

Lesson B2–10

Exploring the Exotic Breeds Industry

Unit B. Animal Science and the Industry

Problem Area 2. Identifying and Understanding the Segments of the Animal Science Industry

Lesson 10. Exploring the Exotic Breeds Industry

New Mexico Content Standard:

Pathway Strand: Animal Systems

Standard: I: Apply knowledge of anatomy and physiology to produce and/or manage animals in a domesticated or natural environment.

Benchmark: I-A. Use classification systems to explain basic functions of animal anatomy and physiology.

Performance Standard: 1. Describe functional difference in animal structures and body systems. 2. Classify animals according to anatomy and physiology.

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

1. Explain the bison industry.
2. Discuss raising ratites.
3. Identify necessities of raising llamas and alpacas.
4. List factors to consider when choosing what exotic animal to raise.

List of Resources. The following resources may be useful in teaching this lesson:

Lee, Jasper S. *Introduction to Livestock and Companion Animals 2nd Edition*. Danville, Illinois: Interstate Publishers, Inc. 2000 (Textbook and Activity Manual Chapter 22)

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

Gillespie, James R. *Modern Livestock & Poultry Production Sixth Edition*. Albany, New York: Delmar. 2002 (Textbook unit 48)

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

Internet keywords: exotic animal, llama, bison, alpaca, and ratites.

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):

Absentee ownership
Beefalo
Bison
Haucaya
Hobby operations
Large ranches
Medium-size ranches
Ratites
Small producer
Suri

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 to come up with all the exotic animals they have seen and where they saw them. Let students tell brief stories about visiting zoos or foreign countries.

Summary of Content and Teaching Strategies

Objective 1: Explain the bison industry.

Anticipated Problem: How do I raise bison?

- I. It is important to know history, characteristics, management, and marketing information in order to raise bison.
 - A. Bison were important to the early native Americans for food, fuel, clothing, and other items. There could have been as many as 60 million head before the European settlers slaughtered so many of them. By the end of the 19th century, bison faced extinction—there were only about 300 left. Efforts were taken to save this animal and there are now over 125,000 and the bison has been taken off the endangered species list.
 - B. **Bison** are large animals that can weigh 2,000 pounds at maturity and stand over 6 feet tall at their hump. They are 9 to 12 feet long and have large horns. Long hair covers the head and forequarters and shorter hair covers the rest of the animal. Bison are also called buffalo and the meat is used like beef. Bison are often crossed with domesticated beef animals. The cross, using the genetics of bison and domesticated beef, is called **beefalo**. The meat is desirable because it has less cholesterol and fat.
 - C. There are many types of enterprises to raise bison. **Absentee ownership** is a method of bison raising where people invest their money in the animals but have someone else raise them. Few people partake in this type of business because of the problems associated with it, including rising prices. **Hobby operations** are those enterprises that raise bison as a hobby or for an attraction. When involved in this type of operation, take careful consideration of liabilities involved. The **small producer** is a business that raises between 25 to 100 head and derives income from the herd. The income is usually obtained from the sale of breeding stock to other producers. There are also medium-size ranches. **Medium-size ranches** are producers with herds from 100 to 250 animals that obtain income from selling meat and breeding stock. **Large ranches** are producers with several hundred animals that earn their income from selling meat and breeding stock.
 - D. Management includes:
 1. Handling animals correctly.
 2. Properly bringing new animals into the herd without infecting existing animals.
 3. Breeding animals properly.
 4. Meeting proper nutrient requirements.
 5. Prevention and treatment of health problems.
 6. Keeping accurate records of stock.
 7. Using strong well-maintained fences.
 8. Making sure there is enough space for the amount of animals you have.
 9. Avoid poisonous plants and moldy feed.

- E. Marketing of bison includes selling breeding stock, meat, and making by-products out of the animals. Breeding stock can be sold to other producers or buyers. Meat can be sold to restaurants, food stores, consumers, or to brokers. By-products can be marketed to artists for paintings, craft stores for decorations, and other places that produce clothing, furniture, and home décor items. The main parts of the bison used for by-products are the head, skull, bones, horns, wool, and skin.

Use TM: B2–10A to identify the parts of a bison.

Objective 2: Discuss raising ratites.

Anticipated Problem: How do I raise ratites?

- II. It is important to know the history, characteristics, management, and marketing information in order to raise ratites.
 - A. **Ratites** is the group name for large birds that cannot fly, such as the emu and ostrich. Other birds in this classification are the rhea, cassowary, and kiwis. Production of ratites began as a source of feathers, but the market has evolved to include the use of them for meat and leather goods.
 - B. The ostrich is the largest bird that exists: weighing 200 to 350 pounds and stretching 7 to 9 feet tall. It can run from 30 to 50 miles per hour for 30 minutes. The emu is the second largest bird weighing from 125 to 150 pounds and standing 5 to 6 feet tall. Males are smaller than females at maturity. The rhea looks similar to the ostrich only smaller at 44 to 55 pounds and 5 ½ feet tall. This bird has three toes on each foot and lack tail feathers. The cassowary stands between 4 and 6 feet tall and can run up to 30 miles per hour. Unlike most ratites, the cassowary prefers forests to open plain areas. Kiwis are birds that are close to the size of chickens. The female kiwis are larger than the males at maturity.
 - C. If you want to get into raising ratites you may want to start by buying and hatching eggs—it is an inexpensive way to begin. Unfortunately, there is a poor chance of the egg surviving as it is dependent on proper incubation and brooding equipment. A great deal of knowledge should be used to hatch eggs properly. Another option is to buy young chick pairs. This is a good starting method because you already know the sex of the bird and won't have to purchase hatching equipment. Unfortunately, mortality rate is still quite high with young chicks. Yearling pairs can be purchased and this is beneficial because you will see a faster return of investment and a lower mortality rate. Overall, the investment for raising any type of ratite is high, but if done correctly, profit margins are also very high. Since raising ratites is a relatively new business, marketing the birds can be difficult because of the lack of places to have birds slaughtered and processed.
 - D. Management includes:
 - 1. Handling and transporting birds correctly.
 - 2. Properly bringing new animals into the herd without infecting existing animals.
 - 3. Correctly incubating and hatching eggs.

4. Meeting proper nutrient requirements.
5. Prevention and treatment of health problems.
6. Accurately identifying all animals.
7. Providing adequate fences, space, and protection from harsh elements.
8. Keeping pregnant females separated to ensure they are getting proper nutrition.
9. Knowing what animals should be separated from others.
10. Shearing animals once a year.
11. Providing birds with shallow wading pools.

Use TM: B2–10B to discuss management of ratites.

Objective 3: Identify necessities of raising llamas and alpacas.

Anticipated Problem: How do I raise llamas and alpacas?

- III. It is important to know the history, characteristics, management, and marketing information in order to raise llamas and alpacas.
 - A. Llamas and alpacas were domesticated thousands of years ago and have been traditionally used as pack animals. They are also used for meat, milk, wool, and for their hides. At first, llamas and alpacas were imported for zoo use, but are now used for show, as pets, for guarding sheep, and for the production of fiber.
 - B. Llama wool can be black or white with various shades of brown, red, or roan. They come in all patterns from solid to spotted and at maturity weigh from 280 to 450 pounds. Llamas stand 5 to 6 feet tall from their head to the ground and live for 20 to 25 years. Alpacas have 22 different colors and are put into two different classes based on the type of fleece they grow. Huacaya and Suri are the two types of fleece. **Huacaya** is a dense crimped fiber grown by alpacas. **Suri** is a white fleece that is not crimped, but hangs down and is curly. Alpacas are smaller than llamas weighing 100 to 175 pounds at maturity and standing 4.5 feet tall from head to ground. Like the llama, they live for 20 to 25 years. Both animals graze and are suited to live on harsh terrain.
 - C. Marketing of llamas and alpacas is done mainly from grower to grower. Since the market is not as large as markets for cattle and hogs, there are few places that slaughter and process the animal. In the U.S. breeding stock may cost between \$300 to over \$6,000 per animal. If you are serious about starting a business find out more information by writing to the International Llama Association or the Alpaca Owners and Breeders Association.
 - D. Management includes:
 1. Handling and transporting animals correctly.
 2. Properly bringing new animals into the herd without infecting existing animals.
 3. Correctly breeding animals so they don't give birth in hot weather.
 4. Meeting proper nutrient requirements.
 5. Prevention and treatment of health problems.

6. Making sure crude fiber content is at about 25 percent.
7. Providing adequate fences, space, and protection from harsh elements.
8. Keeping pregnant females separated to ensure they are getting proper nutrition.
9. Knowing what animals should be separated from others.
10. Shearing animals once a year.
11. Providing birds with shallow wading pools.

Use TM: B2–10C as an overhead or handout to discuss management of llamas and alpacas.

Objective 4: List factors to consider when choosing what exotic animal to raise.

Anticipated Problem: How do I know what animal to raise?

- IV. Knowing what type of animal to raise involves doing research so there are no surprises.
- A. Determining if raising the animal is profitable is the first thing to consider. If you are just raising the animals as pets, it will not matter, but if you want a return on your investment you should set up your business accordingly.
 - B. Before you even consider raising animals, make sure you have the money for all the start-up costs that will be involved.
 - C. Research the areas in which the animals will be successful. Some animals are very compatible to all environments, but others will only do well in specific conditions.
 - D. Contact agencies that deal with laws and regulations regarding animal production. Find out what licenses or permits will be necessary before you obtain the animals.
 - E. Even if you do excellent research and find the perfect animal to raise, you need to see if there is a market for the product you will be raising.

Use LS: B2–10A to determine what exotic animal is best suited for your area.

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 to determine which objectives need to be reviewed or retaught with a different approach. Questions provided in recommended textbooks may also be used to help review.

Application. Application can involve student activity with the provided labs.

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

Answers to Sample Test:

Part One: Matching

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

Part Two: Completion

1. Medium-size ranches
2. Ratites
3. small producer
4. Suri

Part Three: Short Answer

Any four of the following five answers are correct.

1. Determining if raising the animal is profitable is the first thing to consider. If you are just raising the animals as pets, it will not matter, but if you want a return on your investment you should set up your business accordingly.
2. Before you even consider raising animals, make sure you have the money for all the start-up costs that will be involved.
3. Research the areas in which the animals will be successful. Some animals are very compatible to all environments, but others will only do well in specific conditions.
4. Contact agencies that deal with laws and regulations regarding animal production. Find out what licenses or permits will be necessary before you obtain the animals.
5. Even if you do excellent research and find the perfect animal to raise, you need to see if there is a market for the product you will be raising.

Test

Lesson B2–10: Exploring the Exotic Breeds Industry

Part One: Matching

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

- | | | |
|-----------------------|---------------------|------------------|
| a. Absentee ownership | c. Beefalo | e. Bison |
| b. Haucaya | d. Hobby operations | f. Large ranches |

- _____ 1. Large animals that can weigh 2,000 pounds at maturity and stand over 6 feet tall at their hump.
- _____ 2. The cross using the genetics of bison and domesticated beef.
- _____ 3. A method of bison raising where people invest their money in the animals but have someone else raise them.
- _____ 4. A dense crimped fiber grown by alpacas.
- _____ 5. Those that raise bison as a hobby, or for an attraction.
- _____ 6. Producers with several hundred animals that earn their income from selling meat and breeding stock.

Part Two: Completion

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

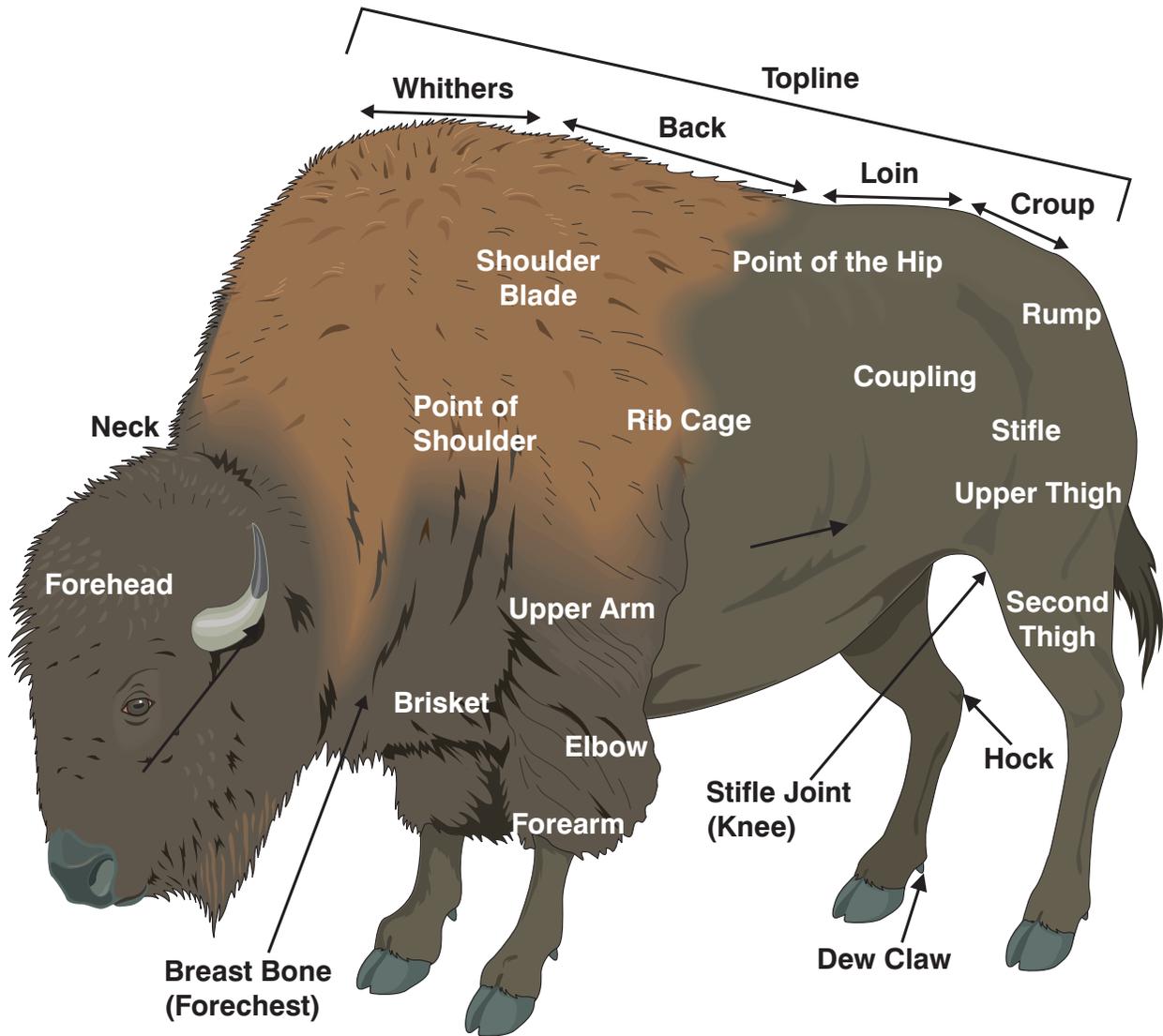
1. _____ are producers with herds from 100 to 250 animals that obtain income from selling meat and breeding stock.
2. _____ is the group name for large birds that cannot fly such as the emu and ostrich.
3. The _____ is a business that raises between 25 to 100 head and derives income from the herd.
4. _____ is a white fleece that is not crimped, but hangs down and is curly.

Part Three: Short Answer

Instructions. Provide information to answer the following question.

Describe four things to consider when selecting an exotic breed to raise.

PARTS OF THE BISON



MANAGEMENT OF RATITES

- **Handling and transporting birds correctly.**
- **Properly bringing new animals into the herd without infecting existing animals.**
- **Correctly incubating and hatching egg.**
- **Meeting proper nutrient requirements.**
- **Prevention and treatment of health problems.**
- **Accurately identifying all animals.**
- **Providing adequate fences, space and protection from harsh elements.**
- **Keeping pregnant females separated to ensure they are getting proper nutrition.**
- **Knowing what animals should be separated from others.**
- **Shearing animals once a year.**
- **Providing birds with shallow wading pools.**

MANAGEMENT OF LLAMAS AND ALPACAS

- **Handling and transporting animals correctly.**
- **Properly bringing new animals into the herd without infecting existing animals.**
- **Correctly breeding animals so they don't give birth in hot weather.**
- **Meeting proper nutrient requirements.**
- **Prevention and treatment of health problems.**
- **Making sure crude fiber content is at about 25 percent.**
- **Providing adequate fences, space and protection from harsh elements.**
- **Keeping pregnant females separated to ensure they are getting proper nutrition.**
- **Knowing what animals should be separated from others.**
- **Shearing animals once a year.**
- **Providing birds with shallow wading pools.**

Lab Sheet

Purpose:

To determine what exotic animal is best suited to live in your climate.

Procedure:

Research exotic animals and find the best one for your area. List the animal and at least 10 reasons why it is best suited.

Materials:

- Research materials
- Lab sheet
- Writing utensil

Name of animal _____

Reasons that it is suited to your climate: