CASE

☀ Activity 5.3.2 What's in It for Me?

Purpose

Is a cheeseburger a complete meal? You receive a serving of grains from the bun, vegetables from the lettuce, tomato, and onion, milk from the cheese, meat from the burger, and oil from the mayonnaise. From this example, you can see you get your essential nutrients – carbohydrates, protein, fat, and a few vitamins and minerals. Do you get enough of the nutrients you need? What specific nutrients do animal feeds provide?

Three categories commonly classify livestock feeds – roughages, concentrates, and supplements. These categories are based on the fiber content and nutrient density of the feed. Roughages are commonly high in fiber and low in energy. Concentrates are typically low in fiber and high in energy, protein, or both. Supplements used in the livestock industry supply specific nutrients, particularly vitamins and minerals that may be deficient in the diet. Feed additives help modify a diet. Which nutrient groups classify everyday feedstuffs?

Materials

Per class:

- Samples of feedstuffs

Per student:

- Computer with Internet access
- Pencil
- *Agriscience Notebook*

Procedure

In this activity, you will be classifying a series of feedstuffs. Some feeds may be used for both human and animal consumption; therefore, you may see foods that are familiar to you.

Part One – Nutrient Categories

In Table 1 of *Activity 5.3.2 Student Worksheet*, classify each feed into the category of nutrient the feed provides. Some feeds provide more than one nutrient; select the category with the highest nutrient proportion in the feed.

Part Two – Feed Classifications

Using the feed samples, classify each feedstuff into one of three common livestock feedstuff categories. Record your categories in Table 2. **Hint:** Use the definitions of the categories as a guide.

Part Three – Feedstuff Variability

Use nutritional tables to locate differences in the nutrient content of a feed. Go to **United States-Canadian tables of feed composition: Nutritional data for United States and Canadian feeds, third revision** at URL: **http://books.nap.edu/openbook.php?record_id=1713&page=7**.

1. Turn to page 8 to find alfalfa in the feed composition table.

2. Answer the questions in *Activity 5.3.2 Student Worksheet* based on your observations of the feed composition tables and your notes from the *Feedstuffs* presentation.

Conclusion

1. Why do rations typically contain more than one feedstuff?

2. List three feedstuffs readily available in your area.

3. What is the primary difference between a concentrate and a roughage?

Activity 5.3.2 Student Worksheet

Table 1. *Nutrient Categories*

Carbohydrate	Protein	Fat	Vitamin	Mineral

Table 2. *Feed Classifications*

Roughage	Concentrate	Supplement

Analysis Questions

1. Into what regions is the data divided?

2. What affect might regional differences have on hay quality?

3. How is the data divided into time of harvest?

4. Why might time of harvest affect nutrient value?