Understanding Basic Economic Principles

Unit A. Introduction to Agribusiness

Problem Area 3. Applying Basic Economic Principles in Agribusiness

Lesson 1. Understanding Basic Economics Principles

New Mexico Content Standard:

Pathway Strand: Agribusiness Systems

Standard: VI: Use sales and marketing principles to accomplish an AFNR business objective.

Benchmark: VI-A: Conduct market research.

Performance Standard: 1. Evaluate methods of marketing products and services. 2. Apply economic principles to marketing (e.g., supply and demand). 3. Research products and service design(s).

Student Learning Objectives. Instruction in this lesson should result in students achieving the following objectives:

1. Understand the resources needed for agricultural businesses.
2. Understand the Law of Supply.
3. Understand the Law of Demand.
4. Understand the relationship between supply and demand.
5. Understand the Law of Diminishing Returns
6. Understand the Principle Equimarginal Returns.
7. Understand the relationship between enterprises.
List of Resources. The following resources may be useful in teaching this lesson:

Recommended Resources. One of the following resources should be selected to accompany the lesson:

Agricultural Business Management Principles that Affect Production. Vocational Agriculture Service, University of Illinois, Urbana, IL.


Other Resources. The following resources will be useful to students and teachers:


List of Equipment, Tools, Supplies, and Facilities

Writing surface
Overhead projector
Transparencies from attached masters
Copies of student lab sheet

Terms. The following terms are presented in this lesson (shown in bold italics):

Capital
Competitive enterprises
Complementary enterprises
Equilibrium
Law of diminishing returns
Labor
Land
Law of Demand
Law of Supply
Management
Marginal cost
Marginal return
Principle of Equimarginal Returns
Resource
Supplementary enterprises
Interest Approach. Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

Divide the students into groups. Tell them they are preparing to begin an aquaculture production enterprise. Ask them to list the things they will need to get started. Ask them how they will know how many pounds of fish to produce. Relate to the students that with the study of economics, we can find these answers.

Summary of Content and Teaching Strategies

Objective 1: Understand the resources needed for agricultural businesses.

Anticipated Problem: What resources are needed for an agricultural businesses?

I. A resource is an item used to produce a product or service.
   A. Land includes everything in nature used in production.
      1. soil
      2. minerals
      3. wildlife
   B. Capital includes things used in production that are man-made.
      1. cash
      2. equipment
      3. buildings
      4. supplies
   C. Labor is the physical energy supplied by humans.
   D. Management is the decision making function of the business.

Assign Agricultural Business Management Principles that Affect Production, Section 1, or Chapter 1 in Agribusiness. Both resource texts provide good information to help students understand this objective.

Objective 2: Understand the Law of Supply.

Anticipated Problem: What is the Law of Supply?

II. The Law of Supply states that when the price of a product is lowered, with no change in other factors, less of the product will be supplied.
   A. Technology affects supply.
      1. Generally, technology decreases the cost of production, making it cheaper to produce the product.
      2. The rate that technology advances is not constant.
B. Costs of production affects supply.
   1. When prices of inputs change, the level of production often changes.
   2. Generally, producers try to sell products for at least as much as the total cost of all the inputs.
C. Price of other products affects supply.
   1. If a firm can produce a different product that is priced higher, it may change production to capitalize on higher profits.
   2. Sometimes it is unfeasible to shift fixed assets to produce different products, i.e. removing an orchard to take advantage of higher corn prices.
D. Seasonal and cyclical production affects supply.
   1. Some cycles of production are uncontrollable, i.e. time required for livestock to reproduce, time needed for plants to bear fruit.
   2. Certain fruits and vegetables are considerably cheaper when “in-season”.

Use TM: A3–1A to illustrate the Law of Supply. Have students read the suggested chapters in the recommended resource texts. Use class discussion and the overhead projector to demonstrate how the supply curve shifts under different circumstances.

Objective 3: Understand the Law of Demand.

Anticipated Problem: What is the Law of Demand?

III. The Law of Demand states that when the price of a product is increased with no change in other factors, less product will be purchased.
   A. Size of population affects demand.
      1. With higher population more product will be needed.
      2. All other things constant, demand is increased as population increases.
   B. Tastes and preferences of consumers affects demand.
      1. Tastes and preferences change with time and other factors.
      2. Weather affects preferences, (i.e. coats in the winter, barbecue foods in the summer).
   C. Income and distribution of wealth affects demand.
      1. Generally, higher income results in more products being purchased.
      2. More luxury items are purchased as incomes increase.
   D. Relative prices of all goods and services affect demand.
      1. With a limited budget, decisions to buy an item directly affects the amount of another item that can be purchased.
      2. When the price of a substitute item decreases, consumers will purchase more of the substitute.
      3. When the price of a complement (items used together) decreases, more of the item will be purchased.
Use TM: A3–1B, to discuss the Law of Demand. Follow the discussion up with assigned readings in the recommended texts. Use the overhead and classroom discussion to demonstrate how the demand curve shifts under different circumstances.

**Objective 4:** Understand the relationship between supply and demand.

**Anticipated Problem:** What is the relationship between supply and demand?

IV. The interaction of supply and demand determines price.
   A. Price is found at *equilibrium*, where the supply and demand curves intersect.
   B. If demand curve shifts right, the price increases.
   C. If supply curve shifts left, the price increases.
   D. Foreign trade is a major player in price determination of agricultural commodities.

Have students read the suggested chapters in the recommended texts. Use TM: A3–1C, to discuss the relationship between supply and demand. Assign LS: A3–1A, Understanding Supply and Demand to help students apply the relationships between supply and demand.

**Objective 5:** Understand the Law of Diminishing Returns.

**Anticipated Problem:** What is the principle of diminishing returns?

V. The Law of Diminishing Returns affects physical output and economic returns.
   A. The *law of diminishing returns* states that as a variable resource is added to fixed resources, marginal output declines immediately or after an initial stage of increasing marginal returns. Total output may increase at an increasing rate for a time, but then increases at a decreasing rate until it reaches its maximum.
   B. Values need to be provided to understand the law of diminishing economic returns.
      1. The additional cost of each unit of input is called *marginal cost*.
      2. The additional return resulting from each unit of input is called *marginal return*.
      3. Net returns will be highest when marginal cost is equal to marginal return.

Assign Agricultural Business Management Principles that Affect Production Section 2, or Farm and Ranch Business Management Chapter 5.

**Objective 6:** Understand the Principle of Equimarginal Returns.

**Anticipated Problem:** What is the Principle of Equimarginal Returns?

VI. The *Principle of Equimarginal Returns* states that to allocate a resource among several alternative uses in such a way that the marginal returns are equal in all uses.
   A. Never invest capital in an alternative that does not provide returns equal to or greater than the amount invested.
B. Always invest capital in the option that provides the greatest marginal returns, so long as the returns are greater than the amount invested.

Assign Agricultural Business Management Principles that Affect Production Section 2, or Farm and Ranch Business Management Chapter 5.

**Objective 7:** Understand the relationship between enterprises.

**Anticipated Problem:** How do existing enterprises relate?

VII. Many businesses combine several enterprises to maximize profits.

A. **Supplementary enterprises** are those where one enterprise supplements the income of another.
   1. A sports stadium is often used for concerts.
   2. A lawn tractor can be used to move snow.

B. **Complementary enterprises** are those where one enterprise produces the inputs for another.
   1. Soybeans used in rotation to leave nitrogen for corn.
   2. Tree trimming service may sell mulch.

C. **Competitive enterprises** are those where one enterprise interferes with another.
   1. Enterprises competing for labor resources.
   2. Students who work so much that they do not have enough time to study.

Assign Agricultural Business Management Principles that Affect Production Section 4 and 5, or Farm and Ranch Business Management pages 14–7 to 14–9.

**Review/Summary.** Focus the review and summary of the lesson around the student learning objectives. Call on students to explain the content associated with each objective.

**Application.** Application can involve one or more of the following student activities using attached lab sheets:

   LS: A3–1A Understanding Supply and Demand.

**Evaluation.** Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is attached.

**Answers to Sample Test:**

**Part One: Matching**

1 = h, 2 = f, 3 = a, 4 = j, 5 = e, 6 = b, 7 = c, 8 = d, 9 = i, 10 = g
Part Two: Completion

1 = greater, invested
2 = supplementary
3 = marginal return
4 = marginal costs, marginal returns
5 = increases

Part Three: Short Answer

1. Refer to Objective 1 to score this question.
2. Refer to Objective 2 to score this question.
Lesson A3–1: Understanding Basic Economics Principles

Part One: Matching

Instructions. Match the term with the correct response. Write the letter of the term by the definition.

a. resource f. equilibrium
b. complementary enterprise g. supplementary enterprise
c. land h. capital
d. competitive enterprise i. law of supply
e. law of demand j. marginal cost

_______ 1. Things used in production that are man-made.
_______ 2. Where supply and demand curves intersect.
_______ 3. An item used to produce a product or service.
_______ 4. Additional cost of each unit of input.
_______ 5. When price is lowered, more of the product is purchased.
_______ 6. One enterprise provides inputs for another.
_______ 7. Everything in nature used in production.
_______ 8. One enterprise interferes with another.
_______ 9. When price is lowered, less of the product is supplied.
_______ 10. Two enterprises are independent, but one provides income to the other.

Part Two: Completion

Instructions. Provide the word or words to complete the following statements.

1. Never invest capital in an alternative that does not provide returns equal to or __________ than the amount _________________.

2. When a lawn tractor is used for both mowing and snow removal the two enterprises are considered to be _________________.

3. The additional return resulting from each unit of input is call _____________ ___________.

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4. Net returns are highest when _______________ _______________ equal _______________ _______________.

5. If the demand curve shifts right, price ________________.

**Part Three: Short Answer**

*Instructions.* Provide information to answer the following questions on the back of this sheet.

1. Explain the Law of Supply, include the factors that affect supply.
2. Explain the Law of Demand, include the factors that affect demand.
$S_1 = \text{increase in supply}$

$S_2 = \text{decrease in supply}$
$D_1 = \text{increase in demand}$

$D_2 = \text{decrease in demand}$
Pₖ = Equilibrium price
P₁ = Quantity supplied is greater than quantity demanded = surplus
P₂ = Quantity demanded is greater than quantity supplied = shortage
Lab Sheet

Understanding Supply and Demand

**Purpose:**

Investigate the relationship between supply and demand.

**Procedure:**

1. Graphically show the result of each action on the supply and demand for soybeans.
   
   a. Rapeseed crop looks very promising.

   b. New soybean varieties developed that are insect-resistant.

   c. A new fungus has infested the soybean crop of the Midwest.

2. Graphically explain what would happen to the supply & demand for beef under the following circumstance.

   The USDA has released information that the cattle on feed for the year is up 3% over last year. They also released information that the average price for broilers is up 15%.