DOCUMENT RESUME

ED 241 [illegible] CE 039 [illegible]

TITLE The Advanced Program of Vocational Agriculture in Louisiana: Ag III and Ag IV (11th and 12th Grades). Volume II: Bulletin No. 1725.

INSTITUTION Louisiana State Dept. of Education, Baton Rouge. Div. of Vocational Education.

PUB DATE [illegible]

NOTE 226p.; For volume I, see CE 039 094.

PUB TYPE Guides - Classroom (- Guides - For Teachers) (052)

EDRS PRICE MF01/PC10 Plus Postage.

DESCRIPTORS *Agribusiness; *Agricultural Chemical Occupations; *Agricultural Education; Behavioral Objectives; *Conservation (Environment); Conservation Education; Farm Management; Grade 11; Grade 12; Guidelines; Instructional Materials; *Job Search Methods; Learning Activities; Lesson Plans; Program Implementation; Secondary Education; State Curriculum Guides; Teaching Methods; *Vocational Education

IDENTIFIERS Louisiana

ABSTRACT

This curriculum guide consists of materials for use in teaching an advanced course in vocational agriculture designed for 11th and 12th grade students. Addressed in the individual units of the guide are the following topics: farm and agribusiness planning, employment-seeking skills, agricultural chemicals, and conservation. Each unit includes a series of lessons that contain some or all of the following: student objectives, a list of suggested teaching materials, a list of materials and audiovisual equipment necessary to teach the course, suggestions for field trips, student motivation techniques, a lesson outline, suggested student activities, study questions, and transparency masters. (N

STATE OF LOUISIANA

DEPARTMENT OF EDUCATION

BULLETIN NO. 1715

THE ADVANCED PROGRAM OF VOCATIONAL AGRICULTURE IN LOUISIANA
AG III and AG IV
(11th and 12th grades)

Issued by

Office of Vocational Education

Elaine Webb, Ed.D.
Assistant Superintendent

Thomas G. Clausen, Ph.D.
State Superintendent

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FOREWORD

This curriculum guide is a result of extensive work on the part of numerous agricultural educators. The materials included here were developed for the express purpose of aiding secondary vocational agriculture teachers. The hope is that by having practical and usable teaching materials in their hands, teachers will be able to make improvements in their instructional program as well as have increased time available to spend on other phases of the total vocational agriculture program.

Thomas G. Clausen, Ph.D.
State Superintendent
Department of Education

ACKNOWLEDGEMENTS

This publication represents the cooperative efforts of personnel in the Department of Vocational Agricultural Education, Louisiana State University and the Vocational Agriculture Section in the Office of Vocational Education, Louisiana State Department of Education. Special recognition goes to Dr. Michael F. Burnett who served as project director in the development of the guide. Special commendation goes also to members of the writing team who worked diligently to make this publication a reality.

Other highly significant contributors to this project include Dr. Charles W. Smith, Dean of the College of Education, Louisiana State University, who initiated the original project; Dr. Loy H. Dobbins, who effectively supervised the day-to-day activities of the project in serving as project coordinator; Mr. Thomas L. Grady, whose hard work and contributions as a member of the writing team, proofreader, and coordinator of the project in its later stages were invaluable to the successful completion of this guide; Dr. Clarence E. Ledoux, who provided invaluable support, encouragement, and advice for the completion of the project; Dr. Charlie M. Curtis, Former Director of the School of Vocational Education and Technology and Head of the Department of Agricultural Education, who made available innumerable resources of the School and Department to facilitate and support the completion of this project; Mrs. Anne Nolan who worked diligently and skillfully in preparing and revising the materials as needed; Mrs. Florence Larguier and Mrs. Mary McMinn, who willingly assisted with the preparation of materials whenever called upon; Mrs. Yvette Chandler, who so skillfully prepared the many illustrations included in the guide for use in making transparencies; Mr. J. C. Simmons, State Supervisor of Vocational Agriculture, and Mr. Robert Simmons, Mr. Russell Sullivan, and Mr. Guy Miller, Vocational Agriculture supervisors, who supported the project both directly and indirectly by willingly participating in work sessions whenever called upon to do so, and by outwardly backing the project with the teachers in the state; a special acknowledgement to the Curriculum Materials Centers at AAVIM (American Association of Vocational Instructional Materials), Texas A&M University, and Oklahoma State University. These centers made numerous contributions to this project by allowing relevant materials already in existence to be freely adapted for use in this curriculum guide.

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[illegible]

[illegible]

a. A field trip to a nearby production farm.

b. A field trip to a nearby agribusiness operation, (for example, agricultural chemicals, fertilizer or poultry equipment company)

c. Audio visual equipment

1. Slide projector

a. Slides of different production farms -- poultry, dairy, and others

b. Slides on different agribusinesses -- possibly dealership, farm equipment producers, and other agricultural sales enterprises

2. Overhead projector for transparencies

3. If it is possible, the teacher should arrange for guest speakers from farms and agribusinesses.

[illegible]

[illegible]

[illegible] these students' interest and keep them a dollar [illegible] emphasize that good planning of the farm or business [illegible] financial success.

[illegible] students with any kind of business background to relate their experiences to the class.

[illegible]

[illegible]

- Form: A unit that [illegible] Some firms [illegible] but there are other [illegible] [illegible] or partnership [illegible]

- Attributes: This will [illegible] as mentioned above as well as [illegible] product and/or sell [illegible], position [illegible] equipment, intellectual [illegible]

Reasons why planning is essential [illegible] business or the specific [illegible] is [illegible]

Teacher puts forth several leading questions to encourage the pupil to bring up some reasons for planning. During this time pupil [illegible] terms and attributes. [illegible] reason why planning is important.

The following reasons [illegible]

- Planning ensures the [illegible] of the firm. [illegible] planning shows the lender that [illegible] able to produce.

- Planning gives [illegible] determine [illegible]

- Planning gives the [illegible] idea of the problem [illegible] running the business.

- Planning helps [illegible]

- Planning helps the [illegible] set up an efficient [illegible]

- Planning [illegible]

Lastly what should be [illegible] starting [illegible] of small enterprise

Before the points are given to the [illegible] should encourage the pupils to [illegible] time before starting a form of business. [illegible] should be [illegible] noted on the chalkboard. [illegible]

[illegible] should [illegible]
[illegible] large enough for students [illegible]
[illegible]

CHART [illegible]

[illegible] considered [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] the enterprise

[illegible] other enterprises in the area

[illegible] roads, railways, and other facilities

[illegible] facilities for the enterprise

Prepare a chart to the interview schedule by [illegible]
[illegible] the students [illegible]

CHART I-1-b

SOURCES OF CAPITAL

- Federal Home Administration
- Federal Land Bank
- Production Credit Association
- Local Banks
- Insurance Companies
- Private Individuals
- Small Business Administration

Prepare a chart; make the lettering large enough for the students to see from the back of the classroom.

CHART I-1-

SUGGESTED SOURCES IN LOUISIANA THAT CAN BE OF HELP TO FARM AGRIBUSINESS

1. Cooperative Extension Service, Louisiana State University (This organization has several agents to help farmers and agribusiness personnel in every parish in the state.)

2. Department of the Treasury, Internal Revenue Service for tax guides

3. College of Agriculture, Louisiana State University

4. United States Department of Agriculture

5. Louisiana Department of Agriculture

6. Louisiana Forestry Commission

7. Soil Conservation Service

8. Louisiana Farm Bureau

9. Credit sources above - CHART I-1-B

10. Utility companies

C. Suggested Student Activities

1. Teacher to draw up a program to enable students to have individual field visits to farms and agribusiness operation of their choice. After their visits, pupils should present written reports to the teacher and oral reports to the class.

2. Students can also be encouraged to make visits to credit and financial institutions that are directly involved in f m/agribusiness. After their visits they should submit concise written reports to the teacher and oral reports to the class.

3. Teacher should assign students to plan their own business enterprise and present their plan to the class. These presentations should be organized into useful class discussions. Critical thinking among students should be encouraged.

D. Study Questions

1. List reasons why planning a farm or agribusiness is essential.

2. List some problems that can arise if planning is not done systematically.

3. List what should be done before starting a farm or agribusiness enterprise.

4. Name some organizations or agencies that can help if one wishes to start a farm or agribusiness enterprise.

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT I: Farm/Agribusiness Planning

LESSON 2: Four basic types of Farm Business and Agribusiness Organizations

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain the characteristics, advantages, and disadvantages of sole proprietorship, partnership, and corporation, and cooperatives in farm business and agribusiness.

2. Specific

a. Explain the characteristics, advantages, and disadvantages of a sole proprietorship.

b. Explain the characteristics, advantages, and disadvantages of a partnership.

c. Explain the characteristics, advantages, and disadvantages of a corporation.

d. Explain the characteristics, advantages, and disadvantages of cooperatives.

B. Review Teaching Materials

1. Luening, Robert A. and William P. Mortenson. The Farm Management Handbook. 6th Edition, Danville, Ill.: Interstate Printers and Publishers, 1979.

2. Glos, Raymond E. and Harold A. Baker. Introduction to Business. Cincinnati, Ohio: South-Western Publishing, 1963.

3. Roy, Ewell P. Cooperatives: Development, Principles and Management, 4th Edition, Danville, Ill.: Interstate Printers and Publishers, 1981.

C. Special Arrangements

1. Materials

   a. Chalkboard

   b. Slides

   c. Charts

   d. Transparencies

2. Travel

   a. Make a field trip to an individual ownership farm and an agribusiness enterprise.

   b. If possible visit an agribusiness corporation.

3. Audiovisual Equipment

   a. Slide projector

      Slides on individual ownership farm/agribusiness enterprises, and agribusiness corporations

   b. Overhead projector for transparencies

II. Presentation of Lesson

A. Motivation

In order to arouse student interest, slides should be shown of three basic types of farm/agribusiness organizations and students should be encouraged to voice their opinions.

B. Content Outline

1. Terms: (Use chalkboard and give relevant examples to promote better understanding of the terms.)

   a. Will -- Written directions made by a person for the disposal of his/her property

   b. Liability -- Held responsible by law

   c. Limited Liability -- Each stockholder risks only the amount he invests in the corporation

   d. Unlimited Liability -- A proprietor and members in partnership practically risk everything they own in their business.

   e. Loan -- A borrowed sum of money

   f. Capital -- The money with which a business is to start and operate

   g. Shares -- One of the equal parts forming the capital of a business

   h. Shareholders -- People who own shares in a corporation

   i. Stock -- The capital of a business corporation represented by shares

   j. Stockholders -- Also known as shareholders

   k. Bonds -- Documents issued by a corporation to acknowledge that money has been lent to it.

   l. Director -- A person who manages or supervises a corporation

   m. Board of Directors -- Elected by the stockholders for managing the business

   n. Dividends -- A share of profits paid to shareholders

   o. Articles of Partnership -- A written agreement made by partners in forming their business

   p. Charter -- A document issued by a state authorizing the formation of a corporation

2. Explain the characteristics, advantages, and disadvantages of sole proprietorship.

[The chalkboard should be used.]

Definition: Sole proprietorship is a business owned by an individual. Other terms such as "Individual Ownership" and sole ownership mean the same.

Characteristics

a. Registered under one name -- he is the owner

b. Life of business ends at the death of the owner

c. The owner is under unlimited liability. (Teacher should make reference to the explanation "Unlimited Liability" under terms.)

d. Source of capital -- Own and loans secured

e. All management decisions are made by owner.

f. Transfer of interest -- ends business

g. Death of owner or proprietor ends the business.

h. Has to pay taxes

i. Limits on business -- decided by owner

Advantages of Sole Proprietorship

a. Owner takes 100 percent of the profits.

b. Spends little time on business organization

c Gets personal satisfaction

d. Has more freedom

e. Minimum legal restrictions

Disadvantages

a. Unlimited Liability (takes a great risk)

b. Limitation of size

c. Difficulties of managing the business

Teacher sums up this section by mentioning that the farm is usually owned by the husband and wife. The husband or wife is the sole proprietor of the business. The husband and wife pass on the farm to their children by preparing a <u>will</u>. (Teacher to explain this by referring to the terms. If possible an example

should be cited.) Usually when the husband dies he passes on the farm to his wife and children. This transaction is willed. In the case of agribusiness there are sole proprietorships that deal with pesticides, vegetable seeds, and fertilizers. (Teachers should give examples of such enterprises commonly found in their locality.)

3. Explain characteristics, advantages, and disadvantages of partnership.

Teacher should prepare two charts, one showing the characteristics and another showing the advantages and disadvantages. The letters should be written large enough for the students to see while seated in a room.

Definition -- Association of two or more individuals in a business. The relationship may exist as a written or oral agreement that is both voluntary and legal. A partnership is also called "Copartnership." (Teacher should write this definition clearly on the chalkboard, after having given the students an opportunity to voice their personal views on partnership.)

Characteristics

a. Owned by two or more individuals

b. Life of business -- This may be an agreed period of time that would end, if not completed, with the death of a partner.

c. Liability -- (Unlimited Liability of partners) Each member in the partnership is liable personally for the partnership debts

d. Capital -- Shares of partners and also loans

e. Management decisions -- Agreement of members in the partnership

f. Transfer of interest -- End partnership, new partnership can be formed if all parties accept

g. Effect of death -- Ends business or it can be sold to surviving partners

h. Tax is not paid by partnership. Each member in the partnership reports his part of income or loss or gain on an individual basis

i. Limits on business -- Partnership agreement or articles of partnership

Advantages

a. Ease of contracting

b. Larger amount of capital is available

c. Combined judgment in partnerships

d. Personal interest in business

Disadvantages

a. Unlimited liability -- have a great risk

b. Limitation of size

c. Managerial difficulties

Teacher should cite some local examples of partnership in farm and agribusiness. An example of a partnership farm business would be John and Simson Dairy Farm. A common type of farm partnership would be one between father and a son, or several children. Another example of an agribusiness partnership would be Jack and Lemon Poultry Equipment Enterprise.

4. Corporation -- characteristics, advantages, and disadvantages

Definition -- It is a business organization created by law and endowed with rights, duties, and powers of a person. It also means that many individuals are united into one body. The identity does not change with changes in ownership. (The definition of corporation should be written on the chalkboard.)

For characteristics, advantages, and disadvantages refer to Transparencies I-2-A and B.

At the end of the discussion on disadvantages the teacher sums up the section.

Corporation is not a common type of business organization in farm business. It is found in specialized farms, such as pure-bred livestock, seedgrains, and others. In the case of agribusiness the following can be some examples: 1: Livestock Equipment Corporation, 2: Agro-chemicals Corporation, and many others.

5. Explain the characteristics, advantages, and disadvantages of cooperatives.

[illegible] operative is a [illegible]
[illegible] at cost, which [illegible]
[illegible] member-patrons [illegible]
and benefits proportional [illegible]
[illegible] transparency [illegible]

Characteristics

[illegible] the [illegible]

[illegible] operate at cost (transparency [illegible]

Limited return on investment [illegible]

[illegible] members' own the business [illegible]

Advantages

[illegible] cooperative pays [illegible] allocated to patrons [illegible] patrons pay income [illegible] individual rate.

[illegible] cooperative have limited [illegible] liable only to the extent [illegible] business.

Disadvantages

[illegible] in a cooperative, distribution [illegible] usually restricted to a maximum [illegible] prescribed by state law.

[illegible] in a cooperative, bankruptcy [illegible] is the only means of liquidation.

Teacher should cite some local examples of [illegible] cooperatives. Some major national cooperatives in which Dairy Cooperatives, Farm Bureau, and [illegible]

Conclusion

Teacher should summarize briefly the four basic [illegible] of business organizations in farm and [illegible]

C. Suggested Student Activities

[illegible] Teacher should assign students to visit nearby [illegible] businesses and agribusinesses in order for students to observe the basic types of business organizations -- sole proprietorship, partnership, and corporation. After their visits, the students [illegible] and oral reports to the class.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

CORPORATION

CHARACTERISTICS

[illegible] - LEGAL PERSON SEPARATE FROM SHAREHOLDERS

[illegible] BUSINESS - EITHER FIXED TERM OR CONTINUES

[illegible] LIMITED LIABILITY (EACH SHAREHOLDER IS OBLIGATED ONLY FOR THE AMOUNT OF HIS STOCK)

[illegible] - SHARES OF SHAREHOLDERS; SALE OF STOCK AND BONDS; AND LOANS

MANAGEMENT
[illegible] - DIRECTORS ARE ELECTED BY THE SHAREHOLDER

TRANSFERABILITY
INTERESTS - TRANSFER OF STOCK DOES NOT AFFECT CONTINUITY OF BUSINESS

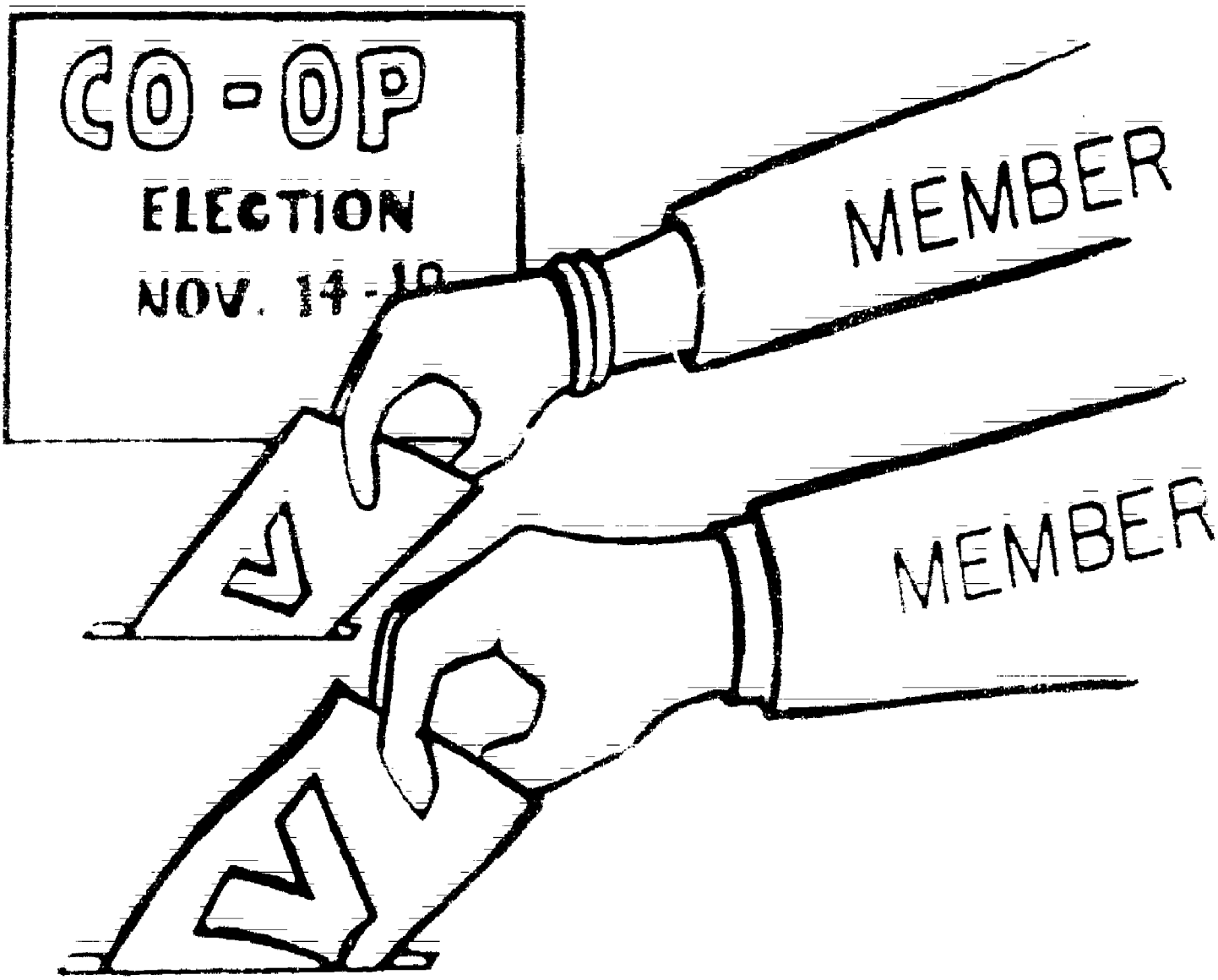
[illegible] DEATH - NO EFFECT ON CORPORATION; STOCK IS PASSED ON LEGALLY TO INDIVIDUALS ASSIGNED BY THE DECEASED

[illegible] - A REGULAR CORPORATION PAYS TAX ON INCOME; ALL SALARIES PAID ARE DEDUCTABLE; SHAREHOLDERS PAY TAX ON DIVIDENDS.

[illegible]
[illegible] - ARTICLES OF INCORPORATION AND STATE CORPORATION LAW.

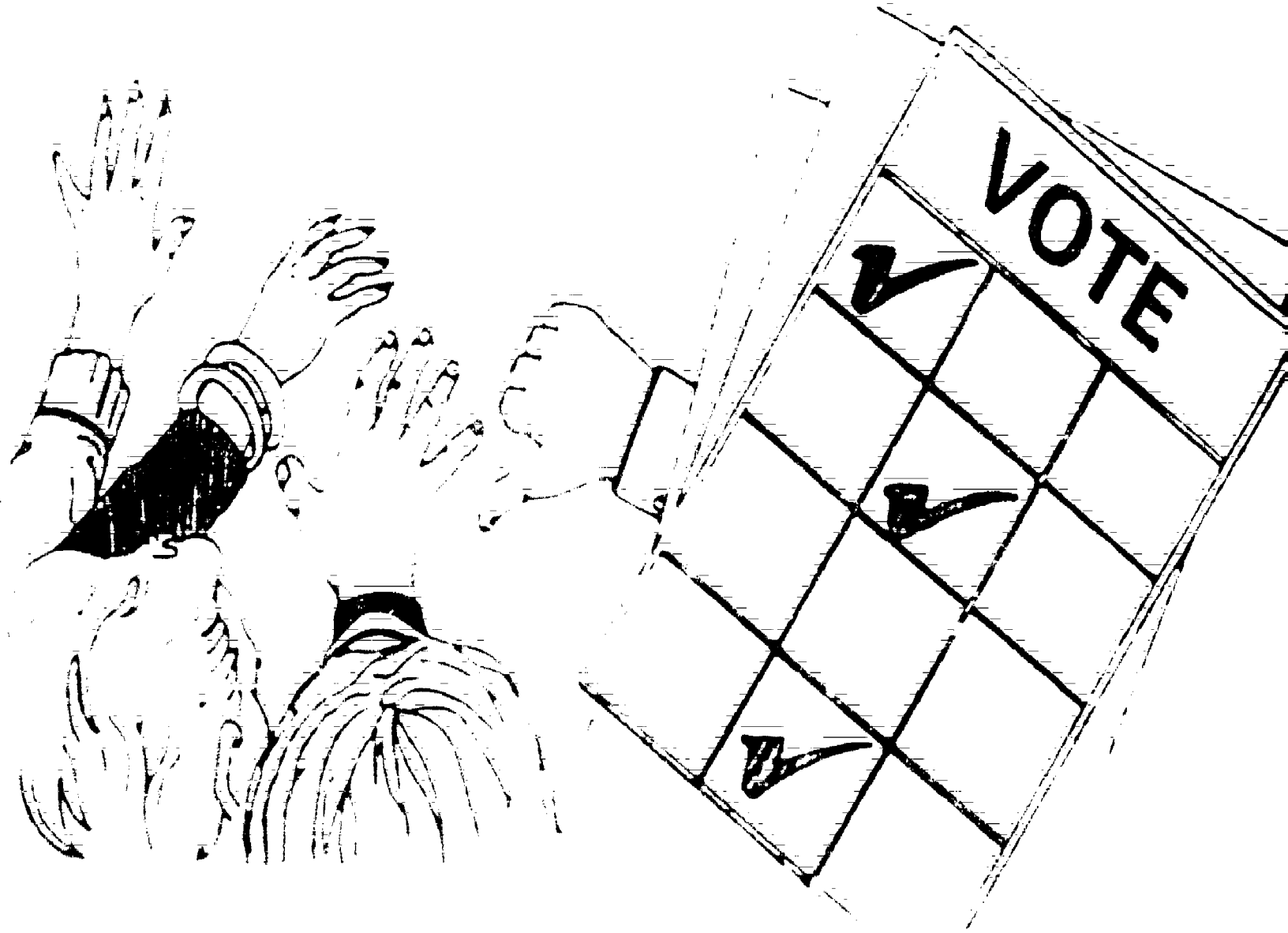
TRANSPARENCY [illegible]

Members control the cooperative with their votes. This is called democratic member control.



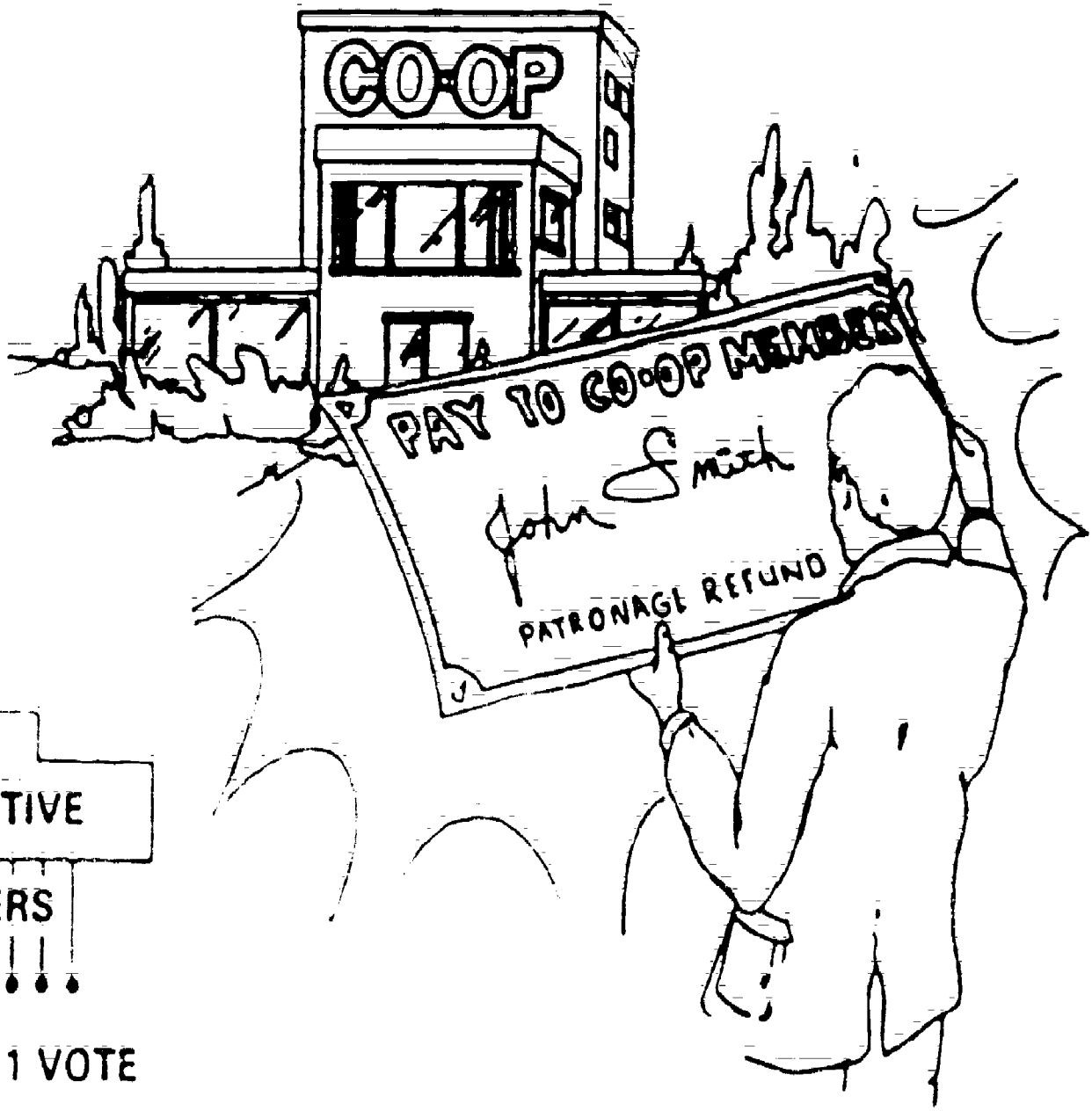
HOW IS A COOPERATIVE DISTINCTIVE?

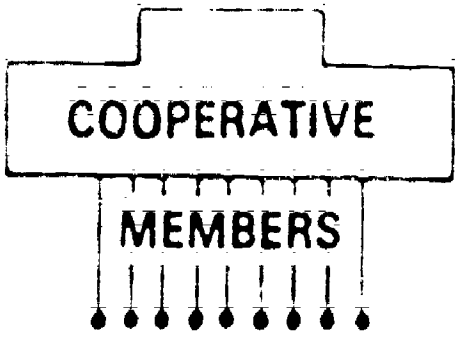
- DEMOCRATICALLY CONTROLLED –
  VOLUNTARY PARTICIPATION



HOW IS A COOPERATIVE DISTINCTIVE?

- DEMOCRATICALLY CONTROLLED
- SERVICE AT COST





1 MEMBER = 1 VOTE

HOW IS A COOPERATIVE DISTINCTIVE?

- DEMOCRATICALLY CONTROLLED
- SERVICE AT COST
- LIMITED RETURNS ON INVESTMENT

TRANSPARENCY 1-2-F

HOW IS A COOPERATIVE DISTINCTIVE?

- DEMOCRATICALLY CONTROLLED
- SERVICE AT COST
- LIMITED RETURN ON INVESTMENT
- MEMBER-OWNED AND FINANCED

TRANSPARENCY 1-2-G

INSTRUCTIONAL AREA: Ag usiness

INSTRUCTIONAL UNIT I: Farm/Agribusiness Planning

LESSON 2A: Responsibilities of Cooperative Management

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain the responsibilities of the Board of Directors and Managers of an agricultural cooperative.

2. Specific:

a. Explain the responsibilities of the cooperative Board of Directors.

b. Explain the responsibilites of the cooperative manager.

B. Review Teaching Materials

Roy, Ewell P. Cooperatives: Development, Principles, and Management, 4th edition, Danville, Ill.: Interstate Printers and Publishers, 19.

C. Special Arrangement

1. Materials

a. Chalkboard

b. Slides

2. Travel

If possible, visit an agricultural cooperative in your town.

3. Audiovisual Equipment

Overhead projector for transparencies

II. Presentation of Lesson

A. Motivation

The instructor should give examples of results of organizations with poor management and of those with responsible management. The point should be made that everybody's business is nobody's business. Consequently, there is a need in organizations for individuals to perform certain duties for efficient and effective operation of the organization.

B. Content Outline

1. Terms (Use chalkboard and give relevant examples to promote better understanding of the terms).

   Audit -- An examination of records or accounts to check their accuracy.

   Board of Directors -- Is the governing body in the cooperative.

2. Explain the powers and responsibility of the Board of Directors of a cooperative

   Powers of Board Members:

   a. To prescribe the form and maintenance of membership records and to approve memberships

   b. To prescribe the form, extent and nature of financial reports to members

   c. To make changes in the bylaws (when the power to do so is vested in the directors)

   d. To borrow money and issue such evidence of indebtness as required

   e. To commingle funds of the association from all sources and to decide upon the investments in other cooperatives and/or other businesses

   f. To employ and dismiss the general manager and determine his responsibilities, duties and compensation

   g. To determine which employees are to be bonded, fix the amount of their bonds and provide for adequate insurance protection for all facilities, equipment and personnel

   h. To keep records of all meetings of the board

   i. To call special meetings of the board

   j. To elect officers of the board, remove them for cause and fill vacancies (In some states, members elect board officers directly)

   k. To provide for the installation of an accounting system

   l. To employ an auditor

m. To establish rules and regulations regarding the transfer of memberships and other evidences of equity in the association

n. To issue and sell stock or other evidences of equity

o. To determine the manner, form, and amount of patronage refunds

p. To declare dividends on stock and patronage refunds on business volume

q. To enter into contracts, sue and be sued

r. To formulate and evaluate general and internal operating policies both for the short run and the long run

Responsibilities of Directors: (Transparencies 1-2A-A and B)

a. They should not interfere in the day-to-day operation of the business but should determine, with the membership, the policies of operation. Directors have a responsibility to further their knowledge of and training in management and to familiarize themselves with the co-op laws of the state, the articles of incorporation, and bylaws of their cooperative. Every director should have a copy of each for ready reference.

b. They are responsible for hiring the best trained and most efficient manager that they can and creating the best possible working conditions for him that are compatible with the interest of the members and the success of the cooperative.

c. Check and evaluate the results and performance of the policies

d. They have both a moral and legal responsibility to serve the best interests of the members whom they represent rather than their own individual interests. Remuneration to any director should be only for actual out-of-pocket costs when representing the cooperative. Records of such renumerations should be available for membership inspection and examination. No director should have a financial interest in private facilities or businesses that provide supplies or services to the cooperative or that competes with the cooperative.

e. Study, forcast, and plan for business growth, [illegible] services, and adequate capital.

3. Explain the powers and responsibilities of a cooperative management.

What does Management [illegible] (Transparencies [illegible])

a. Supervise, conduct and direct all jobs and activities specifically delegated to him by the board of directors.

b. Train or have trained employees of the cooperative for greater efficiency.

c. Hire and fire his subordinates according to a general policy created by the board.

d. Make periodic reports to the board of directors together with his recommendations concerning the cooperative's operation.

e. Plan, organize, direct, coordinate, conduct, and control the administrative and financial operations of the cooperative.

Responsibilities of the Manager:

a. The manager shall supervise the detailed operations of the cooperative in accord with the policies agreed upon by the board of directors and shall recommend policies to the board.

b. The manager shall maintain an adequate bookkeeping and accounting system; provide for its regular examination by competent outside auditors, which are selected by the board of directors, and present to the members at the regular annual meeting a statement of the financial condition of the cooperative.

c. The manager shall attend all board of directors' meetings and make available a business report and a monthly financial statement as a minimum requirement.

d. The manager shall devote full time to the affairs of the cooperative. No employee shall have a financial interest in any business concern with which the cooperative does business, or engage in sideline activities or business in competition with the cooperative.

[illegible] The manager shall [illegible] budgets [illegible] income and expected [illegible] [illegible] such budgets [illegible] [illegible]

The manager shall [illegible] all matters requiring board consideration and action.

[illegible] The manager [illegible] appraise the [illegible] adopted.

[illegible] Student Activities

The teacher should [illegible] imperative in order to [illegible] managers in their [illegible] [illegible] of the operation.

The teacher should [illegible] knowledge of the powers and [illegible] operation [illegible]

[illegible] Auditing

[illegible] and [illegible] report [illegible] responsibilities [illegible] board members.

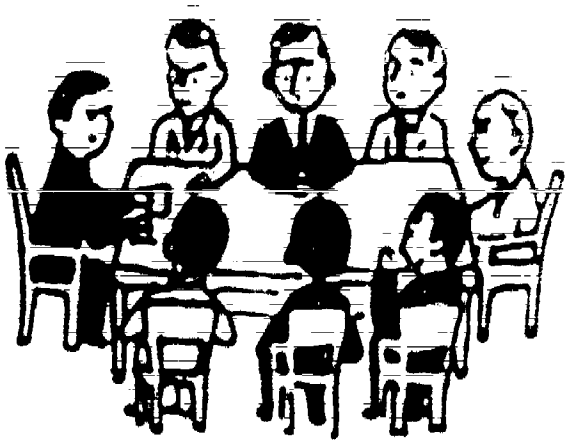
[illegible] and [illegible] [illegible] responsibilities [illegible]

[illegible] Manager [illegible] auditing [illegible]

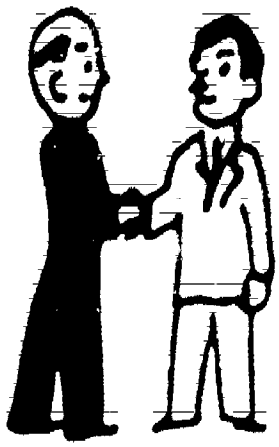
One of the items [illegible] included [illegible] regular board meeting was the annual audit. When [illegible] came for discussion on this subject, the manager indicated that the audit had been completed and had been received one week prior to the meeting. He reported that it showed the business [illegible] an excellent financial position. A few questions were asked by the directors [illegible] expense involved in the audit. There, since there seemed to be no further questions, on [illegible] the director moved they accept the audit report. The motion received an affirmative vote, and they went on to discuss the next item of business.

Was this handled properly [illegible] Why or why not?

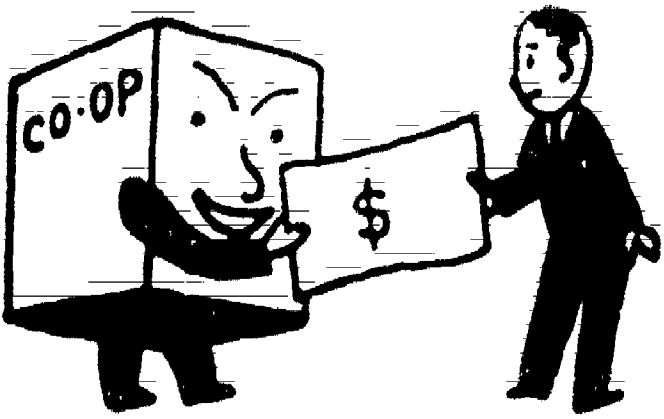
WHAT DO DIRECTORS DO ?



1. Decide how the cooperative will do business (operating policies).



2. Hire a manager (and hold him responsible).



3. Check and evaluate the results and performance of the policies

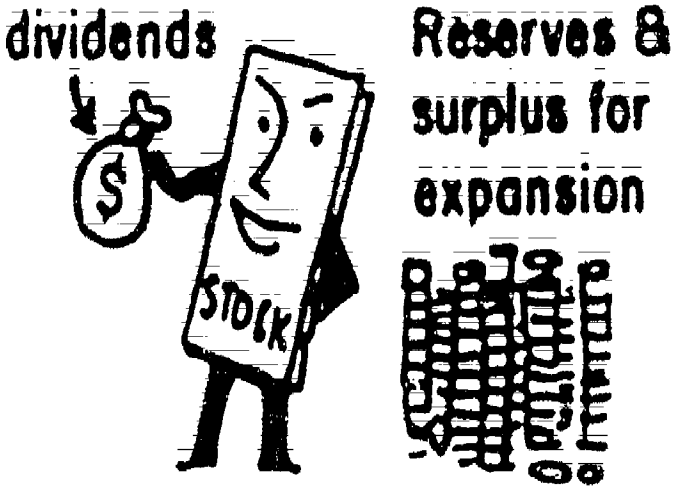
WHAT DO DIRECTORS DO ?

4. Represent the members in affairs of the association.

---

5. Study forecast and plan for :

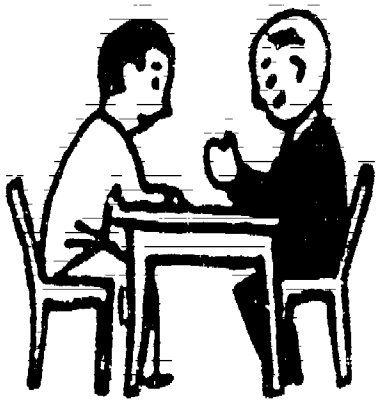
   a. Business growth.
   b. New services.
   c. Adequate capital.



WHAT DOES MANAGEMENT DO ?

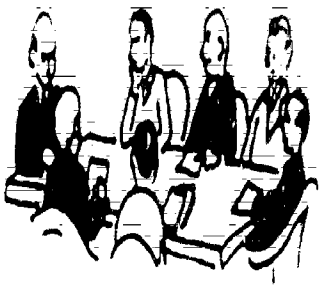
1. Management carries out everyday operations

2. Management is responsible to the board for effective operations



3. Management hires (and fires) and directs personnel to do the job

WHAT DOES MANAGEMENT DO ?



4. Management recommends changes and improvements to the board

5. Management functions by:

- Planning
- Organizing
- Directing
- Controlling

3. Audiovisual Equipment

Slide Projector

Slides on good and poor arrangement of farmstead and farm buildings

II. Presentation of Lesson

A. Motivation

1. Students should be shown slides on both good and poor farmstead and farm building planning and afterward the teacher should ask the students for their views and comments. List on the chalkboard the good points observed during the slide presentation.

2. Teacher should pick students to sketch some diagrams on the board to reflect their views on planning the farmstead and farm buildings. Teacher can guide students if they need assistance. (Poultry farm, dairy farm, vegetable farm can be used as some examples.)

B. Content Outline

1. Introduction

Using the slide presentation and also rough sketches for students, the teacher should explain and stress the importance of planning the farmstead and farm building arrangements.

2. Terms (Use chalkboard.)

Farmstead includes the house, lawn, garden, walks, drives, trees and shrubbery, and other areas that add to the convenience and appearance of the place.

Farm buildings are part of the farmstead. Usually these buildings are already established in the farmstead. Examples are hoghouse, barn, poultry house, and others.

3. Factors that should be considered in planning the farmstead arrangement. (Use chalkboard.)

a. Main functions of the farmstead are as follows:

1) Center for business activity, and

2) Place where the farm family lives.

b. Reasons for planning:

1) To meet the needs of the farm business, and

2) To meet the needs of the farm family.

c. Factors to be considered in planning the farmstead arrangement

Points listed below should be elaborated and explained by the teacher with relevant examples.

1) Develop a long-range plan to achieve a well-arranged farmstead layout.

2) Analyze the site thorougly in relation to water supply, sewage disposal, topography, electricity, communication, and fuel service.

3) Examine the present farmstead arrangement, the condition of existing buildings, and others.

4) Emphasize the importance of planning good traffic circulation, flexibility, and fire safety.

5) All planning work should be first sketched and consultations should be made where necessary.

6) Set priorities to meet the goals of the business.

7) Importance should be given to efficient use of facilities and resources, and location of farm buildings.

8) The attractiveness of the farm yard is important to make the farm business a success. (Shrubs, flower beds, gardens, and pleasing driveways should be included not only to attract customers, but also to make the living area of the farm family a pleasant one.)

9) The farmer should plan his home within his earning capacity.

10) All planning should make provisions for further expansion of the farm business.

4. Factors to be considered in planning farm buildings (Use chalkboard.)

Purpose: Usually farm buildings are already located on the farm; therefore, this gives very little choice in planning for the farmer.

Well-planned farm buildings will save labor and reduce the cost of performing the farm work.

Factors that should be considered in planning farm buildings:

a. Ensure that the investment in buildings meets the needs of the farm business.

b. Ensure that the buildings fit the farming program and farming methods that are to be used.

c. Plan buildings in such a way that they can be adapted to new uses in the future.

d. Construct and arrange buildings to save labor costs.

e. Allocate money wisely and avoid unnecessary expenditure.

f. Set priorities and deal with improvements on the farm buildings based on importance and need.

g. Make sure the land is put to good use when planning farm buildings.

h. Make sure that there is sufficient storage space.

i. Ensure that safety is given priority.

j. Determine if farm buildings are planned for desirable work.

C. Suggested Student Activities

1. Students should be provided with real farmstead and farm building plans, and additionally they should be asked to make a list of the good and bad points of those plans. Later they should be requested to present to the class a report with suggestions for improvement of those plans.

2. The teacher should also set assignments in planning the following buildings:

   a. Small broiler farm,

   b. Commercial dairy farm, and

   c. Commercial vegetable farm.

   [Some important guidelines should be given to the student by the teacher.]

3. Students should be encouraged to visit nearby farmsteads and interview the farmers to gather information on planning of farmstead and farm buildings. They should obtain specific information on current problems faced by those farmers in relation to the arrangements of farmstead and farm buildings.

D. Study Questions

1. Define in your own words "farmstead" and "farm buildings."

2. List two functions of the farmstead.

3. Give two reasons why farmstead planning is important.

4. List factors that should be considered in planning the farmstead arrangement.

5. List factors that should be considered in the planning of farm buildings.

6. Draw a plan to show how one would set up an arrangement for a small broiler poultry farm.

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT I: Farm/Agribusiness Planning

LESSON 4: Planning Agribusiness Facilities

I. Preparation for Instruction

A. Student Objectives

1. Terminal: List and explain factors to consider in planning agribusiness facilities.

2. Specific:

a. List and explain factors to consider in the location of the agribusiness.

b. List and explain factors to consider in the layout of the agribusiness.

B. Review Teaching Material

Glos, Raymond E., and Harold A. Baker. Introduction to Business. 5th Edition, Cincinnati, Ohio: South-Western Publishing, 1963.

C. Special Arrangements

1. Materials

a. Chalkboard

b. Slides

c. Blank transparencies

2. Travel

A field trip to a nearby agribusiness enterprise. Prior to the visit, students should be given a work sheet pertaining to the location and layout of agribusiness.

3. Audiovisual Equipment

a. Slide projector — Slides on typical agribusiness location, and layout plans

b. Overhead projector

4. If possible the teacher should get nearby agribusiness owners to speak to the class.

II. Presentation of Lesson

A. Motivation

Students should be shown slides on both good and poor agribusiness locations and layouts. The teacher should ask the students for their views and comments. List on chalkboard the good points observed during the slide presentation.

B. Content Outline

1. Introduction

Using the slide presentation and the views of the students, the teacher should explain and stress the importance of the agribusiness location and layout.

2. List and explain factors to consider in the location of the agribusiness enterprise. (Use overhead projector.)

a. Raw materials -- These should be easily accessible to the enterprise. Raw materials used will depend on the nature of the enterprise. Examples of raw materials for a poultry feed company are corn, soybeans, minerals, and others. If the raw materials are perishable, the manufacturers that use them should be located in the agricultural districts where they are grown. This will reduce cost.

b. Labor -- If the agribusiness enterprise or production plant requires labor, a thorough study of the area should be made to determine the type of labor needed (skilled or unskilled) and also the number needed for the successful operation of the unit. Therefore, the location chosen should meet the requirements of the enterprise.

c. Power -- The management of the agribusiness enterprise should ensure that relatively cheap sources of power are readily available for the efficient operation of the enterprise. An example of an enterprise that would need a good source of power is an agricultural chemical producing company or a feed mill.

d. Fuel -- In those enterprises or production units where fuel is a major concern, proximity to cheap sources may be a factor in the choice of location.

e. Water -- A location chosen should have a good supply of water, and in the case of a fertilizer company or pesticide producing company, purity of the water is important.

f. Transportation -- The transportation factor involves cost, speed, and the selection of vehicles. Without proper transportation routes and facilities in the area, the enterprise cannot function.

g. Climate -- When choosing a location, one needs to consider the climatic conditions in the area. In some cases it may affect the production of the company.

h. Market -- In any kind of business it is important that the enterprise be located close to the market for the products. This will ensure quick sales and delivery and also cuts cost.

i. Special characteristics of the business -- The agribusiness producers who produce chemicals need to consider a location that does not endanger human habitation (certain poisonous gases produced in the operation may be harmful to humans).

j. Cost of land and buildings -- Agribusiness management needs to consider the cost of land and buildings before deciding the location of the enterprise.

3. List and explain factors to be considered in the layout of the agribusiness. (Use blackboard.)

Agribusiness enterprise needs to pay attention to layout of the enterprise. The type of layout will differ according to the nature of the business, that is, whether it is a production unit, retail store, or an office.

a. Type of manufacturing process -- This can be either the intermittent or the continuous type. The layout in this kind of agribusiness factory must meet the requirements of the manufacturing process so that efficient production is ensured at all times.

b. Manufacturing policy -- The manufacturing policy determines whether the agribusiness company is to produce to order or for stock or for both. An example in this case will be feed mills and fertilizer companies. This policy will affect the layout plans of the enterprise.

c. Type of product -- If the products produced are large units, such as laying cages or feeding troughs, for example, special consideration should be given to storage in the layout.

d. Amount of labor -- If many workers are involved in the operation, sufficient work space should be provided to ensure safety and efficiency.

[illegible] Flow of Work -- The amount [illegible] that [illegible] carried out in the whole [illegible] considered in the layout.

[illegible] Internal transportation -- Internal transport facilities in the agribusiness production [illegible] need to be planned to cut costs and increase efficiency. A well-planned layout will [illegible] safety and efficiency and also reduce cost.

[illegible] Need for flexibility -- The layout should be made flexible to accommodate future expansion of the agribusiness enterprise. Especially in the case of a feed mill, when there is a demand for poultry or livestock feeds, the enterprise will [illegible] space to increase production equipment.

Suggested Student Activities

Teacher should plan a program to ensure that each student has the opportunity to visit nearby agribusiness enterprises. Prior to their visits, the teacher should provide guidelines to the students on what to look for in relation to location and layout. After their visits, pupils should present written reports to the teacher and oral reports to the class.

The teacher can also plan a class visit [illegible] well-[illegible] agribusiness enterprise if the actual visits are not feasible.

Teacher should assign students to plan the layout of their own agribusiness enterprise and present their plans to the class. These assignments should be within the student's ability with the aid of the teacher.

Test Questions

List the factors that need to be considered in the choice of a location for an agribusiness enterprise.

List the factors that need to be considered in the layout of an agribusiness enterprise.

[illegible] Agribusiness

[illegible] Farm Agribusiness [illegible]

[illegible] Farm and the Agribusiness [illegible]

[illegible] Instruction

Student Objectives

Terminal: List and explain how the farm business and agribusiness enterprises are analyzed.

Enabling:

1. Define terms.

2. List reasons why the farm business and agribusiness enterprises should be analyzed.

3. List measures that can be used to analyze the farm business and agribusiness enterprise.

4. Explain how the financial success of the farm and agribusiness can be analyzed.

5. Describe how the size of the farm and agribusiness can be analyzed.

6. Know how the efficiency of the farm business and agribusiness can be analyzed.

[illegible] Teaching Material

1. Duening, Robert A., and William P. Mortenson. The Farm Management Handbook. 6th Edition. Danville, Ill.: Interstate Publishers, 1979.

2. Castle, Emery N., Manning H. Becker, and Frederick J. Smith. Farm Business Management. 2nd Edition. New York: The Macmillan Company, 1972.

3. Schneeberger, Kenneth C., and Donald D. Osburn. Financial Planning in Agriculture. Danville, Ill.: Interstate Publishers, 1977.

To determine the size of the [illegible], [illegible] and the volume of business

To find out the [illegible] of the farm business or agribusiness and [illegible] necessary rectifi[illegible]

To know the weak[illegible] business for future planning

To determine the [illegible] farm business and agribusiness [illegible]

[illegible] farm business and agribusiness [illegible]

[illegible]

Size of business [illegible]

[illegible]

How [illegible] farm business and agribusiness enterprise be analyzed? Use chalkboard [illegible] and [illegible] -A and B.

1. The owner [illegible] net business income which can be calculated from the income statement. [illegible] It shows the return to the operator for his labor, management, and capital. To determine the return to labor and management, capital [illegible] the going rate [illegible] rate representing what the capital would earn in a different way. [illegible] attributed [illegible] and management.

[illegible] Allocating returns [illegible] capital, and management [illegible]

[illegible] residual [illegible] the [illegible] agribusiness enterprise [illegible] the same [illegible] expressed [illegible] changed.

4. Make sure that [illegible] for [illegible] included [illegible] combination [illegible] and management.

5. The [illegible] agribusiness owner should [illegible] when all [illegible] producing factors [illegible]

7. The farmer and the agribusiness owner should study various measures of financial success that are available before making plans for the future.

8. If he determines that his net farm income or net business income is less in relation to the amount of capital invested, he should find other ways to reinvest his capital to get a better net income. In order to improve his net income he can:

   1) Liquidate the farm business or agribusiness enterprise and invest the capital elsewhere, or

   2) Make adjustments to increase the net income in the present farm business or agribusiness. (Transparency I-5-C)

   There are three important aspects that need to be looked into to measure or determine the financial success. They are as follows:

   1) Profitability,

   2) Solvency, and

   3) Liquidity.

CHART I-5-A

A FARM INCOME STATEMENT

MONTH: January 1982

RECEIPTS (Debit)		
1. Livestock Sales		320,000
2. Crop Sales		11,500
3. Miscellaneous Receipts		2,500
4. Inventory Increase		--
5. Gross Farm Income		34,000
EXPENSES (Credit)		
6. Current Expenses		10,500
7. Inventory Decrease:		
Crops and Supplies	$ 650	
Livestock	1050	
Machinery	2000	
Buildings	700	4,400
8. Gross Farm Expenses		14,900
9. Net Farm Income (lines 5-8)		19,100

The two main areas in the above farm income statement are receipts and expenses. The above can show the farmer his net income. Agribusiness enterprises will also have income statements similar to the above. The only difference will be that agribusiness enterprises will be dealing with chemicals, feeds, livestock equipment, and others.

CHART I-5-B

NET WORTH STATEMENT
FOR
BILLY BOY DAIRY FARM, DECEMBER 31, 1982

ASSETS		LIABILITIES	
Land	$200,000	Jones Feed Co.	$2,500
Buildings	50,000	Jacky Lumber Co.	380
Machinery	28,000	Total Farm Liabilities	2,880
Supplies	7,000		
Dairy Cattle	16,000		
Accounts Receivable	2,000		
Cash	399		
Total Assets	$303,399	Total Liabilities	$303,399
		Proprietor's Net Worth	$300,519

60

6. Describe how the size of the farm and agribusiness can be analyzed. (Transparencies I-5-J, K, and L)

Farmers and agribusiness owners should analyze the inputs and outputs of their enterprise before making decisions. The income of a fertilizer company or feed mill or poultry farm can be affected by the size of the business. However, no one measure is considered perfect; therefore, the method of measurement will be different in different businesses.

The different ways used to measure size are as follows:

a. Total acreage,

b. Capital invested, and

c. Number of livestock raised.

Size can be determined or measured in inputs and outputs. (Transparency I-5-K)

7. Show how the efficiency of the farm business and agribusiness can be analyzed. (Use chalkboard.)

Efficiency is a measure which compares outputs to inputs. These can be measured in pounds, acres, and others. It is important to measure efficiency to determine whether the production of the farm or agribusiness is being run at low or high cost. Efficiency studies will help in future planning of the business.

a. Production efficiency can be calculated on a per livestock unit, per acre, or per dollar basis.

b. Feed efficiency is the return from livestock for every pound of feed used or consumed. This shows the farmer how productive his livestock are and how well the feed is utilized. The higher the return from livestock on less feed, the better the feed efficiency is. This will change from livestock to livestock. Sometimes feeds containing all the essential nutrients in balanced amounts are better than mere bulky feeds that weigh more but have low nutritive value. It is important to remember feed cost is rising and is a concern for most farmers.

The measures below are based on inputs and outputs.

c. Labor efficiency can be measured by dividing the total labor by the output.

Example 1 -- 10 men produce 500 bushels of corn

$$\frac{500 \text{ bushels}}{10 \text{ men}}$$

$$= \underline{50 \text{ bushels per man}}$$

similarly, efficiency per hour can be calculated.

Example 2 -- 10 men work in a feed mill that produces 1,200 pounds of feed per day.

The labor efficiency for this agribusiness enterprise will be:

$$\frac{1,200 \text{ pounds}}{10}$$

$$= \underline{120 \text{ pounds per man}}$$

NOTE: More commonly, labor efficiency is expressed as total productive man work units per worker. A productive man work unit is the amount of work a worker would accomplish under average farm or agribusiness conditions in a 10-hour day. In the case of agribusiness production units, machine efficiency or equipment efficiency can be calculated on an hourly or daily basis.

d. Machinery efficiency

Machinery cost per acre is used to determine the efficiency of machinery. This is done by calculating the total machine cost that includes depreciation, interest, taxes, housing, repairs, insurance, gas, oil, and electricity divided by the number of crop acres.

This measure is useful when comparing farms of similar type. This measure can also be used for agribusiness enterprises.

The efficiency measure of systems will vary from farm to farm and also will be different in agribusiness enterprises. In the case of agribusiness enterprises, the person dealing with feed or fertilizer production needs to measure efficiency in feed production per day or fertilizer production per day or equipment efficiency per day.

C. Suggested Student Activities

1. Get students to analyze the performance of nearby farms and agribusinesses. Teacher should provide all required information to enable students to measure financial success, size, and efficiency for each enterprise.

2. Get students to explain orally the meaning of the various terms discussed in class.

3. Students should be asked to bring to class different farm and agribusiness accounts that should include income statement and net worth statement. The teacher should guide them to analyze those accounts to determine profitability.

4. Simple mathematical calculations should be given to students on the following:

   a. Net capital ratio,

   b. Net business income, and

   c. Labor efficiency.

D. Study Questions

1. What information for farm or agribusiness records needs to be examined to analyze the performance of farm and agribusiness enterprises?

2. List reasons why farm and agribusiness enterprises should be analyzed.

3. List the measures that can be used to analyze the performance of farms and agribusiness enterprises.

4. Explain briefly in your own words how the financial success of farms and agribusinesses can be analyzed.

5. Explain how the net capital ratio can be calculated for a farm or an agribusiness enterprise. What is the value of this ratio to the business owner.

6. Discuss briefly the various size measures that can be used.

7. What is efficiency? List some measures that can be used to determine efficiency of farm and agribusiness enterprises.

8. Define the following terms:

   a. Profitability,

   b. Solvency, and

   c. Liquidity.

ANALYZING THE FARM BUSINESS AND AGRIBUSINESS ENTERPRISE

ENTERPRISE WILL AID THE FARMER IN MAKING PROPER DECISIONS, DETERMINE THE "GOOD" AND "BAD" POINTS OF HIS BUSINESS.

SHOULD I . . . . .

RAISE HOGS OR CHICKENS?

AM I MAKING ENOUGH $ $???

SHOULD I START A FERTILIZER COMPANY. ????

TRANSPARENCY I-5-A

WHAT INFORMATION NEEDS TO BE LOOKED INTO FOR

ANALYZING THE FARM BUSINESS

1. FINANCIAL RECORDS
2. CROP RECORDS
3. LIVESTOCK RECORDS

WHAT INFORMATION NEEDS TO BE LOOKED INTO FOR

ANALYZING

AGRIBUSINESS ENTERPRISE

1. FINANCIAL RECORDS
2. INVENTORIES
3. PRODUCTION RECORDS & OTHER

TRANSPARENCY [illegible]

PROFITABILITY MEASURE

RETURN ON INVESTMENT =

$$\frac{\text{NET RETURN TO CAPITAL}}{\text{TOTAL ASSETS}}$$

THIS RATIO WILL HELP TO SHOW THE FARMER OR AGRIBUSINESS OWNER THE PROFITABILITY OF HIS BUSINESS.

SOLVENCY MEASURE

$$\text{SOLVENCY RATIO} = \frac{\text{TOTAL DEBT}}{\text{TOTAL ASSETS}}$$

TRANSPARENCY I-5-G

LIQUIDITY AND CASH FLOW

A FARMER OR AN AGRIBUSINESS OWNER NEEDS TO INCREASE CASH INFLOW AND REDUCE CASH OUTFLOW. IF DEBTS ARE PAID RAPIDLY, THERE IS BINDING ON CASH FLOW. IT IS NECESSARY FOR THE OWNER OF THE BUSINESS TO KEEP SUFFICIENT CASH RESERVES TO MAINTAIN LIQUIDITY. HOWEVER, IT IS IMPORTANT THAT A GOOD BALANCE BE MADE BETWEEN CASH INFLOW AND OUTFLOW, OTHERWISE TOO MUCH CASH RESERVE WILL AFFECT PROFITABILITY.

TRANSPARENCY I-5-H

LIQUIDITY MEASURE

$$\text{CURRENT RATIO} = \frac{\text{TOTAL CURRENT ASSETS}}{\text{TOTAL CURRENT LIABILITIES}}$$

THIS RATIO IS ALSO CALLED NET CAPITAL RATIO.

THE NET CAPITAL RATIO WILL GIVE A BETTER PICTURE OF THE FINANCIAL POSITION OF THE FARM BUSINESS.

EXAMPLE 1
JOHNSON POULTRY FARM
TOTAL CURRENT ASSETS $40,000
TOTAL CURRENT LIABILITIES $20,000

$$\text{NET CAPITAL RATIO} = \frac{40,000}{20,000} \text{ OR } 2:1$$

EXAMPLE 2
JACKSON DAIRY FARM
TOTAL CURRENT ASSETS $60,000
TOTAL CURRENT LIABILITIES $40,000

$$\text{NET CAPITAL RATIO} = \frac{60,000}{40,000} \text{ OR } 1.5:1$$

THE NET CAPITAL RATIOS OF BOTH THE FARMS TELL US THE ACTUAL FINANCIAL OR CAPITAL POSITION. JACKSON DAIRY FARM IS IN A MORE PRECARIOUS FINANCIAL POSITION. HE NEEDS TO DO SOMETHING TO RECTIFY THIS STATUS.

TRANSPARENCY I-5-I

THE VALUE OF SIZE MEASURES

SIZE MEASURES SHOW THE FARMER OR THE AGRIBUSINESS MANAGER THE TROUBLE SPOTS IN HIS BUSINESS.

TRANSPARENCY I-5-J

SIZE MEASURED IN TERMS OF INPUT AND OUTPUT

INPUT	OUTPUT
1. TOTAL INVESTED CAPITAL - (LAND, BUILDINGS, MACHINERY, LIVESTOCK, CROPS) SIZE MEASURED USING THE ABOVE HAS ITS LIMITATION BECAUSE THE AMOUNT OF LABOR OR OPERATING CAPITAL IS NOT INCLUDED.	1. GROSS INCOME IS A MEASURE OF OUTPUT BECAUSE IT IS DETERMINED BY MULTIPLYING TOTAL PRODUCTION BY PRICE. GROSS INCOME IS A BETTER INDICATOR OF SIZE THAN ANY SINGLE INPUT DISCUSSED EARLIER.
2. ACRES OF LAND - THIS CAN INDICATE SIZE ACCURATELY WHERE THE LAND IS HOMOGENOUS AND THE KIND OF FARMING OR AGRIBUSINESS IS SIMILAR.	
3 NUMBER OF LIVESTOCK - CAN INDICATE SIZE OF FARM, BUT SUCH A MEASURE DOES NOT SHOW EFFICIENCY OR INTENSITY OF PRODUCTION.	

TRANSPARENCY I-5-K

EVEN THOUGH THERE ARE LIMITATIONS, INDICATORS OR MEASURES THAT ARE AVAILABLE WILL BE USEFUL. THE TYPE OF MEASURE CHOSEN WILL DEPEND ON THE REASON FOR WHICH THE COMPARISON IS BEING MADE AND THE KIND OF FARMS OR AGRIBUSINESSES BEING CONSIDERED.

TRANSPARENCY I-5-L

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT 1: Farm/Agribusiness Planning

LESSON 6: Budgets -- Farm and Agribusiness Enterprise

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain enterprise budgeting, partial budgeting, and total budgeting for farm and agribusiness enterprises.

2. Specific:

a. Define terms.

b. Explain how enterprise budgeting is done.

c. Explain what partial budgeting is and show how it is carried out.

d. Explain what total farm budgeting is and show how it is carried out.

B. Review Teaching Material

1. Luening, Robert A., and William P. Mortenson. The Farm Management Handbook. 6th Edition, Danville, Ill.: Interstate Publishers, 1979.

2. Castle, Emery N., Manning H. Becker, and Frederick J. Smith. Farm Business Management. 2nd Edition, New York: Macmillan Company, 1972.

II. Presentation of Lesson

A. Motivation

Students should be given an opportunity to hear farm managers and agribusiness owners' experiences in business budgeting. The owners should introduce the concept of budgeting. Teachers should select desirable farm managers and agribusiness owners to eliminate negative ideas on budgets and the process of budgeting.

B. Content Outline

1. Introduction

Teacher should encourage student views on farm and agribusiness budgeting. Pupils can review the responses of the farm managers and agribusiness owners or relate their personal experiences in any kind of budgeting.

Teacher should then emphasize the importance of budgets and budgeting processes to the class.

Terms: (Use chalkboard.)

a. Budget -- A summary of expenses and income for a given period

b. Enterprise -- A business

c. Gross sale -- A sale where expenses incurred have not been deducted

d. Variable cost -- Costs that change with production (Example: feed costs)

e. Fixed cost -- Costs that do not change (Example: overheads)

f. Profitability -- The difference between costs and returns

g. Accrual -- To increase by regular growth

h. Receipts -- Cash received

i. Liabilities -- Owed by the business

j. Costs -- Expenses incurred

k. Income -- Money coming into the business

2. Steps taken in developing enterprise budgets (Use chalkboard.)

Examples of enterprise:

Farm business -- A beef feed lot of 80 steers
A soybean enterprise of 90 acres
Agribusiness -- Jones Fertilizer Enterprise -- sell small packets of all types of fertilizer

An enterprise budget will be very useful in a farm and agribusiness enterprise for future planning.

Steps that should be taken in enterprise budgeting: (Transparency I-6-C)

a. Describe the enterprise's input and output. Example: 80 steers, 65 dairy cows, 2,010 nitrogen fertilizer packets (3-pound bags), 5,000 pounds of milk for sale per month, and others

b. Mention conditions of the farm business or agribusiness enterprise, including soil condition and other related factors. Determine the average production of corn or milk for the year or the sale of fertilizer bags per year. Monthly averages can also be calculated.

c. Make sure that reasonable prices are fixed for inputs and outputs of the business. Do not list imaginary prices as this will upset your budget planning.

d. Fill out the sections on receipts, variable cost, and fixed cost in your farm or agribusiness enterprise budget listings. Record all expenses and costs neatly in their respective sections.

Example:

Receipts

1. Gross sale of soybean section 20 (1 acre) at 0.90c per lb (300 lbs. x .90) $270.00
2.

Variable cost

1. 50 lbs. of seed at .30 per lb. $18.00
2.
3.

Fixed cost

1. Land charge $50.00
2.

NOTE:

1. Budgeting also gives the farmer or the agribusiness owner an insight of the financial situation of the farm or business.

2. It is important to remember that budgeting is essential for any kind of business and gives a sense of direction to the owner of any kind of business enterprise.

4. What is partial budgeting of farm and agribusiness enterprises? (Use chalkboard.)

a. What is a partial budget? (Transparency [illegible] and B)

It is a budget process where only two choices are considered and one is decided on.

b. Partial budget involves three kinds of analysis.

1) Profitability analysis -- This examines the income part of the proposed change. It will show how much income will be created by the new venture.

2) Repayment capacity analysis -- This focuses on the cash-generating aspect of the new venture proposed.

3) Financial analysis -- This examines the return per dollar of added capital and the period it would take to generate adequate cash.

[illegible]

[illegible]

[illegible]

[illegible]		[illegible]	
[illegible]	[illegible]	Additional Return Extra [illegible] machine	[illegible]
[illegible]	[illegible]	Reduced Cost Manual Labor Charge [illegible] harvesting	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

POINTS TO REMEMBER ON PARTIAL BUDGETING

1. [illegible] ONLY WITH THE COSTS AND RECEIPTS THAT CHANGE [illegible] AREA OR PART OF THE WHOLE BUSINESS.

2. THE PARTIAL BUDGET DOES NOT SHOW WHETHER THE NEW [illegible] PLAN IS PROFITABLE OR NOT.

3. [illegible] PARTIAL BUDGETS CAN GIVE RISE TO MANY [illegible]

4. [illegible] BUDGET CAN ONLY GIVE RISE TO APPROXIMATIONS

TRANSPARENCY I-D-B

TOTAL FARM BUDGETING

1. CHECK THE INVENTORY THAT SHOWS FARM RESOURCES OR AGRIBUSINESS RESOURCES.
   (THE RESOURCES INCLUDE LAND, CAPITAL, LABOR, AND MANAGEMENT.)

2. ESTIMATE RECEIPTS -- BY DOING THIS, THE FARMER OR AGRIBUSINESS OWNER WILL BE ABLE TO JUDGE THE PERFORMANCE OF HIS CROPS AND LIVESTOCK. IN BUDGETING THE FIXED RESOURCES SUCH AS LAND SHOULD BE CLOSELY EXAMINED. BY STUDYING HIS RECEIPTS, HE WILL KNOW THE NUMBER OF LIVESTOCK TO REAR AND THE TYPE OF CROP THAT WILL GIVE A BETTER YIELD.

TRANSPARENCY I-B-1

CHART I-B-D

INCOME ESTIMATION

1. [illegible] THE FARMER TO [illegible] INCOME [illegible]

   [illegible] MANY WAYS OF DOING INCOME ESTIMATION.

2. IT MIGHT BE DESIRABLE TO USE DIFFERENT RATES OF [illegible] BASED ON THE RISK INVOLVED WITH DIFFERENT BUSINESSES.

   [illegible] WELL ESTIMATE THE DEGREE AND [illegible] COMPARE THE FARM [illegible] CONTRIBUTIONS

3. [illegible] NET INCOME [illegible] INCOME IN THE [illegible] INCOME NEEDS TO BE CALCULATED [illegible] FOR THE BUSINESS.

4. [illegible] WHICH ARE [illegible] ARE [illegible] -- LABOR, CAPITAL, [illegible] AND MANAGEMENT.

CHART 1-6-C

SIMPLE EXAMPLE OF A RECEIPT AND EXPENSE

SUMMARY OF JOHNSON FARMS

[illegible]	
[illegible]	$ [illegible]
[illegible]	[illegible]
[illegible]	[illegible]
TOTAL RECEIPTS	$[illegible]
[illegible]	
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	$ [illegible]
[illegible]	$ [illegible]
[illegible]	
[illegible]	[illegible]
ESTIMATED VALUE OF FAMILY LABOR	[illegible]
TOTAL UNPAID FAMILY LABOR	$ [illegible]
[illegible] ESTIMATED LABOR AND	
[illegible] (1973) [illegible]	$ [illegible]

CHART I-5-3

A SUMMARY OF THE ENTIRE FARM BUDGET

JOHNSON FARMS

[illegible]	AMOUNT	YIELD	PROJECTION
[illegible]			
[illegible]		[illegible] BU. CWT.	[illegible] BU. CWT.
[illegible]		[illegible]	[illegible]
[illegible]		[illegible] BU. CWT.	[illegible] BU. CWT.
[illegible]			
[illegible]	[illegible] ACRES		
[illegible]			
[illegible]		[illegible]	[illegible]
[illegible]		--	--
[illegible]			--
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]			[illegible]

[illegible] OTHER ENTERPRISES SUCH AS POULTRY, EQUIPMENT, FEED MILLS, AND OTHERS ALL HAVE SUMMARIES OF THEIR BUDGETS AS ABOVE. THE RECEIPTS AND EXPENSES WHICH TOGETHER WITH THE ENTIRE BUSINESS BUDGET WILL SHOW THE OWNER HIS PROFITABILITY AND FINANCIAL SITUATION AND THE CHANGES THAT NEED TO BE MADE IN THE FUTURE.

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT I: Farm-Agribusiness Planning

LESSON 7: Factors of Production -- Land, Labor, Capital, and Organization

I. Preparation for Instruction

A. Student Objectives

1. Terminal: List and explain the factors of production, their importance, and how they are organized.

2. Specific:

a. Define terms.

b. List the factors of production and explain their importance.

c. Describe the main characteristics of production.

d. Explain how the factors of production are organized.

B. Review Teaching Material

1. Lueing, Robert A., and William A. Nielsen: The Farm Management Handbook. 6th Edition; Danville, Ill.: Interstate Publishing Co., 1974.

2. Upton, M., and G. W. J. Antington. Farming as a Business. 2nd Edition. New York: Oxford University Press. 1970.

C. Special Arrangements

1. Materials

A. Chalkboard

B. Slides

C. Charts

d. Transparencies

1. Travel

Visit a nearby farm or agribusiness enterprise to get an overall understanding of factors that bring about production.

2. Audio-visual Equipment

a. Slide projector

b. Overhead projector

II. Presentation of Lesson

A. Motivation

Students should be shown slides of farm and agribusinesses to show how factors of production are at work. Desirable examples should be chosen, and they should be at the students' level. During the slide show, the students should be asked to present their views and comments.

I. Content Outline

A. Introduction

Using the slide presentation and also the views and comments of the students, the teacher should introduce the four factors of production. Relevant examples should be presented to explain each factor clearly.

B. Terms

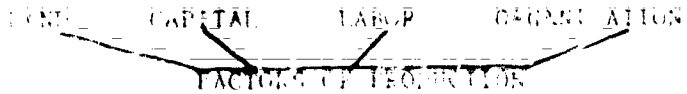
Land:	is natural wealth used in production.
Capital:	is the wealth used in production.
Labor:	is human [illegible] or machine labor used in production.
Organization:	it is the [illegible] ability used by the farmer or [illegible] the agribusiness to combine factors of production to bring about production.

C. [illegible] Introduction (Chart 7 A)

D. The important factors of production (Transparency 7-A)

Ask students' views on the importance of the factors of production in farm and agribusiness operations. Afterward the teacher should cover the material below to sum up the importance of the factors of production.

Besides skills and knowledge needed to manage a farm or agribusiness, the owner should have land, capital, labor, and [illegible] be able to organize them to produce corn, vegetables, milk, [illegible], fertilizers, pesticides, etc. Land is needed to place crops or raise animals or to build a factory. Businesses need workers and/or machines to do the job. In order to get all the above, money or capital is required. Therefore to produce anything, one needs all the following:



E. [illegible] characteristics of land, labor, and capital (Chart [illegible])

F. [illegible] are the forms of production organization [illegible] (Chart [illegible])

G. Organizing or combining the factors of production is important to enterprise profits.

[illegible]

b. The well-organized farm and [illegible] profitable business.

c. Higher production is achieved by [illegible] factors of production rather than [illegible] the business.

d. Proper balance of factors of production will [illegible] efficient use of inputs and also bring [illegible] return for the investment.

e. Using improper machines on farm [illegible] and agribusiness concern will result in [illegible]

f. A farmer or agribusiness owner should [illegible] kind of labor is most efficient and [illegible] human labor is cheaper than machine labor, [illegible] farmer or agribusiness owner should [illegible] the maximum.

g. When considering a balance in factors of production, the farmer or agribusiness owner should [illegible] separate business firm [illegible] maximum profits [illegible] be influenced by his [illegible] preferences.

h. Right business organization [illegible] [illegible]

i. The business owner and farmer need to make [illegible] decisions on whether they will [illegible] [illegible]

j. Whenever a farmer or business [illegible] a factor of production is [illegible] relations, he should decide that [illegible] will benefit his business [illegible].

[illegible] Suggested Student Activities

a. [illegible] production are put to work, [illegible] situations should be used to present [illegible] experiences [illegible] industry [illegible] economics.

b. Students will [illegible] several examples [illegible] farmers and agribusiness [illegible] factors of production [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

1. What is a contract? [illegible] farm or agribusiness enterprise, [illegible] involved with a contract. A contract is a legal agreement involving the [illegible] actions. A contract originates [illegible] and acceptance.

2. What is a land contract? A land contract is a contract which comes into existence [illegible] is purchased with a reasonable down payment [illegible] the remainder is paid as a mortgage [illegible] installments. A land contract is a legal arrangement whereby the seller [illegible] to the land.

[illegible] Capital investment transparency [illegible]

1) Capital assets can be put to use in [illegible] one type of production.

2) The problem is making decisions on the use of capital investment because there [illegible] give returns to the investor.

3) The returns on investment take some time.

4) The farmer or agribusiness owner needs to determine the amount of capital for each investment venture and also should be able calculation the yield or return anticipated from that project.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Liability insurance [illegible] the farmer
agribusiness owner against [illegible]

Liability insurance [illegible]
[illegible] damage

[illegible]

[illegible]

Damage to [illegible]
equipment.

Damage [illegible]

[illegible] damage [illegible]

Damage to [illegible]

Liability insurance covers workers [illegible] during work time, and the employer [illegible] to cover the loss, the above insurance [illegible] employee. As more workers are hired by [illegible] or agribusiness owners, the potential [illegible] increases.

It is also possible to insure crops, [illegible] other such farm and agribusiness products.

Certain risk situations such as egg [illegible] others cannot be covered by insurance [illegible] the difficulty of establishing reasonable [illegible]

Liability for injuries to employees [illegible]
Workmen's Compensation Insurance

Before [illegible] agricultural employees [illegible] under the Louisiana Workmen's Compensation Act.

[illegible] As a result of technological development, [illegible] courts made it compulsory that farm workers be given similar benefits to those of their [illegible] employees.

[illegible] The Workmen's Compensation Insurance pays the insured employee a certain amount of money per week for each week that he is disabled up to a maximum of [illegible] weeks.

[illegible] In addition to the above weekly payments, the employee's doctor's fees and hospital bills are paid by the policy.

[illegible] The policy also provides liability protection for the insured employee in the case in which negligence of the farm owner caused the accident.

[illegible] Insurance (see blackboard)

[illegible] Insurance covers losses caused by fire; therefore, it is an important aspect of business of which farmers and agribusiness owners should be aware.

[illegible] Any farm building or structure, agribusiness facilities, and factories can be covered by insurance against losses caused by fire.

[illegible] Insurance policies can be purchased at reasonable premiums for a particular period of time. The cost of the premium is dependent upon the term or the period of the policy.

[illegible] Premium rates also vary from company to company and from [illegible] to area.

[illegible] Crop Insurance

Crop insurance is available to all Louisiana farmers.

b. The only crop insurance available in Louisiana is the federal crop insurance.

c. There are also a few private companies that insure livestock.

d. Federal crop insurance covers only the cost of production.

v. The insurance covers only the total crop and not specific acres.

Example: If a storm destroys 200 acres of corn but the remaining acres cover the cost of production, the farmer gets no payment.

NOTE: If a farmer is new in business and has limited capital, crop insurance is a must.

Louisiana farmers should contact:

Federal Crop Insurance
Milner Building Room 610
200 South Lamar Street
Jackson, MS 39201
Phone: (601) 969-4359

9. Life and Health Insurance (Transparencies 1-9-A and B)

a. Advantages of Life Insurance (Use chalkboard.)

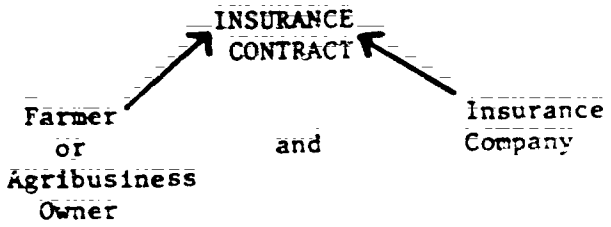
1) Exempted from income tax and also from state inheritance tax

2) Can be used to make prompt settlement of the estate (Payment of outstanding bills, funeral expenses, and other such payments)

3) When paid to the family it will help support the family during the period of settlement

4) May be used to help in maintaining the size of the farm

b. For the farmer or agribusiness owner, life and health insurance require the payment of a premium. The company, on receiving those stipulated premiums regularly from the farmer or agribusiness owner, agrees to pay the insured or the beneficiaries a fixed sum of money upon death or any other conditions agreed.



c. What is the purpose of Life and Health Insurance?

Insurance compensates or pays for the loss of the farmer or agribusiness owner through disability or death.

NOTE: Disability can be due to accident or illness.

The primary purpose of life and health insurance is to protect the family.

d. How much life insurance does a farmer or agribusiness owner need? (Transparency 1-9-b)

The amount of life insurance a farmer or agribusiness owner will need depends on the following:

1) The amount of income per month or per year,

2) The amount of expenses per month,

3) Working expectancy in years, and

4) The economic value of one's life.

NOTE: Since family needs will change over time, it is important that the life and health insurance plan be reviewed often.

e. A common type of life insurance policy

1) Whole or ordinary life insurance is also known as cash value insurance which is the most widely used.

2) The premium amount does not change over the life of the insurance agreement.

3) Cash value may be borrowed at a certain interest rate stipulated in the insurance policy or if the policy is canceled.

4) It incorporates a savings program and ensures pure insurance protection.

C. Suggested Student Activities

1. Students give orally the reasons for insurance.

2. Students make oral reports on different types of farm and agribusiness insurance that are available in their community.

4. Teacher should hand out to the class different insurance application forms and discuss briefly with the conditions stipulated in the forms.

D. Study Questions

1. List reasons why insurance is necessary for farm and agribusiness operations?

2. Describe briefly in your own words what liability insurance is.

3. Explain briefly in your own words what the Workmen's Compensation Policy is?

4. What is crop insurance?

5. Describe briefly what life and health insurance are.

6. List some advantages of life insurance.

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT I: Farm/Agribusiness Planning

LESSON 10: Farm and Agribusiness Records -- Records, Types of Records, Reasons for Keeping Them, Enterprise Record System, and Financial Statement

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain what are records, reasons for keeping records, enterprise record system, and financial statement.

2. Specific:

a. Define records and list some terms used in records.

b. List different types of records.

c. List reasons for keeping records.

d. Explain the enterprise record system.

e. Explain the financial statement.

B. Review Teaching Material

1. Castle, Emery N., Manning H. Becker, and Frederick J. Smith. Farm Business Management. 2nd Edition. New York: Macmillan Company, 1972.

2. Schneeberger, Kenneth C., and Donald D. Osburn. Financial Planning in Agriculture. Danville, Ill.: Interstate Publishers, 1977.

3. Luening, Robert A., and William P. Mortenson. The Farm Management Handbook. 6th Edition, Danville, Ill.: Interstate Publishers, 1979.

C. Special Arrangements

1. Materials

a. Chalkboard

[illegible]

[illegible]

[illegible]

[illegible] housewives, businessmen, farmers, and [illegible] their [illegible] systems. [illegible] these operations [illegible] types [illegible] outline [illegible] their [illegible]

[illegible] Multiple Equipment

[illegible] Overhead projector

II. [illegible]

A. Motivation

Present to students different types of [illegible] housewives, businessmen, farmers, and [illegible] operations; afterward encourage them to [illegible] students to list [illegible] the good [illegible] the records [illegible].

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] -- All [illegible]

Capital inputs -- Various items used [illegible] production process on a continuing [illegible] (The above depreciate in value [illegible] period of time and can last for [illegible] production cycles.)

[illegible] Operating inputs or inputs used -- [illegible] inputs used up during [illegible] production process

3) Kinds of records in general. ([illegible] I-10-A)

Various kinds of records are required [illegible] farming/agribusiness operations. [illegible] may include:

a) Income tax records.

[illegible] liabilities to be paid [illegible]

[illegible] liabilities [illegible] within [illegible] example - in [illegible] [illegible]

Intermediate-term liabilities [illegible] [illegible] made need to be paid [illegible] within [illegible] years, and

[illegible] term liabilities -- those that need to be paid up in [illegible] years [illegible] [illegible] [illegible]

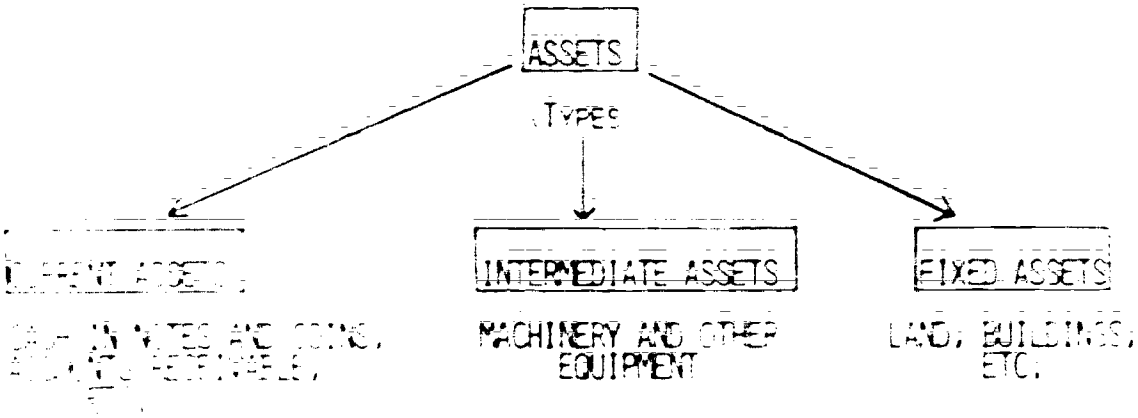
PLACING FOR KEEPING RECORDS

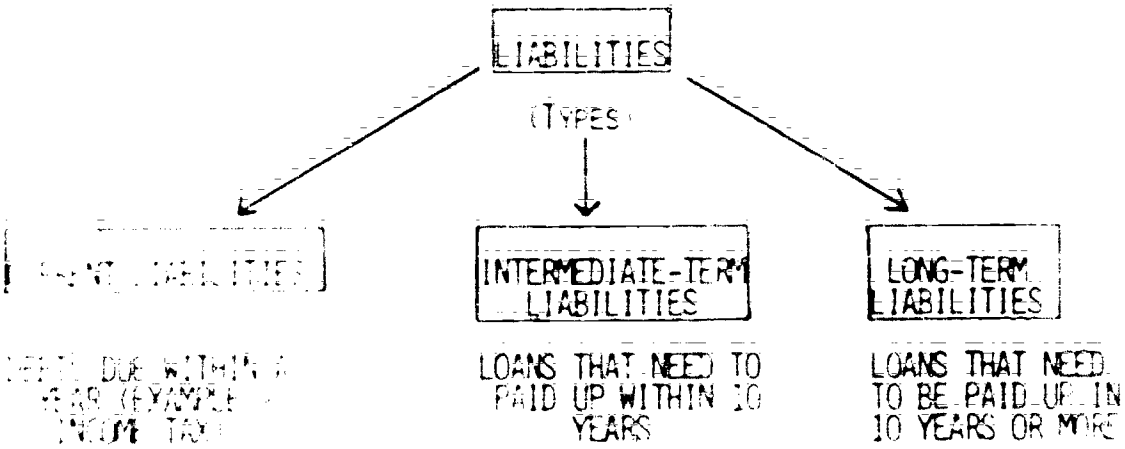
FOR THIS PURPOSES

- FOR THE BUSINESS PLANNING
- PLANNING THE PAST PERFORMANCE
- [illegible] THE STRENGTHS AND WEAKNESSES OF THE BUSINESS
- PLANNING THE PROFITS OF THE BUSINESS
- REFLECTING AN OVER THE FINANCIAL SITUATION OF THE FIRM

TRANSPARENCY I-10 B

TYPES OF ASSETS AND LIABILITIES





TRANSPARENCY I-10-C

AN EXAMPLE OF A FINANCIAL STATEMENT

FOR

BILLY BOY DIARY FARM, DECEMBER 31, 1982

ASSETS		LIABILITIES	
LAND	$200,000	JONES FEED CO.	$ 2,500
BUILDINGS	50,000	JACKY LUMBER CO.	380
MACHINERY	28,000	TOTAL FARM LIABILITIES	2,880
SUPPLIES	7,000		
DAIRY CATTLE	16,000		
ACCOUNTS RECEIVABLE	2,000		
CASH	399		
TOTAL ASSETS	$303,399	TOTAL ASSETS	$303,399
		- TOTAL LIABILITIES	2,880
		PROPRIETOR'S NET WORTH	$300,519

TRANSPARENCY I-10-D

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT I: Farm/Agribusiness Planning

LESSON III: Farm and Agribusiness Records -- Profit and Loss Statements, Inventory, Cash Flow Planning, and Depreciation

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain a profit and loss statement, an inventory, cash flow planning, and depreciation.

2. Specific:

a. Define terms.

b. Explain what a profit and loss statement is.

c. List items that will be included in an inventory and explain the purpose of an inventory.

d. Explain what cash flow planning is.

e. Describe briefly what depreciation is.

B. Review Teaching Material

1. Luening, Robert A., and William P. Mortenson. The Farm Management Handbook. 6th Edition, Danville, Ill.: Interstate Publishers, 1979.

2. Castle, Emery N., Manning H. Becker, and Frederick J. Smith. Farm Business Management. 2nd Edition, New York: The Macmillan Company, 1972.

3. Schneeberger, Kenneth C., and Donald D. Osburn. Financial Planning in Agriculture. Danville, Ill.: Interstate Publishers, 1977.

C. Special Arrangements

1. Materials

a. Chalkboard

b. Transparencies

c. Financial Statements of Farm and Agribusiness

2. Travel

3. Audiovisual Equipment

Overhead projector

II. Presentation of Lesson

A. Motivation

Students will be shown examples of profit and loss statements, cash flow statements, and inventory records. Teacher should ask students to express their views on the above records.

B. Content Outline

1. Introduction

Using students views and the records, the teacher should introduce the lesson. Teacher should list some useful points on how he keeps an inventory and p[illegible] his cash flow. Some students can be asked to gi[illegible] orally their personal inventories and cash flow statements in class.

2. Terms

a. Profit and loss statement -- It's an amount that shows the net profit or loss of that business. In some cases it is also called farm earnings statement.

b. Income -- Money coming in (example-sales)

c. Expenses -- Money spent (example-purchases)

d. Inventory -- A complete list of farm or agribusiness assets

e. Cash flow -- Includes cash inflow a[illegible] outflow of the business

f. Depreciation -- Term used to express loss of value

3. Profit and Loss Statements (Transparency I-II-A)

a. Profit and loss account will show how well the business actually did over a certain period of time.

b. Real profit or loss of the business can be seen.

c. Farmer or the agribusiness owner can use the above statements to determine the profitability of the business.

d. Statement includes sales, expenses, and inventory changes.

e. Profitability ratios that can be used in the financial analysis are the following:

(i) Return on Investment = $\frac{\text{Net Return to Capital}}{\text{Total Assets}}$

(ii) Return on Equity = $\frac{\text{Net Return to Capital} - \text{Interest Paid}}{\text{Total Equity}}$

4. Inventory

a. An accurate inventory of all assets owned by the business is necessary.

b. An inventory is a list of assets such as cropland, livestock, buildings, and others.

c. The inventory is necessary for preparing financial statements of the business.

d. Inventory evaluation should help to show the financial situation of the business.

e. Working assets are listed separately from fixed assets.

f. A completed up-to-date inventory is useful for tax purposes.

g. An inventory should be taken at the beginning of the accounting year.

h. It is important that a fair value be put for each item listed.

5. Cash Flow Planning

a. The cash flow includes cash sales, savings withdrawals, borrowed money, and other income in cash.

b. Cash outflows include cash expenses, interest paid, debts paid, purchases, and salaries.

c. The cash flow statement can cover a period of one month, half a year, one full year, or for many years.

d. Data for cash flow statement can be obtained from previous records.

e. To develop cash flow for the future, the business owner should make estimates based on his experience and also seek help from bankers and extension workers.

f. The cash flow statement will tell the business owner his or her future needs or requirements.

g. It will ensure financial control in the business.

[illegible] Cash flow statement does not tell us [illegible] depreciation or appreciation [illegible] farm or agribusiness.

[illegible] If the statement is prepared for a [illegible] term, it tells us the investment results that can be anticipated.

[illegible]. Depreciation (See chalkboard).

[illegible] Depreciation is the term used to [illegible] value of an asset or an item. For tax purposes the depreciation account is important.

[illegible] Machinery, livestock, [illegible] farm equipment [illegible] depreciate in value [illegible].

[illegible] The loss in value is determined by the [illegible] remaining life of the machine or equipment.

[illegible] Depreciation of assets should be [illegible] lifespan.

[illegible] Some assets depreciate faster than other

[illegible] Depreciation is part of the farm or agribusiness financial accounts.

[illegible]. Suggested Student Activities

[illegible] Provide students with simple farm and agribusiness accounts that include profit and loss statements [illegible] problems for students to calculate the net profit [illegible] net loss of some businesses.

[illegible] Get students to prepare their own inventories. Later show them some simple farm and agribusiness inventories.

[illegible]. Study Questions

[illegible] Describe briefly a profit and loss statement

[illegible] Explain in your own words the purpose of an inventory

[illegible] What is cash flow planning?

[illegible] Explain depreciation.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] PROFIT AND LOSS STATEMENT

[illegible]

INCOME

[illegible]	$ [illegible]
[illegible]	$ [illegible]
[illegible]	$ [illegible]
[illegible]	$ [illegible]

EXPENSES

[illegible]	$ [illegible]
[illegible]	$ [illegible]
[illegible]	$ [illegible]
[illegible]	$ [illegible]
[illegible]	$ [illegible]
[illegible]	$ [illegible]

[illegible]

[illegible]

[illegible] your return [illegible]

[illegible] private [illegible]

[illegible] return was prepared [illegible] sign in the space provided.

[illegible] return [illegible]

[illegible]

[illegible] of return [illegible]

After the total [illegible] for the year [illegible] figured [illegible]

There are three groups of deductions:

1. Deductions [illegible] figure [illegible] income,

2. Itemized deductions, and

3. Deductions for exemptions.

The next step is to figure the tax and any credits allowed. Credits are subtracted directly from the amount of tax owed.

4. The final step is to figure whether a refund can be claimed or whether a balance is due to be paid with the return.

How to figure your tax

a. After you have taken all your deductions the amount that is left is your <u>taxable income</u> for the year.

b. **Taxable income** is used to figure your tax, using either the tax table or the tax rate schedules.

Tax Table -- Shows the tax for taxable incomes up to $50,000.

Tax Rate Schedules -- If you cannot find your tax table, you must use the tax rate schedules.

Refund or amount you owe

After you have figured your income tax and subtracted any tax credits you can use, you must add in any other taxes that you may owe. These taxes include the following:

a. Self-employment tax;

b. Minimum tax and alternate minimum tax;

c. Recapture of investment credit; and

d. Any tax on your individual retirement arrangement.

To figure the refund or amount you owe you must know what amounts can be credited as having already been paid. During the year you may have been paying the tax you owe either through withholding or by making estimated tax payments, or through a combination of both methods.

Filing the returns

a. Sign your name at the bottom of page 2 of form 1040 as it appears at the top of page 1.

b. Both husband and wife must sign a joint return. Both are liable for the tax.

c. Before you mail your return, check to be sure that you have completely and correctly filled it out.

d. Make sure that you have attached all the schedules you need, all the W-2 forms, and a check or money order for any amount you owe.

e. Always keep a copy of your income tax return together with the summaries, papers, and other records you used in preparing it.

f. Always use the addressed label that is sent to you, because this will speed the processing of your return.

g. If someone is paid to prepare your return, the preparer must also sign your return.

h. The entire amount shown on line 71 of form 1040 should be included in one check. Do not make out a

separate check for your self-employment tax. Be sure to write your social security number and "1982 form 1040" on your check.

i. A penalty of one-half of one percent will be charged for each month, or a part of a month beyond the due date that the tax remains unpaid. The total penalty is limited to 25 percent of the additional tax due. It will not be imposed if you can show that you had a good reason for failing to pay on time.

j. If you discover an error in your return after you file it, you may correct the error by filing an amendment return on form 1040X, amended U. S. individual income tax return.

C. Suggested Student Activities

1. Have students study the Louisiana individual income tax return form and get them to explain to the class the details required in the form.

2. Provide students federal tax return forms and allow them to practice completing those forms. Later the teacher should correct the forms and discuss them with the whole class.

D. Study Questions

1. Explain in your own words the Louisiana state tax and the factors considered in completing the individual income tax return.

2. What factors should be considered in completing the individual federal income tax return.

NOTE ***

THE LOUISIANA STATE INCOME TAX RETURN FORM
FOR INDIVIDUALS IS THE SAME
FOR ALL OCCUPATIONS
IN THE STATE.

TRANSPARENCY I-12-A

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT I: Farm/Agribusiness Planning

LESSON 13: Marketing -- Marketing Farm and Agribusiness Products and the Effect of Supply and Demand on Prices of Farm Products

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain marketing of farm and agribusiness products and how supply and demand affect prices.

2. Specific:

a. Explain the marketing of farm products.

b. Explain how prices are determined and what causes changes.

c. Explain the concept of supply and demand, and how it determines equilibrium price.

B. Review Teaching Material

1. Luening, Robert A., and William P. Mortenson. The Farm Management Handbook. 6th Edition, Danville, Ill.: Interstate Publishers, 1979.

2. Dolan, Edwin G., and David E. Lindsey. Basic Economics. Hinsdale, Ill.: The Dryden Press, 1977.

C. Special Arrangements

1. Materials

a. Chalkboard

b. Charts

c. Transparencies

d. Slides

2. Travel - N.A.

3. Audiovisual Equipment

a. Overhead projector

b. Slide projector

II. Presentation of Lesson

A. Motivation

Students should be shown slides on the marketing of different farm products. They should be encouraged to express their views about the material presented in the slides. Later, the teacher should ask them to tell how their pens, books, and other things came into being and how they finally obtained them. Develop a healthy discussion.

B. Content Outline

1. Introduction

Using the views and examples given by students, explain a simple marketing chain for eggs, bread, and other products. Explain what consumers wants are and how they affect prices. Explain with suitable illustration the meaning of supply and demand and their importance in relation to price.

2. Terms

a. Marketing -- A process by which products from a farmer or agribusiness owner reach a consumer in the form and size he or she needs

b. Middleman -- Wholesaler and retailer who are middlemen between the producer and consumer

c. Wholesaler -- One who purchases in bulk

d. Retailer -- Buys from the wholesaler in small amounts

e. Price -- Price of a product determined by the supply of and demand for that product

f. Variation -- Change

g. Demand -- Want or need for a product or service or for anything else

h. Supply -- To satisfy a need by providing a commodity

i. Consumers -- The users

j. Equilibrium price -- It is found at the point where the demand curve and supply curve intersect. It indicates at that price there will be no surplus or shortage. No person will have the incentive to change the above price.

3. Marketing Farm and Agribusiness Products (Use blackboard.) (Chart I-13-A)

a. Successful farm and agribusiness managers should know how their products are marketed so that they can adjust their production to correct market situations and trends.

b. The marketing system does the following:

1) It transports the farm products from the producer to the consumer. (Example -- Eggs are sent from the farm to the grocery store.)

2) It processes the farm products in a form that can be consumed or used. (Example -- Wheat is ground into flour and made into bread.)

3) It packs the product neatly and in the size preferred by the consumer.

4) It provides storage facilities for the finished products until they are used or consumed.

5) The consumer has to pay for all the expenses if he wants to use or consume the product. Those expenses include labor or production costs, processing charges, and transportation charges.

4. Prices (Transparency I-13-A)

a. Farmers and agribusiness owners produce useful products solely for selling them.

b. After selling those products in the market, they use the money to get what they require.

c. Farming has become more commercialized today.

d. The price they get for their products determines their progress.

e. Prices of farm products vary greatly. For this reason the government helps the farmers by stabilizing prices at a level reasonable to the farmers.

f. If there is no government intervention and no monopoly for car buyers and sellers, we say there exists a Free Market.

5. Reasons for Price Change (Transparency I-13-B)

a. Variation in crop yields -- Crops are affected by climatic factors which are unpredictable.

b. Variation in consumer incomes -- Their wages and salaries directly affect demand, therefore they may reduce or raise the price.

c. Wars and other unusual circumstances can affect prices.

d. Changes in exports affect local prices.

e. Price is affected by seasons.

6. The demand side of how farm prices are made. (Chart I-13-B)

a. Farm products compete with other products; therefore, nothing will be sold unless there is a demand for it.

b. A demand for a farm or agribusiness product can only be brought about if people need it and can afford to buy it. The latter can be called buying power. People have wants and desires, which directly affects demand.

Example I

During festival season there is great demand for eggs, because people want to make all kinds of cakes.

Example II

There is a great demand for turkeys during Thanksgiving.

Example III

When there is a demand for poultry meat, farmers will raise more poultry and, therefore, will need more feed. As a result, the feedmills will produce more poultry feeds. In the above case, the demand for poultry meat increased the demand for feeds.

c. The middleman brings the products from the farmer or producer. The middleman provides the marketing machinery to get the products to the consumer.

d. The middleman fixes the prices of the products, and the consumer pays all expenses plus the profit.

e. When prices are high consumers buy less. High prices deter consumers. What they usually do is buy alternative products that are cheaper. On the other hand, when prices go down, people tend to buy more.

Example: When chicken meat is expensive, people will buy less costly food items such as vegetables or other cheaper meat.

f. Consumers are always making choices among alternatives.

g. Consumer wants are not [illegible] also all other things.

h. Consumers make choices in order to [illegible] budget.

i. Consumers as a group determine prices. If they get together and refuse to buy pork at [illegible] pound, the chances are the store owner will [illegible] the price to get his products sold.

2. The supply side -- cost of production and prices

a. The cost of producing a product influences future price levels.

b. The farmer or the agribusiness owner will not continue to produce anything that does not [illegible] its cost.

c. The middlemen fix high prices to [illegible] their [illegible] and also to make a profit.

d. The cost of producing a product involves total expenses, interest paid, etc.

e. Production costs vary with time

f. The producer has to combine all the factors of production, land, capital, and labor efficiently.

C. Suggested Student Activities

1. Students should be asked to illustrate by diagrams the marketing chains for their usual grocery products and as fruits, rice, potatoes, beef, and others.

2. Teacher should show examples of how prices change in relation to supply and demand.

3. Students should be asked to do simple calculations on cost of production. Teacher should provide the necessary data on cost from nearby farms and agribusiness operations.

D. Study Questions

1. Illustrate with diagrams the marketing chain involved in the purchase of a loaf of bread by a consumer in a local food store.

Explain briefly the following terms

. Wholesaler

. Retailer

. Demand

. Supply

. Equilibrium price

Explain briefly in your own words what [illegible]

1. What are reasons for price changes

. Discuss with suitable examples how prices are [illegible] relation to demand.

. Illustrate with suitable examples [illegible] price [illegible] for a product is [illegible].

PRICES

FARMERS AND AGRIBUSINESS OWNERS PRODUCE PRODUCTS FOR SALE.

THE MONEY FROM THE SALE OF PRODUCTS ARE USED BY THEM TO OBTAIN THEIR REQUIREMENTS.

MODERN FARMING IS COMMERCIALIZED.

PRICES OF FARM PRODUCTS FLUCTUATE GREATLY. GOVERNMENT INTERVENES TO HELP STABILIZE PRICES.

PRICES ARE DETERMINED WITHOUT ANY INTERVENTION, WHERE EXISTS A FREE MARKET.

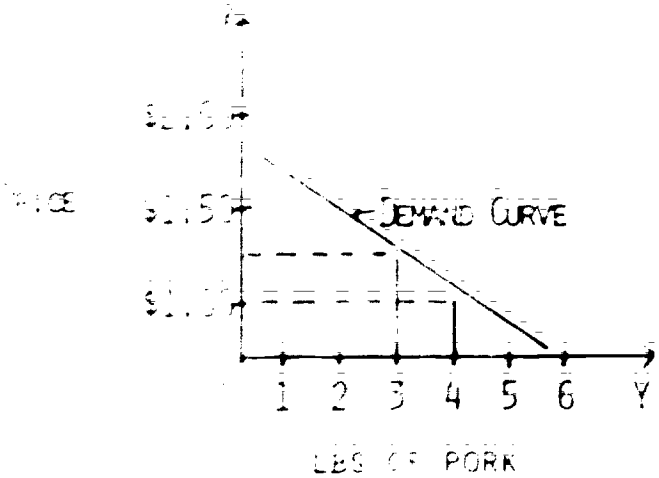
TRANSPARENCY I-13-A

SUPPLY AND DEMAND
IN DETERMINING EQUILIBRIUM PRICE

DEMAND CURVE

(CONSUMER)

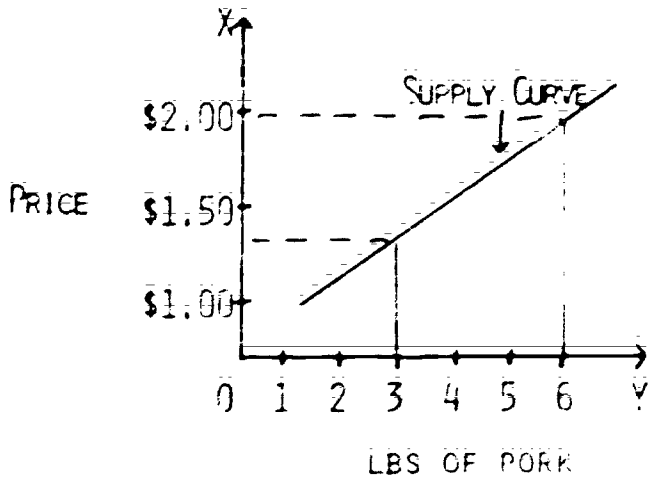
THE GRAPH BELOW SHOWS THAT CONSUMERS BUY MORE WHEN THE PRICES GO DOWN.



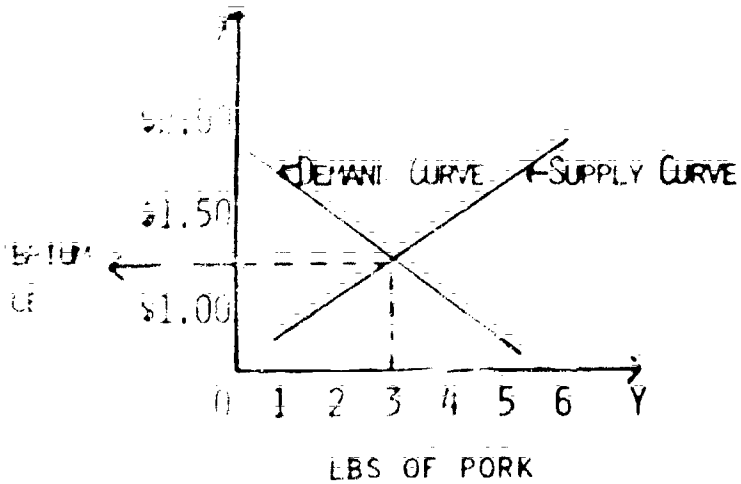
SUPPLY CURVE

(PRODUCER)

THE GRAPH BELOW SHOWS THAT PRODUCERS ARE WILLING TO SUPPLY MORE WHEN THE PRICES ARE HIGHER.



EQUILIBRIUM PRICE



A EQUILIBRIUM PRICE IS AT THE POINT OF INTERSECTION OF THE DEMAND AND SUPPLY CURVE.

B AT THIS PRICE THERE WILL BE NO SURPLUS OR SHORTAGE.

C AT THIS PRICE NO PERSON WILL HAVE THE INCENTIVE TO CHANGE THE ABOVE PRICE.

THE ABOVE SHOWS THAT SUPPLY AND DEMAND DO AFFECT PRICE.

CHART I-13-B

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT I: Farm/Agribusiness Planning

LESSON 13: Agricultural Organizations

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain the Purpose of agricultural organizations in the United States.

2. Specific:

a. Explain the purpose of the Federal Land Banks.

b. List the purpose of Farmers Home Administration and Production Credit Association.

c. Explain how the Cooperative Extension Service, LSU, and LABC can service farmers and agriculture related businesses.

d. Explain the usefulness of the Small Business Administration.

B. Review Teaching Material

1. Schneeberger, Kenneth C., and Donald D. Osburn, Financial Planning in Agriculture. Danville, Ill.: Interstate Publishers, 1977.

2. LABC, Baton Rouge: Louisiana Animal Breeders' Cooperative, 1984.

3. Publications from the Cooperative Extension Service. Baton Rouge: LSU, Louisiana Cooperative Extension Service, 1984.

C. Special Arrangements

1. Materials

a. Chalkboard

b. Slides

c. Charts

d. Transparencies

2. Travel

Visit any local agency office of an agricultural organization in your area. Students should be instructed on what to look for during the field trip.

3. Audiovisual Equipment

a. Slide projector

b. Overhead projector

II. Presentation of Lesson

A. Motivation

Use slides that show the functions of the various agricultural organizations that are to be discussed. Encourage students to ask questions pertaining to the purpose of the above organizations. Teacher should also direct some useful questions that will bring out the main functions of these organizations.

5. Content Outline

1. Introduction

Using the above, the teacher should stress the importance of the agricultural organization to the farmers and to the agribusiness owners. The teacher should present some real situations where farmers and agribusiness owners have benefited from those organizations.

2. Terms (Use chalkboard.)

a. Mortgage -- To give someone a claim on property as a security for money borrowed

b. Security -- The thing that serves as a guarantee for a loan (Example: a tract of land)

c. Credit -- Giving out loans

d. Emergency loans -- Money for attending to urgent or pressing situations

e. Stock -- Shares that make the capital of the business

3. Federal Land Banks (Transparency I-14-A)

a. There are 12 Federal Land Banks (FLB's) in the United States, one in each of the 12 Farm Credit Districts.

b. Purpose:

1) To provide long-term loans. They are secured by mortgaging real estate. The property is held as a security for the loan granted.

2) To provide service to 500 local Federal Land Bank Associations.

3) To provide farmers and agribusiness owners loans.

4. Farmers Home Administration (FMHA) (Use chalkboard.) The above is a government lending agency operating within the U.S.D.A.

Purpose: To provide credit to farmers who are unable to obtain enough credit from other serv[illegible] Types of loans given are as follows:

a. Emergency Loans;

b. Operating Loans; and

c. Ownership Loans.

5. Production Credit Association (Transparency I-14-B)

Purpose:

a. There are many Productions Credit Associations (PCA's) in the United States providing short and intermediate credit and other closely related services to farmers and agribusiness owners.

b. Each borrower invests in the association by buying stock. PCA's are controlled by boards of directors.

6. Cooperative Extension Service, Louisiana State University (Use blackboard.)

Purpose:

Extension Service publications are largely for popular use. They contain how-to-do information and give directions that are based on research and practical experience and are available to farmers and others through various Parish Extension Service offices. Publication titles cover a wide range of subjects such as animal science, agricultural engineering, dairying, beef, economics and resource development, field and forage crops, fish and wildlife, forestry, plant diseases, pesticides, and many others.

7. LABC -- Louisiana Animal Breeders Cooperatives (Use chalkboard.)

Purpose:

a. To help livestock breeders upgrade their herds through the use of good sires

b. Artificial insemination service is available to cattle owners who desire to improve the quality of the breed (Dairy and Beef) all over Louisiana

8. Small Business Administration (SBA) (Transparency I-14-C)

Purpose:

a. Provide loans to enterprises directly involved in producing crops and livestock

b. Agribusiness owners can also get loans

c. The interest rate is decided by the lender within certain SBA limits

C. Suggested Student Activities

1. Students should be asked to list the names of all local agencies of agricultural organizations in their area.

2. They should be asked to interview the manager of at least two local agricultural agencies to determine their main purpose.

D. Study Questions

1. List all the agricultural organizations that were discussed in class.

2. List briefly the purpose of the following agricultural organizations:

a. Federal Land Banks;

b. Farmers Home Administration;

c. Production Credit Association; and

d. Small Business Administration.

3. In what way does the Louisiana Cooperative Extension Service help farmers and others?

4. How does the LABC help the cattlemen?

FEDERAL LAND BANKS

A. PROVIDE LONG-TERM LOANS

B. LOANS OBTAINED THROUGH MORTGAGES

C. LOANS AVAILABLE TO FARMERS AND AGRIBUSINESS OWNERS

TRANSPARENCY I-14-A

PRODUCTION CREDIT ASSOCIATION

A. PROVIDE SHORT- AND INTERMEDIATE-TERM CREDIT

B. SERVICES TO FARMERS AND AGRIBUSINESS OWNERS

C. BORROWERS INVEST BY BUYING STOCK IN THE ASSOCIATION

TRANSPARENCY I-14-B

SMALL BUSINESS ADMINISTRATION (SBA)

A. LOANS TO FARMERS

B. LOANS TO AGRIBUSINESS OWNERS

C. INTEREST RATES DETERMINED BY SENATE

TRANSPARENCY I-14 C

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] Explain laws [illegible] lands, [illegible], minerals, and water.

Specific [illegible]

[illegible]

[illegible] estate [illegible]
of estate plan[illegible]

Describe [illegible]

Explain wills and [illegible]

List the types of [illegible]

Explain the [illegible]

Describe the laws [illegible]
rights

[illegible] Teaching Material

[illegible], Robert A. and [illegible]
Management Handbook. [illegible]
Interstate Publishers [illegible]

[illegible], Lloyd [illegible] Legal and [illegible]
Estate Planning in Louisiana [illegible] the [illegible]
Reform Act of 197[illegible] Baton Rouge: Department of
Agricultural Econom[illegible] and [illegible]
State University, [illegible]

[illegible] Hoopehand, [illegible]
Rights and Mineral Leasing Practices of [illegible]
Landowners. Baton Rouge: Department of
Agricultural Economics and [illegible]
State University, 198[illegible].

[illegible], Koppenhaver, and [illegible]. [illegible]. Water [illegible] and Water Rights in Louisiana. Baton Rouge: Department of Agricultural [illegible] and Agribusiness, Louisiana State University, [illegible].

[illegible] for the Louisiana Farmer. [illegible] Cooperative Extension Service, [illegible]; Louisiana State University, [illegible].

[illegible] William [illegible]. [illegible] Managing [illegible] [illegible] Publishing, [illegible].

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

c. Real property acquired in Louisiana, regardless of the place of residence of either spouse, is regarded as community property.

NOTE:

1) Upon death of a spouse, the community interest ends, one-half of the community property goes to the surviving spouse, and the other half goes to succession.

2) If there is no will, it is distributed based on priorities to children, parents, brothers, sisters, relatives, surviving spouse, and finally the state.

** Children have first claim to an inheritance.

5. Wills

These are important documents because ownership and other related details are specified in them. In the courts of law wills are accepted as legal documents provided they meet the necessary legal requirements. Any person over 16 years of age can make a will, and it will direct events after death. In the absence of a will, Louisiana's civil laws decide the matter.

There are several advantages of a will, and there are four types of wills. (Refer to Transparency I-15-B and Chart I-15-A.) NOTE: Teacher should prepare charts that are large enough for students to see.

7. Deeds (Use chalkboard.)

A deed is a written instrument to transfer ownership of property.

Types

a. Quit-Claim Deed -- An instrument which purports to convey only the grantor's present interest in the property

b. A Warrant Deed -- A document which guarantees that the title is good and valuable

NOTE: A clever farmer or agribusiness owner will make sure that there is a clear title to whatever property is to be purchased.

8. Farm Labor Laws (Use chalkboard.)

a. Farmers are constantly facing many challenges with farm labor laws. States vary in their labor laws.

b. Types of farm labor laws which influence the farm business include the following:

1) Minimum wage;

2) Child care practices;

3) Farm wage contracts; and

4) Liabilities.

c. Federal minimum wage laws apply only to a part of the farm business, but family labor used in the farm business is exempted from the law.

9. Labor -- Workmen's Compensation

a. Prior to 1940 it was generally accepted that agricultural workers did not come under the provisions of the Louisiana Workmen's Compensation Act.

b. With the growth of farming operations and the increase in more specialized types of machinery on farms, the courts have held that the farm employee should be given the same benefits provided for factory workers for injuries suffered in the course of their employment.

c. The farmer or agribusiness owner should have an attorney study the business operation specifically to determine whether or not it falls under the Workmen's Compensation Act.

d. The Workmen's Compensation policy first pays the injured employee up to $95 per week for each week he is disabled for a maximum of 1,200 weeks. In addition, his or her hospital bills and doctor fees are paid. Second, the policy provides for liability protection for the insured in case an employee alleges that negligence on the part of the farm owner caused the accident and sues him. The cost of the legal defense is also an additional benefit under this portion of the policy.

e. An employee cannot receive the benefits of the policy and also cannot bring suit for additional benefits under the liability portion of this policy.

f. With regard to rights and wages of farm and agribusiness workers, the federal labor laws are applicable as they are for other workers.

10. Mineral Rights

a. The owner of minerals has the right to develop the mineral resources and market the products just as a farm crop.

b. Another possibility is for the landowner to sell or transfer all or part of his mineral rights to someone.

c. The mineral title covers an individual fractional interest in each acre of the tract. Mineral ownership may apply to individual minerals or may include all minerals.

d. The court has ruled that if intentional or negligent conduct damages or diminishes the property values of another as a result of waste of the common source of supply, the party affected can take legal action.

e. With respect to solid minerals such as coal or lignite, ownership of land carries with it the ownership of these minerals and the rights for their exploration.

f. In the case of producing nonsolid minerals such as oil and gas, ownership of land does not include the ownership of such minerals.

11. Water use and water rights in Louisiana

a. Water use and water rights are of minor concern when water supplies are abundant and well distributed.

b. Unfortunately water supplies fluctuate as a result of an uneven distribution.

c. Louisiana's gradual growth and development has given rise to certain water use and control. This falls under common law and the Louisiana Civil Code.

d. Louisiana water rights basically conform riparian doctrine and apply to the use of water from a flowing stream.

e. A landowner whose land borders the stream has the ight to use that water in it so far as it does not unreasonably interfere with other riparian owners.

f. Nonriparian land owners, although not excluded from the use of running water, face the problem of traversing land of the riparian landowner, thus requiring permission to use that water.

g. Obstructions or diversions of water courses are not allowed on navigable streams.

h. Water rights in Louisiana are very closely associated with right to the land.

i. The water and the beds of navigable rivers are public property.

j. Registration of water wells, installation standards, and regulations for sealing unused wells have been established.

C. Suggested Student Activities

1. Have students in groups discuss estates and wills. If any student has brought to class any of the above, use them for discussion.

2. Have students in groups discuss the mineral and water rights.

D. Study Questions

1. List reasons why the farmer or agribusiness owner should know law.

2. What are estate laws and inheritance laws?

3. What is an estate plan? List the objectives of an estate plan.

4. Describe briefly community property.

5. What are wills and their advantages? List the different types.

6. Describe the Workmen's Compensation Act.

7. Explain briefly what mineral and water rights are.

OBJECTIVES OF AN ESTATE PLAN

A. FINANCIAL SECURITY

B. TRANSFER OF ASSETS

C. EQUITABILITY

D. REDUCTION OF TAXES AND LEGAL COSTS

TRANSPARENCY I-15-A

ADVANTAGES OF A WILL

A. NAMING THE EXECUTOR

B. DISPENSING WITH BONDING REQUIREMENTS

C. ESTABLISHING TRUSTS

D. STATING CHARITABLE GIFTS

E. REDUCING LEGAL COSTS

TRANSPARENCY I-15-B

FOUR TYPES OF WILLS RECOGNIZED BY LOUISIANA LAW

TYPE	CHARACTERISTICS
A. HOLOGRAPHIC WILL ----------	1. MOST COMMON 2. HAND WRITTEN, DATED, AND SIGNED BY THE TESTATOR.
B. STATUTORY WILL ----------	WRITTEN AND SIGNED BY THE TESTATOR, A NOTARY PUBLIC, AND TWO WITNESSES.
C. NUNCUPATIVE WILL ----------	ORAL WILL DICTATED BY THE TESTATOR IN THE PRESENCE OF WITNESSES
D. MYSTIC WILL ----------	CLOSED OR SECRET TESTAMENT PLACED IN AN ENVELOPE, SEALED, AND PRESENTED IN THE PRESENCE OF THREE WITNESSES.

CHART I-15-A

INSTRUCTIONAL AREA: Agribusiness

*** ATTENTION VO AG TEACHER ***

A comprehensive instructional package on the topic of Career Information was developed by Dr. Charles W. Smith in 1980. This package is called Pounding the Pavement and was distributed to the guidance office in every secondary school in Louisiana.

Since the Pounding the Pavement instructional package was identified as the principal source of information in this curriculum development project, and the package is already available in every secondary school in the state, the staff decided to avoid excess duplication of services by referring to the existing materials rather than redeveloping the same information. An objective sheet is included for each unit in the Career Information instructional area. Rather than presenting content, each objective sheet refers the teacher to the specific Pounding the Pavement module and unit that addresses those objectives.

The Pounding the Pavement package includes books, filmstrips, and cassette tapes, and is therefore readily usable. If these materials are not available in your school, contact the School of Vocational Education at Louisiana State University, and efforts will be made to provide a set for your school.

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT II: Employment Seeking Skills

LESSON I: Career Choices and Selection

I. Preparation for Instruction

A. Objectives

1. Terminal: Review occupational choices and select an occupation that satisfies personal preference.

2. Specific:

a. Identify occupational preferences.

b. Identify training needed for this occupation.

B. Review Teaching Material

REFER TO POUNDING THE PAVEMENT MODULE I, LESSON 3.

INSTRUCTIONAL AREA: Business

INSTRUCTIONAL UNIT II: Employment Seeking Skills

LESSON 2: Identification of Job Openings

I. Preparation for Instruction

A. Objectives

1. Terminal: Locate jobs that match student's qualifications.

2. Specific:

a. Identify sources of job openings.

b. Locate job openings using these sources.

c. Organize a job search for a particular occupation.

B. Review Teaching Material

REFER TO POUNDING THE PAVEMENT MODULE 2, LESSON 2.

[illegible]

[illegible] UNIT I: Implement [illegible]

[illegible] Applying [illegible]

[illegible] Preparation [illegible]

A. Objectives

1. Terminal [illegible]

2. Specific

a. Describe an effective [illegible]

b. Create and maintain a personal data sheet [illegible] completing application [illegible]

c. Complete several different [illegible] forms;

d. Write an effective letter [illegible]

e. Compose and type a letter [illegible]

f. Use a personal data sheet [illegible] will be mailed with a letter of application [illegible]

B. Provide Teaching Materials

REFER TO FOLLOWING THE PAYMENT [illegible] AND MODULE 4, LESSONS 1 & 2.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] pesticides and their [illegible]

[illegible] [illegible] that need to be [illegible] [illegible]
[illegible] [illegible] and applying pest[illegible]ides and [illegible]
[illegible] pesticide equipment af[illegible]

[illegible] [illegible] first aid for pesticide [illegible]
[illegible] [illegible] emergency situation.

[illegible] [illegible] first aid for poisoning.

[illegible] Materials

[illegible] Guide for Pesticide Safety. Washington, D.C.: U.S. Department of Agriculture, [illegible]

[illegible] and First Aid. Baton Rouge: The [illegible] Cooperative Extension Service, [illegible] University, 1978.

[illegible] Guidelines of Pesticide Use, Handling, and Application. Washington, D.C.: Environmental Protection Agency, 1976.

[illegible] Arrangements

[illegible] Materials

[illegible] chart

[illegible] Transparencies

[illegible] Charts

[illegible] Slides

[illegible] Common pesticide samples

[illegible] Pesticide applicators equipment

[illegible] Safety devices

[illegible] Audiovisual Equipment

a. Overhead projector

b. Slide projector

[illegible]. Presentation of lesson

[illegible]. Motivation

Students should be shown several samples of pesticides, pesticide applicators, and the various safety devices used [illegible] pesticides. Teacher should also show slides on how pesticides are used correctly and incorrectly. Students should be asked to give their views on the slides and also on the safety devices shown.

I. Content Outline

A. Introduction

Using the slides and other materials in the class, the teacher should emphasize the importance of using pesticides safely and also the importance of knowing how to use first aid if poisoning should occur.

B. Terms (Use chalkboard.)

a. Pesticides -- Chemicals that kill pests, destroy plants and animals

b. Precautions -- Safety measures

c. Irrigation -- Not the [illegible]

d. Applicator -- The container used to apply the pesticide

e. [illegible] -- Is the immediate and temporary care given to victims of a mishap or emergency

C. [illegible] of Pesticides and Their Specific Use

Teacher should prepare a chart [illegible] large enough for students to see easily.

Types of Pesticides and The Pests They Are Used to Control

Pesticide	Pest Controlled
Insecticide	Insects and grasshoppers [illegible]
Miticide	Mites
Nematicide	Nematodes
Molluscicide	Snails and slugs
Fungicide	Fungi

Avicide	Birds
Rodenticide	Rodents
Nematicide	Nematodes
Bactericide	Bacteria
Viricide	Viruses
Piscicide	Fishes
Predacide	Predatory animals

4. Observe and Follow Safety Precautions:

   a. When choosing or selecting a pesticide

   b. During storage of pesticide

   c. During preparation of pesticide

   d. During application of pesticide

   e. When cleaning the equipment used for applying pesticid

5. Follow directions when Selecting Pesticide for

   a. Read the label carefully.

   b. Select the correct type of pesticide for that crop or pest (look for the toxicity level

   c. When in doubt, consult your county agriculture agent, teacher, or other experts

   d. Make sure that the chemical is not contaminated

6. Follow the proper handling, storage of pesticides

   a. Return unused pesticide to the original container.

   b. Avoid exposure from

c. It should not be near any food, feed, or seeds.

d. Make sure that the pesticide is stored in a dry place.

e. It is important to check the stored containers as often as possible to detect any leakages.

7. Safety Precautions during Preparation or Mixing of Pesticide

a. When mixing pesticides, the person should read all directions and strictly adhere to them. (No drinking or smoking while mixing)

b. The mixer should follow all precautions listed.

c. While mixing, the person should wear protective clothing.

d. It is necessary that the mixing of the pesticide be done in the open air or in a well ventilated room.

e. The mixing should be done in drums or pails and splashing of liquids should be avoided.

f. Mixing should be done accurately. If it spills on the skin, wash immediately. (NO SMOKING OR DRINKING AT ANY TIME)

8. Safety while Applying

a. Before applying, the person should read all directions and have a clear understanding of them.

b. Applicator or applying meter should be checked frequently and again just before using.

c. The person should use protective clothing.

d. The pesticide should be used at specified rates and as directed on the label.

e. Avoid drift while applying.

f. Do not apply pesticide on windy days.

g. Make sure that there are no people or livestock nearby while the pesticide is being sprayed.

9. Safety Precautions while Cleaning the Equipment after Applying Pesticides

a. It should be thoroughly cleaned.

b. The operator should bathe thoroughly after applying the pesticide.

c. The excess or unused pesticide solution should be disposed of carefully in an isolated place.

d. Empty cans and cardboard containers or boxes should be burned and the ashes should be buried.

e. Make sure no one inhales the spray.

[illegible]. What is First Aid?

First Aid is the immediate and temporary care given to a victim at a moment of an emergency or sudden death or illness.

[illegible]. During an Emergency Situation:

a. Be calm.

b. Call a doctor.

c. Call the police if necessary.

d. Apply first aid if you know how.

e. Make the victim comfortable and reassure him that everything is fine.

f. [illegible] crowd if a gathering.

[illegible]. First Aid for Pesticide Poisoning

Poison Swallowed

a. Have the victim [illegible] and drink the following [illegible] milk or water.

b. Initiate some [illegible] first aid [illegible] a doctor.

c. [illegible] stimulate vomiting by tickling the throat with spoon handle or finger. Vomiting may [illegible]

[illegible]. Suggested Student Activities

a. Have students demonstrate the mixing and application of pesticides [illegible] pesticide equipment and [illegible] whether students [illegible] are used in class.

b. [illegible] the [illegible] the [illegible] of the [illegible] 1969 [illegible]

5. Study questions

1. List the various types of pesticides and their main purpose.

2. List the precautions that should be carried out for:

   a. Selecting pesticides;

   b. Storing pesticides;

   c. Applying pesticides, and

   d. Cleaning pesticide equipment.

3. Define first aid.

4. What should be done during an emergency situation?

5. Describe first aid for poisoning.

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT III: Agricultural Chemicals

I. SUBUNIT: Pesticide Application Methods

1. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain methods of pesticide application, types of nozzles, and the care of sprayers.

2. Specific

a. Define terms.

b. List factors to be considered in selecting pesticide application equipment.

c. Explain when to use hand sprayers, low pressure field sprayers, high pressure sprayers, and air blast sprayers.

d. Identify advantages and disadvantages of hand dusters, hand gun sprayers, power dusters, and granular applicators.

e. Explain briefly fumigators, injectors, aerosol generators, and foggers.

f. List the five basic types of nozzles.

g. Describe how to care for sprayers.

B. Prepare Teaching Material

1. Commercial Pesticide Applicator. Baton Rouge: The Cooperative Extension Service, Louisiana State University, 1981.

2. Principles of Pesticide Use, Handling, and Application. Washington, D.C.: Environmental Protection Agency, 1975.

C. Special Arrangements

1. Materials

a. Chalkboard

b. Charts

c. Transparencies

d. Samples of equipment

e. Slides

2. Travel -- Make arrangements with farmers who [illegible] most of the spraying equipment.

3. Audiovisual Equipment

a. Overhead projector

b. Slide projector

II. Presentation of Lesson

A. Motivation

Students should be shown slides on different pesticide application methods. Teacher should ask them to express their views on the slides. Later show the students the different pesticide application equipment and demonstrate the kind of equipment to the class.

I. Content Outline

1. Introduction

Using the slide presentation and assorted pesticide application equipment, emphasize the importance of knowing the different methods of application and the correct procedures to use.

2. Terms

a. [illegible]age -- Over a bigger area

b. [illegible]on -- Piercing

c. Drift -- Movement of pesticide droplets or particles by wind and air currents

3. Factors to be Considered in Selecting Pesticide Application Equipment

a. Select the right kind of equipment.

b. Use the equipment properly.

c. After using the equipment, clean it thoroughly and store carefully for future use.

4. Types of Applicators

a. Hand Sprayers

1. Suitable for small jobs around the garden.

2. Hand sprayers are cheap and readily available.

3) They are easy to use.

4) They are light and can be stored without difficulty.

5) One disadvantage of a hand sprayer is that it brings about an uneven application.

b. Low Pressure Field Sprayers

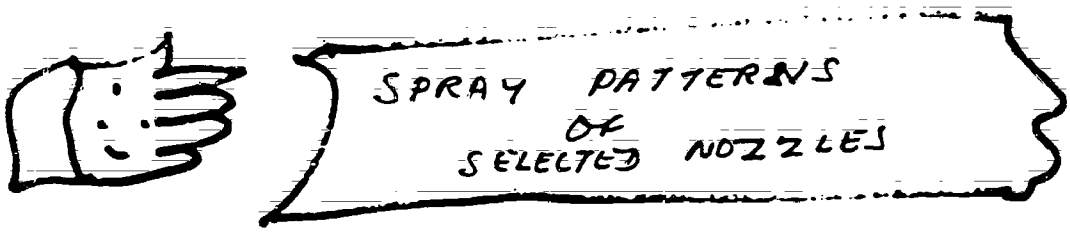
1) They are used commonly on Louisiana farms.

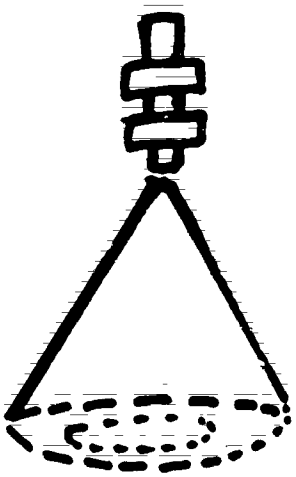
2. They have large tanks and are low in cost.

3) Low pressure field sprayers are also light and very verbatile.

3. List and explain the characteristics of the five basic types of nozzles.

4. Explain how to care for sprayers.





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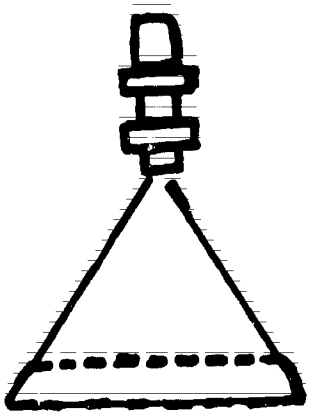


EVEN SPRAY

TRANSPARENCY III-2-A

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT III: Agricultural Chemicals

LESSON 3: Pesticide Certification -- Laws and Regulations

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain federal and state pesticide laws and regulations.

2. Specific:

a. Define terms.

b. Explain the Federal Insecticide, Fungicide, and Rodenticide Act.

c. Explain the Louisiana pesticide laws and regulations.

B. Review Teaching Material

1. Commercial Pesticide Applicator. Baton Rouge: The Cooperative Extension Service, Louisiana State University, 1981.

2. Principles of Pesticide Use, Handling, and Application. Washington, D.C.: Environmental Protection Agency, 1976.

C. Special Arrangements

1. Materials

a. Chalkboard

b. Chart

c. Transparency

2. Audiovisual Equipment

Overhead projector

II. Presentation of Lesson

A. Motivation

Students should be asked to relate their experiences and views on pesticide use for crops and livestock. If they have had any specific problems in the past with pesticide use, they should be encouraged to share their experiences.

B. Content Outline

1. Introduction

The teacher should emphasize the importance of using pesticides properly. He should relate his experiences with pesticides and also relate other relevant examples that would illustrate the importance of the safe use and handling of pesticides.

2. Terms

a. FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act

b. EPA: Environmental Protection Agency

c. Environment: Surroundings such as water, air, soil, plants, and animals

d. Certification: To be declared officially competent in using pesticides by a certifying agency

3. Pesticide Laws

The state of Louisiana has had laws and regulations on pesticides for a long time. The laws ensure successful use and also protect man and the environment.

Louisiana pesticide laws comply with all requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended.

a. Federal Insecticide, Fungicide, and Rodenticide Act

When congress amended FIFRA in the year 1972, the Environmental Protection Agency (EPA) was given the responsibility to carry out the provisions of the act.

Some of the provisions are as follows:

1) Producers or manufactures must register all pesticides with EPA.

2) EPA decides whether each use is a general or restricted one.

3) The manufacturer is also required to register the establishment where pesticides are produced.

b. Registration and Classification

NOTE: Every pesticide must be registered by the manufacturer and later classified by its uses.

1) Pesticides containing the same active ingredients, but of different formulation or different uses, must have a different label.

2) The uses must be grouped or classified as general or restricted uses.

3) General use pesticides should cause very little damage to the surrounding environment and are usable by anyone.

4) Restricted pesticides will damage the environment and are harmful to human beings, and therefore, can only be used by certified applicators.

c. Certification

1) Before appling or using restricted pesticides, an applicator must know the correct and safe way to use them.

2) Federal regulations set forth standards for certification.

3) The head agency as authorized by the federal body in charge of certification in Louisiana is the Louisiana Department of Agriculture.

d. Violations and Penalties

Violations include the following:

1) Detaching, altering, defacing, or destroying in whole or in part any labels

2) Not keeping records

3) Using restricted pesticides for purposes not specified by FIFRA

4) Using any registered pesticide in a manner inconsistent with its label

5) Improper disposal of a pesticide

Penalties are as follows:

1) Civil penalties for private applicators up to $1,000

2) Civil penalties for commercial applicators up to $5,000

3) Criminal penalties for private applicators up to $1,000 and (30) days in prison for each offense

4) Criminal penalties for commercial applicators up to $25,000 and one year in prison

4. Louisiana Laws and Regulations

a. In Louisiana, pesticides are regulated by three laws. They are Louisiana Pesticide Law, the Louisiana Pesticide Control Act, and the Louisiana Structural Pest Control Act.

b. The Louisiana Pesticide Law establishes the method for registering pesticides in Louisiana as well as procedures for sampling pesticides for purity and proper labeling.

c. The Louisiana Pesticide Control Act deals with the sale, application, and use of pesticides.

d. The Louisiana Structural Pest Control Act regulates the person in the business of applying pesticides in the category of institutional, structural, and health-related pest control.

C. Suggested Student Activities

Have students in groups to discuss orally the Louisiana laws and regulations for pesticides.

D. Study Questions

1. Discuss briefly Federal Insecticide, Fungicide, and Rodenticide Act under the headings registration, classification, certification, violations, and penalties.

2. Discuss briefly Louisiana pesticide laws and regulations.

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT III: Agricultural Chemicals

LESSON 4: Advantages and Disadvantages of Pesticides

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Explain advantages and disadvantages of pesticides.

2. Specific:

a. Define new terms.

b. List the advantages of using pesticides.

c. List the resources needed for man to exist and reasons for protecting them.

d. Explain how pesticides disrupt a food chain.

e. Classify pesticides according to build-up.

f. List disadvantages of using pesticides.

g. Explain briefly what the applicator should consider before applying pesticides.

B. Review Teaching Material

1. Commercial Pesticide Applicator. Baton Rouge: The Cooperative Extension Service, Louisiana State University, 1981.

2. Principles of Pesticide Use, Handling, and Application. Washington, D.C.: Environmental Protection Agency, 1976.

C. Special Arrangements

1. Materials

a. Chalkboard

b. Transparencies

c. Charts

d. Slides

2. Audiovisual Equipment

a. Overhead projector

b. Slide projector

II. Presentation of Lesson

A. Motivation

Students should be shown slides on food chains and also the problems that have been caused by improper use of pesticides. Teacher should encourage students to voice their views and experiences with regard to advantages and disadvantages of pesticides.

B. Content Outline

1. Introduction

Using the slide presentation, the teacher should emphasize the importance of proper use of pesticides and also relate his or her personal experiences with pesticides.

2. Terms:

a. Environment -- Surroundings such as water, air, soil, plants, and animals

b. Food chain -- Way of describing how living things depend on others for food

c. Phytotoxicity -- Causing injury to plant life

d. Drift -- Movement of pesticide droplets or particles

e. Residue -- Amount of pesticide that remains on or in a crop or animal or on a surface after application

3. Advantages of using pesticides are as follows:

a. To control pests, diseases, and parasites

b. To increase production

c. To preserve outdoor activities

4. Resources needed for man to exist are as follows:

a. A place to live peacefully without health problems,

b. Clean water supply,

c. Clean air,

d. Food to survive, and

e. Clean soil to grow crops and raise animals.

Reasons for protecting the environment:

Man needs a clean environment to survive healthily. Clean soil, drinking water, and clean air are vital to human survival. Bees and other beneficial organisms and insects should be protected from pesticides. Wildlife is essential for the balance of nature.

5. How do pesticides disrupt a food chain?

Each animal has a place in the food chain depending on the type of food it uses. Animals that feed on plants only are of the lowest level. Animals that eat plants and animals are on the next level. Finally, the animals that eat meat only are on the highest level.

Meat eaters can be harmed by eating meat from animals that have accumulated pesticides in their bodies. When plants and animals are killed by pesticides, animals in upper levels will get no food.

6. Classification of pesticides according to buildup: (Transparency III-4-A)

Accumulative	This is a pesticide that can collect and build in the body when the plant and animal constantly are exposed to pesticides.
Nonaccumulative	A pesticide that does not build up in the plant or animal even after constant exposure is considered nonaccumulative.
Persistent	A persistent pesticide is one that stays for a long time in the environment.
Nonpersistent	A pesticide that does not stay in the environment for a long time, but only for a short period, is called nonpersistent.

7. Disadvantages of using pesticides:

a. Injury to plants -- Pesticides can kill or injure plants. This is called phytotoxicity.

b. Direct mortality of beneficial predators, insects -- Beneficial predators and parasites that normally hold pest population at low levels are killed by pesticides.

c. Kills fish in nearby water -- Fish and other seafood that are a good source of food for the human are killed by pesticides.

d. Kills man when used improperly -- Improper use of pesticides has killed people. Pesticide residues in plants and animals can kill man if he eats them.

e. Kills animals -- Pesticides that are sprayed on feeds or on grazing areas can kill animals.

f. Effects on meat and milk products -- Overuse or improper use of pesticides will show up in the milk and also in the meat. This will be harmful to the consumer.

g. Contaminated feeds -- Pesticides can contaminate animal feeds if proper precautions are not taken.

h. Polluted soil -- Pesticides can persist in the soil for a long time and later be absorbed by plants.

8. What the applicator should consider:

a. The applicator should consider the type of pesticide used, especially when using herbicides. Herbicides can kill many types of plants.

b. Movement -- Applicator should consider the movement of the pesticide. A drift can cause problems.

c. One who use the pesticide should be aware of weather conditions at the time of application.

d. The applicator should use the recommended dosage at all times.

C. Suggested Student Activities

Students should be asked to list all the different types of pesticides used in the school and in their homes. They should visit nearby farmers to gather information on how pesticides are used and applied.

D. Study Questions

1. List the advantages of using pesticides.

2. What are the resources needed for man to exist?

3. Why should the environment be protected?

4. How do pesticides disrupt the food chain?

5. Classify pesticides according to residue buildup.

6. List all the disadvantages of using pesticides.

7. Discuss briefly what the applicator should consider before and during the application of pesticides.

CLASSIFICATION OF PESTICIDES ACCORDING TO BUILDUP:

ACCUMULATIVE	PESTICIDE THAT CAN COLLECT AND BUILD UP IN THE BODY WHEN THE PLANT AND ANIMAL CONSTANTLY ARE EXPOSED TO PESTICIDES.
NONACCUMULATIVE	PESTICIDE THAY DOES NOT BUILD UP IN THE PLANT OR ANIMAL EVEN AFTER CONSTANT EXPOSURE.
PERSISTENT	PESTICIDE THAT STAYS FOR A LONG TIME IN THE ENVIRONMENT.
NONPERSISTENT	PESTICIDE THAT DOES NOT STAY IN THE ENVIRONMENT FOR A LONG TIME BUT ONLY FOR A SHORT PERIOD.

TRANSPARENCY III-4-A

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT IV: Conservation

LESSON 1: Energy Conservation

I. Preparation for Instruction

A. Objectives

1. Terminal: Conserve energy in the home and at the place of business.

2. Specific:

a. Determine insulation value of building materials in order to meet insulation needs.

b. Identify possible sources of energy for the home and place of business.

c. Identify how energy can be conserved on the farm.

d. Describe how recycled animal waste energy can be used on the farm.

B. Review Teaching Materials

1. Cutting Energy Costs. Washington, D.C.: The 1980 Yearbook of Agriculture. United States Department of Agriculture, 1980.

2. Facts on Home Insulation. Washington, D.C.: Council of Better Business Inc. Bulletin No. 04-135, 1977.

3. Insulation -- How and What Kind. College Station, Texas: Energy Advisory Service of Texas, 1977.

4. Fuel from Farms. Washington, D.C.: Solar Energy Research Institute, U.S. Department of Energy, 1980.

5. Energy Book 2. John Prenis, Editor. Philadelphia: Running Press, 1977.

6. Providing for Energy Efficiency in Homes and Small Buildings. Washington, D.C.: U.S. Department of Energy, 1980.

C. Special Arrangements

1. Use a 16mm movie on Energy Conservation and a 16mm projector and screen.

2. Visit a building materials store, compare prices, and R-value of various building materials.

II. Presentation of Lesson

A. Motivation

Tell the student that to conserve energy today, the building will not be air conditioned or heated. They will have to walk home, and the cafeteria will be at room temperature when serving lunch. Discuss the student's feelings on this.

B. Content Outline

1. Insulation and R-value -- When constructing or remodeling buildings an easy and cost efficient method of conserving energy is to install insulation to meet certain R-value (resistance ability) requirements. The higher the R-value the higher the insulating power of the material and the less energy it will take to heat or cool the building. (Transparency IV-1-A)

   a. When planning, determine the des'red R-value.

      An adequately insulated home: R-30 ceiling and R-19 walls and floors. (Transparency IV-1-B)

   b. Determine what insulation materials will provide this R-value and compare prices. (Transparencies IV-1-C and D)

   c. All materials should be rated for their R-value when purchasing insulation materials, the "R" is available from the supplier or installer. (Transparencies IV-1-E and F)

2. Suggestions for Conserving Energy

   a. Maintain and clean air conditioners, heaters, engines, and other energy users.

   b. Use fans to increase air movement.

   c. Use drapes, blinds, and other shades to keep unwanted heat out.

   d. Shade the air conditioning unit.

   e. Close off rooms not in use.

   f. Repair leaky faucets.

   g. Use a timer to regulate the hot water heater.

   h. Add insulation to the building around heating ducts and the water heater.

   i. Use minimum- or no-till farming.

   j. Fertilize at proper amounts and at the recommended time.

   k. Store fuel in light-colored, shaded tanks.

   l. Caulk and seal all leaks around windows, doors, etc.

m. Use alternate forms of energy:

1) Solar,

2) Wind,

3) Water, and

4) Geothermal.

n. Install thermal windows and doors.

o. Use flourescent lighting.

p. Vent buildings and appliances.

q. Drive vehicle at a reasonable speed, with no jackrabbit starts or stops.

r. Replace or clean filters on vehicles, appliances, and equipment.

s. Recycle waste heat (energy) to heat water. (While cooling lukewarm water)

t. Match tractors and implements to the job to be completed.

u. Operate tractors in the proper gear and at the proper load.

3. Alternate Energy Sources

a. Solar (from the sun) uses:

1) Heating water,

2) Heating buildings,

3) Heating greenhouses,

4) Drying grain,

5) Growing plants, and

6) Disinfecting equipment.

b. Wind power uses:

1) Provides water, and

2) Generates electricity for all uses.

c. Geothermal (heat from the earth) uses:

1) Provides heat,

2) Produces electricity,

3) Dry crops and food,

4) Therapy (hot springs), and

5) Hatching fish.

d. Hydro-electric (electricity from water power) uses:

Same as for any electricity.

e. Nuclear -- Furnishes electricity from power plants operated by utility companies.

f. Methane uses: (produced from waste)

1) Engine fuels, and (suitable for farm use)

2) Provides heat.

g. Propane (LP gas) uses:

1) Provides heat, and

2) Fuel for engines,

h. Ethanol (grain alcohol) uses:

1) Engine fuels (mixed with gasoline gives gasohol),

2) Provides heat,

3) Generates electricity, and

4) Crop drying.

i. Recycle waste heat

Example: Recover heat from cooling milk to warm water for the washing of cows before milking.

C. Suggested Student Activities

1. Each student will identify 25 problem areas that create energy losses around the farm and home. The students will suggest one method of conserving energy for each problem identified.

2. Students will identify energy conservation measures presently being used around their own farm or home.

3. Students will acquire samples of insulation with different R-values. A poster board display will be constructed properly identifying each type of insulation and its R-value.

HEAT TRANSFER

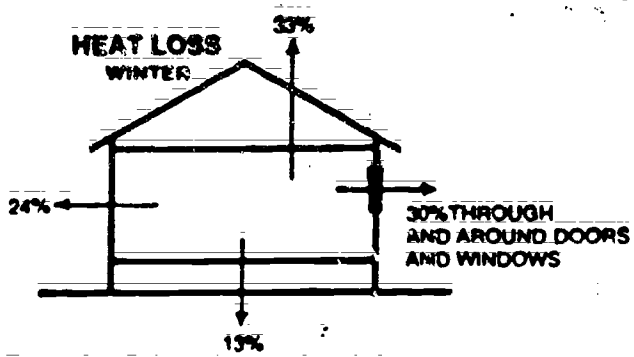


Figure 1 Points of winter heat loss

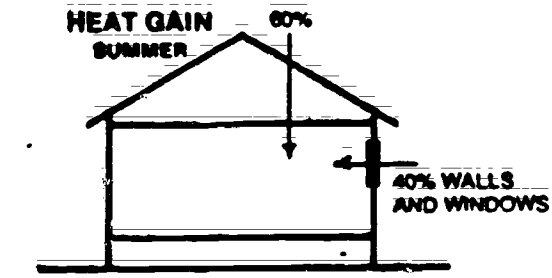
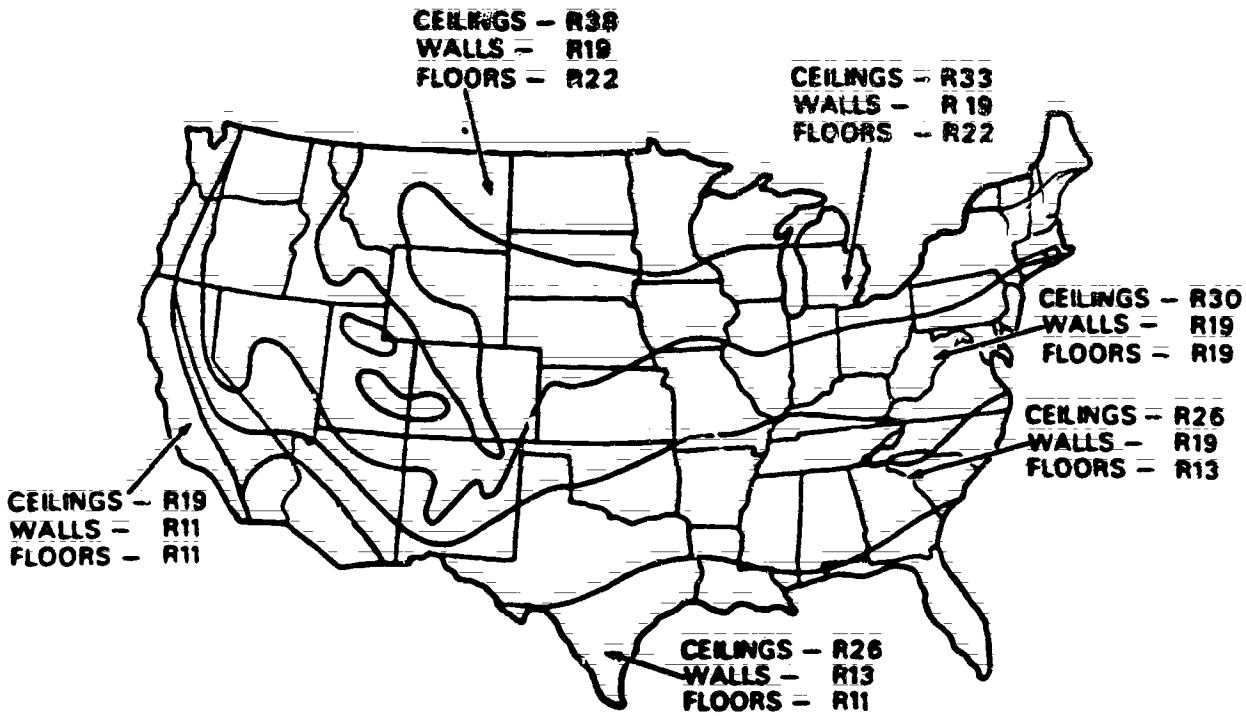


Figure 2 Points of summer heat gain

TRANSPARENCY IV-1-A

SUGGESTED R-VALUES FOR THE UNITED STATES



This map shows minimum insulation recommendations for ceilings/walls/floors in six (6) different insulating zones of the United States. The "R-Value" guidelines are for the economical amounts of insulation to have, considering climate, energy costs, insulation price, and other factors (Owens-Corning).

TRANSPARENCY IV-1-B

RANGE OF "R" PER INCH OF THREE
COMMON INSULATING MATERIALS

	BATTS/ROLLS	LOOSE FILL
GLASS FIBER	2.7 - 3.7	2.1 - 2.4
ROCK WOOL	3.1 - 3.6	2.7 - 3.2
CELLULOSE FIBER	-----	3.1 - 3.8

TRANSPARENCY IV-1-C

TYPE OF INSULATION

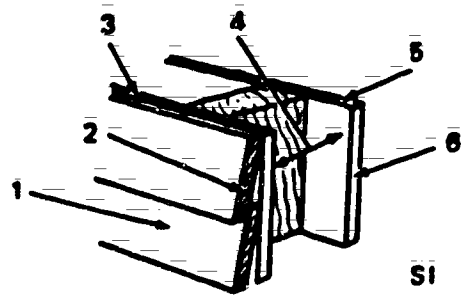
"R" VALUE	BATTS OR BLANKETS		LOOSE FILL		
	GLASS FIBER	MINERAL WOOL	GLASS FIBER	MINERAL WOOL	CELLULOSE FIBER
R11	3½ IN.	3 IN.	5 IN.	4 IN.	3 IN.
R19	6 IN.	5¼ IN.	8-9 IN.	6-7 IN.	5 IN.
R22	6½ IN.	6 IN.	10 IN.	7-8 IN.	6 IN.
R30	9½ IN.	9 IN.	13-14 IN.	10-11 IN.	8 IN.

TRANSPARENCY IV-1-D

TABLE 2. INSULATING VALUES OF SEVERAL INSULATING AND BUILDING MATERIALS

MATERIAL	INSULATION VALUE "R" PER INCH THICKNESS	INSULATION VALUE "R" FOR THICKNESS INDICATED
BATT or BLANKET INSULATION		
Wood or cellulose fiber with vapor barrier and paper facing	3.20-4.00	
Glass wool or mineral wool	3.00-3.80	
LOOSE FILL INSULATION		
Mineral wool (rock, glass or slag)	2.80-3.70	
Vermiculite (expanded) Perlite (expanded)		2.13-2.70
Cellulose	3.50-3.70	
RIGID INSULATION		
Polystyrene foam, extruded or expanded	4.00-5.40	
Polystyrene, molded beads	3.57	
Expanded urethane, sprayed or preformed	5.80-8.00	
Polyurethane, expanded	6.25-8.00+	
Glass fiber	4.00	
Insulating sheathing board (½" regular density)	1.32	
(25/32" regular density)	2.06	
CONSTRUCTION MATERIALS		
Concrete, sand, and stone aggregate	0.08	
Concrete block, three hole, 8"		0.95-1.11
Concrete block, lightweight aggregate, 8"		1.73-2.18
Concrete block, lightweight aggregate, 8" (Cores filled with vermiculite)		4.00-5.03
Face brick 4"		.44
Hardwoods, maple, oak, etc.	0.91	
Softwoods, fir, pine	1.25	
3/8" Plywood		0.47
½" Plywood		0.62
Hardboard, ¼" tempered		0.25
Wood siding, ½" thick clapboard		0.81
Asphalt shingles		.44
Aluminum or steel over flat sheathing		0.[illegible]-0.65
Gypsum or plaster board 3/8"		0.32
Gypsum or plaster board ½"		0.45
Plaster, brick or stucco	0.11-0.20	
Steel or aluminum	0.0007	
Glass	0.003	
DOORS		
Solid wood 1 inch	1.55	
Solid wood 2 inch		2.33
Solid wood 2 inch plus metal and glass storm door		3.45
WINDOWS (glass only)		
Single glazing		0.88
Double glazing (¼" to ½" air space)		1.60-1.75
Single glazing with storm windows		1.75-1.89
AIR SPACE		
Bounded by ordinary materials (vertical space)	¾" or more	.97
Horizontal-heat flow down	¾" or more	1.25
Horizontal-heat flow up	¾" or more	.85

TRANSPARENCY IV-1-E



	SI	US
1. THIN AIR FILM ON OUTSIDE WALL	.34	(.2)
2. WOOD SIDING MATERIAL	.14	(.8)
3. INSULATING SHEATHING ½ INCH THICK	.18	(1.0)
4. AIR SPACE BETWEEN STUDS	.18	(1.0)
5. GYPSUM WALLBOARD ½ INCH THICK	.09	(.5)
6. THIN AIR FILM ON INSIDE OF WALL	.12	(.7)
*TOTAL	0.75	(4.2)

TRANSPARENCY IV-1-F

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT IV: Conservation

LESSON 2: Natural Resources

I. Preparation for Instruction

A. Objectives

1. Terminal: To participate in programs of conservation of natural resources

2. Specific:

a. Define natural resources and the categories of natural resources.

b. Identify problem areas in natural resource conservation.

c. List ways to conserve national resources.

B. Review Teaching Materials

1. Dasmond, Raymond F. Environmental Conservation. New York: Wiley & Sons Publishers, 1976.

2. Leave No Trace. Washington D.C.: USDA Forest Service, 1982.

C. Special Arrangements

1. A 16mm movie on natural resources/environment and a 16mm projector and screen

2. Field trip to a state or national forest

II. Presentation of Lesson

A. Motivation

Discuss the rapid decline in the amount of natural resources available to man. This would include soil erosion, natural fuel waste, etc. Emphasize the detrimental impact this has on our entire ecological system.

B. Content Outline

1. Terms

a. Natural resources conservation -- Rational use of the resources to provide the highest sustainable quality of living for humanity

b. Natural resources -- All naturally occurring things on earth including the sunlight (matter and energy supply)

c. Inexhaustible -- Cannot be exhausted or used up

d. Renewable -- If a balance rate of use against rate of growth or reproduction is used they can continue to renew themselves

e. Nonrenewable -- When used they are destroyed

f. Recyclable -- Can be reused by some process

g. Ecology -- The science concerned with the interrelationship among living things and their living environment

2. Soil Conservation

Most importantly, hold the soil in place by:

a. Cover crops,

b. Contour farming,

c. Terraces,

d. Strip farming,

e. No-till farming,

f. Crop rotation, and

g. Mulching.

Second in importance is maintaining soil fertility through the introduction of fertilizers, both organic and inorganic, by planting legumes, by letting fields lie fallow, and by rotating crops.

3. Water Conservation

a. Management of vegetation to slow respiration of cover vegetation,

b. Regulation and metering of water use,

c. Use of underground reservoirs,

d. Sanitary sewage disposal,

e. Watershed management by engineers, and

f. Limiting population growth.

4. Forest and Timber Conservation

a. Prevention of fires,

b. Improved harvest management,

c. Replanting or allowing to resprout with a plan in mind,

d. Using harvested trees fully, and

e. Sound disease and pest prevention management.

5. Rangelands

a. Prevent fires,

b. Prevent overgrazing by rotation and by not over-populating an area,

c. Establish suitable vegetative stands for the area, and

d. Eliminate undesirable vegetation.

6. Mined Resources — Metals, Coal, Diamonds, etc.

a. Utilize all that is mined,

b. Return mined areas to their original state (if possible),

c. Minimize wasteful use of resources,

d. Recycle all that can be recycled, and

e. Dispose of all materials that cannot be recycled in a clean safe manner.

7. Wilderness and Recreation Areas

a. Prevent fires,

b. Take no glass into the wilderness,

c. Leave nothing in the area that may be harmful to the environment or its wildlife,

d. Do not trample vegetation near trails, streams, or lakes,

e. Do not pollute land or water with any foreign matter,

f. Remove all waste and garbage that needs to be disposed of to a safe place,

g. Avoid noise that will disturb wildlife, and

h. Do not harm trees by cutting or nailing into them; use downed trees for firewood and other uses.

C. Suggested Student Activities

1. Students will identify problem areas in conserving natural resources on their farms and/or homes. Recommendations for natural resource conservation should be made for each problem area identified.

2. Divide the students into groups of three. Each group will interview county agents, soil conservation service personnel, etc. regarding information on conserving natural resources.

INSTRUCTIONAL AREA: Agribusiness

INSTRUCTIONAL UNIT IV: Conservation

LESSON 3: Wildlife

I. Preparation for Instruction

A. Student Objectives

1. Terminal: Identify activities that will assist in the conservation of all species of wildlife.

2. Specific:

a. Define terms related to wildlife conservation.

b. Describe the food chain.

c. List steps in wildlife management.

d. Explain the hunter's/trapper's role in wildlife conservation.

e. Identify hunting, fishing, and trapping laws in Louisiana.

f. Identify common wildlife in Louisiana.

B. Review of Teaching Materials

1. Hunter Safety and Conservation Program. Washington, D.C.: National Rifle Association, 1976.

2. Benson, D.E. Helping Wildlife: Working with Nature. Washington, D.C.: Wildlife Management Institute, 1977.

3. Ducks at a Distance. Washington, D.C.: U.S. Fish and Wildlife Service, 1978.

4. Wildlife Ecology. Baton Rouge: The Cooperative Extension Service, Louisiana State University, Bulletin no. 1965, 1982.

5. Louisiana Wildlife and Fisheries Commission Bulletins. (Listed below)

Food for Wildlife
Louisiana Bobwhite Basus
Common Birds of Louisiana
Popular Game Fish of Louisiana
Managing Louisiana Fish Ponds
The Wood Duck in Louisiana
Wildlife Check Stations
Channel Catfish Farming in Louisiana
Wildlife Resources in Louisiana
Mourning Dove in Louisiana
The Barn Owl
The Louisiana Deer Story

C. Special Arrangements

1. Pictures, drawings, models, and slides of common wildlife of Louisiana for identification purposes

2. A weekend camping trip with cameras and slide film to record the activities. Be aware of animals and their habitats. Use slides for future classes.

II. Presentation of Lesson

A. Motivation

Divide class into teams for a game of wildlife identification.

B. Content Outline

1. Terms

a. Ecosystem -- A self-sustaining system in which living and nonliving parts of the environment interact to exchange energy and materials.

b. Producers -- Green plants that use sunlight to manufacture food from simple substances.

c. Consumers -- Organisms that cannot manufacture their own food and, therefore, must eat other organisms

d. Decomposers -- Organisms such as bacteria and fungi that break down complex substances of dead plants and animals

e. Habitat -- Place where a particular organism (animal) lives

f. Niche -- Organism's role within its habitat

g. Ecological Succession -- The process of natural aging

h. Carrying Capacity -- The number of animals that a particular habitat can support at the given time

i. Predator -- Animals that live by killing other animals for food

j. NRA - National Rifle Association

2. The Food Chain and Web -- The interrelationships of links between plants, animals, and their sources of energy and nutrients

CHAIN

Plants ---------- Rabbit ---------- Coyote

WEB

Plants	Rabbits	Coyote
	Mice	
	Birds	Hawk

These relationships should be studied to understand the needs of the wildlife.

3. Management of Wildlife

a. Concerns of a manager:

1) Predators — A balance of predators and those preyed upon is a necessity. The strongest of the prey will survive to continue to reproduce.

2) Pests — When wildlife are damaging to our other resources, food, and homes, they are termed pests. Their numbers must be reduced but they must also be available as food for other wildlife to be able to continue the food web.

3) Harvests — Results of hunting, trapping, fishing, and capturing--monitored by state, federal, and local officials for optimal conservation--is harvesting

a) Too many animals — Death by starvation and disease

b) Too few animals -- Inability to repopulate

b. Duties of a manager:

1) Evaluate populations and habitats,

2) Manage populations and habitats,

3) Assist threatened and endangered species, and

4) Establish wildlife management areas.

4. Role of the hunter, trapper, and fisherman:

a. To use safe, approved methods to harvest wildlife

b. To follow rules regarding dates of season, numbers harvested, and size of animals to be harvested

c. To report all game harvested if required

d. To report any diseased wildlife encountered

e. To identify wildlife to be harvested

f. To be courteous and sportsman-like.

5. Laws

a. Laws vary between states.

b. Laws in Louisiana may be changed at any time.

c. Before hunting, fishing, or trapping be sure to have the proper license and to know the rules to be followed.

d. Laws are necessary to:

1) Protect the game,

2) Protect the people, and

3) Provide all an equal opportunity to hunt and possess game.

6. Wildlife Identification

Not all common Louisiana animals will be covered here. Refer to Teaching Materials, Number 5, at the beginning of the lesson.

a. In addition to identifying the game, identification of the habitat and feeding habits of the species are important to being a successful hunter and conservationist.

b. Upon identification, other questions should be answered:

1) Is this a female with young offspring to care for?

2) Is this animal from a species that is rare or becoming extinct?

3) Is this animal too young or small?

4) Is this animal diseased and could it be harmful to man? (rabies, etc.)

5) Is this animal out of its habitat and should it be replaced?

C. Suggested Student Activities

1. Each student will obtain a recent copy of state rules and regulations governing the hunting, trapping, and fishing of wildlife.

2. The students will compose a poster display identifying the wildlife native to Louisiana listing important conservation facts regarding each.