

Lesson C1–2

Exploring Careers in Plant and Soil Science

Unit C. Plant and Soil Science

Problem Area I. Career Opportunities in Plant and Soil Science

Lesson 2. Exploring Careers in Plant and Soil Science

New Mexico Content Standard:

Pathway Strand: Employability & Career Development

Standard: XIII: Know and understand the importance of employability skills.

Benchmark: XIII-B. Identify career opportunities to help develop career plans.

Performance Standard: 1. Identify and explore career opportunities in one or more career pathways to discover personal preferences. 2. Develop career plans. 3. Discuss employability in a given industry and factors that effect it in order to evaluate salaries and opportunities.

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

1. Identify and describe the major areas of plant and soil science occupations.
2. Identify career and entrepreneurship opportunities and expectations in plant and soil science.

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:

Biondo, Ronald J. and Jasper S. Lee. Introduction to Plant and Soil Science and Technology. (2nd Ed.) Danville, Illinois: Interstate Publishers, Inc., 2003 (Text-book and Activity Manual, Chapter 1)

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

Morgan, Elizabeth M., et al. AgriScience Explorations. Danville, Illinois: Interstate Publishers, Inc., 1998

Parker, Rick. Introduction to Plant Science. Albany: Delmar Publishers, 2000 (Chapter 25)

List of Equipment, Tools, Supplies, and Facilities

Writing surface

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

Entrepreneur
Entrepreneurship
Forestry
Product marketing
Production agriculture
Supply and services

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.

Ask a local businessperson involved in plant and soil science to come speak to the class about their career. Encourage the students to ask the speaker questions about the career and how they prepared for such a career.

Summary of Content and Teaching Strategies

Objective 1: Identify and describe the major areas of plant and soil science occupations.

Anticipated Problem: What are the major areas of plant and soil science occupations?

- I. Clustering occupations based on the nature of the work involves studying what people do in the work and relating these observations to the competencies needed to perform the work. Occupations involved in plant and soil science can be divided into six major areas.
 - A. Production agriculture—**Production agriculture** is concerned with the many areas in growing crops. It is often equated with farming.
 - B. Supply and services—The **supply and services** area is concerned with providing the inputs needed to produce crops. Examples of supplies include feed, seed, and fertilizer. Examples of services include custom harvesting, crop consulting, and pest control services.
 - C. Product marketing—The **product marketing** area includes all of the activities in processing and marketing the crop produced on farms. This area includes all activities to get the products to consumers in the desired forms.
 - D. Forestry—**Forestry** is concerned with the production of trees for various uses, such as lumber, paper, and ornamental products. It includes native forests as well as tree farms.
 - E. Natural resources—The natural resources area includes conserving and protecting water, soil, air, and other natural resources, including wildlife. Environmental science can be included in this area as related to natural resources.
 - F. Agricultural mechanics and technology—This area includes the manufacture, repair, and operation of tractors, implements, computer-based systems, and other related areas.
 - G. Horticulture is divided into four major areas.
 1. Landscape horticulture—This area includes production nurseries, landscape nurseries, landscape maintenance, plant and seed producers, retail garden centers/ nurseries, and botanical gardens.
 2. Floriculture—This area includes the cultivation, production, designing, and marketing of flowers. Major areas include flower growers and marketers, wholesale florists, and retail florists.
 3. Fruits, vegetables, and nuts—Primarily food products, this area includes production and marketing, which involves all areas of processing, packaging, distributing, and advertising.
 4. Turfgrass—This area deals with the use of grasses and other ground covers and includes sod production, turf establishment, and golf course and other turf area design and maintenance.

Use a variety of techniques to help students master this objective. Students should use text materials to help understand the major areas of plant and soil science occupations. AgriScience Explorations is recommended.

Objective 2: Identify career and entrepreneurship opportunities and expectations in plant and soil science.

Anticipated Problem: What are some career and entrepreneurship opportunities and expectations in plant and soil science?

- II. There are many career opportunities in plant and soil science. Careers are available with both private companies as well as several governmental agencies at the local, county, state or national level. There are also vast opportunities for well educated, well organized, and hard working individuals to create and operate their own businesses.
 - A. **Entrepreneurship** is owning and operating a business. The person who owns it is an **entrepreneur**. The goal is to produce goods or services resulting in a profit for the owner. These businesses may include things such as farms, flower shops, soil testing services, seed and fertilizer businesses, and crop consulting businesses.
 - B. One important way for students to gain insight and develop jobs skills is through supervised experience. This is often carried out as part of enrollment in agriculture classes. It is a planned experience involving work in some agricultural related business. The experiences are related to class content and the career interests of the student. In some cases, students may own a production enterprise in which they produce a crop. The student, the student's parents or guardian, the agriculture teacher, and the business owner plan these experiences jointly.

Use a variety of techniques to help students master this objective. Students should use text materials to help understand some career and entrepreneurship opportunities and expectations in plant and soil science. Chapter 1 in Introduction to Plant and Soil Science and Technology is recommended.

Review/Summary. Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle. Questions at the end of each chapter in the recommended textbooks may also be used in the review/summary.

Application. Have students visit and interview a local person with a career in plant and soil science. Ask each student to prepare a written report outlining the career investigated. Suggested items to include in the report are: working conditions, benefits, job descriptions, career preparation, and availability of employment. In addition to the written report, students should give a 5–7 minute oral report to the class about their chosen career.

Evaluation. Focus the evaluation of student achievement on mastery of the objectives as stated in the lesson.

Answers to Sample Test:

Part One: Matching

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

Part Two: Completion

1. Landscape horticulture
2. Floriculture
3. Supervised experience

Part Three: Short Answer

The student, the student's parents or guardian, the agriculture teacher, and the business owner.

Test

Lesson C1–2: Exploring Careers in Plant and Soil Science

Part One: Matching

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

- | | | |
|----------------------|---------------------------|------------------------|
| a. Entrepreneur | b. Entrepreneurship | c. Forestry |
| d. Product marketing | e. Production agriculture | f. Supply and services |

- _____ 1. Includes all of the activities in processing and marketing the crop produced on farms.
- _____ 2. Concerned with the many areas in growing crops.
- _____ 3. Owning and operating a business.
- _____ 4. Concerned with the production of trees for various uses, such as lumber, paper, and ornamental products.
- _____ 5. Concerned with providing the inputs needed to produce crops.
- _____ 6. Person who owns a business.

Part Two: Completion

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

1. _____ includes production nurseries, landscape nurseries, landscape maintenance, plant and seed producers, retail garden centers/ nurseries, and botanical gardens.
2. _____ includes the cultivation, production, designing, and marketing of flowers.
3. _____ is a planned experience involving work in some agricultural related business.

Part Three: Short Answer

Instructions. Provide information to answer the following question.

Who develops a Supervised Experience Program?