

Lesson A1–2

Determining the Importance of the Horticulture Industry

Unit A. Horticultural Science

Problem Area I. Exploring the Horticulture Industry

Lesson 2. Determining the Importance of the Horticulture Industry

New Mexico Content Standard:

Pathway Strand: Plant Systems

Standard: III: Apply fundamentals of production and harvesting to produce plants.

Benchmark: III-A: Apply fundamentals of plant management to develop a production plan.

Performance Standard: 1. Identify and select seeds and plants. 2. Manipulate and evaluate environmental conditions (e.g., irrigation, mulch, shading) to foster plant germination, growth and development. 3. Evaluate and demonstrate planting practices (e.g., population rate, germination/seed vigor, inoculation, seed and plant treatments). 4. Evaluate and demonstrate transplanting practices. 7. Prepare plants and plant products for distribution.

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

1. Describe the popularity of horticulture.
2. Explain the importance of the ornamental horticulture industry.
3. Explain the importance of the olericulture industry.
4. Explain the importance of the pomology industry.

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:

Schroeder, Charles B., et al. *Introduction to Horticulture*, Third Edition. Danville, Illinois: Interstate Publishers, Inc., 2000.

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

Biondo, Ronald J. and Dianne A. Noland. *Floriculture: From Greenhouse Production to Floral Design*. Danville, Illinois: Interstate Publishers, Inc., 2000.

Biondo, Ronald J. and Charles B. Schroeder. *Introduction to Landscaping: Design, Construction, and Maintenance*, Second Edition. Danville, Illinois: Interstate Publishers, Inc., 2003.

List of Equipment, Tools, Supplies, and Facilities

Writing surface
Overhead projector
Transparencies from attached masters
Copies of student lab sheets
Grocery store advertisements

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

Floral production
Floriculture
Landscape horticulture
Olericulture
Pomology

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.

Begin the lesson by giving each student a copy of a grocery store advertisement. Have each student take turns giving an example of a vegetable, fruit, and nut. List these on the overhead. Point out the variety of products that can be found in the local marketplace.

Summary of Content and Teaching Strategies

Objective 1: Describe the popularity of horticulture.

Anticipated Problem: Why is the horticulture industry popular?

- I. The popularity of horticulture is due to both the free attitudes of people in the 1960's and 1970's and the more environmentally concerned people of the 1980's and 1990's. Horticulture is popular and important in all societies, both rich and poor.
 - A. The popularity of horticulture has had many advantages. An increase in jobs, increase in food for humans and animals, and an increase in aesthetic pleasure are just some of the advantages.
 - B. Education and training required for people wanting to be involved in the horticulture industry has led to increased enrollment in horticultural and agronomic programs at land grant and two-year college programs. Students who plan to study horticulture can earn an associate's, bachelor's, master's, or doctoral degree. Earning a degree offers a better chance at finding a high-paying job in the horticulture industry.

At this point, use TM: A1–2A to highlight the advantages of horticulture and the degrees offered in horticulture. Discuss with students the differences between and requirements of the different degrees. To help students further master this objective, reinforce classroom discussion with text readings.

Objective 2: Explain the importance of the ornamental horticulture industry.

Anticipated Problem: Why is the ornamental horticulture industry important?

- II. The ornamental horticulture industry is made up of two important segments. One is **floriculture**, the culture of flowers, and the other is **landscape horticulture**, producing and using plants to beautify the environment.
 - A. Floriculture is an international, multibillion dollar industry. Floriculture includes the production, distribution, and processing of flowering and foliage plants. **Floral production** is the growing of flowering or foliage crops to maturity. Once mature they are sold. Mature plants can be sold as cut flowers or foliage, potted flowering plants, foliage plants, or bedding plants. In 1997, floriculture crops were worth \$4 billion dollars on the wholesale market. California and Florida led in floriculture production with 22 percent and 19 percent. Of the \$4 billion dollar wholesale value of floriculture crops, 47 percent was a result of bedding plant production.
 - B. Landscape horticulture is a billion-dollar industry in the United States. In 1994, over \$40 billion were spent on landscape and gardening products alone. In addition, over \$13 billion were spent on professional landscape and lawn services. This is a \$900 million increase over the previous year. These figures suggest that millions of people value a beautiful outdoor environment.

Have examples of cut flowers and foliage, potted flowering plants, foliage plants and bedding plants for the students to see. Or, have several horticultural magazines or catalogs available for students to view pictures of these items. Magazines and books can also be helpful in showing examples of landscape designs. Review the economic importance of each of these areas of horticulture with the students. TM: A1–2B will help to highlight this importance.

Objective 3: Explain the importance of the olericulture industry.

Anticipated Problem: Why is the olericulture industry important?

- III. **Olericulture** is the area of horticulture that involves the production of vegetable food crops. Vegetables are not only important to our daily nutrition, they're also important to the U.S. agricultural economy.
- A. Vegetables make up over \$14 billion of the \$202 billion U.S. farm receipts. Vegetables are a commodity both fresh and processed. California is the leader in both fresh and processed vegetables in the U.S. Other states leading in the fresh vegetable market are Florida, Arizona, Georgia, and Texas.
 - B. Vegetables are grown on 1% of the total cropland in the U.S. This amount has been relatively stable for the past 25 years. However, the production of vegetables has increased. The increase in production on virtually the same amount of land is the result of increased technology and more efficient production practices.

Review the original list of vegetable examples compiled at the beginning of the lesson. Ask students to think about how many of these vegetables they've sampled or have eaten today. Ask how many of these vegetables had they not heard of before today. Use TM: A1–2C to review the economic importance of the olericulture industry. Refer to the *Introduction to Horticulture* textbook for further information on the olericulture industry.

Objective 4: Explain the importance of the pomology industry.

Anticipated Problem: Why is the pomology industry important?

- IV. **Pomology** is the area of horticulture that involves the production of fruit and nut crops. Fruits and nuts, like vegetables, are also important to our daily nutrition and the U.S. economy.
- A. In the 1993, 3.5 million acres of the U.S. were involved in fruit and nut production. Fruit production utilizes land unusable by other crops. In 1998, the value of the U.S. fruit and nut crop was over \$10 billion. Fruit growing is a popular but labor-intensive industry. Hundreds of thousands of people are employed in fruit and nut production jobs.
 - B. The U.S. is one of the world's top producers of fruit and nuts. Ten percent of the world's apples, pears, plums, and prunes, 20 percent of the world's peaches, and 25 percent of the world's citrus fruit are produced in the U.S.

Review the original list of fruit and nut examples compiled at the beginning of the lesson. Ask students to think about how many of these fruit and nuts they've sampled or have eaten today. Ask how many of these fruit and nuts had they not heard of before today. Use TM: A1–2D to review the economic importance of the pomology industry. Refer to the *Introduction to Horticulture* textbook for further information on the pomology industry.

Review/Summary. Summarize the lesson by reviewing the student learning objectives. The anticipated problems can be used as student review questions. Chapter reviews from the books given on the resource list may also be useful.

Application. The following student activities can be used to apply the student learning objectives:

LS: A1–2A—Determining the Monetary Value of Horticulture Food Production

LS: A1–2B—Understanding Differences in Horticulture Crop Pricing

Evaluation. Evaluation should be based on student comprehension of the student learning objectives. This can be determined using the attached sample written test.

Answers to Sample Test:

Part One: Matching

1. b 2. d 3. e 4. a 5. f 6. c

Part Two: Completion

1. floriculture, landscape horticulture
2. fruit
3. nutrition, economy

Part Three: Short Answer

1. increase in jobs, food for people and animals, increase in aesthetic pleasure

Test

Lesson A1–2: Determining the Importance of the Horticulture Industry

Part One: Matching

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

- | | |
|----------------------|---------------------------|
| a. floral production | d. vegetables |
| b. olericulture | e. floriculture |
| c. pomology | f. landscape horticulture |

- _____ 1. area of horticulture that involves the production of vegetable crops
- _____ 2. grown on approximately one percent of the available U.S. cropland
- _____ 3. the culture of flowers
- _____ 4. growing of flowers or foliage plants
- _____ 5. producing and using plants to beautify the environment
- _____ 6. area of horticulture that involves fruit and nut production

Part Two: Completion

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

1. The ornamental horticulture industry is made up of two important segments. One is _____, the other is _____.
2. _____ production utilizes land unusable by other crops.
3. Vegetables are important to both our _____ and our _____.

Part Three: Short Answer

Instructions. Provide information to answer the following question.

What are the advantages to the popularity of horticulture?

ADVANTAGES OF HORTICULTURE

- **increase in jobs**
- **increase in food**
- **increase in aesthetic pleasure**

DEGREES AVAILABLE IN HORTICULTURE

- **Associate's**
- **Bachelor's**
- **Master's**
- **Doctoral**

ORNAMENTAL HORTICULTURE INDUSTRY SEGMENTS

Floriculture

- **Multibillion dollar industry**
- **\$4 billion market**
- **California and Florida are top producers**

Landscape Horticulture

- **over \$40 billion spent on landscape and gardening products in 1994**
- **over \$13 billion spent on professional landscape and lawn services in 1994**

OLERICULTURE

- **production of vegetable food crops**
- **worth over \$14 billion of the U.S. farm receipts**
- **California leads in both fresh and processed vegetable production**
- **grown on 1 percent of the U.S. cropland**
- **increased production is a result of increased technology and more efficient production**

POMOLOGY

- **production of fruit and nut crops**
- **3.5 million acres of the U.S. are used to raise fruits and nuts**
- **the 1998 fruit and nut crop was worth over \$10 billion**
- **the U.S. is one of the world's top producers of fruits and nuts**

Lab Sheet

Determining the Value of Horticulture Food Products

Instructions: Look through several grocery store advertisements and compare the prices of vegetable, fruit, and nut products. Choose three products, one each of vegetables, fruits, and nuts. Answer the following questions based on your findings.

List the food products you chose:

Vegetable:

Fruit:

Nut:

1. How did the prices of these products compare from store to store?

2. What factors could cause these differences in prices?

