Unit D: Applying Basic Economic Principles in Agribusiness

Lesson 1: Understanding Supply and Demand Principles

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

1. Define and discuss macroeconomics and microeconomics.
2. Understand the Law of Supply.
3. Understand the Law of Demand.
4. Understand the relationship between supply and demand.

Recommended Teaching Time: 2 hours.

Recommended Resources: The following resources may be useful in teaching this lesson:

http://economics.about.com/cs/studentresources/f/macroeconomics.htm
http://www.investopedia.com/terms/l/lawofdemand.asp
http://ingrimayne.com/econ/DemandSupply/Supply3.html

List of Equipment, Tools, Supplies, and Facilities:

Writing surface
PowerPoint Projector
PowerPoint Slides
Several Grains of Sand
Copies of WS 1-1
Copies of LS 1-1

Terms:

Complement
Deflation
Economics
Equilibrium
Gross Domestic Product
In-Season
Inflation
Law of Demand
Law of Supply
Macroeconomics
Microeconomics
Resource Scarcity
Substitute

Interest Approach: Give each student a grain of sand. Ask students to name characteristics about the sand as they see and feel it in their hand. Show students photos of Sand on the **PowerPoint Slides #3, #4, and #5**. Ask students to discuss the environment that is seen in each photo. Use this discussion to lead into the lesson by using it as an analogy. The grains of sand are like microeconomics-each grain is different, just like each individual or business's economic decisions are different. The photos of sand have the same foundation (sand) but appear different. In the same way, macroeconomics in all countries has the same foundation (money) but may appear different (some may be strong and thriving, others may be declining).

Summary of Content and Teaching Strategies

Objective 1: Define and discuss macroeconomics and microeconomics.

Anticipated Problem: What are macroeconomics and microeconomics?

PowerPoint Slide #6

I. ***Economics*** is the science of allocating scarce resources among different and competing choices and utilizing them to best satisfy human wants. It is a study of how to get the most satisfaction for a given amount of money or to spend the least money for a given want or need. The study of economics is based upon the principle of scarcity of resources. ***Resource scarcity*** states that the inputs needed to make products are not available in unlimited supply.

PowerPoint Slide #8

A. ***Macroeconomics*** is the study of the economy as a whole. It is comprised of all the choices made at the microeconomic level.

1. Macroeconomics looks at the effects of changes in the production of goods and services and employment and how they interact to influence economic performance on a broad scale. The actions of individuals, businesses and government entities all influence macroeconomics.

PowerPoint Slide #9

2. Concepts related to macroeconomics include:
   a. ***Gross Domestic Product (GDP)*** is the market value of all goods and services produced within a country in one year.
   b. Total Supply is the total amount of goods and services produced during a defined period of time.
   c. Total Demand is the total amount of spending on goods and services during a defined period of time.

PowerPoint Slide #10

   d. ***Inflation*** is a sustained increase in the average price of goods and services within the entire economy. ***Deflation*** is a sustained decrease in the average price of goods and services within the entire economy.
   e. Governmental policy that relates to the amount of money (cash) available in the economy and policy that relates to taxes and government spending.

PowerPoint Slide #11

B. ***Microeconomics*** is the study of individual economic choices.

1. Every person makes choices about how to spend his or her money. They decide on how to allocate a scarce resource (money) in return for a perceived benefit that the allocation will bring.
2. The common denominator that individuals use in making these choices is price. Any economic system must have a method of establishing prices. Once these prices are established, individuals are able to make choices about how to allocate their resources.

PowerPoint Slide #12

3. Concepts related to microeconomics include:
   a. Markets and prices give individuals the opportunity to buy and sell goods. Markets are the locations where this interaction occurs. Prices are the amounts of money that people pay for a good or service.
   b. Supply and demand is affected by business organizations and consumers. Governmental policies can sometimes affect supply and demand.
   c. Competition is determined by the number of buyers and sellers in particular markets.
   d. Business failures occur due to inadequate competition, lack of access to reliable information, not enough demand for goods, and other reasons.

*****To help students master this objective, use the graphic illustration on PowerPoint Slide #7 to explain the information. Ask students to repeat short sayings after you deliver the information. For example, you might say "Macroeconomics is the study of the economy as a whole." (Ask the class) "What is the study of economics as a whole?" (Students respond) "Macroeconomics." Also, be sure to ask questions to review and reinforce the information.**

Objective 2: Understand the law of supply.

Anticipated Problem: What is the law of supply?

PowerPoint Slide #13

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. Supply is the quantity of a product or commodity that sellers are willing to provide to the market at a given price.

PowerPoint Slide #14

    1. The law of supply principle can be illustrated on a graphic.

      a. As the law of supply states, when price is raised, supply (the quantity of products or commodities) will increase.

      b. In the same way, when price is lowered, supply (the quantity of products or commodities) will decrease.

PowerPoint Slide #15

    2. When supply increases or decreases, the trend illustrated on the graphic shifts.

      a. When supply increases, the supply curve shifts to the right on the graphic.

PowerPoint Slide #16

      b. When supply decreases, the supply curve shifts to the left on the graphic.

PowerPoint Slide #17

  B. Several factors influence supply and can cause an increase or decrease in supply.

    1. Technology affects supply.

      a. Generally, technology decreases the cost of production, making it cheaper to produce the product.

PowerPoint Slide #18

    2. Costs of production affects supply.

      a. When prices of inputs change, the level of production often changes.

      b. Generally, producers try to sell products for at least as much as the total cost of all the inputs.

PowerPoint Slide #19

    3. Price of other products affects supply.

      a. If a farm or agribusiness can produce a different product that is priced higher, it may change production to capitalize on higher profits. For example, if the price of apple butter increased greatly, an applesauce producer might stop producing applesauce in order to start producing apple butter.

      b. Sometimes it is unfeasible to shift fixed assets to produce different products. For example, it would be too expensive and difficult to remove a grape vineyard to plant wheat and take advantage of higher wheat prices.

PowerPoint Slide #20

    4. Seasonal and cyclical production affects supply.

      a. Some cycles of production are uncontrollable such as the time required for livestock to reproduce or the time needed for plants to bear fruit.

      b. Certain nuts, fruits and vegetables are considerably cheaper when "***in-season***". A food product or commodity is considered "in-season" during the time that it is ripe and being harvested.

*****To help students master this objective, use the graphic illustrations on the PowerPoint Slides to explain the information. Ask students to repeat short sayings after you deliver the information. For example, you might say "When price is increased, supply will increase" (Ask the class) "What will increase if price is increased?" (Students respond) "Supply." Also, be sure to ask questions to review and reinforce the information.**

Objective 3: Understand the law of demand.

Anticipated Problem: What is the law of demand?

PowerPoint Slide #21

III. The ***law of demand*** states that when the price of a product or commodity is increased with no change in other factors, less product will be purchased.

- A. Demand is the quantity of a product or commodity buyers are willing to purchase from the market at a given price.

PowerPoint Slide #22

1. The law of demand principle can be illustrated on a graphic.
   - a. As the law of demand states, when price is raised, demand (the quantity of products or commodities) will decrease.
   - b. In the same way, when price is lowered, demand (the quantity of products or commodities) will increase.

PowerPoint Slide #23

2. When demand increases or decreases, the trend illustrated on the graphic shifts.
   - a. When demand increases, the demand curve shifts to the right on the graphic.

PowerPoint Slide #24

   - b. When demand decreases, the demand curve shifts to the left on the graphic.

PowerPoint Slide #25

- B. Several factors influence demand and can cause demand for a product or commodity to increase or decrease.

1. Size of population affects demand.
   - a. With higher population, more product will be needed.
   - b. All other things constant, demand is increased as population increases.

PowerPoint Slide #26

2. Tastes and preferences of consumers affects demand.
   - a. Tastes and preferences change with time and other factors.
   - b. Weather and climate affects preferences. For example, soups and stews may be more desired in cold climates while cool drinks may be more desired in hot climates.

PowerPoint Slide #27

3. Income and distribution of wealth affects demand.
   - a. Generally, higher income results in more products being purchased.
   - b. More expensive and luxury items are purchased as incomes increase.

PowerPoint Slide #28

4. Relative prices of all goods and services affects demand.
   - a. With a limited budget, decisions to buy an item directly affects the amount of another item that can be purchased.
   - b. When the price of a substitute item decreases, consumers will purchase more of the ***substitute***.
     - i. A substitute is a product that is similar to and can replace another product.
     - ii. For example, a substitute for pistachios would be almonds.
   - c. When the price of a ***complement*** decreases, more of the item will be purchased.
     - i. A complement is a product that is used together with another product.

*****To help students master this objective, use the graphic illustrations on the PowerPoint Slides to explain the information. Ask students to repeat short sayings after you deliver the information. For example, you might say "When price is lowered, demand will increase." (Ask the class) "What will increase if price is decreased?" (Students respond) "Demand." Also, be sure to ask questions to review and reinforce the information.**

Objective 4: Understand the relationship between supply and demand.

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

PowerPoint Slide #29

IV. The interaction of supply and demand determines price.

A. Price is found at ***equilibrium***, where the supply and demand curves intersect.

PowerPoint Slide #30

B. As supply or demand changes, the equilibrium price also changes.

1. If the supply curve shifts left, the price increases.
2. If the supply curve shifts right, the price decreases.

PowerPoint Slide #31

3. If the demand curve shifts right, the price increases.
4. If the demand curve shifts left, the price decreases.

*****To help students master this objective, use the graphic illustrations on the PowerPoint Slides to explain the information. Ask students to repeat short sayings after you deliver the information. Also, be sure to ask questions to review and reinforce the information.**

Review/Summary: Guide students as they complete WS 1-1. Check and discuss the answers with students. If necessary, develop more problems for students to review and practice.

Application: Ask students to complete LS 1-1. If needed, complete and example for the first question together. Example: Price increase due to change in supply - The cost of wheat seed increases drastically, so wheat farmers stop growing wheat. This will cause a decrease in the supply of wheat and the price of wheat will increase. (Then draw an illustration)

Evaluation: A sample written test is attached.

Answers to Test:

Part One: Matching

1 = c, 2 = e, 3 = g, 4 = f, 5 = b, 6 = d, 7 = h, 8 = a

Part Two: Completion

1 = price

2 = increase

3 = demand

4 = increases

Part Three: Short Answer

1. Use Objective 1 to score this question.
2. Use Objective 3 to score this question.
3. Use Objective 4 to score this question.

WS: 1-1 Name____________________

Understanding Supply and Demand Principles

Instructions. Draw and label illustrations for each item below.

1. Supply Curve

2. Demand Curve

3. Equilibrium Price

4. Increase in Supply

5. Decrease in Demand

6. Increase in Demand

7. Equilibrium when Demand Increases

8. Equilibrium when Supply Increases

9. Equilibrium when Demand Decreases

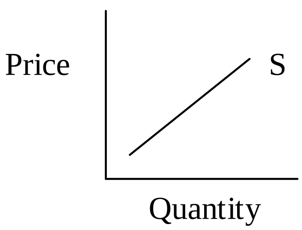
10. Equilibrium when Supply Decreases

WS: 1-1 KEY Name______________________

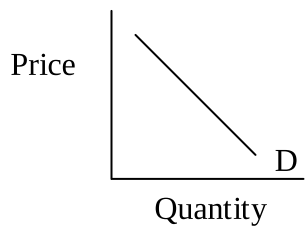
Understanding Supply and Demand Principles

Instructions. Draw and label illustrations for each item below.

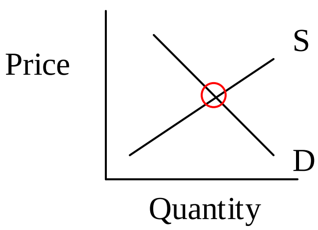
1. Supply Curve



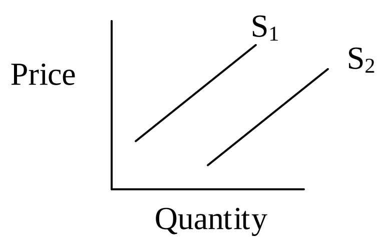
2. Demand Curve



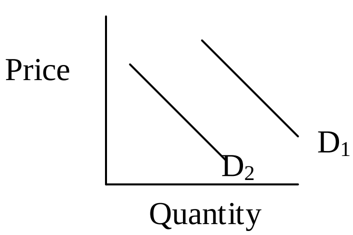
3. Equilibrium Price



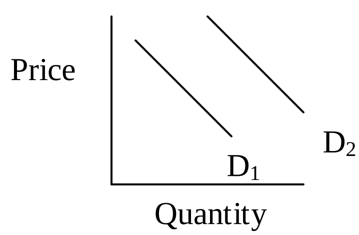
4. Increase in Supply



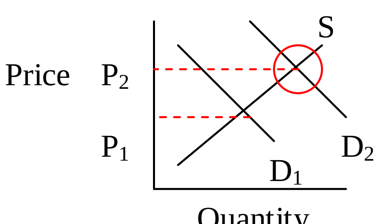
5. Decrease in Demand



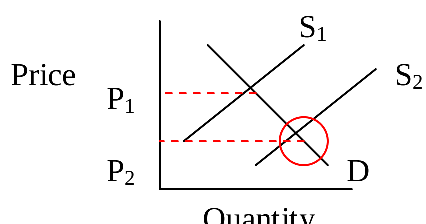
6. Increase in Demand



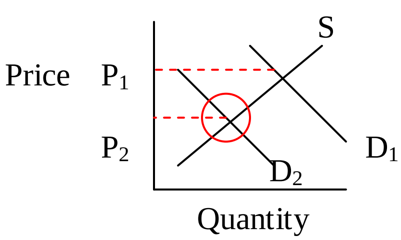
7. Equilibrium when Demand Increases



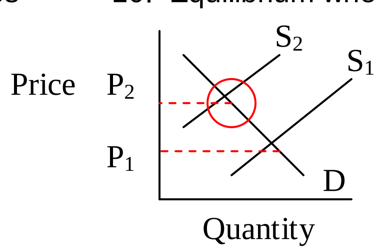
8. Equilibrium when Supply Increases



9. Equilibrium when Demand Decreases



10. Equilibrium when Supply Decreases



Test
Understanding Supply and Demand Principles

Part One: Matching

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

a. law of supply
b. law of demand
c. in-season
d. economics
e. equilibrium
f. macroeconomics
g. substitute
h. complement

_______ 1. When a food product or commodity is ripe and being harvested.
_______ 2. Where supply and demand curves intersect.
_______ 3. A product that is similar to and can replace another product.
_______ 4. The study of the economy as a whole.
_______ 5. When price is lowered, more of the product is purchased.
_______ 6. The science of allocating scarce resources among different and competing choices and utilizing them to best satisfy human wants.
_______ 7. A product that is used together with another product.
_______ 8. When price is lowered, less of the product is supplied.

Part Two: Completion

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

1. The interaction of supply and demand determines ________________.
2. With higher population, demand will _______________.
3. When prices increase, _______________ will decrease.
4. If the demand curve shifts right, price ________________.

Part Three: Short Answer

Instructions. Use complete sentences and correct spelling to provide the information below.

1. Explain the difference between macroeconomics and microeconomics.

2. Explain the law of demand, include the factors that affect demand.

3. Illustrate and discuss two reasons that equilibrium price would increase.

LS: 1-1 Name____________________

Lab Sheet

Instructions. Describe a situation that matches the following items. Then illustrate the change in price by drawing the appropriate changes in the supply and demand curves.

1. Price increase due to change in supply.

2. Price decrease due to change in supply.

3. Price increase due to change in demand.

4. Price decrease due to change in demand.