

Lesson B1–3

Identifying Career Opportunities in the Animal Science Industry

Unit B. Animal Science and the Industry

Problem Area I. Understanding the Animal Science Industry

Lesson 3. Identifying Career Opportunities in the Animal Science Industry

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 career opportunities in livestock production.
2. Identify career opportunities in pleasure and service animals.
3. Identify science-oriented career opportunities in animal science.
4. Identify career opportunities in the animal services sector.
5. Identify career opportunities in animal science education and communication.

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:

Lee, Jasper S., et. al. *Introduction to Livestock and Companion Animals, 2nd Edition*. Danville, Illinois: Interstate Publishers, Inc. 2000 (Chapter 24)

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

Cooper, Elmer L. and L. DeVere Burton *Agriscience: Fundamentals & Application, 3rd Edition*. Albany, New York: Delmar. 2002 (Unit 4)

Gillespie, James R. *Modern Livestock & Poultry Production, 6th Edition*. Albany, New York: Delmar. 2002 (Unit 2)

List of Equipment, Tools, Supplies, and Facilities

Writing surface
Overhead projector
Transparency master

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

Draft animal
Laboratory animal
Service animals

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 students that like to be around or work with animals to raise their hands. Then ask those with their hands raised, "How many of you would like to get paid to work with animals?" Ask the class to list the various jobs that are available in animal science. Write them on the board. Refer back to the students' lists during the lesson.

Summary of Content and Teaching Strategies

Objective I: Identify career opportunities in livestock production.

Anticipated Problem: What are some career opportunities in livestock production?

- I. Owning an animal production business is one way to be involved in the production of livestock. Not everyone can own animals. A person may not have the desire to run the financial

aspects of the business or the opportunity to own livestock. In that case, they may want to be employed by someone who does own animals. Some of the career opportunities for them are:

- A. Farm or ranch worker—This work varies based on the knowledge and ability of the person employed. Duties range from general farm labor in doing routine jobs, such as feeding, sanitation, and moving animals, to more complicated tasks, such as treating sick animals. Small farms may employ a person to do a wide range of tasks. Workers in larger operations may be able to specialize in one or more areas. Many entry-level positions are as farm or ranch workers. New employees are expected to have a general knowledge of livestock and work competently with animals. They need to quickly learn their job. High school agricultural education is helpful.
- B. Farm manager—The farm manager carries out the everyday operation of the farm. It may also include long-range planning and setting production goals. Farm managers are usually hired by corporate farms, institutional farms (such as colleges or universities), or by individuals who own a farm but do not want to be involved in the daily operations. Becoming a farm manager requires a great deal of experience. Employers most often look to hire a manager with years of experience and some type of education beyond high school. Tasks performed by a farm manager might include selecting and marketing animals, formulating feed, maintaining herd health, and supervising employees. Helpful preparation for this career includes high school agricultural education, being a farm worker, and post-secondary education in animal science or a related agricultural field.

There are many techniques that can be used to assist students in mastering this material. Students need text material to aid in understanding the career opportunities in livestock production. Chapter 24 in Introduction to Livestock and Companion Animals is recommended.

Objective 2: Identify career opportunities in pleasure and service animals.

Anticipated Problem: What are some career opportunities in pleasure and service animals?

- II. Careers in pleasure and service animal areas are numerous. Like most other career areas, people interested in this area should enjoy working with both animals and people. Some of the various careers dealing with pleasure and service animals are:
 - A. Horse industry worker—Increased interest in light horses for pleasure and racing has opened new jobs. These jobs range from stable attendant to racehorse trainer. Most entry-level positions begin with hand labor. Stable hands spend most of their time doing essential, albeit not glamorous, work such as cleaning the barn and feeding the horses. As an employee becomes more experienced, they can advance to horse trainer, riding instructor, stable manager, or barn boss. Preparation for this career area begins with personal experience with horses and high school agricultural education classes. Advancement is helped by gaining experience and post-secondary education in equine science or some other related agricultural field.
 - B. Game and fisheries workers—People with an interest in the outdoors and wildlife should look into a career in the game and fisheries sector of the animal science industry.

- C. Conservation officer—A wildlife conservation officer works to educate the public about fish and wildlife and enforces game and fish laws. The duties may include conducting workshops on wildlife and the environment. Conservation officers are usually hired by state and federal agencies. Most wildlife conservation officers must pass both written and physical tests as well as complete training. Experience and a college degree in a wildlife area are beneficial.
- D. Fish hatchery technician—A fish hatchery technician raises and manages fish. The fish may be for stocking private or public ponds, lakes, or streams. People employed in this field care for brood fish, tend eggs, maintain water quality, feed fish, provide for the health of the fish, and manage the facilities. Hatchery workers are generally under the direction of a fisheries biologist. High school courses in mathematics, science, chemistry, biology, and aquaculture are helpful.
- E. Service animal workers—**Service animals** are animals used to assist people with special needs. Examples of service animals are leader dogs for the blind, companion animals, and draft animals. **Draft animals** are animals used for work, primarily the power to pull machinery. Most draft animals are raised as a hobby. In a few countries, however, they are still used as a major source of power. People interested in this type of career will need to specialize even more in the type of service animal they would like to work with. Trainers of leader dogs go through years of specialized training.
- F. Laboratory animal workers—A **laboratory animal** is an animal used in research to improve human and animal life. Laboratory animals are raised and kept under the best possible conditions. These animals play a vital role in the progress of human medicine and related areas. Many of these animals are raised to meet specific qualifications for a certain type of research. Some animals are bred with immune systems that are almost identical to human immune systems in order to help in AIDS research. Laboratory animal production is a complex field. It requires an in-depth knowledge of science, chemistry, and biology, as well as an interest in animal research.

There are many techniques that can be used to assist students in mastering this material. Students need text material to aid in understanding the career opportunities in pleasure and service animals. Chapter 24 in Introduction to Livestock and Companion Animals is recommended.

Objective 3: Identify science-oriented career opportunities in animal science.

Anticipated Problem: What are some of the science-oriented career opportunities in animal science?

- III. There are several exciting and rewarding science-oriented careers in the animal science industry. Some examples are:
 - A. Animal scientist—Animal scientists study animals and work to develop improved methods of production. Positions related to animal science are animal nutrition specialists, animal reproduction specialists, geneticists, chemists, and biotechnologists. An animal research scientist concentrates in a specific area of interest. Most people who work in

this field have an advanced college degree. Personal needs are a high interest in scientific inquiry and knowledge of biology, chemistry, and microbiology.

- B. Laboratory assistant—Animal laboratory assistants help with experiments, care for laboratory animals, and raise laboratory animals. Attention to detail is very important in this job. A high school diploma with an emphasis in animal agriculture is a minimum. Most laboratory assistants have some college education. Several community colleges have excellent programs to train laboratory assistants. Some assistants even have a master's degree in biology, chemistry, animal science, or a related field.
- C. Agricultural engineer—Agricultural engineers work with animal facilities, waste management, environmental impact, and improving animal products. Engineers must have a bachelor's degree and the ability to assess a problem and prepare a solution to it.
- D. Wildlife biologist—A wildlife biologist focus on wildlife animals and their habitat. They may study an endangered species or concentrate on improving the environment for many species. A wildlife biologist must be committed to studying animals and science. A college education is required for entry level and higher degrees are needed for advancement.

There are many techniques that can be used to assist students in mastering this material. Students need text material to aid in the understanding of the science-oriented career opportunities in animal science. Chapter 24 in Introduction to Livestock and Companion Animals is recommended.

Objective 4: Identify career opportunities in the animal services sector.

Anticipated Problem: What are some of the career opportunities in the animal services sector?

- IV. People who provide for the needs of animals and help with marketing are important in the animal industry. Producers often ask for assistance and advice from animal service professionals. Some jobs in the animal services sector are:
 - A. Veterinarian—These professionals promote animal health by providing care for sick and injured animals as well as working to prevent illness. A veterinarian may specialize with specific livestock or generalize in treating all animals. Becoming a veterinarian takes time and dedication. Pre-veterinary students often earn a bachelor's degree in animal science or biology. Then they apply for admission to a school of veterinary medicine. If accepted, they will then need to complete several more years of education and training.
 - B. Sales and service—This is one of the largest and fastest growing areas of animal science. These people sell feed, ensure quality products, sell retail products, service equipment, operate stock yards, and provide information to the producer. Many sales positions related to livestock production require a college education. The education should be in animal science or a related area. Examples of specific job titles include veterinary assistant, feed mill worker, and sales representative.
 - C. Livestock buyer—A livestock buyer may be self-employed or work for a major packing company. It is important that the buyer knows and understands industry and consumer

demand in the meat market. Training in animal selection is a requirement. High school education in agriculture, biology, and mathematics is helpful. Additional training in animal science, meat science, business management, and public relations at the post-secondary level will be helpful.

There are many techniques that can be used to assist students in mastering this material. Students need text material to aid in the understanding of the career opportunities in the animal services sector. Chapter 24 in Introduction to Livestock and Companion Animals is recommended.

Objective 5: Identify career opportunities in animal science education and communication.

Anticipated Problem: What are some of the career opportunities in animal science education and communication?

- V. Careers available in education and communication focus on dealing with people in the animal industry. Some of the various career areas are:
 - A. Agriscience teacher—These people work in the public schools. They teach basic agriculture and specialized classes to students of all ages. A bachelor's degree in agriculture and certification to teach agriculture are needed. Teachers involve students in the FFA. They also work with students in supervised agricultural experience programs (SAE). Some of these SAE programs could include animal science areas.
 - B. Agricultural extension agent—These agents work with local producers to help them improve production or solve livestock and other problems. A bachelor's degree in agriculture is needed to be an extension agent. Many states require a master's degree either to be hired or within a few years of hiring. This job requires a strong background in animal production and the ability to relate to the general public.
 - C. Agricultural communication specialist—People in this career area share information about agriculture and animal science to producers and the general public. They may work with newspapers, radio and television, or in public relations. A career in animal science communications will require a college degree in agriculture or communications. People employed in this field need to have a broad knowledge of animals and have an open personality.

There are many techniques that can be used to assist students in mastering this material. Students need text material to aid in the understanding of the career opportunities in animal science education and communication. Chapter 24 in Introduction to Livestock and Companion Animals 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 end of chapters in the textbook may also be used in the review/summary.

Application. 1. Have each student or a group of students interview a person currently employed in an animal science career. Have the students write a paper discussing the interview. Then have each student present a five-minute presentation on the career of the person interviewed. 2. Have various community members employed in the animal science industry come speak to the class. Ask them to discuss their career and why they chose to work in the animal science industry.

Evaluation. Focus the evaluation of student achievement on mastery of the objectives stated in the lesson. Measure student performance on classroom participation, laboratory assignments, and written tests or quizzes.

Answers to Sample Test:

Part One: Matching

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

Part Two: Completion

1. interest
2. laboratory animal
3. Service animals

Part Three: Short Answer

Answer will vary.

Test

Lesson B1–3: Identifying Career Opportunities in the Animal Science Industry

Part One: Matching

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

- | | | |
|---------------------|---------------------------------|----------------------------------|
| a. Animal scientist | b. Agricultural engineer | c. Wildlife biologist |
| d. Veterinarian | e. Agriscience teacher | f. Wildlife conservation officer |
| g. Farm manager | h. Agricultural extension agent | |

- _____ 1. Works with local producers to help them improve production or solve livestock and other problems.
- _____ 2. Works to educate the public about fish and wildlife and enforces game and fish laws.
- _____ 3. Carries out the everyday operation of the farm.
- _____ 4. Works with animal facilities, waste management, environmental impact, and improving animal products.
- _____ 5. Promotes animal health by providing care for sick and injured animals as well as work to prevent illness.
- _____ 6. Teaches basic agriculture and specialized classes to students of all ages.
- _____ 7. Focuses on wildlife animals and their habitat.
- _____ 8. Studies animals and develops improved methods of production.

Part Two: Completion

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

1. An animal research scientist concentrates in a specific area of _____.
2. A _____ is an animal used in research to improve human and animal life.
3. _____ are used to assist people with special needs.

Part Three: Short Answer

Instructions. Provide information to answer the following question.

Choose a career in animal science. It may or may not be one discussed in this lesson. Write a brief paragraph describing this career and what about this career could interest you.

CAREER OPPORTUNITIES WITH PLEASURE AND SERVICE ANIMALS

Horse industry
worker

Game and fisheries
worker

Wildlife conservation
officer

Fish hatchery
technician

Service animal
worker

Laboratory animal
worker