608		X X X
85068	85603 85606		X X
85069	85609 85608		X X
85070	85610 85611 85603 85612		X X X X
85071			
85072			
85073	85614		X
85074	85615		X
85075	85613		X
85076	85616		X
85077	85616 85617		X X
85078	85617		X
85079	85618		X
85080			

85081	85620	X	
85082	85620	X	
85083	85620 85621	X X	
85084	85622	X	
85085	85623	X	
85086	85624	X	
85087	85625	X	
85088	85626	X	
85089	85627 85628	X X	
85090	85629	X	
85091	85630		X
85092	85631		X
85093	85632		X
85094	85632 85633	X	X
85095	85634	X	
85096	85635 85636	X	X
85097	85637		X
85098	85638	X	
85099	85639	X	
85100	85639	X	
85101	85639	X	
85102	85640 85641	X X	
85103	85642	X	

85104	85643 85644	X X	
85105	85644	X	
85106	85645 85646	X X	
85107	85646	X	
85108	85646	X	
85109			
85110	85647	X	
85111	85647	X	
85112	85648	X	
85113	85649	X	
85114	85650 85651	X X	
85115	85652	X	
85116	85653	X	
85117	85654		X
85118	85655	X	
85119	85656		X
85120	85657	X	
85121	85658	X	

<sup>a</sup> See Table S-5 for job skill descriptions.

<sup>b</sup> See Table S-6 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-45.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the Arboriculture Industry.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85005	85502 85503		X X	85025	85515 85521 85522	X X		85043	85543 85542 85545	X X	
85012	85508 85509 85510		X X X	85026	85521 85522 85523	X	X	85044	85544	X	
85013	85509		X	85027	85524	X		85045	85543 85546	X	X
85014	85510 85511		X X	85028	85524 85526 85527	X X X		85046	85546		X
85015	85512		X	85029	85524 85525 85526	X X X		85047	85547	X	
85016	85513	X		85030	85528	X		85048	85548	X	
85017	85514		X	85031	85527	X		85049	85549		X
85018	85514		X	85032	85529		X	85050	85550	X	
85019	85532 85514 85531		X X X	85033	85528 85530 85527 85534	X X X X		85051	85551 85552		X X
85020	85516 85531 85532	X		85034	85531 85532 85533		X X X	85052	85553		X
85021	85517 85518 85519	X X X		85035				85053	85554		X
85022	85517 85518 85519 85520	X X X X		85040	85540 85541		X X	85054	85555		X
85023	85517 85518 85519 85520	X X X X		85041	85540 85541		X X	85055	85555		X
85024	85517 85518 85519 85520	X X X X		85042	85540 85541		X X	85056	85556 85557	X X	
								85057	85555		X
								85058	85558	X	
								85059	85559	X	
								85060	85560		X
								85062	85561	X	
								85063	85562 85563 85572	X X X	

11

126

228

227



85064	85563	X		85085	85583		X	85108	85597 <sup>a</sup>	X	
85065	85563	X		85086	85580 85582	X	X	85109	85598 85599 85601		X X
85066	85564	X		85087	85500		X	85110	85600		X
85067	85565		X	85088	95584 85579 85581		X X X	85111	85601	X	
85068	85566	X		85089	85584 85579		X X				
85069	85567 85568	X X		85092	85579		X				
85070	85569		X	85096	85589		X				
85071	85570		X	85099	85586 85587 85588		X X X				
85072	85571		X	85100	85591 85592 85593	X	X X X				
85073	85572	X		85101	85591	X					
85074	85573	X		85102	85592 85593 85594		X X				
85075	85574	X		85103	85592		X				
85076	85575	X		85104	85593		X				
85078	85577	X		85105	85594	X					
85079	85578	X		85106	85595 85601	X X					
85080				85107	85596 85601	X X					
85081	85519 85520	X X									
85082	85519 85520	X X									
85083	85579 85581 85584		X X X								
85084	85583		X								

<sup>a</sup>See Table S-7 for job skill descriptions.

<sup>b</sup>See Table S-8 for job knowledge descriptions.

<sup>c</sup>Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85009	85504		X	85040	85540 85541		X X	35081	85519 85520	X	
85010	85507 85508		X X	85041	85540 85541		X X	85082	85519 85520	X	
85011	85508		X	85042	85540 85541		X X	85083	85579 85581 85584	X X	X
85012	85508 85509 85510		X	85043	85542 85543 85545	X X X		85084	85583	X	
95014	85510 85511		X X	85044	85544	X		85085	85583	X	
85015	85512		X	85063	85562 85563 85572		X X X	85086	85580 85582	X X	
85016	85513		X	85064	85563		X	85087	85580	X	
85017	85514		X	85065	85563		X	85088	85584 85579 85581	X X	X
85029	85524 85525 85526		X X X	85066	85564		X	85089	85584 85579	X	X
85030	85528	X		85067	85565		X	85092	85579		X
85031	85527	X		85069	85567 85568	X	X	85103	85592		X
85033	85528 85530 85527 85534	X X	X X	85073	85572		X	85104	85593		X
85036	85535		X	85074	85573		X	85105	85594		X
85037	85536		X	85075	85574		X	85109	85598 85599 85601		X X X
85038	85537		X	85076	85575		X				
85039	85538 85539		X X	85099							

<sup>a</sup> See Table S-7 for job skill descriptions.

<sup>b</sup> See Table S-8 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.



Table S-47.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the Garden Center Industry.

Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges					
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept		Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>		Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85003	85503			X	85064	85563	X		85039	85584	X			
	85504			X									85065	85563
	85505			X	85066	85564	X			85091	85579			
	85506			X									85067	85565
85009	85504		X	85073	85572		X							
													85011	85508
85012	85508	X		85080										
	85509													X
85510			X	85520			X	85083	85579	X				
85014	85510			X					85581				X	
	85511									X	85584			
85015	85512	X			85084	85583	X							
85036	85535		X		85085	85583	X							
85037	85536		X		85582	X								
85038	85537		X		85086	85580	X							
85039	85538			X	85582	X								
	85539			X	85087	85580	X							
85040	85540	X			85088	85584	X							
	85541	X		85579									X	X
85041	85540	X			85581									
	85541	X												
85042	85540	X												
	85541	X												
85063	85552	X												
	85563	X												
	85572			X										

<sup>a</sup> See Table S-7 for job skill descriptions.

<sup>b</sup> See Table S-8 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-48. Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the Groundskeeping and/or Park Industry.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges			
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>		
85011	85508		X	85028	85524	X		85049	85549	X			
85012	85508		X		85525	X			85050	85550	X		
	85509		X		85526	X				85051	85551	X	
85016	85513		X	85029	85524	X		85052	85552		X		
					85525	X			85553		X		
85017	85514		X	85030	85528	X		85053	85554	X			
85018	85514		X		85527	X			85054	85555	X		
85019	85532		X	85032	85529		X	85055		85555	X		
	85514		X		85033	85528	X			85056	85556	X	
	85531		X			85530	X				85557	X	
85020	85516	X		85034	85531			85057	85555	X			
	85531		X		85532		X		85058	85558	X		
	85532		X		85533		X			85559	X		
85021	85517	X		85035				85060	85560	X			
	85518	X			85040	85540			X	85061	85560	X	
	85519	X				85541			X		85561	X	
85022	85517	X		85041	85540		X	85062	85561	X			
	85518	X			85541		X		85063	85562	X		
	85519	X			85042	85540				X	85563	X	
	85520	X				85541				X	85572	X	
85023	85517	X		85043	85542	X		85064	85563	X			
	85518	X			85543	X			85065	85563	X		
	85519	X			85545	X				85564	X		
	85520	X			85044	85544	X				85565	X	
85024	85517	X		85045		85543	X		85066	85566	X		
	85518	X			85546	X		85567		X			
	85519	X			85046	85546	X			85067	85565	X	
85520	X		85047	85547		X		85068	85566		X		
85025	85521	X			85048	85548	X			85069	85567	X	
	85522	X		85049		85549	X		85568		X		
85026	85521	X			85050	85550	X		85070	85569	X		
	85522	X				85051	85551	X			85071	85570	X
	85523	X		85552			X						
85027	85524	X											

3

130

236

235



85072	85571	Z		85100	85591	X	
85073	85572	X			85592	X	
					85593	X	
85074	85573	X		85101	85591	X	
85075	85574	X		85102	85592	X	
85076	85575	X			85593	X	
					85594	X	
85077	85576	X		85103	85592	X	
85078	85577	X		85104	85593	X	
85079	85578	X		85105	85594	X	
85080				85106	85595	X	
					85601	X	
85081	85519	X		85107	85596	X	
	85520	X			85601	X	
85082	85519	X		85108	85597	X	
	85520	X					
85083	85579		X	85109	85598		X
	85581		X		85599		X
	85584	X			85601	X	
85084	85583	X		85110	85600	X	
85085	85583	X		85111	85601	X	
85086	85580	X					
	85582	X					
85087	85580	X					
85088	85584	X					X
	85579		X				X
	85581						
85089	85584	X					
	85579		X				

<sup>a</sup> See Table S-7 for job skill descriptions.

<sup>b</sup> See Table S-8 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.



Table S-49.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the Landscaping Industry.

Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges	
	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85009	85504	X	85025	85515 85521 85522	X X X	85044	85544	X
85011	85508	X	85026	85521 85522 85523	X X X	85045	85543 85546	X X
85012	85508 85509 85510	X X X		95027	85524	X	85046	85546
85013	85509	X	85028	85524 85525 85526	X X	85047	85547	X
85014	85510 85511	X X	85029	85524 85525 85526	X X	85048	85548	X
85015	85512	X		85030	85528	X	85049	85549
85016	85513	X	85031	85527	X	85050	85550	X
85017	85514	X	85032	85529	X	85051	85551 85552	X X
85018	85514	X	85033	85528 85530 85527 85534	X X X X	85052	85553	X
85019	85532 85514 85531	X X X		85034	85531 85532 85533	X X X	85053	85554
85020	85516 85531 85532	X X X	85035			85054	85555	X
85021	85517 85518 85519	X X X		85040	85540 85541		85055	85555
85022	85517 85518 85519 85520	X X X X	85041	85540 85541		85056	85556 85557	X X
85023	85517 85518 85519 85520	X X X X	85042	85540 85541		85057	85555	X
85024	85517 85518 85519 85520	X X X X	85043	85542 85543 85545	X X X	85058	85558	X
							85059	85559
						85060	85560	X
						85061	85560 85561	X X
						85062	85561	X
						85063	85562 85563 85572	X X X
						85064	85563	X

m

. 132

85065	85563	X	
85066	85564	X	
85067	85565		X
85068	85566	X	
85069	85567 85568	X X	
85070	85569	X	
85071	85570	X	
85072	85571		X
85073	85572	X	
85074	85573	X	
85075	85574	X	
85076	85575	X	
85077	85576	X	
85078	85577	X	
85079	85578	X	
85080			
85081	85519 85520	X X	
85082	85519 85520	X X	
85083	85579 85581 85584	X X X	X
85084	85583	X	
85085	85583	X	

85086	85580 85582	X	X
85087	85580	X	
85088	85584 85579 85581	X X	X
85089	85584 85579	X	X
85092	85579		X
85100	85591 85592 85593	X X X	
85101	85591	X	
85102	85592 85593 85594	X X X	
85103	85592	X	
85104	85593	X	
85105	85594	X	
85106	85595 85601	X X	
85107	85596 85601	X X	
85108	85597	X	
85109	85598 85599 85601	X	X X
85110	85600		X
85111	85601	X	

<sup>a</sup> See Table S-7 for job skill descriptions.

<sup>b</sup> See Table S-8 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-50.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the Nursery Production Industry.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85007	85504		X	85025	85515	X		85043	85542	X	
85009	85504		X		85521	X			85543		X
					85522	X			85545	X	
85010	85507		X	85026	85521	X		85044	85544	X	
	85508	X			85522	X					
85011	85508	X			85523		X	85045	85543		X
				85027	85524		X		85546	X	
85012	85508	X						85046	85545	X	
	85509		X	85028	85524		X				
	85510		X		85525		X	85047	85547		X
					85526		X				
85014	85510		X	85029	85524		X	85048	85548	X	
	85511		X		85525		X	85049	85549	X	
85015	85512		X		85526		X				
85016	85513		X	85030	85528	X		85050	85550	X	
85017	85514		X	85031	85527		X	85051	85551		X
85018	85514		X						85552		X
85019	85532		X	85032	85529		X	85053	85554		X
	85514		X								
	85531	X		85033	85528	X		85054	85555		X
85520	85516		X		85527		X				
	85531	X			85530	X		85055	85555		X
	85532		X		85534	X					
85021	85517	X		85034	85531	X		85056	85556		X
	85518	X			85532		X		85557		X
	85519	X			85533		X	85053	85558		X
85022	85517	X		85035				85059	85559		X
	85518	X									
	85519	X		85039	85538		X	85060	85560	X	
	85520		X		85539		X				
85023	85517	X		85040	85540		X	85061	85560	X	
	85518	X			85541		X		85561		X
	85519	X						85062	85561		X
	85520		X	85041	85540		X				
85024	85517	X			85541		X	85063	85562		X
	85518	X		85042	85540		X		85563	X	
	85519	X			85541		X		85572	X	
	85520		X					85064	85563	X	

85065	85563	X		85084	85583	X	
85066	85564		X	85085	85583	X	
85067	85565		X	85086	85580 85582	X	X
85068	85566		X	85087	85580	X	
85069	85567 85568	X	X	85088	85584 85579 85581	X X	X
85070	85569	X		85089	85584 85579	X	X
85071	85570	X		85092	85579		X
85072	85571		X	85105	85594		X
85073	85572	X		85106	85595 85601		X X
85074	85573		X	85107	85596 85501		X X
85075	85574		X	85108	85597		X
85076	85575		X				
85077	85576		X				
85078	85577		X				
85079	85578		X				
85080							
85081	85519 85520	X	X				
85082	85519 85520	X	X				
85083	85579 85581 85584	X X	X				

<sup>a</sup>See Table S-7 for job skill descriptions.

<sup>b</sup>See Table S-8 for job knowledge descriptions.

<sup>c</sup>Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-51.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into the Turf and Sprinkler Industry.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85007	85504		X	85023	85517	X		85042	85540		X
85008	85504 85503		X X		85518	X			85541	X	
85009	85504		X	85024	85517	X		85043	85542	X	
85010	85507 85508	X	X		85518	X			85543	X	
85011	85508	X			85519	X			85545	X	
85012	85508 85509 85510	X X	X	85025	85515	X		85044	85544	X	
85013	85509		X		85521	X		85045	85543 85546	X X	
85014	85510 85511	X X		85026	85522	X		85046	85546	X	
85015	85512	X			85523	X		85047	85547	X	
85016	85513	X		85027	85524	X		85048	85548	X	
85017	85514	X		85028	85524	X		85049	85549	X	
85018	85514	X			85525	X		85050	85550	X	
85019	85532 85514 85531	X X X			85526	X		85051	85551 85552	X X	
85020	85516 85531 85532	X X X		85029	85524			85052	85553	X	
85021	85517 85518 85519	X X X			85525	X		85053	85554	X	
85022	85517 85518 85519 85520	X X X X			85526	X		85054	85555	X	
				85030	85528	X		85055	85555	X	
				85031	85527	X		85056	85556 85557	X X	
				85032	85529			85057	85555	X	
				85033	85528	X		85058	85558	X	
					85530	X		85059	85559	X	
					85534	X		85060	85560	X	
				85034	85531	X		85061	85560 85561	X X	
					85532	X					
					85533	X					
				85035							
				85040	85540		X				
					85541	X					
				85041	85540		X				
					85541	X					

m

136



85062	85561	X		85084	85583	X		85105	85594	X	
85063	85562 85563 85572	X X X		85085	85583	X		85106	85595 85601	X X	
85064	85563	X		85086	85580 85582	X X		85107	85596 85601	X X	
85065	85563	X		85087	85580	X		85108	85597	X	
85066	85564	X		85088	85584 85579 85581	X X	X	85109	85598 85599 85601	X X	X X
85067	85565	X		85089	85584 85579	X	X	85110	85600	X	
85068	85566	X		85092	85579		X	85111	85601	X	
85069	85567 85568	X X		85094	85586 85587 85588	X X X					
85070	85569	X		85095	85587 85588	X X					
85071	85570	X		85096	85589		X				
85072	85571	X		85097	85586 85587 85588 85589 85590	X X X X	X				
85073	85572	X		85099	85586 85587 85588	X X X					
85074	85573	X		85100	85591 85592 85593	X X X					
85075	85574	X		85101	85591	X					
85076	85575	X		85102	85592 85593 85594	X X X					
85077	85576	X		85103	85592	X					
85078	85577	X		85104	85593	X					
85079	85578	X									
85080											
85081	85519 85520	X X									
85082	85519 85520	X X									
85083	85579 85581 85584	X X	X								

a See Table S-7 for job skill descriptions.

b See Table S-8 for job knowledge descriptions.

c Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be ed as needed for job entry.

Table S-52.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Farm Implement Repair.

Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges	
	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85001	85501 85502	X	85019	85516		85038		
85002	85501 85502 85503	X	85020	85518 85519	X	85040	85525	X
		X	85021	85515 85517 85512	X	85041	85524 85526	X X
85003	85502 85626 85627	X			X			85042
85004	85502 85504	X	85023	85516		85043	85523	X
		X	85024	85524		85044	85514	X
85005	85505	X	85025	85524 85525 85526	X	85045	85515	X
85006	85506	X			X	85046	85515	X
85007	75506	X	85026	85526 85523 85521	X	85047	85571 85572	X X
85008	85507	X			X	85048	85539 85543 85570	X
85009	85508 85509 85510	X X X	85027	85519 85520	X X			
85010	85510	X	85028	85522	X	85050	85527 85529 85534	X X
85011	85511	X			85029			
85012	85512	X	85030	85523 85526	X X	85052	85531 85535 85538	X X X
85013	85513				85031			
85014	85514		85032	85526	X	85054	85530 85533	X X
85015	85515				85033			
85016	85516 85517	X	85034					
		X	85035	85526		X		
85017	85511	X	85036	85526				
85018	85516 85517				X			

138

252

251

85055	85527 85532	X	X
85057	85532 85533 85537	X	X X X
85058	85543 85549 85559 85566 85567 85568 85569	X X X	X X X X
85059	85540 85541 85542 85543 85544		X X X X X
85060	85545 85561		X X
85061	85534	X	
85062	85538 85541 85547		X X X
85063	85540		X
85064	85565 85536		X X
85065	85544 85550 85565		X X X
85066	85542 85550		X X
85067	85563		X
85068	85551 85560 85562		X X X
85069	85548 85553		X X
85070			
85071	85550 85563		X X

85072	85564		X
85073	85548 85546		X X
85074	85546 85571 85557	X	X X
85075			
85076	85546 85557 85564		X X X
85078	85548		X
85079	85553		X
85080	85553		X
85081	85564 85565	X	X
85082	85563		X
85083	85544		X
85084			
85085	85550 85563		X X
85086	85547		X
85087	85546		X
85088	85546		X
85089			
85090			
85091	85565	X	
85092			
85093			
85094			
85095	85544		X
85096	85554		X

85102	85555		X
85102			
85103			
85104			
85105	85546		X
85106	85546		X
85107			
85108			
85109	85548		X
85110	85557		X
85111	85559		X
85112	85558		X
85113			
85114	85546 85563		X X
85115	85546		X
85116			
85117			
85118	85565	X	
85119			
85120			
85121	85566	X	
85122	85549		X
85123			
85124	85574 85575	X X	



Table S-52.--Continued.

Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges		
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85125				85146	85582	X		85163	85606		X
85126	85573 85581 85578	X X	X	85147	85583	X		85164	85607 85608 85585	X X	X
85127	85573	X		85148	85595 85590	X	X	85165			
85128	85574 85579	X	X	85149	85585	X		85166	85539		X
85129	85574 85577	X X		85150	85594 85593 85592 85591	X X X	X	85167	85613 85582	X	X
85130				85151	85596 85597 85599 85600 85601	X X X X X		85168	85500 85629 85628	X X	X
85131	85574 85577	X X		85152	85596 85504	X	X	85169	85621 85505	X X	
85132	85576	X		85153	85599	X		85170	85621	X	
85134	85574 85580	X	X	85154	85596	X		85171	85608 85619 85609 85610	X X	X X
85135				85155	85597	X		85172	85608 85611		X X
85136				85156	85598	X		85173	85584 85586	X	X
85137				85157				85174	85592 85590 85613 85621	X X	X X
85138	85587		X	85158	85602 85603	X X		85175	85586 85613 85621	X X	X X
85139	85587		X	85159	85604	X		85176	85621 85625 85594	X X X	
85140	85584 85589	X	X	85160	85605		X				
85141	85588	X		85161	85606 85599	X	X				
85142	85588	X		85162	85605		X				
85143	85583	X									
85144	85583	X									
85145	85590		X								



85177				85197	85626		X	85224	85649	X	
85178	85614		X	85198	85627		X	85225			
	85615		X	85199	85505	X		85226			
	85620	X		85200				85227			
	85592	X		85201	85621	X		85228	85603	X	
	85589		X	85202	85506	X		85229	85602	X	
85179	85695	X		85203	85506	X		85230	85601	X	
85180	85595	X		85204				85231	85601	X	
	85590		X	85205	85608		X	85232	85650		X
85181	85608		X	85207	85631		X	85233	85651		X
	85609	X		85208	85636		X	85234	85652		X
	85610		X	85209	85632	X		85235	85653	X	
85182	85592	X		85211	85632	X		85236	85653	X	
	85624	X		85212	85633		X	85237	85654		X
85183	85614		X	85213	85534	X		85238	85655		X
85184	85621	X		85214	85634	X		85239	85656		X
	85623		X	85215	85636		X	85240	85657		X
85185	85617	X		85216	85638		X	85241	85660		X
	85618	X		85217	85638		X	85242	85661	X	
85186	85622	X		85218	85638		X	85243	85662	X	
85187	85616		X	85219	85638		X	85244	85662	X	
85188	85620	X		85220	85639		X	85245	85663		X
	85621	X			85642		X	85246	85664		X
85189				85221	85643		X	85247	85665	X	
85190	85616		X	85222	85640						
	85618	X		85223	85647	X					
85191	85623		X		85648	X					
85192	85616		X			X					
85193	85608		X								
85194	85624	X									
85195	85616		X								
	85621	X									
85196	85616		X								
	85617	X									

141

m

<sup>a</sup>See Table S-9 for job skill descriptions.

<sup>b</sup>See Table S-10 for job knowledge descriptions.

<sup>c</sup>Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

53.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Agricultural Chemical Biological-Technical Services. m

Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		Accepted Job Skill Code No. <sup>a</sup>	Associated Job Knowledges			
	Code No. <sup>b</sup>	Accept		Review <sup>c</sup>	Code No. <sup>b</sup>		Accept	Review <sup>c</sup>	Code No. <sup>b</sup>	Accept
	85501		85093	85674		85127				
	85502			85675						
				85676		85128	85701	X		
	85503		85094	85681		85132	85705			X
	85504									
			85095	85676		85136	85708			X
	85508			85677						
	85509		85096	85677		85137	85709			X
	85510						85710			X
			85097	85677		85138	85715	X		
	85523		85098	85676		85139	85711			X
	85506						85712			X
	85507		85099	85677						
	85524		85100	85678		85140	85713			X
			85101	85578		85141	85714	X		
	85536		85103	85682	X					
	85537		85105	85684		85143	85717	X		
	85538		85106	85685	X		85715	X		
			85108	85684		85144	85716	X		
	85594		85111	85688			85715	X		
	85590		85112	85689		85145	85716	X		
	85591		85118	85696	X		85717	X		
						85145	85719	X		
	85592		85119	85696	X					
	85593		85120	85701	X	85152	85722			X
			85121	85697	X		85723			X
	85619		85123	85700			85724			X
	85620		85124	85700		85155	85726			X
	85621					85159	85726			X
			85125	85701	X	85160	85727			X
	85622		85126	85699		85163	85730	X		
	85623									
	85661									
	85662									
	85663									
	85670									
	85664									
	85672									
	85673									

142

85164	85731	X		85176	85735	X		85183	85742		X
85166	85733	X		85177	85736 85737		X X	85191	85751		X
85167	85732	X		85178	85737		X	85192	85752	X	
85168	85733	X		85179	85738		X	85193	85753		X
85170	85735	X		85180	85738		X	85194	85754		X
85172	85732	X		85181	85739		X	85195	85755		X
85173	85733	X		85182	85740 85741	X X		85196	85756		X
85175	85735	X									

<sup>a</sup> See Table S-11 for job skills descriptions.

<sup>b</sup> See Table S-12 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-54.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Animal Laboratory Biological-Technical Services.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85001	85501	X		85016	85539		X	85030	85581		X
	85502	X			85540	X			85582	X	
85002	85503	X		85017	85541		X	85036	85592	X	
	85504		X		85542		X		85593	X	
85003	85508		X	85018	85543	X		85039	85599		X
	85509		X		85544		X		85598	X	
85004	85510		X	85022	85545	X		85040	85593	X	
	85505	X			85546		X		85596	X	
85005	95511	X		85023	85547		X	85045	85597	X	
	85512	X			85555		X		85606		X
85008	85513	X		85024	85557		X	85048	85607		X
	85514		X		85558		X		85608		X
85009	85515		X	85025	85559	X		85049	85614	X	
	85520	X			85560	X			85614		X
85010	85521		X	85029	85561		X	85611	85614		X
	85522		X		85562		X		85611		X
85014	85523	X		85029	85563		X	85611	85611		X
	85506		X		85564		X		85611		X
85015	85507		X	85029	85565		X	85611	85611		X
	85524		X		85576		X		85611		X
85015	85525	X		85029	85577	X		85611	85611		X
	85536	X			85578	X			85611		X
85015	85537	X		85029	85579	X		85611	85611		X
	85538		X		85580		X		85611		X
85015	85539	X		85029	85580		X	85611	85611		X
	85540	X			85580		X		85611		X

<sup>a</sup> See Table S-11 for job skill descriptions.

<sup>b</sup> See Table S-12 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-55.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Food Processing Biological-Technical Services.

Accepted Job Skill	Associated Job Knowledges		
	Code No. <sup>a</sup>	Code no. <sup>b</sup>	Accept Review <sup>c</sup>
85003	85508		X
	85509		X
	85510		X
85081	85661		X
	85662		X
85082	85663		X
	85664		X
	85670		X
85106	85685		X
85108	85684		X
85111	85688		X
85112	85689		X
85118	85696		X
85120	85701		X
85123	85700		X
85125	85701		X
85126	85699		X
85123	85701		X
85163	85730		X

<sup>a</sup>See Table S-11 for job skill descriptions.

<sup>b</sup>See Table S-12 for job knowledge descriptions.

<sup>c</sup>Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-56.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Grain, Feed, and/or Seed Biological-Technical Services.

01

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85001	85501 85502		X X	85016	85539 85540 85541 85542 85543 85544		X X X X X X	85030	85581 85582	X X	
85002	85503 85504		X X	85017	85544 85545 85546		X X X	85031	85583 85584 85585 85586		X X X X
85003	85508 85509 85510	X	X X	85018	85546 85547		X X	85032	85587 85588 85589		X X X
85004	85505 85511 85512	X	X X	85019	85548 85549 85550	X X X		85033	85587 85588 85589		X X X
85008	85520 85521 85522		X X X	85020	85551 85552		X X	85034	85594 85590 85591		X X X
85009	85523 85506 85507 85524	X	X X X	85021	85553 85554 85555 85556		X X X X	85035	85592 85593		X X
85010	85525	X		85022	85555 85557 85558		X X X	85036	85592 85593		X X
85011	85526 85527 85528		X X	85023	85559 85560		X X	85037	85592 85593		X X
85012	85529 85530 85531 85532	X X	X X	85024	85561	X		85039	85599 85598 85593		X X X
85013	85533 85534 85535		X X X	85025	85564 85562 85563 85565	X	X X X	85045	85606 85607 85608		X X X
85014	85536 85537 85538	X	X X	85029	85576 85577 85578 85579 85580		X X X X	85047	85610 85611 85612 85613		X X X X
85015	85539 85540		X X			X		85048	85614		X

146

268

267

85049	85611 85614		X X
85050	85615 85616	X	X
85051	85617 85618		X X
85052	85619 85620 85621	X	X X X
85053	85622 85623		X X
85058	85623 85621		X X
85059	85632 85633		X X
85060	85634		X
85061	85635		X
85062	85636		X
85063	85637		X
85064	85638 85639		X X
85065	85640 85641		X X
85067	85642		X
85068	85643 85644 85645		X X X
85069	85644 85645		X X
85070	85646 85647		X X
85071	85648		X
85072	85649		X
85073	85650		X
85075	85653 85654		X X

85080	85660		X
85090	85671	X	
85091	85672	X	
85092	85673	X	
85093	85674 85675 85676	X X X	
85094	85681	X	
85095	85676 85677	X X	
85096	85677	X	
85097	85677	X	
85098	85676	X	
85099	85677	X	
85100	85678	X	
85101	85678	X	
85102	85679 85680	X X	X
85103	85682	X	
85104	85683		X
85105	85684	X	
85106	85685		X
85109	85685		X
85110	85687		X
85111	85688		X
85112	85689		X
85113	85690		X
85114	85691 85692		X X
85115	85693 85694		X X

85116	85694 85695 85696		X X X
85117	85692		X
85118	85696		X
85120	85701		X
85133	85706	X	
85134	85707	X	
85135	85707	X	
85136	85708	X	
85137	85709 85710		X X
85138	85715	X	
85139	85711 85712		X X
85140	85713		X
85141	85714	X	
85142	85715	X	
85143	85717 85715	X X	
85144	85716 85715	X X	
85145	85716 85717 85719	X X X	
85146	85716 85717 85719	X X X	
85149	85722 85723 85724	X	X X
85150	85722 85723 85724	X	X X
85151	85722 85723 85724	X	X X

147

17





Table S-56.--Continued.

Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges			Accepted Job Skill	Associated Job Knowledges		
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85152	85722 85723 85724	X		85163 85164	85730 85731		X X	85178 85182	85737 85740 85741		X X X
85153	85722 85723 85724	X		85166 85167	85733 85732		X X	85193 85194	85753 85754		X X
85154	85725		X	85168	85733		X	85195	85755		X
85155	85726		X	85172	85732		X	85196	85756		X
85156				85175	85735		X				

<sup>a</sup>See Table S-11 for job skill descriptions.

<sup>b</sup>See Table S-12 for job knowledge descriptions.

<sup>c</sup>Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

Table S-57.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Waste Disposal Biological-Technical Services.

Accepted Job Skill	Associated Job Knowledges		
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept. Review <sup>c</sup>
85081	85661	X	
	85662	X	
85082	85663		X
	85664	X	
	85670		X
85083	85665	X	
	85666		X
85085	85665	X	
	85669		X
85086	85666		X
85087	85667	X	
	85668	X	
85088	85669		X
85089	85661	X	
85170	85735		X
85176	85735		X

<sup>a</sup> See Table S-11 for job skill descriptions.

<sup>b</sup> See Table S-12 for job knowledge descriptions.

<sup>c</sup> Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accented as needed for job entry.

Table S-58.--Disposition of Job Knowledges Associated with Accepted Job Skills for Entry into Water Resources Biological-Technical Services.

Accepted Job Skill		Associated Job Knowledges		Accepted Job Skill		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85003	85508		X	85170	85735	X	
	85509		X				
	85510		X				
85081	85661	X		85171	85736	X	
	85662	X		85172	85732	X	
85082	85663		X	85173	85733	X	
	85664	X		85176	85735	X	
	85670	X					
85083	85665	X		85177	85736	X	
	85666		X				
85085	85665	X		85178	85737	X	
	85669	X		85179	85738		X
85087	85667	X		85180	85738		X
	85668	X					
85088	85669	X		85181	85739	X	
85089	85661	X		85195	85755		X
85125	85701	X		85196	85756		X
85126	85699		X				
85132	85705		X				
85160	85727	X					
85163	85730	X					

<sup>a</sup>See Table S-11 for job skill descriptions.

<sup>b</sup>See Table S-12 for job knowledge descriptions.

<sup>c</sup>Because of their close association with accepted job skills, it is recommended that job knowledges marked "review" be accepted as needed for job entry.

151

m

Table S-59.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Dairy Farming.

Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skills		Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skill		Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skill	
	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85502	85001	X	85539	85020	X	85576	85043 85046 85047	X X X
85505	85003 85005	X X	85540	85020 85021	X X	85577	85047	X
85507	85005	X	85541	85020 85021	X X	85578	85047 85048	X X
85508	85007	X	85548	85026	X	85579	85048	X
85511	85008	X	85549	85026	X	85580	85048	X
85516	85010	X	85550	85026	X	85583	85049	X
85517	85010	X	85552	85027	X	85584	85050	X
85522	85013	X	85553	85027	X	85585	85050	X
85524	85014	X	85554	85027	X	85586	85050	X
85525	85014	X	85555	85027	X	85587	85051	X
85526	85014	X	85556	85027 85029	X X	85588	85052	X
85527	85018	X	85557	85028	X	85589	85053 85054 85055	X X X
85528	85015	X	85559	85030 85032	X X	85590	85056	X
85530	85015	X	85561	85033 85032	X X	85599	85062	X
85531	85016	X	85562	85034	X	85601	85064 85065	X X
85532	85017	X	85563	85035	X	85602	85066	X
85533	85017	X	85564	85036	X	85606	85068	X
85534	85017	X	85565	85036	X	85608	85067 85069	X X
85535	85017	X	85566	85029 85036	X X	85617	85077 85078	X X
85536	85018	X	85572	85043	X			
85537	85019	X	85574	85045	X			
85538	85019	X						

154



85620	85082 85083	X X		85642	85103	X		85648	85112	X	
85621	85083	X		85643	85104	X		85649	85113	X	
85622	85084	X		85644	85104 85105	X X		85650	85114	X	
85627	85089	X		85645	85106	X		85651	85114	X	
85628	85089	X		85646	85106 85107 85108	X X X		85652	85115	X	
85638	85098	X		85647	85110 85111	X X		85653	85116	X	
85640	85102	X						85655	85118	X	
85641	85102	X						85657	85120	X	

<sup>a</sup> See Table S-6 for job knowledge descriptions.

<sup>b</sup> See Table S-5 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-60.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Bush and/or Vine Fruit Farming.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85502	85001	X		85528	85015	X		85562	85034	X	
85503	85002	X		85531	85016	X		85563	85035	X	
85504	85002 85004	X X		85532	85017	X		85566	85029 85036	X X	
85505	85003 95005	X X		85533	85017	X		85567	85036	X	
85506	85005 85006	X X		85534	85017	X		85571	85040 85041 85042	X X	X X
85509	85007	X		85535	85017	X		85601	85064 85065	X X	
85510	85007	X		85536	85018	X		85608	85067 85069	X X	
85512	85008	X		85537	85019	X		85620	85082 85083	X X	
85513	85008 85009	X X		85538	85019	X		85621	85083	X	
85514	85008	X		85539	85020	X		85622	85084	X	
85515	85008	X		85540	85020 85021	X X		85625	85087	X	
85516	85010	X		85541	85020 85021	X X		85626	85088	X	
85517	85010	X		85543	85021 85023	X X		85627	85089	X	
85518	85011	X		85544	85024	X		85628	85089	X	
85519	85012	X		85545	85024	X		85629	85090	X	
85520	85012	X		85547	85015 85025	X X		85630	85091	X	
85522	85013	X		85552	85027	X		85631	85092	X	
85524	85014	X		85553	85027	X		85632	85093 85094	X X	
85525	85014	X		85560	85033 85032	X X		85633	85094	X	
85526	85014	X		85561	85032 85033	X X					



85634	85095	X		85643	85104	X		85651	85114	X	
85635	85096	X		85644	85104 85105	X X		85652	85115	X	
85636	85036	X		85645	85106	X		85653	85116	X	
85637	85097	X		85646	85106 85107 85108	X X X		85654	85117	X	
85638	85098	X		85647	85110 85111	X X		85657	85120	X	
85639	85099 85100 85101	X X X		85648	85112	X		85658	85121	X	
85640	85102	X		85649	85113	X					
85641	85102	X		85650	85114	X					
85642	85103	X									

<sup>a</sup> See Table S-6 for job knowledge descriptions.

<sup>b</sup> See Table S-5 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

157

Table S-61.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Tree Fruit Farming.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85501	85001 85002	X X		85525	85014	X		85547	85015 85025	X X	
85502	85001	X		85526	85014	X		85548	85026	X	
85503	85002	X		85527	85018	X		85549	85026	X	
85504	85002 85004	X X		85528	85015	X		85550	85026	X	
85505	85003 85005	X X		85529	85015	X		85551	85026	X	
85506	85005 85006	X X		85530	85015	X		85552	85027	X	
85507	85005	X		85531	85016	X		85553	85027	X	
85508	85007	X		85532	85017	X		85554	85027	X	
85509	85007	X		85533	85017	X		85555	85027	X	
85510	85007	X		85534	85017	X		85556	85029 85027	X X	
85511	85008	X		85535	85017	X		85557	85028	X	
85514	85008	X		85536	85018	X		85559	85030 85021	X X	
85515	85008	X		85537	85019	X		85560	85032 85033	X X	
85516	85010	X		85538	85019	X		85561	85032 85033	X X	
85517	85010	X		85539	85020	X		85562	85034	X	
85518	85011	X		85540	85020 85021	X X		85564	85036	X	
85519	85012	X		85541	85020 85021	X X		85565	85036	X	
85520	85012	X		85542	85022 85020	X X		85566	85029 85036	X X	
85522	85013	X		85543	85021 85023	X X		85567	85036	X	
85523	85013	X		85544	85024	X		85572	85036	X	
85524	85014	X		85545	85024	X					



85576	85046 85043 85047	X X X	
85577	85047	X	
85578	85047 85048	X X	
85579	85048	X	
85580	85048	X	
85590	85056	X	
85596	85061	X	
85599	85062	X	
85601	85064 85065	X X	
85602	85066	X	
85603	85070 85068	X X	
85604	85066	X	
85605	85067	X	
85606	85068	X	
85607	85067	X	
85608	85067 85069	X X	
85612	85070	X	
85613	85075	X	
85614	85073	X	
85615	85076 85074	X X	
85616	85077	X	
85617	85077 85078	X X	
85620	85082 85083	X X	
85621	85083	X	
85622	85084	X	
85623	85085	X	
85624	85086	X	
85625	85087	X	
85626	85088	X	
85627	85089	X	
85628	85089	X	
85629	85090	X	
85630	85091	X	
85631	85092	X	
85632	85093 85094	X X	
85633	85094	X	
85634	85095	X	
85635	85096	X	
85638	85098	X	
85640	85102	X	
85641	85102	X	
85642	85103	X	
85643	85104	X	
85644	85104 85105	X X	
85645	85106	X	
85646	85106 85107 85108	X X X	
85647	85110 85111	X X	
85648	85112	X	
85649	85113	X	
85650	85114	X	
85651	85114	X	
85652	85115	X	
85653	85116	X	
85654	85117	X	
85655	85118	X	
85656	85119	X	
85657	85120	X	

<sup>a</sup> See Table S-6 for job knowledge descriptions.

<sup>b</sup> See Table S-5 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skill's marked "review" and their associated job knowledge(s) declared "not needed" (rejected) for job entry.

Table S-62.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Grain and/or Bean Farming.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>d</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85502	85001	X		85536	85018	X		85579	85048	X	
85503	85002	X		85537	85019	X		85581	85049	X	
85504	85002 85004	X X		85538	85019	X		85583	85049	X	
85505	85003 85005	X X		85539	85020	X		85584	85050	X	
85506	85005 85006	X X		85540	85020 85021	X X		85589	85053 85054 85055	X X X	
85510	85007	X		85541	85020 85021	X X		85596	85061	X	
85516	85010	X		85549	85026	X		85599	85062	X	
85517	85010	X		85552	85027	X		85608	85067 85069	X X	
85518	85011	X		85553	85027	X		85620	85082 85083	X X	
85522	85013	X		85554	85027	X		85621	85083	X	
85524	85014	X		85555	85027	X		85622	85084	X	
85525	85014	X		85556	85027 85029	X X		85625	85087	X	
85526	85014	X		85561	85032 85033	X X		85626	85088	X	
85527	85018	X		85562	85034	X		85628	85089	X	
85528	85015	X		85563	85035	X		85633	85094	X	
85530	85015	X		85564	85036	X		85634	85095	X	
85531	85016	X		85565	85036	X		85635	85096	X	
85532	85017	X		85566	85029 85036	X X		85638	85098	X	
85533	85017	X		85577	85047	X		85640	85102	X	
85534	85017	X		85578	85047 85048	X X		85641	85102	X	
85535	85017	X									



85642	85103	X		85647	85110	X		85657	85120	X
85643	85104	X			85111	X				
85644	85104	X		85648	85112	X				
	85105	X		85650	85114	X				
85645	85106	X		85651	85114	X				
85646	85106	X		85652	85115	X				
	85107	X								
	85108	X		85653	85116	X				

<sup>d</sup>See Table S-6 for job skill descriptions.

<sup>b</sup>See Table S-5 for job knowledge descriptions.

<sup>c</sup>It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-63.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Livestock (Beef, Swine, Sheep) Farming.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85502	85001	X		85532	85017	X		85557	85028	X	
85504	85002 85004	X X		85533	85017	X		85559	85030 85031	X X	
85505	85003 85005	X X		85534	85017	X		85561	85032 85033	X X	
85506	85005 85006	X X		85536	85018	X		85562	85034	X	
85508	85007	X		85537	85019	X		85563	85035	X	
85510	85007	X		85538	85019	X		85564	85036	X	
85511	85008	X		85539	85020	X		85565	85036	X	
85512	85008	X		85540	85020 85021	X X		85566	85029 85036	X X	
85513	85008 85009	X X		85541	85020 85021	X X		85567	85036	X	
85516	85010	X		85542	85020 85022	X X		85570	85038 85039	X X	
85517	85010	X		85543	85021 85023	X X		85572	85043	X	
85518	85011	X		85548	85026	X		85576	85043 85046 85047	X X X	
85522	85013	X		85549	85026	X		85577	85047	X	
85524	85014	X		85550	85026	X		85578	85047 85048	X X	
85525	85014	X		85551	85026	X		85579	85048	X	
85526	85014	X		85552	85027	X		85580	85048	X	
85527	85018	X		85553	85027	X		85581	85049	X	
85528	85015	X		85554	85027	X		85582	85049	X	
85529	85015	X		85555	85027	X		85583	85049	X	
85530	85015	X		85556	85027 85029	X X		85584	85050	X	

85585	85050	X		85622	85001	X		85647	85110	X	
85587	85051	X		85625	85087	X			85111	X	
85588	85052	X		85626	85088	X		85648	85112	X	
85589	85053	X		85628	85089	X		85650	85114	X	
	85054	X						85651	85114	X	
	85055	X		85634	85095	X		85652	85115	X	
85590	85056	X		85635	85096	X		85653	85116	X	
85594	85060	X		85638	85098	X		85654	85117	X	
85596	85061	X		85640	85102	X		85657	85120	X	
85599	85062	X		85641	85102	X		85658	85121	X	
85603	85068	X		85642	85103	X					
	85070	X		85644	85104	X					
85604	85066	X			85105	X					
85608	85067	X		85645	85106	X					
	85069	X									
85620	85082	X		85646	85106	X					
	85083	X			85107	X					
					85108	X					

<sup>a</sup> See Table S-5 for job knowledge descriptions.

<sup>b</sup> See Table S-5 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-64.--Disposition of Job Knowledges Marked "Accret" with Associated Job Skills Marked "Accret" or "Review" for Entry into Poultry Farming.

Accepted Job Knowledge				Associated Job Skills				Accepted Job Knowledge				Associated Job Skills				Accepted Job Knowledge				Associated Job Skills			
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>				
85502	85001	X		85535	85017	X		85566	85029	X													
85503	85002	X		85536	85018	X			85036	X													
85504	85002	X		85538	85019	X		85567	85036	X													
	85004	X						85569	85038			X							X				
85505	85003	X		85540	85020	X			85039	X													
	85005	X			85021	X		85570	85038										X				
85506	85005	X		85541	85020	X			85039	X													
	85006	X			85021	X		85571	85040	X													
85508	85007	X		85542	85020	X			85041	X													
85511	85008	X			85022	X			85042	X													
85512	85008	X		85546	85025	X		85582	85049	X													
85513	85008	X		85547	85015	X		85583	85049	X													
	85009	X			85025	X		85584	85050	X													
85516	85010	X		85548	85026	X		85596	85061			X											
85517	85010	X		85549	85026	X		85599	85062	X													
85518	85011	X		85551	85026	X		85611	85070	X													
85519	85012	X		85552	85027	X		85620	85082	X													
85522	85013	X		85553	85027	X			85083	X													
85524	85014	X		85554	85027	X		85624	85086	X													
85526	85014	X		85555	85027	X		85625	85087	X													
85528	85015	X		85556	85027	X		85626	85088	X													
85531	85016	X			85029	X		85628	85089	X													
85532	85017	X		85561	85032	X		85629	85090	X													
85533	85017	X			85033	X		85636	85096	X													
85534	85017	X		85563	85035	X		85638	85098	X													
				85564	85036	X																	
				85565	85036	X																	

297



85639	85099 85100 85101	X X X		85647	85110 85111	X X		85656	85119	X	
85640	85102	X		85648	85112	X		85657	85120	X	
85641	85102	X		85649	85113	X		85658	85121	X	
85642	85103	X		85650	85114						
85643	85104	X		85651	85114						
85644	85104 85105	X X		85652	85115	X					
85645	85106	X		85653	85116	X					
				85654	85117		X				

<sup>a</sup> See Table S-6 for job knowledge descriptions.

<sup>b</sup> See Table S-5 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-65.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Vegetable, Beet, and/or Potato Farming.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85503	85002	X		85549	85026	X		85634	85095	X	
85504	85002 85004	X X		85561	85033 85032	X X		85635	85096	X	
85517	85010	X		85562	85034	X		85638	85098	X	
85513	85011	X		85563	85035	X		85639	85099 85100 85101	X X X	
85522	85013	X		85564	85036	X		85640	85102	X	
85524	85014	X		85565	85036	X		85641	85102	X	
85528	85015	X		85566	85029 85036	X X		85642	85103	X	
85529	85015	X		85599	85062	X		85643	85104	X	
85530	85015	X		85619	85081	X		85644	85104 85105	X X	
85531	85016	X		85620	85082 85083	X X		85645	85106	X	
85532	85017	X		85621	85083	X		85646	85105 85107 85108	X X X	
85533	85017	X		85622	85084	X		85647	85110 85111	X X	
85534	85017	X		85623	85085	X		85648	85112	X	
85536	85018	X		85624	85086	X		85649	85113	X	
85537	85019	X		85625	85087	X		85650	85114	X	
85538	85019	X		85626	85088	X		85651	85114	X	
85539	85020	X		85627	85089	X		85652	85115	X	
85540	85020 85021	X X		85628	85089	X		85653	85116	X	
85541	85020 85021	X X		85629	85090	X					
85548	85026	X		85633	85094	X					





85655	85118	X							
85657	85120	X							
85658	85121	X							

<sup>a</sup> See Table S-6 for job knowledge descriptions.

<sup>b</sup> See Table S-5 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-66.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the Arboriculture Industry.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85513	85016	X		85527	85031	X		85566	85068	X	
85515	85025	X			85033	X					85567
85516	85020	X		85528	85030	X		85568	85069	X	
95517	85021	X			85033	X					85572
	85022	X		85534	85033	X		85573	85075	X	
	85023	X									85542
	85024	X		85543				85575	85076	X	
85518	85021	X									85544
	85022	X		85547	85047	X		85577	85078	X	
	85023	X									85548
	85024	X		85550	85050	X		85582	85086	X	
	85081	X									85556
	85082	X		85557	85056	X		85594	85102	X	
85520	85022	X									85558
	85023	X		85559	85059	X		85595	85106	X	
	85024	X									85561
	85081	X		85562	85062	X		85597	85108	X	
	85082	X									85563
85521	85025	X		85563	85064	X		85601	85107	X	
	85026	X			85065	X			85111	X	
85523	85026	X		85564	85066	X		85601	85109	X	
85524	85027	X									
	85028	X									
	85029	X									
85525	85028	X									
	85029	X									

<sup>a</sup> See Table S-9 for job knowledge descriptions.

<sup>b</sup> See Table S-8 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-67.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the Bedding Plant Industry.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	
85517	85021		X	85545	85043	X		85584	85083	X		
	85022		X		85546	85045			X	85088	X	
	85023		X	85046					X	85089	X	
	85024		X									
85518	85021		X	85548	85048		X	85590	85097		X	
	85022		X	85549	85049		X			85098		X
	85023		X			85550	85050				X	
	85024		X			85551	85051			X		
85519	85021		X	85552	85051	X						
	85081	X		85559	85059		X					
	85022		X	85560	85060		X					
	85082	X		85061			X					
	85023		X	85561	85061		X					
85024		X	85062			X						
85521	85025		X	85568	85069	X						
	85026		X	85569	85070		X					
85522	85025		X	85580	85086	X						
	85026		X	85087		X						
85523	85026		X	85581	85083	X						
85527	85031	X		85088		X						
	85033	X		85582	85086	X						
85528	85030	X		85583	85084	X						
	85033	X		85085		X						
85542	85043	X										
85543	85043	X										
	85045		X									
85544	85044	X										

<sup>a</sup> See Table S-9 for job knowledge descriptions.

<sup>b</sup> See Table S-8 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-68.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the Garden Center Industry.

Accepted Job Knowledge	Associated Job Skills		Accepted Job Knowledge	Associated Job Skills		Accepted Job Knowledge	Associated Job Skills			
	Code No. <sup>a</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Accept Review <sup>c</sup>		Code No. <sup>a</sup>	Accept Review <sup>c</sup>		
85502	85001		85534	85033		85564	85066	X		
	85002			85540	85040		X	85568	85069	
	85005				85041		X		85070	
85508	85010		85541	85040	X	85580	85086	X		
	85011	X		85041	X		85087	X		
	85012	X		85042	X		85581	85088	X	
85512	85015	X	85542	85043		85083		X		
	85517	85021			85543	85043			85582	85086
85022			85045			85583	85084	X		
85023			85544	85044				85085		X
85024				85545			85043			85584
85518	85021		85545		85045		85088	X		
	85022			85046		85089	X			
	85023		85547	85047		85585	85093			
	85024			85548	85048			85586	85094	X
85519	85021		85549		85049		85097		X	
	85022			85550	85050		85099		X	
	85023				85551	85051		85587	85094	X
	85024					85552	85051			85095
85021	X	85553	85063	X	85097		X			
85022	X		85554	85064	X	85098	X			
85023	X	85555		85065	X	85099	X			
85024	X		85556	85060		85589	85096	X		
85521	85025			85061			85097	X		
	85026		85563	85063	X	85589	85096 85097	X		
85522	85025			85064	X					
	85026		85065	X						
85528	85030		85560	85060		85589	85096 85097	X		
	85033			85061				X		
85530	85033		85563	85063	X	85589	85096 85097	X		
85531	85019			85064	X					
	85020		85065	X						
	85034		85532	85034		85589	85096 85097	X		
85532	85019			85019				85589	85096 85097	X
	85020			85020						X

<sup>a</sup> See Table S-9 for job knowledge descriptions.

<sup>b</sup> See Table S-8 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.



Table S-69.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the Groundskeeping and/or Park Industry.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills			
Code No. <sup>a</sup>	Code No. <sup>d</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>		
85515	85025	X		85530	85033	X		85563	85063	X			
85516	85020	X		85542	85043	Y			85064	X			
85517	85021	X		85543	85043			85564	85065	X			
	85022	X			85045	X							
	85023	X		85544	85044	X			85565	85067	X		
	85024	X											
85518	85021	X		85545	85043	X		85566	85068	X			
	85022	X											
	85023	X											
	85024	X											
85519	85021	X		85546	85045	X		85567	85069	X			
	85022	X			85046	X							
	85023	X		85547	85047	X		85568	85069	X			
	85024	X											
	85081	X											
	85082	X											
85520	85022	X		85548	85048	Y		85569	85070	X			
	85023	X											
	85024	X											
	85081	X											
	85082	X											
85521	85025	X		85549	85049	X		85570	85071	X			
	85026	X											
85522	85025	X		85550	85050	X		85571	85072	X			
	85026	X					85551				85051	X	
85523	85026	X		85552	85051	X			85572	85063			X
							85073	X					
85524	85027	X		85554	85053	X		85573	85074	X			
	85028	X											
	85029	X											
85525	85028	X		85555	85057	X		85574	85075	X			
	85029	X			85054	X							
85526	85028	X		85556	85056	X		85575	85076	X			
	85029	X											
85527	85031	X		85557	85056	X		85576	85077	X			
	85033	X											
85528	85033	X		85558	85058	X		85577	85078	X			
	85030	X											
				85559	85059	X		85578	85079	X			
				85560	85060	X		85580	85086	X			
					85061	X			85087	X			
				85561	85061	X		85582	85086	X			
					85062	X							
				85562	85063	X		85583	85084	X			
							85085		X				
								85584	85083	X			
									85088	X			
									85089	X			
								85585	85093		X		

85590	85107 85108	X X		85597	85108	X	
85591	85100 85101	X X		85600	85110	X	
85592	85100 85102 85103	X X X		85601	85106 85107 85109 85111	X X X X	
85593	85100 85102 85104	X X X					
85594	85102 85105	X X					
85595	85106	X					
85596	85107	X					

<sup>a</sup> See Table S-9 for job knowledge descriptions.

<sup>b</sup> See Table S-8 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-70. Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the Landscaping Industry.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85513	85016	X		85527	85031 85033	X		85555	85054 85055 85057	X X X	
85514	85017 85018 85019	X X X		85528	85030 85033	X X		85556	85056	X	
85515	85025	X		85530	85033	X		85557	85056	X	
85516	85020	X		85531	85019 85020 85034	X X X		85558	85058	X	
85517	85021 85022 85023 85024	X X X X		85532	85019 85020 85034	X X X		85559	85059	X	
85518	85021 85022 85023 85024	X X X X		85533	85034	X		85560	85060 85061	X X	
85519	85021 85022 85023 85024 85081 85082	X X X X X X		85534	85033	X		85561	85061 85062	X X	
85520	85022 85023 85024 85081 85082	X X X X X		85542	85043	X		85562	85063	X	
85521	85025 85026	X X		85543	85043 85045	X X		85563	85063 85064 85065	X X X	
85522	85025 85026	X X		85544	85044	X		85564	85066	X	
85524	85027 85028 85029	X X X		85545	85043	X		85566	85068	X	
85525	85028 85029	X X		85546	85045 85046	X X		85567	85069	X	
				85547	85047	X		85568	85069	X	
				85548	85048	X		85569	80570	X	
				85549	85049	X		85570	85071	X	
				85550	85050	X		85572	85063 85073	X X	
				85551	85051	X		85573	85074	X	
				85552	85051	X		85574	85075	X	
				85553	85052	X		85575	85076	X	
				85554	85053	X		85576	85077	X	

315

316



85577	85078	X		85593	85100	X	
85578	85079	X			85102	X	
85580	85086	X			85104	X	
	85087	X		85594	85102	X	
85581	85083	X			85107	X	
	85088	X		85595	85107	X	
85583	85084	X		85596	85107	X	
	85085	X		85597	85108	X	
85584	85083	X		85601	85106	X	
	85088	X			85107	X	
	85089	X			85109	X	
85591	85100	X			85111	X	
	85101	X					
85592	85100	X					
	85102	X					
	85103	X					

<sup>a</sup> See Table S-9 for job knowledge descriptions.

<sup>b</sup> See Table S-8 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.



Table S-71.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry Into the Nursery Production Industry.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85508	85010	X		85531	85019	X		85569	85070	X	
	85011	X			85020	X					
	85012	X			85034	X					
85517	85021	X		85534	85033	X		85572	85063	X	X
	85022	X									
	85023	X									
	85024	X									
85513	85021	X		85542	85043	X		85580	85086	X	X
	85022	X									
	85023	X									
	85024	X									
85519	85021	X		85544	85044	X		85581	85083	X	X
	85022	X									
	85023	X									
	85024	X									
85521	85021	X		85545	85043	X		85583	85084	X	
	85022	X									
	85023	X									
	85024	X									
85522	85025	X		85546	85045	X		85084	85083	X	X
	85026	X			85046	X					
85528	85025	X		85548	85048	X		85088	85088	X	X
	85026	X			85049	X					
85530	85025	X		85550	85050	X		85084	85083	X	X
	85030	X									
	85033	X									
85530	85033	X		85556	85060	X		85088	85088	X	X
	85033	X			85061	X					
					85563	85063	X				
85530	85033	X		85563	85064	X		85089	85089	X	
					85065	X					
					85568	85069	X				

<sup>a</sup> See Table S-9 for job knowledge descriptions.

<sup>b</sup> See Table S-8 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job Knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-72.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into the Turf and Sprinkler Industry.

Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skills		Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skills		Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skills	
	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>
85508	85010 85011 85012	X X X	85523	85026	X	85547	85047	X
85510	85014 85012	X X	85524	85027 85028 85029	X X X	85548	85048	X
85511	85014	X	85525	85028 85029	X X	85549	85049	X
85512	85015	X	85526	85028 85029	X X	85550	85050	X
85513	85016	X	85527	85031 85033	X X	85551	85051	X
85514	85017 85018 85019	X X X	85528	85030 85033	X X	85552	85051	X
85515	85025	X	85530	85033	X	85553	85052	X
85516	85020	X	85531	85019 85020 85034	X X X	85554	85053	X
85517	85021 85022 85023 85024	X X X X	85532	85034 85019 85020	X X X	85555	85054 85055 85057	X X X
85518	85021 85022 85023 85024	X X X X	85533	85034	X	85556	85056	X
85519	85021 85022 85023 85024 85082 85081	X X X X X X	85534	85033	X	85557	85056	X
85520	85022 85023 85024 85081 85082	X X X X X	85541	85040 85041 85042	X X X	85558	85058	X
85521	85025 85026	X X	85542	85043	X	85559	85059	X
85522	85025 85026	X X	85543	85043 85045	X X	85560	85060 85061	X X
			85544	85044	X	85561	85061 85062	X X
			85545	85045	X	85562	85063	X
			85546	85045 85046	X X	85563	85063 85064 85065	X X X
						85564	85066	X
						85565	85067	X
						85566	85068	X



85567	85069	X		
85568	85069	X		
85569	85070	X		
85570	85071	X		
85571	85072	X		
85572	85063 85073	X X		
85573	85074	X		
85574	85075	X		
85575	85076	X		
85576	85077	X		
85577	85078	X		
85578	85079	X		
85580	85086 85087	X X		
85581	85083 85088	X X		
85582	85086	X		
85583	85084 85085	X X		
85584	85083 85089 85088	X X X		
85586	85097 85094 85099	X X X		
85587	85098 85094 85095 85097 85099	X X X X	X	
85588	85094 85095 85097 85099	X X X X		
85590	85097 85098	X		X
85591	85100 85101	X X		
85592	85100 85102 85103	X X X		
85593	85100 85102 85104	X X X		
85594	85102 85105	X X		
85595	85106	X		
85596	85107	X		
85597	85108	X		
85600	85110	X		
85601	85106 85107 85109 85111	X X X X		

<sup>a</sup> See Table S-9 for job knowledge descriptions.

<sup>b</sup> See Table S-8 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-73.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Farm Implement Repair.

Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skills		Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skills		Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skills					
	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review <sup>c</sup>				
85501	85001	X	85522	85028	X	85576	85132	X				
	85002	X										
85502	85001	X	85528	85055	X	85577	85129	X				
	85002	X						85131	X			
	85003	X		85529	85050		X	85581	85126	X		
	85004	X										
85503	85002	X	85530	85051	X	85582	85146	X				
				85054	X			85167	X			
85505	85005	X	85531	85052	X	85583	85143	X				
	85169	X						85144	X			
	85199	X						85147	X			
85506	85006	X	85532	85051	X	85584	85140	X				
	85007	X						85173	X			
	85168	X		85534	85050		X	85585	85149	X		
	85202	X					85061		X		85164	X
	85203	X										
85507	85008	X	85565	85064	X	85588	85141	X				
					85081		X		85142	X		
					85091		X	85592	85150	X		
					85118		X			85174	X	
85508	85009	X	85566	85058	X	85593	85178	X				
	85171	X			85121		X		85182	X		
	85172	X										
85509	85009	X	85567	85053	X	85594	85150	X				
	85171	X			85067		X		85176	X		
85510	85003		85569	85058	X	85595	85148	X				
	85010	X						85180	X			
	85171	X										
85511	85011	X	85570	85048	X	85596	85151	X				
	85017	X			85049		X		85152	X		
	85172	X							85154	X		
85512	85012	X	85571	85047	X	85597	85151	X				
	85021	X			85074		X		85155	X		
	85022											
85519	85020	X	85572	85047	X	85598	85151	X				
	85027	X						85156	X			
	85171	X										
85520	85027	X	85573	85126	X	85599	85151	X				
					85127		X		85153	X		
									85161	X		
					85131		X					
					85124		X					
			85128	X								
			85129	X								
			85134	X								
			85575	85124	X							



85600	85151	X		85622	85186	X	
85601	85151 85230 85231	X X X		85624	85182 85194	X X	
85602	85158 85228 85229	X X X		85625	85176	X	
85603	85153 85221 85229	X X X		85629	85168	X	
85604	85159	X		85632	85209 85211	X X	
85607	85164	X		85634	85212 85213	X X	
	85181	X		85647	85223	X	
85617	85185 85196	X X		85648	85223	X	
85618	85185 85190	X X		85649	85224	X	
85620	85178 85180	X X		85653	85235 85236	X X	
85621	85169 85174 85175 85176 85184 85188 85195 85202	X X X X X X X X		85661	85242	X	
				85662	85242 85243	X X	
				85665	85246	X	

<sup>a</sup> See Table S-10 for job knowledge descriptions.

<sup>b</sup> See Table S-9 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-74.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Agricultural Chemical Biological-Technical Services.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85682	85103	X		85717	85144	X	
85685	85106 85109	X	X		85145	X	
					85146	X	
85686	85107		X	85718	85147		X
85691	85114		X	85719	85145 85146	X X	
85692	85114 85517		X X	85730	85163	X	
85694	85115 85116		X X	85731	85164	X	
85695	85116		X	85732	85165 85167 85172	X X	X
85696	85116 85118 85119	X X	X	85733	85173 85168 85166	X X X	
85697	85121	X		85734	85169		X
85701	85120 85125 85128	X X X		85735	85170 85175 85176	X X X	
85714	85141	X		85740	85182	X	
85715	85138 85142 85143 85144	X X X	X	85741	85182	X	
85716	85144 85145 85146	X X X		85752	85192	X	

<sup>a</sup>See Table S-12 for job knowledge descriptions.

<sup>b</sup>See Table S-11 for job skill descriptions.

<sup>c</sup>It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-75.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Animal Laboratory Biological-Technical Services

Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skills		Accepted Job Knowledge Code No. <sup>a</sup>	Associated Job Skills	
	Code No. <sup>b</sup>	Accept Review <sup>c</sup>		Code No. <sup>b</sup>	Accept Review
85501	85001	X	85550	85019	X
85502	85001	X	85559	85023	X
85503	85002	X	85560	85023	X
85505	85004	X	85569	85027	X
85511	85004	X	85577	85029	X
85512	85004	X	85578	85029	X
85513	85005	X	85579	85029	X
85518	85007		85582	85030	X
85520	85008	X	85591	85034	X
85523	85009	X	85592	85035 85036 85037	X X X
85525	85010	X			
85531	85012		85593	85035 85036 85037 85039	X X X X
85536	85014	X			
85537	85014	X	85594	85034	X
85540	85015 85016	X X	85596	85038 85040 85041	X X X
85543	85016	X			
85545	85017	X	85597	85038 85040 85041	X X X
85548	85019				
85549	85019		85598	85038 85039	X X
			85614	85048 85049	X X

<sup>a</sup>See Table S-12 for job knowledge descriptions.

<sup>b</sup>See Table S-11 for job skill descriptions.

<sup>c</sup>It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-76.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Food Processing Biological-Technical Services.

NONE MARKED "ACCEPT"

331



Table S-77.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Grain, Feed, and/or Seed Biological-Technical Services.

Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills		Accepted Job Knowledge		Associated Job Skills	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85505	85004	X		85673	85092	X		85715	85142	X	
85506	85009	X		85674	85093	X			85138	X	
85508	85003	X		85675	85093	X			85143	X	
85525	85010	X		85676	85093	X			85144	X	
85528	85011	X			85095	X		85716	85144	X	
85531	85012	X			85095	X			85145	X	
85532	85012	X		85677	85096	X			85146	X	
85537	85014	X			85097	X		85717	85143	X	
85548	85019	X		85678	85100	X			85145	X	
85549	85019	X			85101	X			85146	X	
85550	85019	X		85680	85102	X		85719	85145	X	
85561	85024	X		85681	85094	X			85146	X	
85562	85025	X		85682	85103	X		85722	85149	X	
85580	85029	X		85684	85105	X			85150	X	
85581	85030	X			85108		X		85151	X	
85582	85030	X		85706	85133	X			85152	X	
85615	85050	X			85134	X			85153	X	
85620	85052	X		85707	85135	X		85741	85182	X	
85671	85090	X			85135	X		85749	85190		X
				85708	85136	X		85752	85192		X
				85714	85141	X					

<sup>a</sup>See Table S-12 for job knowledge descriptions.

<sup>b</sup>See Table S-11 for job skill descriptions.

<sup>c</sup>It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

185

71

Table S-78.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Waste Disposal Biological-Technical Services.

Accepted Job Knowledge	Associated Job Skills		
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept
85661	85089	X	
	85081	X	
85662	85081	X	
85664	85082	X	
	85084		X
85665	85083	X	
	85085	X	
85667	85087	X	
85568	85087	X	
85730	85163		X
85731	85164		X

<sup>a</sup> See Table S-12 for job knowledge descriptions.

<sup>b</sup> See Table S-11 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

Table S-79.--Disposition of Job Knowledges Marked "Accept" with Associated Job Skills Marked "Accept" or "Review" for Entry into Water Resources Biological-Technical Services.

Accepted Job Knowledge				Associated Job Skills				Accepted Job Knowledge				Associated Job Skills			
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review <sup>c</sup>
85661	85081 85089	X X		85697	85121		X	85733	85173 85168 85166	X					X X
85662	85081	X		85701	85120 85125 85128	X	X	85734	85169						X
85664	85082 85084	X	X	85714	85141		X	85735	85175 85176 85170					X X	X
85665	85083 85085	X X		85715	85138 85142 85143 85144		X X X X	85736	85171 85177	X X					
85667	85087	X		85716	85144 85145 85146		X X -X	85737	85177 85178	X X					
85668	85087	X		85717	85143 85145 85146		-X X X	85739	85181	X					
85669	85085 85088	X X		85718	85147		X	85740	85182						X
85670	85082	X		85719	85145 85146		X X	85741	85182						X
85682	85103		X	85727	85160	X		85752	85192						X
85685	85109 85106		X X	85730	85163	X									
85686	85107		X	85731	85164		X								
85691	85114		X	85732	85172 85165 85167	X	X X								
85692	85117 85114		X X												
85694	85115 85116		X X												
85695	85116		X												
85696	85116 85118 85119		X X X												

187

<sup>a</sup> See Table S-12 for job knowledge descriptions.

<sup>b</sup> See Table S-11 for job skill descriptions.

<sup>c</sup> It is recommended that both the job skills marked "review" and their associated job knowledge(s) be declared "not needed" (rejected) for job entry.

SERIES G

DISPOSITION OF JOB SKILLS MARKED "REVIEW" WITH  
ASSOCIATED JOB KNOWLEDGES MARKED "ACCEPT" OR  
"REVIEW" FOR ENTRY

Table S-80.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Dairy Farming.

Job Skill Marked Review	Associated Job Knowledges			
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review
85024	85544			X
	85545			X
85058	85591			X
	85592			X
85059	85592			X

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>See Table S-6 for job knowledge descriptions.

Table S-81.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Bush and/or Vine Fruit Farming.

Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges	
	Code No. <sup>a</sup>	Code No. <sup>b</sup>		Code No. <sup>a</sup>	Code No. <sup>b</sup>
85030	85558 85559		85050	85584 85585 85586	X X X
85037	85568		85051	85587	X
85039	85569 85570		85052	85588	X
85040	85571	X	85053	85589	X
85042	85571	X	85054	85589	X
85043	85572 85576		85055	85589	X
85044	85573		85056	85590	X
85045	85574 85575		85057		
85046	85576		85058	85591 85592	X X
85047	85576 85578 85577		85059	85592	X
85048	85578 85579 85580		85060	85593 85594	X X
85049	85581 85582 85583		85061	85595 85596	X X

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>See Table S-6 for job knowledge descriptions.

Table S-82.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Tree Fruit Farming.

Job Skill Code No. <sup>a</sup>	Associated Job Knowledges		
	Code No. <sup>b</sup>	Accept	Review
85060	85593		X
	85594		X

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup> See Table S-5 for job skill descriptions.

<sup>b</sup> See Table S-6 for job knowledge descriptions.

Table S-83.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Grain and/or Bean Farming.

Job Skill Marked Review	Associated Job Knowledges			
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review
85038	85569			X
	85570			X
85058	85591			X
	85592			X
85059	85592			X

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>See Table S-6 for job knowledge descriptions.



Table S-84.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Livestock (Beef, Swine, Sheep) Farming.

Job Skill Marked Review	Associated Job Knowledges			
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review
85058	85591			X
	85592			X
85059	85592			X

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>See Table S-6 for job knowledge descriptions.

Table S-85.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Poultry Farming.

Job Skill Marked Review	Associated Job Knowledges		
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	
		Accept	Review
85023	85543		X
85030	85558 85559		X X
85038	85569 85570	X X	
85053	85589		X
85054	85589		X
85055	85589		X
85056	85590		X
85057			
85061	85595 85596	X	X
85069	85608 85609		X X
85092	85631		X
85117	85654	X	

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>See Table S-6 for job knowledge descriptions.

Table S-86.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges  
Marked "Accept" or "Review" for Entry into Vegetable, Beet, and/or Potato Farming.

Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges			
	Code No. <sup>a</sup>	Code No. <sup>b</sup>		Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>
85024	85544 85545		X	85049	85581 85582 85583		X
			X				X
85030	85558 85559		X	85050	85584 85585 85586		X
			X				X
85038	85569 85570		X	85055	85589		X
			X				X
85039	85569 85570		X	85058	85591 85592		X
			X				X
85043	85572 85576		X	85059	85592		X
			X				X
85044	85573		X	85060	85593 85594		X
85045	85574 85575		X				X
85046	85576		X				
85048	85578 85579 85580		X				
			X				
			X				

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-5 for job skill descriptions.

<sup>b</sup>See Table S-6 for job knowledge descriptions.

Table S-87.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the Arboriculture Industry.

Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges			
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review		
85001	85501		X	85033	85537		X						
	85502		X			85039	85538 85539						X X
	85503		X	85061	85560 85561								X
85002	85502		X			85077	85576					X	
	85503		X									85090	85579
	85504		X	85091	85579		X						
85505		X	85093			85585						X	
85003	95503						X					85094	85586 85587 85588
	85504		X	85095	85587 85588		X X						
	85505		X			85097	85586 85587 85588 85589 85590						
85506		X	85098	85590 85587								X X	
85004	85503				X								
		85005	85503		X								
85006	85504				X								
		85007	85504		X								
85008	85504 85503				X X								
		85009	85504		X								
85010	85507 85508				X X								
		85011	85508		X								
85036	85535				X								
		85037	85536		X								

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-7 for job skill descriptions.

<sup>b</sup>See Table S-8 for job knowledge descriptions.

Table S-88.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the Bedding Plant Industry.

9

Job Skill Marked Review	Associated Job Knowledges			Job Skill Marked Review	Associated Job Knowledges			Job Skill Marked Review	Associated Job Knowledges		
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept Review
85001	85501 85502 85503		X X X	85023	85517 85518 85519 85520	X X X		85051	85551 85552	X X	
85002	85502 85503 85504 85505		X X X X	85024	85517 85518 85519 85520	X X X		85052	85553		X
85003	85503 85504 85505 85506		X X X X	85025	85515 85521 85522		X	85053	85554		X
85004	85503		X	85026	85521 85522 85523	X X X		85054	85555		X
85005	85502 85503		X X	85027	85524		X	85055	85555		X
85006	85503		X	85028	85524 85525 85526		X X X	85056	85555 85551		X X
85007	85504		X	85029	85529		X	85057	85555		X
85008	85504 85503		X X	85030	85531 85532 85533		X X X	85058	85558		X
85013	85509		X	85031	85531 85532 85533		X X X	85059	85559	X	
85018	85514		X	85032	85531 85532 85533		X X X	85060	85560	X	
85019	85532 85514 85531		X X X	85033	85531 85532 85533		X X X	85061	85560 85561	X X	
85020	85516 85531 85532		X X X	85034	85531 85532 85533		X X X	85062	85561	X	
85021	85517 85518 85519	X X X		85035	85531 85532 85533		X X X	85068	85566		X
85022	85517 85518 85519 85520	X X X		85036	85531 85532 85533		X X X	85070	85569	X	
				85037	85531 85532 85533		X X X	85071	85570		X
				85038	85531 85532 85533		X X X	85072	85571		X
				85039	85531 85532 85533		X X X	85077	85576		X
				85040	85531 85532 85533		X X X	85078	85577		X
				85041	85531 85532 85533		X X X	85079	85578		X
				85042	85531 85532 85533		X X X	85090	85579		X
				85043	85531 85532 85533		X X X	85091	85579		X
				85044	85531 85532 85533		X X X	85093	85585		X

128

353

352



4	85586 85587 85588		X X X	85102	85592 85593 85594		X X X
5	85587 85588		X X	85106	85595 85601		X X
6	85589		X	85107	85596 85601		X X
7	85586 85587 85588 85589 85590	X	X X X X X	85108	85597		X
8	85590 85587	X	X	85110	85600		X
9	85586 85587 85588		X X X	85111	85601		X
10	85591 85592 85593		X X X				
11	85591		X				

199

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (if applicable) for job entry.

<sup>a</sup> See Table S-7 for job skill descriptions.

<sup>b</sup> See Table S-8 for job knowledge descriptions.

9

355

Table S-89.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the Garden Center Industry.

Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges				
	Code No. <sup>a</sup>	Code No. <sup>b</sup>		Accept	Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	
85001	85501 85502 85503	X	X	85022	85517 85518 85519 85520	X X X	X	85034	85531 85532 85533	X X	X
85002	85502 85503 85504 85505	X	X X X	85023	85517 85518 85519 85520	X X X	X	85035			
85004	85503		X	85024	85517 85518 85519 85520	X X X	X	85043	85542 85543 85545	X X X	
85005	85502 85503	X	X	85025	85515 85521 85522	X X	X	85044	85544	X	
85006	85503		X	85026	85521 85522 85523	X X	X	85045	85543 85546	X X	
85007	85504		X	85027	85524		X	85046	85546	X	
85008	85504 85503		X X	85028	85524 85525 85526		X X X	85047	8554	X	
85010	85507 85508	X	X	85029	85524 85525 85526		X X X	85048	85548	X	
85013	85503		X	85030	85528	X		85049	85549	X	
85016	85513		X	85031	85527		X	85050	85550	X	
85017	85514		X	85032	85529		X	85051	85551 85552	X X	
85018	85514		X	85033	85528 85530 85531 85534	X X X	X	85052	85553		X
85019	85532 85514 85531	X X	X					85053	85554		X
85020	85516 85531 85532	X X	X					85054	85555		X
85021	85517 85518 85519	X X X						85055	85555		X
								85056	85556 85557		X X
								85057	85555		X
								85058	85558		X
								85059	85559		X
								85060	85560	X	



85061	85560 85561	X	X	85097	85586 85587 85588 85589 85590	X X X	X X	85110	85600	X
85062	85561		X	85098	85590 85587	X	X	85111	85601	X
85068	85566		X	85099	85586 85587 85588	X X	X			
85069	85567 85568	X	X	85100	85591 85592 85593		X X X			
85070	85569	X		85101	85591		X			
85071	85570		X	85102	85592 85593 85594		X X X			
85072	85571		X	85103	85592		X			
85075	85574		X	85104	85593		X			
85076	85575		X	85105	85594		X			
85077	85576		X	85106	85595 85601		X X			
85078	85577		X	85107	85596 85601		X X			
85079	85578		X	85108	85597		X			
85082	85519 85520	X	X	85109	85598 85599 85601		X X X			
85090	85579		X							
85093	85585	X								
85094	85586 85587 85588	X X	X							
85095	85597 85598	X	X							
85096	85589	X								

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup> See table S-7 for job skill descriptions.

<sup>b</sup> See Table S-8 for job knowledge descriptions.



Table S-90.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the Groundskeeping and/or Park Industry.

Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges					
	Code No. <sup>a</sup>	Code No. <sup>b</sup>		Accept	Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review		
85001	85501			X	85014	85510		X	85097	85586		X
	85502			X		85511		X		85587		X
	85503			X						85588		X
					85015	85512		X		85589		X
85002	85502			X						85590	X	
	85503			X	85036	85535		X				
	85504			X					85098	85590	X	
	85505			X	85037	85536		X		85587		X
85003	85503			X	85038	85537		X	85099	85586		X
	85504			X						85587		X
	85505			X	85039	85538		X		85588		X
	85506			X		85039		X				
85004	85503			X	85090	85579		X				
85005	85502			X	85091	85579		X				
	85503			X								
85006	85503			X	85092	85579		X				
85007	85504			X	85093	85585	X					
85008	85504			X	85094	85586		X				
	85503			X		85587		X				
						85588		X				
85009	85504			X	85095	85587		X				
						85588		X				
85010	85507			X								
	85508			X	85096	85589		X				
85013	85509			X								

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-7 for job skill descriptions.

<sup>b</sup>See Table S-8 for job knowledge descriptions.



Table S-91.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the Landscaping Industry.

Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges			
	Code No. <sup>a</sup>	Code No. <sup>b</sup>		Accept	Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review
85001	85501			X	85038	85537			X	
	85502			X		85039	85533			X
	85503			X			85539			X
85002	85502			X	85090	85579			X	
	85503			X		85091	85579			X
	85504			X			85093	85585		
	85505			X		85094		85586		
85003	85503			X	85587				X	
	85504			X	85588				X	
	85505			X	85095	85587			X	
	85506			X		85588			X	
85004	85503			X	85096	85589			X	
85005	85502			X		85097	85586			X
	85503			X	85587				X	
85006	85503			X	85588				X	
	85007	85504			X		85589			X
85008		85504			X	85098	85590			X
		85503			X		85587			X
85010		85507			X	85099	85586			X
	85508			X	85587				X	
85036	85535			X	85588				X	
85037	85536			X						

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup> See Table S-7 for job skill descriptions.

<sup>b</sup> See Table S-8 for job knowledge descriptions.

Table S-92.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the Nursery Production Industry.

Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges			
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review		
85001	85501		X	85091	85579		X	85103	85592		X		
	85502		X				X				X		
	85503		X				X				X		
85002	85502		X	85094	85586		X	85109	85598		X		
	85503		X		85587		X		85599		X		
	85504		X		85588		X		85601		X		
	85505		X										
85003	85503		X	85095	85587		X	85110	85600		X		
	85504		X		85588		X						
	85505		X	85096	85589		X	85111	85601		X		
	85506		X										
85004	85503		X	85097	85586		X						
			X		85587		X						
			X		85588		X						
85005	85502		X	85098	85590		X						
			X			85587		X					
85006	85504		X	85099	85586		X						
			X			85587		X					
85013	85509		X	85100	85588		X	85591	85592		X		
			X			X				X			
			X			X				X			
85036	85535		X	85101	85591		X						
85037	85536		X										
			X										
85038	85537		X	85102	85592		X						
85052	85553		X		85593		X						
			X		85594		X						
85057	85555		X										
85090	85579		X										

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-8 for job skills descriptions.

<sup>b</sup>See Table S-7 for job knowledge descriptions.

Table S-93.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into the Turf and Sprinkler Industry.

Job Skill Marked Review	Associated Job Knowledges		
	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept    Review
85001	85501		X
	85502		X
	85503		X
85002	85502		X
	85503		X
	85504		X
	85505		X
85003	85503		X
	85504		X
	85505		X
	85506		X
85004	85503		X
85005	85502		X
	85503		X
85006	85503		X
85036	85535		X
85037	85536		X
85038	85537		X
85039	85538		X
	85539		X
85090	85579		X
85091	85579		X
85093	85585		X
85098	85590	X	
	85597	X	

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup> See Table S-7 for job skill descriptions.

<sup>b</sup> See Table S-8 for job knowledge descriptions.

Table S-94.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Farm Implement Repair

Job Skill Marked Review	Associated Job Knowledges			
	Code No. <sup>d</sup>	Code No. <sup>u</sup>	Accept	Review
85022	85512	X		
85037	85526			X
85039				
85077	85548			X
85098	85556			X
85133				
85206	85630 85631			X X
85210	85633			X
85222	85641 85644 85645 85646			X X X X

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-9 for job skill descriptions.

<sup>b</sup>See Table S-10 for job knowledge descriptions.

Table B-95.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Agricultural Chemical Biological-Technical Services.

Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges				
	Code No. <sup>d</sup>	Code No. <sup>b</sup>		Accept	Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	
85004	85505 85511 85512		X	85018	85546 85547		X	85030	85581 85582		X
			X				X				X
			X				X				X
85005	85513 85514 85515		X	85019	85548 85549 85550		X	85031	85583 85584 85585 85586		X
			X				X				X
			X				X				X
85006	85516 85517		X	85020	85551 85552		X	85032	85587 85588 85589		X
			X				X				X
85007	85518 85519		X	85021	85553 85554 85555 85556		X	85033	85587 85588 85589		X
			X				X				X
85008	85520 85521 85522		X	85022	85555 85557 85558		X	85037	85592 85593		X
			X				X				X
			X				X				X
85010	85525		X	85023	85559 85560		X	85038	85595 85596 85597 85598		X
85011	85526 85527 85528		X				X				X
			X	85024	85561		X		X		X
			X				X		X		
85012	85529 85530 85531 85532		X	85025	85562 85563 85564 85565		X	85039	85599 85598 85593		X
			X				X				X
			X				X				X
			X				X				X
85013	85533 85534 85535		X	85026	85566 85567 85568		X	85040	85596 85597		X
			X				X				X
			X				X				X
85015	85539 85540		X	85027	85569 85570 85571		X	85041	85596 85597		X
			X				X				X
85016	85539 85540 85541 85542 85543 85544		X	85028	85572 85573 85574 85575		X	85042	85600 85601		X
			X				X				X
			X				X				X
			X				X				X
			X				X				X
			X				X				X
85017	85544 85545 85546		X	85029	85576 85577 85578 85579 85580		X	85043	85602 85603 85604		X
			X				X				X
			X				X				X
			X				X				X
			X				X				X
85018	85547 85548		X	85030	85581 85582		X	85044	85604 85605		X
			X				X				X

85045	85606 85607 85608		X X X	85065	85640 85641		X X	85089	85661		X
85046	85608 85609		X X	85066	85642		X	85090	85671		X
85047	85610 85611 85612 85613		X X X X	85067	85642		X	85102	85679 85680		X X
85048	85614		X	85068	85643 85644 85645		X X X	85104	85683		X
85049	85611 85614		X X	85069	85644 85645		X X	85107	85686	X	
85050	85615 85616		X X	85070	85646 85647		X X	85109	85695	X	
85051	85617 85618		X X	85071	85648		X	85110	85697		X
85054	85624 85625		X X	85072	85649		X	85113	85690		X
85055	85626 85627 85630		X X X	85073	85650		X	85114	85691 85692	X X	
85055	85626 85627 85628 85630		X X X X	85074	85651 85652		X X	85115	85693 85694	X X	X
85057	85629 85630 85631		X X X	85075	85653 85654		X X	85116	85694 85695 85696	X X X	
85058	85623 85621		X X	85075	85655		X	85117	85692	X	
85059	85632 85633		X X	85077				85122	85698		X
85060	85634		X	85078	85656		X	85129	85700		X
85061	85635		X	85079	85657 85658 85659		X X X	85130	85702 85703		X X
85062	85636		X	85080	85660		X	85131	85702 85703 85704		X X X
85063	85637		X	85083	85665 85666		X X	85133	85706		X
85064	85638 85639		X X	85084	85664		X	85134	85707		X
				85085	85665 85669		X X	85135	85707		X
				85086	85666		X	85142	85715	X	
				85087	85667 85668		X X	85147	85718 85720	X	X
				85088	85669		X	85148	85721		X
								85149	85722 85723 85724		X X X

25.--Continued.

Skill Review No. <sup>a</sup>	Associated Job Knowledges			Job Skill Marked Review Code No. <sup>a</sup>	Associated Job Knowledges			Job Skill Marked Review Code No. <sup>a</sup>	Associated Job Knowledges		
	Code No. <sup>b</sup>	Accept	Review		Code No. <sup>b</sup>	Accept	Review		Code No. <sup>b</sup>	Accept	Review
0	85722		X	85158	85726		X	85187	85746		X
	85723		X								
	85724		X								
1	85722		X	85165	85732		..	85189	85748		X
	85723		X								
	85724		X								
3	85722		X	85171	85736		X	85190	85749 85750		X X
	85723		X								
	85724		X								
4	85725		X	85184	85743		X				
6				85185	85744		X				
7	85726		X	85186	85745		X				

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" for job entry.

<sup>a</sup> See Table S-11 for job skill descriptions.

<sup>b</sup> See Table S-12 for job knowledge descriptions.





Table S-96.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Animal Laboratory Biological-Technical Services.

Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges					
	Code No. <sup>a</sup>	Code No. <sup>b</sup>		Accept	Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review		
85006	85516			X	85032	85587		X	85051	85617		X
	85517			X		85588		X		85618		X
85007	85518	X			85033	85587		X	85052	85619		X
	85519			X		85588		X		85620		X
						85589		X		85621		X
85011	85526			X	85034	85594	X		85053	85622		X
	85527			X		85590		X		85623		X
	85528			X		85591	X			85624		X
85012	85529			X	85035	85592	X			85625		X
	85530			X		85593	X			85626		X
	85531	X				85594			85055	85627		X
	85532			X		85595				85628		X
85013	85533			X	85037	85592	X			85630		X
	85534			X		85593	X			85631		X
	85535			X	85038	85595		X	85056	85626		X
85019	85548	X				85596	X			85627		X
	85549	X				85597	X			85628		X
	85550	X				85598	X			85630		X
85020	85551			X	85041	85596	X		85057	85629		X
	85552			X		85597	X			85630		X
85021	85553			X	85042	85600		X	85058	85623		X
	85554			X		85601		X		85621		X
	85555			X	85043	85602		X	85059	85632		X
	85556			X		85603		X		85633		X
85026	85566			X		85604		X	85060	85634		X
	85567			X	85044	85604		X		85635		X
	85568			X		85605		X	85061	85635		X
85027	85569	X			85046	85608		X	85062	85636		X
	85570			X		85609		X		85637		X
	85571			X	85047	85610		X	85063	85637		X
85028	85572			X		85611		X	85064	85638		X
	85573			X		85612		X		85639		X
	85574			X		85613		X				
	85575			X	85050	85615		X	85065	85640		X
85031	85583			X		85616		X		85641		X
	85584			X								
	85585			X								
	85586			X								



85066	85642		X
85067	85642		X
85068	85643 85644 85645		X X X
85069	85644 85645		X X
85070	85646 85647		X X
85071	85648		X
85072	85649		X
85073	85650		X
85074	85651 85652		X X
85075	85653 85654		X X
85076	85655		X
85077			
85078	85656		X
85079	85657 85658 85659		X X X
85080	85660		X
85081	85661 85662		X X
85082	85663 85670 85664		X X X
85083	85665 85666		X X
85084	85664		X
85085	85665 85669		X X
85086	85666		X

85087	85667 85668		X X
85088	85669		X
85089	85661		X
85090	85671		X
85091	85672		X
85092	85673		X
85093	85674 85675 85676		X X X
85094	85681		X
85095	85676 85677		X X
85096	85677		X
85097	85677		X
85098	85676		X
85099	85677		X
85100	85678		X
85101	85678		X
85102	85679 85680		X X
85103	85682		X
85104	85683		X
85105	85684		X
85106	85685		X
85107	85686		X
85108	85684		X
85109	85685		X
85110	85687		X
85111	85688		X

85112	85689		X
85113	85690		X
85114	85691 85692		X X
85115	85693 85694		X X
85116	85694 85695 85696		X X X
85117	85692		X
85118	85696		X
85119	85696		X
85120	85701		X
85121	85697		X
85122	85698		X
85123	85700		X
85124	85700		X
85125	85701		X
85126	85699		X
85127			
85128	85701		X
85129	85700		X
85130	85702 85703		X X
85131	85702 85703 85704		X X X
85132	85705		X
85133	85706		X
85134	85707		X
85135	85707		X
85136	85708		X
85137	85709 85710		X X
85138	85715		X

213

9

Table S-96.--Continued.

Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Marked Review	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review
85139	85711 85712		X X	85153	85722 85723 85724		X X X	85174			
85140	85713		X	85154	85725		X	85175	85735		X
85141	85714		X	85155	85726		X	85176	85735		X
85142	85715		X	85156				85177	85736 85737		X X
85143	85717 85715		X X	85157	85726		X	85178	85737		X
85144	85716 85715		X X	85158	85726		X	85179	85738		X
85145	85716 85717 85719		X X X	85159	85726		X	85180	85738		X
85146	85716 85717 85719		X X X	85160	85727		X	85181	85739		X
85147	85718 85720		X X	85161	85728		X	85182	85740 85741		X X
85148	85721		X	85162	85729		X	85183	85742		X
85149	85722 85723 85724		X X X	85163	85730		X	85184	85743		X
85150	85722 85723 85724		X X X	85164	85731		X	85185	85744		X
85151	85722 85723 85724		X X X	85165	85732		X	85186	85745		X
85152	85722 85723 85724		X X X	85166	85733		X	85187	85746		X
				85167	85732		X	85188	85747		X
				85168	85733		X	85189	85748		X
				85169	85734		X	85190	85749 85750		X X
				85170	85735		X	85191	85751		X
				85171	85736		X	85192	85752		X
				85172	85732		X	85193	85753		X
				85173	85733		X				

85754		X							
85755		X							
85756		X							

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" for job entry.

See Table S-11 for job skill descriptions.

See Table S-12 for job knowledge descriptions.

215

6

382

97.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Food Processing Biological-Technical Services.

9

Skill Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges	
	Code No. <sup>b</sup>	Accept Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>		Accept Review	Code No. <sup>a</sup>
	85501 85502	X X	85015	85539 85540	X X	85027	85569 85570 85571	X X X
	85503 85504	X X	85016	85539 85540 85541 85542 85543 85544	X X X X X X	85028	85072 85073 85074 85075	X X X X
	85505 85511 85512	X X X	85017	85544 85545 85546	X X X	85029	85576 85577 85578 85579 85580	X X X X X
	85513 85514 85515	X X X	85018	85546 85547	X X	85030	85581 85582	X X
	85516 85517	X X	85019	85548 85549 85550	X X X	85031	85583 85584 85585 85586	X X X X
	85518 85519	X X	85020	85551 85552	X X	85032	85587 85588 85589	X X X
	85520 85521 85522	X X X	85021	85553 85554 85555 85556	X X X X	85033	85587 85588 85589	X X X
	85523 85506 85507 85524	X X X X	85022	85555 85557 85558	X X X	85034	85594 85590 85591	X X X
	85525	X	85023	85559 85560	X X	85035	85592 85593	X X
	85526 85527 85528	X X X	85024	85561	X	85036	85592 85593	X X
	85529 85530 85531 85532	X X X X	85025	85562 85563 85564 85565	X X X X	85037	85592 85593	X X
	85533 85534 85535	X X X	85026	85566 85567 85568	X X X			
	85536 85537 85538	X X X						

216

384

85595		X
85596		X
85597		X
85598		X
85599		X
85600		X
85601		X
85602		X
85603		X
85604		X
85605		X
85606		X
85607		X
85608		X
85609		X
85610		X
85611		X
85612		X
85613		X
85614		X
85615		X
85616		X
85617		X
85618		X
85619		X
85620		X
85621		X
85622		X
85623		X

85054	85624 85625	X X
85055	85626 85627 85630	X X X
85056	85628 85627 85628 85630	X X X X
85057	85629 85630 85631	X X X
85058	85623 85621	X X
85059	85632 85633	X X
85060	85634	X
85061	85635	X
85062	85636	X
85063	85637	X
85064	85638 85639	X X
85065	85640 85641	X X
85066	85642	X
85067	85642	X
85068	85643 85644 85645	X X X
85069	85644 85645	X X
85070	85646 85647	X X
85071	85648	X
85072	85649	X

85073	85650	X
85074	85651 85652	X X
85075	85653 85654	X X
85076	85655	X
85077		
85078	85656	X
85079	85657 85658 85659	X X X
85080	85660	X
85083	85665 85666	X X
85084	85664	X
85085	85665 85669	X X
85086	85666	X
85087	85667 85668	X X
85088	85669	X
85089	85661	X
85090	85671	X
85091	85672	X
85092	85673	X
85093	85674 85675 85676	X X X
85094	85681	X
85095	85676 85677	X X
85096	85677	X

217

G



9/ ---CONTINUED.

Skill Review	Associated Job Knowledges			Job Skill Marked Review	Associated Job Knowledges			Job Skill Marked Review	Associated Job Knowledges		
	Code No. <sup>b</sup>	Accept	Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept		Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>
7	85677		X	85129	85700		X	85147	85718 85720		X X
8	85676		X	85130	85702 85703		X X	85148	85721		X
9	85677		X	85131	85702 85703 85704		X X X	85149	85722 85723 85724		X X X
10	85678		X	85132	85705		X	85150	85722 85723 85724		X X X
11	85673		X	85133	85706		X	85151	85722 85723 85724		X X X
12	85679 85680		X X	85134	85707		X	85152	85722 85723 85724		X X X
13	85682		X	85135	85707		X	85153	85722 85723 85724		X X X
14	85683		X	85136	85708		X	85154	85725		X
15	85684		X	85137	85709 85710		X X	85155	85726		X
16	85686		X	85138	85715		X	85156			
17	85685		X	85139	85711 85712		X X	85157	85726		X
18	85687		X	85140	85713		X	85158	85726		X
19	85690		X	85141	85714		X	85159	85726		X
20	85691 85692		X X	85142	85715		X	85160	85727		X
21	85693 85694		X X	85143	85717 85715		X X	85161	85728		X
22	85694 85695 85696		X X X	85144	85716 85715		X X	85162	85729		X
23	85692		X	85145	85716 85717 85719		X X X	85164	85731		X
24	85696		X	85146	85716 85717 85719		X X X	85165	85732		X
25	85697		X								
26	85698		X								
27	85700		X								

9

218

988

85733		X	85183	85742		X
85732		X	85184	85743		X
85733		X	85185	85744		X
85734		X	85186	85745		X
85735		X	85187	85746		X
85736		X	85188	85747		X
85732		X	85189	85748		X
85733		X	85190	85749 85750		X X
			85191	85751		X
85735		X	85192	85752		X
85735		X	85193	85753		X
85736 85737		X X	85194	85754		X
85737		X	85195	85755		X
85738		X	85196	85756		X
85738		X				
85739		X				
85740 85741		X X				

219

It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" for job entry.

See Table S-11 for job skill descriptions.

See Table S-12 for job knowledge descriptions.

6

390



3.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Grain, Feed, and/or Seed Biological-Technical Services.

Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges				
	Code No. <sup>b</sup>	Accept		Review	Code No. <sup>a</sup>		Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>
	85513		X	85054	85624		X	85084	85664		X
	85514		X		85625		X				
	85515		X	85055	85626		X	85085	85665		X
	85516		X		85627		X		85669		X
	85517		X		85630		X	85086	85666		X
	85518		X	85056	85626		X	85087	85667		X
	85519		X		85627		X		85668		X
	85565		X		85628		X				
	85567		X		85630		X	85088	85669		X
	85568		X	85057	85629		X	85089	85661		X
	85569		X		85630		X	85107	85686		X
	85570		X		85631		X				
	85571		X	85066	85642		X	85108	85684	X	
	85572		X	85074	85651		X	85119	85696		X
	85573		X		85652		X				
	85574		X	85076	85655		X	85121	85697		X
	85575		X								
	85595		X	85077				85122	85698		X
	85596		X								
	85597		X	85078	85656		X	85123	85700		X
	85598		X								
	85596		X	85079	85657		X	85124	85700		X
	85597		X		85658		X	85125	85701		X
					85659		X				
	85596		X	85081	85661		X	85126	85699		X
	85597		X		85662		X	85127			
	85500		X	85082	85663		X	85128	85701		X
	85601		X		85670		X				
	85602		X		85664		X	85129	85700		X
	85603		X	85083	85665		X				
	85604		X		85666		X	85130	85702		X
	85604		X						85703		X
	85605		X						85704		X
	85608		X					85131	85702		X
	85609		X						85703		X
									85704		X
								85132	85705		X

220



85147	85718 85720		X X	85171	85736		X	85186	85745		X
85148	85721		X	85173	85733		X	85187	85746		X
85157	85726		X	85174				85188	85747		X
85158	85726		X		85735		X	85189	85748		X
85159	85726		X	a.	85736 85737		X X	85190	85749 85750	X	X
85160	85727		X	85179	85738		X	85191	85751		X
85161	85728		X	85180	85738		X	85192	85752	X	
85162	85729		X	85181	85739		X				
85165	85732		X	85183	85742		X				
85169	85734		X	85184	85743		X				
85170	85735		X	85185	85744		X				

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup> See Table S-11 for job skill descriptions.

<sup>b</sup> See Table S-12 for job knowledge descriptions.

Table S-99.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Waste Disposal Biological-Technical Services.

Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges		Job Skill Marked Review	Associated Job Knowledges					
	Code No. <sup>a</sup>	Code No. <sup>b</sup>		Accept	Review		Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review		
85001	85501			X	85014	85536		X	85026	85566		X
	85502			X		85537		X		85567		X
						85538		X		85568		X
85002	85503			X	85015	85539		X	85027	85569		X
	85504			X		85540		X		85570		X
										85571		X
85003	85508			X	85016	85539		X	85028	85572		X
	85509			X		85540		X		85573		X
	85510			X		85541		X		85574		X
85004	85505			X		85542		X		85575		X
	85511			X		85543		X				
	85512			X		85544		X	85029	85576		X
85005	85513			X	85017	85544		X		85577		X
	85514			X		85545		X		85578		X
	85515			X		85546		X		85580		X
85006	85516			X	85018	85546		X	85030	85581		X
	85517			X		85547		X		85582		X
85007	85518			X	85019	85548		X	85031	85583		X
	85519			X		85549		X		85584		X
						85550		X		85585		X
85008	85520			X	85020	85551		X		85586		X
	85521			X		85552		X	85032	85587		X
	85522			X						85588		X
85009	85523			X	85021	85553		X		85589		X
	85524			X		85554		X	85033	85587		X
						85555		X		85588		X
						85556		X		85589		X
85010	85525			X	85022	85555		X	85034	85594		X
						85557		X		85590		X
85011	85526			X		85558		X		85591		X
	85527			X	85023	85559		X				
	85528			X		85560		X	85035	85592		X
85012	85529			X						85593		X
	85530			X	85024	85561		X				
	85531			X					85036	85592		X
	85532			X	85025	85562		X		85593		X
85013	85533			X		85563		X	85037	85592		X
	85534			X		85564		X		85593		X
	85535			X		85565		X				

222



85038	85595 85596 85597 85598	X X X X
85039	85599 85598 85593	X X X
85040	85596 85597	X X
85041	85596 85597	X X
85042	85600 85601	X X
85043	85602 85603 85604	X X X
85044	85604 85605	X X
85045	85606 85607 85608	X X X
85046	85608 85609	X X
85047	85610 85611 85612 85613	X X X X
85048	85614	X
85049	85611 85614	X X
85050	85615 85616	X X
85051	85617 85618	X X
85052	85619 85620 85621	X X X
85053	85622 85623	X X
85054	85624 85625	X X

85055	85626 85627 85630	X X X
85056	85626 85627 85628 85630	X X X X
85057	85629 85630 85631	X X X
85058	85623 85621	X X
85059	85632 85633	X X
85060	85634	X
85061	85635	X
85062	85636	X
85063	85637	X
85064	85638 85639	X X
85065	85640 85641	X X
85066	85642	X
85067	85642	X
85068	85643 85644 85645	X X X
85069	85644 85645	X X
85070	85646 85647	X X
85071	85648	X
85072	85649	X
85073	85650	X
85074	85651 85652	X X

85075	85653 85654	X X
85076	85655	X
85077		
85078	85656	X
85079	85657 85658 85659	X X X
85080	85660	X
85084	85664	X
85090	85671	X
85091	85672	X
85092	85673	X
85093	85674 85675 85676	X X X
85094	85681	X
85095	85676 85677	X X
85096	85677	X
85097	85677	X
85098	85676	X
85099	85677	X
85100	85678	X
85101	85678	X
85102	85679 85680	X X
85103	85682	X
85104	85683	X
85105	85684	X
85106	85685	X
85107	85686	X

223

G

Table S-99.--Continued.

Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges		
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	
85108	85684		X	85130	85702 85703		X X	85148	85721		X	
85109	85685		X	85131	85702 85703 85704		X X X	85149	85722 85723 85724		X X X	
85110	85687		X									
85111	85688		X	85132	85705		X	85150	85722 85723 85724		X X X	
85112	85689		X									
85113	85690		X	85133	85706		X	85151	85722 85723 85724		X X X	
85114	85691 85692		X X	85134	85707		X					
85115	85693 85694		X X	85135	85707		X	85152	85722 85723 85724		X X X	
			X X	85136	85708		X					
85116	85694 85695 85696		X X X	85137	85709 85710		X X	85153	85722 85723 85724		X X X	
			X	85138	85715		X					
			X									
85117	85692		X	85139	85711 85712		X X	85154	85725		X	
85118	85695		X	85140	85713		X	85155	85726		X	
85119	85696		X							85156		
85120	85701		X	85141	85714		X	85157	85726		X	
85121	85697		X	85142	85715		X	85158	85726		X	
85122	85698		X	85143	85717 85715		X X	85159	85726		X	
			X									
85123	85700		X	85144	85716 85715		X X	85160	85727		X	
85124	85700		X							85161	85728	
85125	85701		X	85145	85716 85717 85719		X X X	85162	85729		X	
85126	85699		X							85163	85730	X
85127				85146	85716 85717 85719		X X X	85164	85731	X		
85128	85701		X							85165	85732	
85129	85700		X	85147	85718 85720		X X	85166	85733		X	



85167	85732		X	85178	85737		X	85188	85747		X
85168	85733		X	85179	85738		X	85189	85748		X
85169	85734		X	85180	85739		X	85190	85749 85750		X X
85171	85736		X	85181	85739		X	85191	85751		X
85172	85732		X	85182	85740 85741		X X	85192	85752		X
85173	85733		X	85183	85742		X	85193	85753		X
85174				85184	85743		X	85194	85754		X
85175	85735		X	85185	85744		X	85195	85755		X
85177	85736 85737		X X	85186	85745		X	85196	85756		X
				85187	85746		X				

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup>See Table S-11 for job skill descriptions.

<sup>b</sup>See Table S-12 for job knowledge descriptions.

Table S-100.--Disposition of Job Skills Marked "Review" with Associated Job Knowledges Marked "Accept" or "Review" for Entry into Water Resources Biological-Technical Services.

Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges	
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review
85001	85501 85502		X X	85015	85539 85540		X X	85027	85569 85570 85571		X X X
85002	85503 85504		X X	85016	85539 85540 85541		X X X	85028	85072 85073 85074 85075		X X X X
85004	85505 85511 85512		X X X		85542 85543 85544		X X X				
85005	85513 85514 85515		X X X	85017	85544 85545 85546		X X X	85029	85576 85577 85578 85579 85580		X X X X X
85006	85516 85517		X X	85018	85546 85547		X X	85030	85581 85582		X X
85007	85518 85519		X X	85019	85548 85549 85550		X X X	85031	85583 85584 85585 85586		X X X X
85008	85520 85521 85522		X X X	85020	85551 85552		X X				
85009	85523 85506 85507 85524		X X X X	85021	85553 85554 85555 85556		X X X X	85032	85587 85588 85589		X X X
85010	85525		X	85022	85555 85557 85558		X X X	85033	85587 85588 85589		X X X
85011	85526 85527 85528		X X X	85023	85559 85560		X X	85034	85594 85590 85591		X X X
85012	85529 85530 85531 85532		X X X X	85024	85561		X	85035	85592 85593		X X
85013	85533 85534 85535		X X X	85025	85562 85563 85564 85565		X X X X	85036	85592 85593		X X
85014	85536 85537 85538		X X X	85026	85566 85567 85568		X X X	85037	85592 85593		X X

85038	85595 85596 85597 85598	X X X X	85055	85626 85627 85630	X X X	85075	85653 85654	X X
85039	85599 85598 85593	X X X	85056	85626 85627 85628 85630	X X X X	85076	85655	X
85040	85596 85597	X X	85057	85629 85630 85631	X X X	85077		
85041	85596 85597	X X	85058	85623 85621	X X	85078	85656	X
85042	85600 85601	X X	85059	85632 85633	X X	85079	85657 85658 85659	X X X
85043	85602 85603 85604	X X X	85060	85634	X	85080	85660	X
85044	85604 85605	X X	85061	85635	X	85084	85664	X
85045	85606 85607 85608	X X X	85062	85636	X	85086	85666	X
85046	85608 85609	X X	85063	85637	X	85090	85671	X
85047	85610 85611 85612 85613	X X X X	85064	85638 85639	X X	85091	85672	X
85048	85614	X	85065	85640 85641	X X	85092	85673	X
85049	85611 85614	X X	85066	85642	X	85093	85674 85675 85676	X X X
85050	85615 85616	X X	85067	85642	X	85094	85681	X
85051	85617 85618	X X	85068	85643 85644 85645	X X X	85095	85676 85677	X X
85052	85619 85620 85621	X X X	85069	85644 85645	X X	85096	85677	X
85053	85622 85623	X X	85070	85646 85647	X X	85097	85677	X
85054	85624 85625	X X	85071	85648	X	85098	85676	X
			85072	85649	X	85099	85677	X
			85073	85650	X	85100	85678	X
			85074	85651 85652	X X	85101	85678	X
						85102	85679 85680	X X
						85103	85682	X
						85104	85683	X
						85105	85684	X
						85106	85685	X



Table S-100.--Continued.

Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges		Job Skill Marked Review		Associated Job Knowledges		
Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	Code No. <sup>a</sup>	Code No. <sup>b</sup>	Accept	Review	
85107	85686	X		85131	85702		X	85150	85722		X	
85108	85684		X		85703		X		85723		X	
85109	85685	X			85704		X		85724		X	
85110	85687		X	85133	85706		X	85151	85722		X	
85111	85688		X	85134	85707		X		85723		X	
85112	85689		X	85135	85707		X		85724		X	
85113	85690		X	85136	85708		X	85152	85722		X	
85114	85691	X		85137	85709		X		85723		X	
	85692	X		85710			X		85724		X	
85115	85693		X	85138	85715	X		85153	85722		X	
	85694		X	85139	85711		X		85723		X	
85116	85694	X			85712		X		85724		X	
	85695	X		85140	85713		X	85154	85725		X	
	85696	X		85141	85714	X			85155	85726		X
85117	85692	X		85142	85715	X			85156			
85118	85696	X		85143	85717	X		85157		85726	X	
85119	85696	X		85715	85715	X		85158		85726		X
85120	85701	X		85144	85716	X		85159	85726		X	
85121	85697	X			85715	X			85161	85728		X
85122	85698		X	85145	85716	X			85162	85729		X
85123	85700				85717	X		85164		85731	X	
85124	85700		X	85146	85717	X		85165		85732	X	
85127					85719	X		85166	85733	X		
85128	85701	X		85147	85716	X			85167	85732	X	
85129	85700		X		85717	X			85168	85733	X	
85130	85702		X		85719	X		85169	85734	X		
	85703		X	85148	85718	X			85174			
					85720		X		85175	85735	X	
				85149	85721		X					
					85722		X					
					85723		X					
					85724		X					

85182	85740 85741	X X		85187	85746		X	85192	85752	X	
85183	85742		X	85188	85747		X	85193	85753		X
85184	85743		X	85189	85748		X	85194	85754		X
85185	85744		X	85190	85749 85750		X X				
85186	85745		X	85191	85751		X				

NOTE: It is recommended that all job skills and associated job knowledges referred to in this table be declared "not needed" (rejected) for job entry.

<sup>a</sup> See Table S-11 for job skill descriptions.

<sup>b</sup> See Table S-12 for job knowledge descriptions.

APPENDIX A

TASK ANALYSIS SURVEY INSTRUMENTS  
(SELECTED PAGES ONLY)

Occupation: FARMING -- 85.1

Code No. \_\_\_\_\_

NAME: \_\_\_\_\_ POSITION: \_\_\_\_\_

EMPLOYER: \_\_\_\_\_ TELEPHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
 (Street) (City) (State) (Zip)

Number of years experience in occupation: \_\_\_\_\_

Number of hours in work week: \_\_\_\_\_ in work day: \_\_\_\_\_

CRITICAL INCIDENT

Job Skills:

1. A critical incident is a skill or knowledge needed (desirable) for entry level employment in farming following high school graduation.
2. Please check each item in the skills list indicating answers to the following:
  - a) Is the item an entry level skill for a high school graduate?
  - b) What is the degree of importance to a person engaged in farming?

232

Definitions:

- Essential -- Of utmost importance; competence in performing this task is absolutely necessary for entry level employment.
- Very Important -- Competence in performing this task has much influence or effect on entry level employability.
- Some Importance -- Competence in performing this task has some influence on entry level employability.
- Minor Importance -- Competence in performing this task has no effect on entry level employability.
- Not Needed -- Task does not apply for entry level employment.

SPECIAL NOTE

1. Since there are many types of farming in Michigan we suggest you check the lists of skills and knowledges as they apply to the type(s) of farming with which you are most familiar.
2. Please check below the type(s) of farming in which you are working:

Vegetable, beet, potato \_\_\_\_\_

Poultry \_\_\_\_\_

Grain and/or beans \_\_\_\_\_

Fruit, tree \_\_\_\_\_

Livestock: beef, swine,  
sheep \_\_\_\_\_

Fruit, bush, vine \_\_\_\_\_

Dairy \_\_\_\_\_

Other (specify) \_\_\_\_\_

\_\_\_\_\_

CRITICAL INCIDENT ANALYSIS

Occupation: FARMING

JOB SKILLS	Relative Importance —					Code
	Entry Skill	Not Needed	Minor Importance	Some Importance	Very Important	
<u>Soil Program</u>						
1. Determine best use for each land capability class on the farm.	—	—	—	—	—	85001
2. Identify type of farming appropriate for the land capability classes of the farm.	—	—	—	—	—	85002
3. Use results of soil tests to specify fertilizer analysis for each crop on the farm.	—	—	—	—	—	85003
4. Identify crops appropriate for the soils of the farm.	—	—	—	—	—	85004
5. Specify amount of fertilizer per acre for crops to be grown on the farm.	—	—	—	—	—	85005
6. Determine form of plant food to use on the crops of the farm (dry, liquid, gas).	—	—	—	—	—	85006
7. Specify kind & amount of liming material to reach desired pH level in the soil.	—	—	—	—	—	85007
8. Specify drainage programs consistent with the crop & the soil type.	—	—	—	—	—	85008
9. Maintain organic matter level in the soil.	—	—	—	—	—	85009
10. Prepare soil for the crops to be grown.	—	—	—	—	—	85010
11. Maintain desirable soil tilth in the soils of the farm.	—	—	—	—	—	85011
12. Take soil samples to deliver to the soil testing laboratory.	—	—	—	—	—	85012
13. Choose appropriate tillage equipment for the kind of soil & the crops to be grown on the farm.	—	—	—	—	—	85013
<u>Crop Program</u>						
14. Choose appropriate varieties of each crop.	—	—	—	—	—	85014
15. Plant seeds and/or plants at appropriate rate & spacing in the row & in row width.	—	—	—	—	—	85015
16. Plant seeds and/or plants at appropriate depth.	—	—	—	—	—	85016

234

MICHIGAN STATE UNIVERSITY

Occupation: FARMING -- 85.1

CRITICAL INCIDENT

Job Knowledges:

1. A critical incident is a skill or a knowledge needed (desirable) for entry level employment following high school graduation.
2. Please check each item in the knowledges list indicating the relative desirability of the item for the types of farming with which you are most familiar.

235

CRITICAL INCIDENT ANALYSIS

Occupation: FARMING

JOB KNOWLEDGES	This Knowledge Is —			Code
	Unnecessary	Desirable	Essential	
<u>Must Understand:</u>				
<u>Soil Program</u>				
1. Characteristics that determine land capability class.	—	—	—	85501
2. Factors which limit capability of soil.	—	—	—	85502
3. Relationship of land capability & type of farming which is appropriate.	—	—	—	85503
4. Relationship of land capability classes & crops which are appropriate.	—	—	—	85504
5. Optimum levels of NPK & minor elements for specific crops.	—	—	—	85505
6. Relative costs of various forms of plant nutrients (liquid, solid, gas).	—	—	—	85506
7. Relative rates of availability of various forms of plant nutrients (liquid, solid, gas).	—	—	—	85507
8. pH levels required by various crops for optimum production.	—	—	—	85508
9. Kinds of liming materials commonly available in the area.	—	—	—	85509
10. Effectiveness of various kinds of liming materials on the soils of the area.	—	—	—	85510
11. Relation of drainage to production of various crops of the area.	—	—	—	85511
12. Function of organic matter in the soil.	—	—	—	85512
13. Various methods of adding organic matter to the soil.	—	—	—	85513
14. Water requirements of crops commonly grown in the area.	—	—	—	85514
15. Methods of determining quantity of water needed to supplement natural rainfall for specified crops.	—	—	—	85515
16. Characteristics of a desirable seed bed for crops to be grown in the area.	—	—	—	85516
17. What tillage equipment & methods will result in a desirable seed bed.	—	—	—	85517
18. Factors affecting soil tilth.	—	—	—	85518
19. Depth from which to take samples for soil tests.	—	—	—	85519
20. The area to be represented by a specific soil sample.	—	—	—	85520
21. Characteristics of a composite soil sample.	—	—	—	85521
22. The effect of each kind of tillage equipment on soil.	—	—	—	85522
23. The soil properties that determine soil management groups & units.	—	—	—	85523
<u>Crop Program</u>				
24. The adaptability of crops to various soils of the area.	—	—	—	85524
25. The characteristics of various crop varieties.	—	—	—	85525
26. The most appropriate varieties for various soil types of the area.	—	—	—	85526
27. Seed treatments appropriate for seeds to be planted.	—	—	—	85527

235



MICHIGAN STATE UNIVERSITY

Occupation: ENVIRONMENTAL (ORNAMENTAL) HORTICULTURE -- 85.2

Code No. \_\_\_\_\_

NAME: \_\_\_\_\_ POSITION: \_\_\_\_\_

EMPLOYER: \_\_\_\_\_ TELEPHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
(Street) (City) (State) (Zip)

Number of years experience in occupation: \_\_\_\_\_

Number of hours in work week: \_\_\_\_\_ in work day: \_\_\_\_\_

CRITICAL INCIDENT

Job Skills:

1. A critical incident is a skill or a knowledge needed (desirable) for entry level employment in Environmental (Ornamental) Horticulture following high school graduation.
2. Please check each item in the skills list indicating answers to the following:
  - a) Is the item an entry level skill for a high school graduate?
  - b) What is the degree of importance to a person engaged in environmental (ornamental) horticulture?

237

Definitions:

Essential -- Of utmost importance; competence in performing this task is absolutely necessary for entry level employment.

Very Important -- Competence in performing this task has much influence or effect on entry level employability.

Some Importance -- Competence in performing this task has some influence on entry level employability.

Minor Importance -- Competence in performing this task has no effect on entry level employability.

Not Needed -- Task does not apply for entry level employment.

SPECIAL NOTE

1. Since there are several types of environmental horticulture businesses in Michigan we suggest you check the lists of skills and knowledges as they apply to the type(s) of environmental horticulture with which you are most familiar.
2. Please check below the type(s) of environmental horticulture business in which you are working:

Nursery Production \_\_\_\_\_

Groundskeeping, parks, etc. \_\_\_\_\_

Garden Center \_\_\_\_\_

Arboriculture \_\_\_\_\_

Bedding Plants \_\_\_\_\_

Turf and Sprinkler \_\_\_\_\_

Landscaping \_\_\_\_\_

Other (specify) \_\_\_\_\_

\_\_\_\_\_

238

. CRITICAL INCIDENT ANALYSIS

Occupation: ENVIRONMENTAL (ORNAMENTAL) HORTICULTURE

JOB SKILLS	Relative Importance —						Code
	Entry Skill	Not Needed	Minor Importance	Some Importance	Very Important	Essential	
Is able to:							
<u>Propagation</u>							
1. Bud graft.	---	---	---	---	---	---	85001
2. Make stem cuttings.	---	---	---	---	---	---	85002
3. Make root cuttings.	---	---	---	---	---	---	85003
4. Make cleft, whip, tongue, & side grafts.	---	---	---	---	---	---	85004
5. Select cutting & grafting stock.	---	---	---	---	---	---	85005
6. Store cutting & grafting stock.	---	---	---	---	---	---	85006
7. Line out rooted cuttings.	---	---	---	---	---	---	85007
8. Fertilize rooted cuttings.	---	---	---	---	---	---	85008
9. Prepare media for growing rooted cuttings.	---	---	---	---	---	---	85009
10. Sow seeds of plants.	---	---	---	---	---	---	85010
11. Provide suitable seed-bed for various seeds.	---	---	---	---	---	---	85011
12. Transplant seedlings.	---	---	---	---	---	---	85012
13. Adjust lighting for optimum growth of seedlings.	---	---	---	---	---	---	85013
14. Control temperature for optimum growth of seedlings.	---	---	---	---	---	---	85014
15. Control moisture for optimum growth seedlings.	---	---	---	---	---	---	85015
<u>Arboriculture (Use &amp; Care of Individual Trees)</u>							
16. Identify trees & shrubs used for environmental purposes to species.	---	---	---	---	---	---	85016
17. Plant bare root trees & shrubs.	---	---	---	---	---	---	85017
18. Prepare balled trees.	---	---	---	---	---	---	85018
19. Plant balled trees.	---	---	---	---	---	---	85019
20. Plant trees & shrubs with tree spade.	---	---	---	---	---	---	85020
21. Prune transplanted trees & shrubs used for environmental purposes.	---	---	---	---	---	---	85021
22. Prune flowering trees & shrubs.	---	---	---	---	---	---	85022
23. Prune standard trees which are used for environmental purposes.	---	---	---	---	---	---	85023
24. Prune coniferous species which are used for environmental purposes.	---	---	---	---	---	---	85024
25. Fertilize trees & shrubs by various methods.	---	---	---	---	---	---	85025

MICHIGAN STATE UNIVERSITY

Occupation: ENVIRONMENTAL (ORNAMENTAL) HORTICULTURE -- 85.2

CRITICAL INCIDENT

Job Knowledges:

1. A critical incident is a skill or a knowledge needed (desirable) for entry level employment following high school graduation.
2. Please check each item in the knowledges list indicating the relative desirability of the item for the types of farming with which you are most familiar.

CRITICAL INCIDENT ANALYSIS

Occupation: ENVIRONMENTAL (ORNAMENTAL) HORTICULTURE

JOB KNOWLEDGES	This Knowledge Is —			Code
	Unnecessary	Desirable	Essential	
<u>Must understand:</u>				
<u>Propagation</u>				
1. Proper time to make bud grafts.	---	---	---	85501
2. Kinds of cuttings.	---	---	---	85502
3. Environmental conditions needed for successful cuttings & grafts both before & after the process.	---	---	---	85503
4. Media needed for growing rooted cuttings.	---	---	---	85504
5. Effect of intensity of light on growing cuttings.	---	---	---	85505
6. Effect of hours of light on growing cuttings.	---	---	---	85506
7. Appropriate seeding conditions for various kinds of seeds.	---	---	---	85507
8. Appropriate media for growing seedlings.	---	---	---	85508
9. How to control growth of plants through lighting.	---	---	---	85509
10. Effects of temperature on growth of seedlings.	---	---	---	85510
11. Characteristics of seedlings which indicate quality.	---	---	---	85511
12. Effects of moisture on optimum growth of seedlings.	---	---	---	85512
<u>Arboriculture (Use &amp; Care of Individual Trees)</u>				
13. Basic tree functions especially related to planting & pruning of trees & shrubs.	---	---	---	85513
14. Soil characteristics related to growth of trees & shrubs.	---	---	---	85514
15. Fertilizer labeling.	---	---	---	85515
16. Responses of trees & shrubs to specific planting methods.	---	---	---	85516
17. Needs for pruning of trees & shrubs.	---	---	---	85517
18. Timing of pruning of trees & shrubs.	---	---	---	85518
19. Pruning tools.	---	---	---	85519
20. Pruning safety practices.	---	---	---	85520
21. Fertilization methods for trees & shrubs.	---	---	---	85521
22. Fertilization timing for trees & shrubs.	---	---	---	85522
23. Environmental relationships of grass & trees.	---	---	---	85523
24. Wound healing in trees.	---	---	---	85524
25. Tree wound dressings.	---	---	---	85525
26. Tools for cavity & wound treatment.	---	---	---	85526
27. Disease control methods for trees & shrubs.	---	---	---	85527
28. Insect control methods for trees & shrubs.	---	---	---	85528

241

Occupation: FARM IMPLEMENT REPAIR -- 85.3

Code No. \_\_\_\_\_

NAME: \_\_\_\_\_ POSITION: \_\_\_\_\_

EMPLOYER: \_\_\_\_\_ TELEPHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
(Street) (City) (State) (Zip)

Number of years experience in occupation: \_\_\_\_\_

Number of hours in work week: \_\_\_\_\_ in work day: \_\_\_\_\_

CRITICAL INCIDENT

Job Skills:

1. A critical incident is a skill or a knowledge needed (desirable) for entry level employment in Farm Implement Repair following high school graduation.
2. Please check each item in the skills list indicating answers to the following:
  - a) Is the item an entry level skill for a high school graduate?
  - b) What is the degree of importance to a person engaged in farm implement repair?

242

Definitions:

- Essential -- Of utmost importance; competence in performing this task is absolutely necessary for entry level employment.
- Very Important -- Competence in performing this task has much influence or effect on entry level employability.
- Some Importance -- Competence in performing this task has some influence on entry level employability.
- Minor Importance -- Competence in performing this task has no effect on entry level employability.
- Not Needed -- Task does not apply for entry level employment.

CRITICAL INCIDENT ANALYSIS

Occupation: FARM IMPLEMENT REPAIR

JOB SKILLS	Relative Importance —					Code
	Entry Skill	Not Needed	Minor Importance	Some Importance	Very Important	
<u>Is able to:</u>						
<u>Farm Power</u>						
1. Identify diesel fueled internal combustion engine.	___	___	___	___	___	85001
2. Identify gasoline fueled internal combustion engine.	___	___	___	___	___	85002
3. Identify two cycle engine.	___	___	___	___	___	85003
4. Identify four cycle engine.	___	___	___	___	___	85004
5. Check (clean or replace) the filters in the fuel line of a gasoline fueled engine.	___	___	___	___	___	85005
6. Clean the carburetor of a gasoline fueled engine.	___	___	___	___	___	85006
7. Adjust the carburetor of a gasoline fueled engine.	___	___	___	___	___	85007
<u>Tools</u>						
8. Identify hand & power tools commonly used for farm implement repair.	___	___	___	___	___	85008
9. Correctly use hand & power tools commonly found in the farm implement repair shop.	___	___	___	___	___	85009
10. Observe & follow safety practices when working in the farm machinery repair shop.	___	___	___	___	___	85010
<u>Welding</u>						
11. Set & adjust the controls on the oxy-acetylene welding equipment commonly found in the farm implement repair shop & for the kind of job to be done.	___	___	___	___	___	85011
12. Set & adjust the controls on the arc welding equipment commonly found in the farm implement repair shop & for the kind of job to be done.	___	___	___	___	___	85012
13. Select appropriate welding rods for the kind of job to be done.	___	___	___	___	___	85013
14. Prepare metal for welding.	___	___	___	___	___	85014
15. Perform the kind and/or position welds commonly needed for repair of farm implements.	___	___	___	___	___	85015

243

MICHIGAN STATE UNIVERSITY

Occupation: FARM IMPLEMENT REPAIR -- 85.3

CRITICAL INCIDENT

JOB KNOWLEDGES:

1. A critical incident is a skill or a knowledge needed (desirable) for entry level employment following high school graduation.
2. Please check each item in the knowledge list indicating the relative desirability of the item for Farm Implement Repair.



CRITICAL INCIDENT ANALYSIS

Occupation: FARM IMPLEMENT REPAIR

JOB KNOWLEDGES	This Knowledge Is --			Code
	Unnecessary	Desirable	Essential	
<b>Must understand:</b>				
<u>Farm Power</u>				
1. Basic principles of operation of compression ignition engines.	---	---	---	85501
2. Basic principles of operation of spark ignition engines.	---	---	---	85502
3. Basic differences between diesel & gasoline fueled engines.	---	---	---	85503
4. Advantages & common agricultural uses of the various types of engines.	---	---	---	85504
5. The specifications (directions) in the manual for cleaning and/or re- placing filters in the fuel line of a gasoline fueled engine.	---	---	---	85505
6. The specifications (directions) in the manual for cleaning and/or ad- justing the carburetor of a gasoline fueled engine.	---	---	---	85506
<u>Tools</u>				
7. The kind & purpose of hand & power tools commonly found in the farm implement repair shop.	---	---	---	85507
8. The sizes & units of measurement of tools commonly used in the farm implement repair shop.	---	---	---	85508
9. The measuring instruments commonly used in the farm implement repair shop.	---	---	---	85509
10. The safety practices to be followed when using hand or power tools in the farm implement repair shop.	---	---	---	85510
<u>Welding</u>				
11. The purpose of the controls on the oxy-acetylene welder.	---	---	---	85511
12. The purpose of the controls on the arc welder.	---	---	---	85512
13. The appropriate size & kind of rod for specified welding jobs.	---	---	---	85513
14. The condition of metal needed for satisfactory welds on farm equipment.	---	---	---	85514
15. The appropriate kind of welds commonly needed on farm equipment.	---	---	---	85515
16. The use of tables & charts used in connection with welding jobs.	---	---	---	85516
17. Settings of arc welder (amperage, voltage, polarity).	---	---	---	85517
18. Polarity, direct & alternating current.	---	---	---	85518
19. Safety practices for the welder.	---	---	---	85519
20. Safety practices to equipment when welding (fires, damage to buildings, livestock, etc.).	---	---	---	85520
21. The effect of heat on metals.	---	---	---	85521
22. The characteristics of a satisfactory weld.	---	---	---	85522

245

MICHIGAN STATE UNIVERSITY

Occupation: AGRICULTURAL & BIOLOGICAL TECHNICAL SERVICES -- 85.4

Code No. \_\_\_\_\_

NAME: \_\_\_\_\_ POSITION: \_\_\_\_\_

EMPLOYER: \_\_\_\_\_ TELEPHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
(Street) (City) (State) (Zip)

Number of years experience in occupation: \_\_\_\_\_

Number of hours in work week: \_\_\_\_\_ in work day: \_\_\_\_\_

CRITICAL INCIDENT

Job Skills:

1. A critical incident is a skill or a knowledge needed (desirable) for entry level employment into the Agricultural and Biological Technical Services following high school graduation.
2. Please check each item in the skills list indicating answers to the following:
  - a) Is the item an entry level skill for a high school graduate?
  - b) What is the degree of importance to a person engaged in agricultural biology?

246

Definitions:

Essential -- Of utmost importance; competence in performing this task is absolutely necessary for entry level employment.

Very Important -- Competence in performing this task has much influence or effect on entry level employability.

Some Importance -- Competence in performing this task has some influence on entry level employability.

Minor Importance -- Competence in performing this task has no effect on entry level employability.

Not Needed -- Task does not apply for entry level employment.

APPENDIX

1. Since there are many types of agricultural and biological technical services we suggest you check the lists of skills and knowledges as they apply to the type(s) of technical services with which you are familiar.
2. Please check the type(s) of technical services in which you have had experience:

Food Processing	_____	Grain, Feed, and Seed Services	_____
Animal Laboratories	_____	Waste Disposal	_____
Agricultural Chemicals	_____	Other (specify)	_____
Water Resources	_____		_____

CRITICAL INCIDENT ANALYSIS

Occupation: AGRICULTURAL & BIOLOGICAL TECHNICAL SERVICES

JOB SKILLS	Relative Importance —					Code
	Entry Skill	Not Needed	Minor Importance	Some Importance	Very Important Essential	
Is able to:						
<u>Animal--domestic farm animals or birds, zoo animals or birds, laboratory animals or birds</u>						
1. Approach, handle, & work with live animals to prevent personal injury.	---	---	---	---	---	85001
2. Approach, handle, & work with live animals & birds in a humane way.	---	---	---	---	---	85002
3. Diplomatically approach people when enforcing laws & regulations.	---	---	---	---	---	85003
4. Clean & sterilize laboratory glassware, equipment, & instruments used in administering prescribed medicines & treatments to animals & birds.	---	---	---	---	---	85004
5. Prepare & read the results of bacteria & mold cultures.	---	---	---	---	---	85005
6. Take blood samples.	---	---	---	---	---	85006
7. Perform blood testing procedures.	---	---	---	---	---	85007
8. Maintain breeding records of animals & birds.	---	---	---	---	---	85008
9. Recognize early signs of abnormal health conditions in animals & birds.	---	---	---	---	---	85009
10. Administer medication as prescribed.	---	---	---	---	---	85010
11. Dehorn animals when needed.	---	---	---	---	---	85011
12. Castrate animals.	---	---	---	---	---	85012
13. Dock lambs & remove tails from pigs.	---	---	---	---	---	85013
14. Formulate rations as directed.	---	---	---	---	---	85014
15. Observe animals for heat & signs of parturition.	---	---	---	---	---	85015
16. Assist animals in parturition.	---	---	---	---	---	85016
17. Treat newborn animals to prevent infection.	---	---	---	---	---	85017
18. Assist newborn animals to nurse.	---	---	---	---	---	85018
19. Give animals or birds prescribed injections to prevent diseases & nutritional deficiencies.	---	---	---	---	---	85019
20. Remove needle teeth of young pigs.	---	---	---	---	---	85020
21. Shear sheep.	---	---	---	---	---	85021

248

MICHIGAN STATE UNIVERSITY

Occupation: AGRICULTURAL & BIOLOGICAL TECHNICAL SERVICES -- 85.4

CRITICAL INCIDENT

Job Knowledges:

1. A critical incident is a skill or a knowledge needed (desirable) for entry level employment following high school graduation.
2. Please check each item in the knowledges list indicating the relative desirability of the item for an Agricultural Biology Technician.

249

446

447

CRITICAL INCIDENT ANALYSIS

AGRICULTURAL & BIOLOGICAL TECHNICAL SERVICES

JOB KNOWLEDGES	This Knowledge Is —			Code
	Unnecessary	Desirable	Essential	
stand: <u>domestic farm animals or birds, zoo animals or birds, laboratory            birds</u>				
temperament of the animals or birds being studied.	---	---	---	85501
correct way to approach animals or birds.	---	---	---	85502
correct use of restraining techniques & devices.	---	---	---	85503
use of protective devices.	---	---	---	85504
necessary precautions to take in handling animals or birds suspected of disease or sickness.	---	---	---	85505
diseases are communicable to man & by what methods.	---	---	---	85506
limit of stress for the animal or bird being handled.	---	---	---	85507
laws & regulations governing the care & treatment of animals & birds.	---	---	---	85508
different ways people may react when informed of violations of laws or regulations regarding animals & birds.	---	---	---	85509
importance of obtaining cooperation without the use of threats or force of the law.	---	---	---	85510
procedures for clean & sterilized laboratory equipment.	---	---	---	85511
materials & techniques used in cleaning & sterilizing glassware equipment.	---	---	---	85512
materials used in making laboratory cultures.	---	---	---	85513
techniques used in making laboratory cultures.	---	---	---	85514
how to determine & record results of laboratory cultures.	---	---	---	85515
basic anatomy & physiology of the animal or bird being worked with.	---	---	---	85516
how to preserve blood samples.	---	---	---	85517
procedure to perform tests being made.	---	---	---	85518
how to record & interpret observations of tests made.	---	---	---	85519
importance of maintaining accurate breeding records.	---	---	---	85520
methods of recording data related to breeding, production, health, & reproduction of animals or birds.	---	---	---	85521
how to prepare breeding certificates & applications for registration certificates.	---	---	---	85522
significance of health behavior of animals or birds.	---	---	---	85523

250



APPENDIX B

LIST OF PROJECT ADVISORY COUNCIL MEMBERS

Names, Titles, and Addresses of Advisory Council Members

Dr. Lee O. Baker, Chairman  
Agriculture Department  
Western Michigan University  
Kalamazoo, Michigan 49001

Mr. Ted Myers, Vice-President  
Cottage Gardens, Inc.<sup>b</sup>  
South Waverly Road  
Lansing, Michigan 48910

Mr. Steven Bolen, Co-Owner/Mgr.  
Weaver and Ling, Inc.<sup>a</sup>  
South Centerville Road  
Sturgis, Michigan 49091

Mr. Ray Moriarty, Superintendent  
Marlette Community Schools  
3051 Moore Street  
Marlette, Michigan 48453

Mr. Norwin Braun, Teacher of  
Vocational Agriculture  
Chesaning Union High School  
850 North Fourth Street  
Chesaning, Michigan 48616

Mr. Elton R. Smith, President  
Michigan Farm Bureau  
7373 West Saginaw  
Lansing, Michigan 48917

Mr. Grant Fettig, Teacher of  
Vocational Agriculture  
Grant High School  
State Street  
Grant, Michigan 49327

Mr. Benjamin Standen  
Dean for Technologies  
Lake Michigan College  
711 Britain Street  
Benton Harbor, Michigan 49022

Mr. Clifford Jump, Principal  
Calhoun Area Skill Center  
475 East Roosevelt  
Battle Creek, Michigan 49017

Mr. E. A. Wenner, Secretary-Manager  
Michigan Agricultural Conference  
921 North Washington  
Lansing, Michigan 48906

---

<sup>a</sup>Retail Farm Machinery Dealership.

<sup>b</sup>Wholesale Nursery.



APPENDIX C

TEACHERS OF AGRICULTURE WHO ASSISTED  
IN COLLECTION OF FIELD DATA

Names and School Addresses of Teachers Who Assisted

Mr. Richard Barnes  
Merrill High School  
555 West Alice Street  
Merrill, Michigan 48637

Mr. Joe V. Klier  
Southeast Oakland Vo-Ed Center  
5055 Delemere  
Royal Oak, Michigan 48073

Mr. Raymond J. Clark  
Grand Ledge High School  
225 West Kent Street  
Grand Ledge, Michigan 48837

Mr. Russell Latchaw  
Fennville High School  
North Maple Street  
Fennville, Michigan 49408

Mr. Frank Corrin  
Corunna High School  
Comstock Street  
Corunna, Michigan 48817

Mr. James LeCureaux  
Ubly High School  
2020 Union Street  
Ubly, Michigan 48475

Mr. Grant Fettig  
Grant High School  
State Street  
Grant, Michigan 49327

Mr. Keats Rasmussen  
Central Montcalm High School  
1480 South Sheridan Road  
Stanton, Michigan 48869

Mr. Ronald Hesche  
Hamilton Community School  
136th Street  
Hamilton, Michigan 49419

Mr. Stephen E. Capp  
(No school)  
16461 Quarten Village  
East Lansing, Michigan 48823

Mr. David Keller  
South Lyon High School  
61526 West Nine Mile  
South Lyon, Michigan 48178

Mr. Robert J. Thomas  
Hartford High School  
208 East Main  
Hartford, Michigan 49029

Mr. Marlin King  
Colon Community Schools  
606 Dallas Street  
Colon, Michigan 49040

Mr. Jacob G. Venema  
Blissfield High School  
630 South Lane Street  
Blissfield, Michigan 49228