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ABSTRACT

To improve vocational education programs in agriculture, occupational information on a common core of basic skills within the occupational area of the forage producer is presented in the revised task inventory survey. The purpose of the occupational survey was to identify a common core of basic skills which are performed and are essential for success in the occupation. Objectives were accomplished by constructing an initial task inventory to identify duty areas and task statements for the occupation. The initial task inventory was reviewed by consultants in the field, and 247 tasks were identified. A random sample of 62 forage producers based on the 1974-75 Ohio Young Farmers Association, Inc. was obtained. Data were collected utilizing a questionnaire. Twenty questionnaires were returned of which 17 were usable. A compilation of basic sample background information is presented on the size of the forage enterprise, years as a forage producer, and preparation as a forage producer. A compilation of duty areas of work performed and work essential for the occupation is given. Percentage performance by incumbent workers and the average level of importance of specific task statements are presented in tabular form. (Author/EC)

DETERMINATION OF A COMMON CORE OF BASIC SKILLS IN AGRIBUSINESS AND NATURAL RESOURCES

An Emperical Determination Of Tasks Essential To Successful Performance As A Forage Producer

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AN EMPERICAL DETERMINATION OF TASKS ESSENTIAL TO SUCCESSFUL PERFORMANCE AS A FORAGE PRODUCER

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FOREWORD

The Department of Agricultural Education at The Ohio State University is involved in a major programmatic effort to improve the curricula in education programs in agriculture. One product in this effort is this report of the forage producer task inventory survey. The data reported were collected as part of a more comprehensive thrust designed to develop a common core of basic skills in agribusiness and natural resources.

It is hoped that the revised task inventory contained in this report will be useful to curriculum developers working for improved occupational relevance in schools. Twenty-seven additional inventories in other occupational areas are also reported from this project.

The profession owes its thanks to J. Rick Byrd, graduate research associate, for his work in preparing this report. Special appreciation is also expressed to Richard Hummel, Executive Vice-President and Treasurer, Ohio Young Farmers Association, Inc. and Area Supervisor of Vocational Education in Agriculture in Ohio, for his input and help in securing the cooperation of forage producers across Ohio.

J. David McCracken
Project Director

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INTRODUCTION

Occupational information is needed to develop and revise vocational and technical education curricula. Teachers and curriculum developers generally determine which skills might be taught in a program based upon teacher expertise, advisory committee input, informal and formal community surveys, and/or task inventories.

The Agricultural Education Department at The Ohio State University has utilized and revised a system for obtaining and using occupational information as an effective aid in planning, improving, and updating occupational education curricula. This report presents the results of a survey of the occupation, forage producer. The information contained herein may be used by curriculum development specialists, teachers, local and state administrators, and others involved in planning and conducting vocational and technical programs in agriculture.

Purpose and Objectives

The major purpose of the occupational survey was to identify the skills which are performed and essential for success as a forage producer. The specific objectives of this survey were as follows:

1. Develop and validate an initial task inventory for the forage producer.
2. Identify the specific tasks performed by the forage producer.
3. Determine the relative importance of the specific tasks to successful employment as a forage producer.

Definition of the Occupational Area

The forage producer usually produces forage crops for consumption by livestock kept on the farm. The particular forage crops grown on the farm will depend on the locality. The specific duties performed by the forage producer will depend on the type of forage crops grown. In general, the specific duties performed in relation to the forage enterprise may include testing soil and plant tissues; fertilizing forage crops; controlling insects and diseases; controlling weeds; establishing forage crops; harvesting forages; storing forages; and marketing forages.

The forage producer also has a large investment in buildings, equipment, and machinery. The forage producer will operate machinery and equipment and service and maintain such equipment and machinery. The forage producer will also be involved in minor building construction and repair and maintain the buildings and structures. Additionally, he will perform tasks related to the specific livestock enterprises kept on the farm.

METHODOLOGY

Objectives were accomplished by constructing an initial task inventory, validating the initial inventory, selecting a sample of workers, collecting data, and analyzing data.

Initial Task Inventory

Duty areas and task statements for the forage producer were identified by searching existing task lists, job descriptions, curriculum guides, and reference publications. Additionally,

contacts with several forage specialists at The Ohio State University aided in clarifying the specific responsibilities of the forage producer. All the tasks that the project staff thought to be performed were assembled into one composite list.

The initial tasks were grouped into functional areas called "Duties".

After the task statements were grouped under the proper duty areas, each task statement was reviewed for brevity, clarity, and consistency. In all, 327 task statements were included in the initial task inventory.

Initial Inventory Validation

After the initial task inventory was constructed, it was reviewed by ten farmers.

The farmers were asked to respond to the initial task list inventory by performing the following activities:

1. Indicate whether any of the tasks listed were not appropriate.
2. Add any additional tasks they believed were performed by the forage producer.
3. Make changes in the wording of tasks to help add clarity to the statements.

The comments from the ten farmers were pooled and needed revisions were made. One duty area was eliminated and one new duty area was added. The duty areas relating to the overall management of a farm which were not unique to the forage enterprise but common to several production agriculture occupations were removed from the forage producer questionnaire and incorporated into a separate farm manager (owner-operator) questionnaire.

As a result of the initial task inventory review process, 247 tasks were identified.

Worker Sample Selection

An attempt was made to survey forage producers from all areas of the state with various size forage enterprises. A sample of 62 forage producers was obtained from the 1974-75 directory of the Ohio Young Farmers Association, Inc. using a multi-stage random sampling approach. The stages used in the sampling approach were local Ohio Young Farmer Association, Inc. chapter and individual member.

Data Collection

A packet of materials was sent to the randomly selected forage producers. The packet of materials included:

1. A cover letter from the Ohio Young Farmers Association, Inc.
2. A questionnaire printed on yellow.
3. A stamped and self-addressed return envelope.

The forage producer was instructed to complete the questionnaire and return it in the stamped and self-addressed return envelope by the date specified in the cover letter.

A follow-up of non-respondents consisted of mailing a packet of materials two weeks after the initial mailing. The follow-up consisted of a packet of materials identical to the initial packet except that a cover letter on Ohio State University stationery replaced the cover letter on Ohio Young Farmers Association, Inc. stationery.

Data Analysis

The 20 questionnaires which were returned were checked for completeness and accuracy by the project staff. Information from the 17 usable responses was coded on Fortran coding sheets for key punching. In addition to coding appropriate respondent background information, each specific task statement was coded as to whether it was performed (1 = Task performed by respondent; blank = Task not performed by respondent) and the level of importance of the task (3 = Essential; 2 = Useful; 1 = Not Important). The information was keypunched on IBM cards and verified by personnel at the Instruction and Research Computer Center at The Ohio State University.

The data was analyzed using the SOUPAC computer program and the facilities of the Instruction and Research Computer Center. Consultant assistance for analyzing the data was provided by personnel at The Center for Vocational Education. The SOUPAC computer analysis resulted in the computation of relative frequencies, means, and rankings for each task statement. The results of the computer analyses were printed in tabular form for ease of interpretation.

FINDINGS

Objectives of the study resulted in the compilation of basic sample background information, the determination of tasks

performed by the forage producer, and the identification of tasks essential to successful performance as a forage producer.

Description of the Sample

Information regarding the performance of tasks and the importance of the tasks to successful employment as a forage producer was obtained from forage producers across Ohio.

Response to the Survey

A total of 62 questionnaires were mailed and 20 replies were received. This represented a 32.2% rate of return. The response to the questionnaire is summarized in TABLE I.

TABLE I

FORAGE PRODUCER RESPONSE TO THE QUESTIONNAIRE

	N	Percent of All Farmers In the Survey
Forage Producers in Survey	62	100.0
Total Returns	20	32.2
Usable Returns	17	29.0
Unusable Returns	3	3.2
Nonrespondents	42	67.8

Size of Forage Enterprise

Forage producers from various size forage operations were included in the study. The number of acres in forage crops was used as an index to assess the size of the forage operation. Of the 20 questionnaires received, 17 included information regarding the size of the forage enterprise. TABLE II summarizes the responses to the question, "How many acres do you currently have in forage production?" Seven forage producers or 41.2% operated farms with 1-80 acres in forage crops. Six forage producers or 35.3% operated farms with 81-110 acres in forage crops. Four forage producers or 23.5% operated farms with 111 or more acres in forage crops. The number of acres in forage crops ranged from 50-600 acres. The mean number of acres in forage production per farm was 113.2 acres.

TABLE II

SIZE OF OPERATION
(Acres in Forage Production)

Acres	N	Percent of Respondents
1-80	7	41.2
81-110	6	35.3
111 or more	4	23.5
Total	17	100.0

$\bar{X}$ number of acres in forage production = 113.2

Years as a Forage Producer

Forage producers with varying amounts of experience in forage production were included in the study. TABLE III summarizes the responses to the question, "How many total years have you been a forage producer?" Six forage producers or 35.3% had from 11-15 years experience in forage production. Five forage producers or 29.4% had from six to ten years experience in forage production. The total years of experience in producing forages ranged from 4-26 years. Forage producers had an average of 13.3 years of experience in forage production.

Preparation as a Forage Producer

Forage producers obtained training from various sources. TABLE IV summarizes their responses to the question, "Where did you receive your training in forage production?" Seventeen forage producers or 100% indicated they received training on-the-job. Thirteen forage producers or 76.5% indicated they attended a high school program and received training in forage production. Nine forage producers or 52.9% indicated they had received training in forage production by attending adult education programs.

Duty Areas of Work Performed by the Forage Producer

The 247 tasks were grouped under 15 duty areas. Each respondent indicated whether he performed the specific task as a forage producer. The percentages of respondents performing each task were averaged for all tasks under each duty area. The mean

TABLE III

TOTAL AMOUNT OF WORK EXPERIENCE IN FORAGE PRODUCTION

Years	N	Percent of Respondents
1-5	2	11.8
6-10	5	29.4
11-15	6	35.3
16 or more	4	23.5
Total	17	100.0

$\bar{X}$ years as a forage producer = 13.3

TABLE IV

SOURCE OF TRAINING RECEIVED AS A FORAGE PRODUCER

Source	N	Percent of All Farmers In the Survey
On-The-Job	17	100.0
High School Program	13	76.5
College/university Program	4	23.5
Adult Education Program	9	52.9
Other	6	35.3

percentage of forage producers who performed specific tasks in specified duty areas is presented in TABLE V.

Duty areas of work in which 50% or more of the forage producers performed the tasks were:

1. Following Legal Practices in Forage Production
2. Following General Safety Precautions
3. Maintaining Equipment and Vehicles
4. Using and Maintaining Hand and Power Tools
5. Fertilizing Forage Crops
6. Operating Powered Equipment and Vehicles
7. Controlling Insects and Diseases

8. Controlling Weeds
9. Constructing and Maintaining Forage Operations Buildings and Structures
10. Assembling, Adjusting, and Installing Forage Operations Equipment
11. Establishing Forage Crops
12. Harvesting Forage Crops
13. Storing Forage Crops

Duty Areas of Work Essential for Successful Performance as a Forage Producer

A level of importance rating was obtained for each task. The respondent could rate the task as essential, useful, or not important for successful performance as a forage producer. A ranking of essential was assigned a numerical rating of "3", useful a numerical rating of "2", and not important a numerical rating of "1". The level of importance ratings for each task were averaged for all tasks under each duty area. The average level of importance ratings for the specific tasks in the specified duty areas are presented in TABLE V.

Duty areas of work which received a 2.0 or higher level of importance rating by incumbent workers were:

1. Following Legal Practices in Forage Production
2. Following General Safety Precautions
3. Maintaining Equipment and Vehicles
4. Using and Maintaining Hand and Power Tools
5. Testing Soil and Plant Tissue
6. Fertilizing Forage Crops
7. Operating Powered Equipment and Vehicles
8. Controlling Insects and Diseases
9. Controlling Weeds
10. Constructing and Maintaining Forage Operations Buildings and Structures
11. Assembling, Adjusting, and Installing Forage Operations Equipment
12. Establishing Forage Crops
13. Harvesting Forage Crops

Percentage Performance and Level of Importance Ratings of Specific Tasks

The percentage performance by incumbent workers and the level of importance for each specific task is also presented in TABLE V.

It is recommended that the results for each specific task

be examined by educators and others who are developing educational programs to determine curriculum content for preparing forage producers. Specific tasks with a high level of performance and a high level of importance rating should be given more emphasis in the educational program than specific tasks with a low level of performance and a low level of importance rating.

TABLE V

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE* OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Following Legal Practices in Forage Production		
Follow laws relating to chemical use	88	2.5
Follow laws regarding application of chemicals near specific locations	76	2.4
Identify government regulations regarding marketing of forage products	29	1.9
Mean Rating	64.3	2.3
Following General Safety Precautions		
Follow safe work habits	96	2.7
Identify potential safety hazards	87	2.7
Store chemicals	87	2.8
Use fire extinguishers	78	2.7
Wear appropriate protective clothing	65	2.4
Ventilate work areas	71	2.4
Interpret information on labels and signs	87	2.8
Use proper lifting and carrying methods	87	2.5
Store inflammable materials	81	2.6
Wear appropriate work clothing	81	2.5
Destroy chemical containers	62	2.3
Adjust safety devices	81	2.6
Install safety devices	71	2.5
Determine when climatic conditions provide unsafe work situations	68	2.4
Correct potential safety hazards	84	2.6
Remove debris from work areas	58	2.1
Use electrical connectors and safety devices	75	2.6
Dispose of excess chemicals	71	2.3
Clean up chemical spills	75	2.4
Recognize symptoms of injury or poison from chemicals	65	2.8
Mean Rating	76.5	2.5
Maintaining Equipment and Vehicles		
Add coolant to radiators	94	2.6

*Average rating of importance may range from 1-3 with 3 being the highest

TABLE V (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Add oil to equipment	100	2.8
Adjust carburetors	64	2.2
Adjust clutch pedal free travel	88	2.5
Bleed diesel fuel system	76	2.2
Change oil and oil filters	100	2.7
Change thermostats	64	2.2
Clean debris from equipment	93	2.5
Grease equipment	100	2.8
Inflate tires	100	2.4
Inspect cooling system for leaks	88	2.3
Install and adjust belts	100	2.5
Install and adjust chains	100	2.5
Install and service battery	100	2.4
Interpret general maintenance instructions in equipment operator's manuals	94	2.3
Remove equipment from storage	82	2.0
Repack bearings	88	2.0
Replace and adjust spark plugs	82	2.1
Replace bearings and seals	94	2.3
Replace diesel fuel nozzles	47	1.9
Replace spark plug wires	76	2.0
Replace radiator hoses	88	2.1
Replace universal joints	70	1.9
Service air cleaners	94	2.4
Service fuel strainer, fuel filters, and sediment bowl on gas fuel system	88	2.2
Time engine	35	2.1
Prepare equipment for storage	64	2.2
Mean Rating	84.0	2.3
Using and Maintaining Hand and Power Tools		
Adjust tools	64	2.1
Clean tools	70	2.1
Identify tools	58	2.1
Interpret tool operation instructions	64	2.1
Recondition tools	47	1.9
Select tools for specific jobs	70	2.1
Sharpen tools	82	2.1

TABLE V (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Store tools	88	2.2
Use hand tools safely	82	2.2
Use power tools safely	88	2.4
Set up tools	58	1.9
Mean Rating	70.1	2.1
Testing Soil and Plant Tissue		
Interpret plant tissue test results	35	2.3
Interpret soil test results and recommendations	88	2.4
Prepare forms to submit with plant tissue	35	1.9
Prepare forms to submit with soil sample	58	2.2
Prepare plant tissues to be submitted	11	1.9
Prepare soil to be submitted	58	2.4
Take representative soil sample	64	2.6
Mean Rating	49.9	2.2
Fertilizing Forage Crops		
Calculate estimated costs of fertilizer and lime needed	77	2.4
Determine amount of fertilizer and lime to apply	72	2.7
Determine kind of fertilizer and lime to apply	72	2.7
Determine when to apply fertilizer and lime	72	2.4
Evaluate affect leaching and placement have on nutrient availability	44	2.2
Evaluate influence soil pH has on nutrient availability	38	2.2
Identify function of lime in crop production	38	2.1
Identify function of major nutrients in crop production	33	2.0
Identify function of micro nutrients in crop production	22	2.2
Identify nutrient deficiency symptoms in crops	44	2.1
Use soil test results to plan fertility programs	72	2.3
Interpret labels on fertilizer bags	77	2.3
Apply fertilizers in liquid form	33	1.7
Apply fertilizers in dry form	88	1.9
Mix fertilizer solutions	11	1.6
Interpret manufacturer's fertilization rate charts	55	2.3
Evaluate influence nutrients have on plant growth	27	2.1
Determine the nutrient requirements of crops	38	2.3

TABLE V (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Select proper method to apply fertilizer	72	2.3
Evaluate factors that influence effectiveness of fertilizers	44	2.2
Calibrate fertilizer equipment	88	2.4
Adjust rates of fertilizer application for specific conditions	77	2.5
Recognize signs of fertilizer injury	66	2.2
Transfer NH_3 from nurse tank to applicator	66	2.1
Transfer liquid fertilizer from nurse tank	33	1.9
Identify factors that influence fertilizer requirements	50	1.8
Mean Rating	54.2	2.2
Operating Powered Equipment and Vehicles		
Interpret gauge readings on equipment	94	2.7
Operate equipment and vehicles on public highways	100	2.5
Add wheel and front end weights	100	2.2
Adjust equipment safety shields	94	2.6
Connect front end operated equipment	66	2.1
Connect hydraulic systems and hydraulic operated equipment	100	2.5
Correct potential equipment safety hazards	88	2.6
Connect 3-point hitch equipment	88	2.4
Hitch towed equipment	83	2.2
Identify equipment safety hazards	66	2.2
Install safety shields and safety devices	77	2.3
Interpret hand operating signals	58	1.9
Interpret safety and operating instructions in operator's manuals	88	2.2
Interpret safety symbols on equipment	88	2.4
Operate equipment under field conditions	100	2.6
Refuel power units	100	2.4
Use appropriate equipment and vehicles for specific jobs	100	2.4
Mean Rating	87.6	2.4
Controlling Insects and Diseases		
Apply chemicals in liquid form	52	1.9

TABLE V (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Apply chemicals in dust form	29	1.9
Determine amount of chemical to apply	58	2.5
Determine when to apply chemicals	58	2.5
Evaluate influence of diseases and pests on crop production	52	2.1
Evaluate life cycle of insects to determine appropriate control procedures	47	2.3
Identify common diseases	64	2.2
Identify common insects	70	2.2
Identify damage caused by insects and diseases	70	2.2
Identify disease and insect resistant varieties to plant	52	2.1
Identify various means by which disease and insects are spread	58	2.1
Mix chemicals	52	1.9
Select appropriate chemicals to control various insect pests and diseases	47	2.2
Use appropriate method to apply chemicals	58	2.2
Use mechanical and cultural means to control insects and diseases	35	1.8
Inspect crops to determine when controls are needed	58	2.5
Distinguish between harmful and beneficial insects	52	2.2
Contact appropriate insect and disease specialists	23	1.9
Interpret chemical labels	52	2.2
Destroy plant residues	23	1.4
Identify factors that influence chemical effectiveness	47	2.2
Calculate cost of controls	58	2.2
Recognize chemical injury to plants	47	2.2
Select correct field travel and PTO speed for applying chemicals	76	2.5
Calibrate application equipment	76	2.5
Select correct type and size nozzles and tips	64	2.4
Adjust applicating equipment	70	2.4
Select proper application pressure	70	2.5
Determine total amount of chemical needed	70	2.1
Interpret chemical compatability charts	41	1.8
Mean Rating	54.3	2.3
Controlling Weeds		
Apply chemicals to control weeds	70	2.3

TABLE V (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Evaluate influence weeds have on crops	58	2.2
Identify common weeds	82	2.2
Inspect fields to determine when weed infestations require control	88	2.2
Clip fields and rotate crops to control weeds	82	2.2
Evaluate life cycle of weed plants to determine proper control procedures	47	2.0
Mean Rating	71.2	2.2
Constructing and Maintaining Forage Operations Buildings and Structures		
Apply wood and metal preservatives	82	2.1
Clean and oil electric motors on structures	88	2.4
Build and remove concrete forms	82	2.1
Determine cost of repairs	88	2.1
Develop bill of materials needed for repairs	76	1.9
Repair and hang gates and doors	94	2.4
Install electric motors	88	2.1
Lay concrete blocks	29	2.0
Mix, pour, finish, and cure concrete	64	2.1
Read and interpret blueprints	41	1.7
Install and repair bracing in buildings and structures	82	2.1
Repair electrical cords and broken wires	82	2.4
Repair minor leaks in roof of buildings	94	2.2
Replace belts and pulleys	94	2.3
Reset circuit breakers	94	2.5
Install and replace electrical switches	82	2.4
Replace fuses	94	2.5
Replace lighting fixtures	76	2.2
Replace valves in water system	88	2.4
Replace or repair faucets	82	2.3
Replace water pipe	82	2.0
Replace window panes	82	2.1
Wire simple electrical circuit	88	2.2
Construct and repair fences and gates	94	2.4
Install and repair wood siding on buildings	94	2.3

TABLE V (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Repair metal structures with arc or oxy-acetylene welder	70	2.2
Mean Rating	81.2	2.2
Assembling, Adjusting, and Installing Forage Operations Equipment		
Adjust belts on equipment	94	2.6
Adjust chains on equipment	94	2.6
Adjust controls on equipment	88	2.5
Adjust safety shields on equipment	94	2.5
Check for missing equipment parts or hardware	94	2.4
Follow written assembly instructions	76	2.0
Identify hardware	82	2.0
Inspect assembled equipment for operating defects	82	2.2
Install equipment and structures in appropriate places	70	2.0
Interpret assembly diagrams	58	2.0
Interpret assembly instructions	64	2.0
Use proper tools and equipment to assemble and install equipment and structures	70	2.2
Mean Rating	80.5	2.3
Establishing Forage Crops		
Calibrate seeding equipment	88	2.6
Clip companion crop grain stubble	82	1.7
Compact seedbed after planting	52	1.9
Determine if pure or mixed forage stands should be established	82	2.2
Determine seeding rate	88	2.5
Determine when to graze new forage seedings	82	2.3
Determine when to seed	88	2.5
Evaluate advantages and disadvantages of various varieties	70	2.2
Identify forage plants	76	2.1
Identify forage seeds	76	2.1
Identify problems related to seeding failures	76	2.4
Inoculate legume seeds	76	2.3

TABLE V (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Interpret information on seed tags	82	2.3
Mulch after seeding	23	1.6
Operate seeding equipment	94	2.5
Prepare seedbed	94	2.6
Remove combined straw	76	2.2
Select proper seeding method(s)	82	2.4
Select companion crops for forages	88	2.5
Select variety to plant	82	2.4
Determine proper planting depth	88	2.5
Mean Rating	78.3	2.3
Marketing and Shipping Forage Crops		
Calculate expected returns and profits on sales	35	1.6
Classify forage for market purposes	23	1.5
Determine feasibility of feeding or selling forage	47	1.8
Determine feasibility of participating in forage sales contracts with buyers	29	1.5
Evaluate influence forage quality has on value	47	1.8
Inspect forages for color, maturity, foreign matter, and leafiness	64	1.8
Load forage	76	1.9
Prepare carriers for hauling forage crops	70	2.0
Select markets	41	1.8
Prepare advertising announcements for sale of forage	23	1.6
Mean Rating	45.5	1.6
Harvesting Forage Crops		
Cut forages for green chop feeding	23	1.7
Cut forages for hay	88	2.3
Cut forages for silage	70	2.3
Determine amount of acreage to cut at one time	94	2.5
Determine latest dates for harvesting	76	2.2
Determine number of cuttings to be harvested	76	2.1
Determine stage of maturity	88	2.3
Determine when hay is "field cured" and ready to bale	88	2.7
Determine when to cut hay for baling	88	2.5

TABLE V (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Determine when to cut for silage	76	2.4
Determine when to rake hay	58	2.0
Evaluate influence of continued early cutting on longevity of stand	64	1.9
Evaluate influence stage of maturity has on quality of forage	82	2.5
Follow weather forecasts	82	2.5
Mean Rating	75.2	2.3
Storing Forage Crops		
Control temperature and humidity in hay storage areas	11	1.6
Determine moisture content of hay	64	2.1
Determine moisture content of silage	64	2.0
Determine safe moisture content for storing baled hay	76	2.5
Estimate amount of hay or silage in storage	82	1.9
Estimate amount of storage space needed	70	1.9
Evaluate influence moisture has on quality of forage	64	2.0
Fill silo	76	2.0
Identify storage problems that might occur	70	2.1
Load and unload hay bales	94	2.2
Remove damaged hay from storage	29	1.6
Remove damaged silage from storage	41	1.8
Stack hay bales	88	1.9
Supply additives as silage is blown into silo	29	1.6
Unload silage wagons	82	2.1
Use hay dryer and fans	11	1.3
Use proper types of storage facilities	76	2.2
Mean Rating	60.4	1.9