University of Idaho Extension
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Feed Labels

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Goal (learning objective)

Youth will learn about ingredients and identify types of information found on feed labels.

Supplies

- Handout 1 "Feed Tag Worksheet" (enough copies for group)
- Handout 2 "Cereal Box Worksheet" (enough copies for group)
- Several, different examples of cereal boxes (enough for when group breaks up into small groups)
- Handout 3 "Calf Starter" feed label
- Handout 4 "Lamb Grower" feed label
- Handout 5 "Pig Grower" feed label
- Handout 6 "Goat Grower" feed label
- Pencils and paper (enough for group)
- Flip chart and marker

Pre-lesson preparation

- Make copies of the handouts
- Practice the activity
- Read through handouts and resources listed to familiarize yourself with the concepts and vocabulary

Lesson directions and outline

- Share the following information with the youth:

Proper animal nutrition is the key to a successful livestock business and a 4-H livestock project. Animals require proper nutrition for growth and development. Feed tags provide us important information about nutrients and ingredients to help us choose a feed that will meet the animal's needs and give us the performance we expect.

Anyone selling feed commercially must supply a label or tag with each bag of feed. You should always read the tag to make sure you are getting what you want in the product and that you are not getting something that you don't want. Unless you can understand what is written on these tags, you won't know if you are providing your animal with the proper nutrition.

Processed livestock feeds are grouped into two primary categories:

- **Complete feed** are those products containing all of the nutrients (except water and roughages) required by your animal. You can open the bag and empty the contents directly into the feeder.
- **Supplements** are products that are added or mixed into feed. They supply things such as additional protein, vitamins, minerals, and other ingredients that may be lacking in the base feed. Supplements are usually added in small, specified amounts and are not to be fed as the total ration.

Now let's take a closer look at what we can find on feed tags and cereal box labels.

Conducting the activity (DO)

1. Divide members into small groups
2. Have youth take out copies they brought from home and/or distribute samples to each group:
   a. Cereal box labels
   b. Feed tags
3. Have groups examine and compare information on the cereal boxes and feed tag as a group; record what similarities they find.
4. Distribute and have groups complete Handout 2 "Cereal Box Worksheet."
5. When done, distribute and have groups complete Handout 1 "Feed Tag Worksheet."

What did we learn? (REFLECT)

- Ask: What did you discover while doing this activity?
- Ask: What similar information did you find on feed tags and cereal box labels? (record answers on flip chart)
- Ask: By law, feed tags must include some specific details, what types of information did you find on the feed tab? (record answers on flip chart; reference outline below regarding primary points)

Key Feed Tag Information:
Product Name and Brand Name: A product name is always present and a brand name may also be present. A feed tag usually contains a unique name to identify the feed (Beef Start, Calf Starter, etc.).

Purpose of Feed: A statement specifying the species and animal classes for which the feed is intended (Starting/Preconditioned Beef Cattle, Growing/Finishing Beef Heifers, etc.)

Medication and Active Drug Ingredients: If a drug is used in the feed, the word MEDICATED must appear below the name with a statement and purpose of medication (claim statement), followed by a listing of the active drug ingredients and the amount of drug in the product.

Guaranteed analysis: Gives information on various nutrients present in the feed. This will include:

a. Minimum percentage of crude protein (percentage of equivalent protein from non-protein nitrogen, if any): The amount of crude or total protein in a feed is guaranteed. Crude protein is determined by multiplying the nitrogen content of a feed by the factor 6.25.

b. Minimum percentage of crude fat: Fat has an energy value approximately 2.25 times the value of carbohydrate feedstuffs.

c. Maximum percentage of crude fiber: Crude fiber is a measure of the indigestible or non-useful portion of a feed. Feeds having low fiber values tend to be higher in digestible energy or total digestible nutrients than those feeds having high fiber values.

d. Minimum and maximum percentage of calcium.

e. Minimum percentage of phosphorus.

f. Minimum and maximum percentage of salt.

g. Minimum Vitamin A in International Units (IU) per pound.

Note: The guarantees do not reflect the quality of feeding value of a feed. There is a difference in quality of various feed sources. For example, copper sulfate is 80-90% digestible, whereas copper oxide is only 0-10% digestible. Even different sites where the same mineral is collected will vary in digestibility.

Ingredient Statement: Lists ingredients used to manufacture the feed, starting with the highest concentration/amount. Similar types of ingredients may be listed individually or collectively.
Note: When non-protein nitrogen (NPN) is added to feedstuffs, a statement of "for ruminants only" must appear underneath the name of the feed. Additionally, it must also have a guarantee for crude protein which has been supplied from non-protein nitrogen.

Feeding Instructions: Directs how the product should be fed

Warnings and Cautions: Should be listed if any medications are added
Distributor Name & Address: Identifies the company

making or distributing the feed
Net Weight: Indicates weight of the feed in the bag

Ask: What are the sources of protein, energy, vitamins and minerals listed on your feed tag?
Ask: Why is it important to know what is in the feed we provide our animals?

Why is that important? (APPLY)

- Ask: Where else might it be important to know the ingredients or nutritional value of a product?
- Ask: Besides feed or food, are there other settings where it is important to know about the quality of the various parts/components to insure you get a good value for the money you invest?

Resources

Malone, B. & Schwartz, V. (n.d.). Lesson 3: Interpreting Feed Labels. *Putting Science into Animal Science Projects*. Ohio State University Extension. Retrieved from http://www.ohio4h.org/statewide-programs/animal-sciences/livestock/livestock-resources

National 4-H Council. (2005). Bite Into Beef. BU-08143 (page 11).

Ohio State University Extension. (2011). Nutrition and Feeding. *Beef resource handbook* (pages 7-1 through 7-16).

Ohio State University Extension. (2008). Nutrition. *Goat resource handbook* (pages 51-55).

Ohio State University Extension. (2011). Nutrition. *Sheep resource handbook for market and breeding projects* (pages 49-50).

Ohio State University Extension. (2000). Nutrition. *Swine resource handbook for market and breeding projects* (pages 8-1 through 8-3).

NUTRITION: FEED LABELS – HANDOUT 1

Feed Tag Worksheet

Questions adapted from "Putting Science into Animal Science Projects" (The Ohio State University Extension) by Bonnie Malone & Vicki Schwartz.

Answer the following questions using the feed label provided for the species you raise.

1. What is the major ingredient in this feed?

2. How many active ingredients are in this feed?

3. Is this feed medicated? If yes, what is the purpose of the medication?

4. If necessary, how many days prior to slaughter should you quit feeding this feed?

5. At what weight range should this ration be fed?

6. Can you feed this feed to all livestock, or is it only permitted for one species?

7. Fill in the following table for your feed tag:

Minimum Crude Protein Level	
Minimum Crude Fat Level	
Maximum Crude Fiber Level	
Range of Calcium Level	
Range of Phosphorus Level	
Range of Salt Level	
Minimum Selenium Level	

NUTRITION: FEED LABELS – HANDOUT 2

Cereal Box Worksheet

Adapted from: "How to Read Feed Tags" Beef, Level II, (University of Idaho Extension 4-H Beef Curriculum), 1994, Kirk Astroth, Extension Specialist, 4-H Youth Programs, Kansas State University.

Cereals are required to include nutrition information on the box. The label includes a list of ingredients which appear in order from most to least. It also lists percentages of recommended daily allowances and amounts of some nutrients per serving.

1. Name of Cereal:

2. Main Ingredient:

3. Serving Size:

4. Servings per package:

5. What does U.S. RDA mean?

6. Which vitamins are listed?

7. Does this cereal provide all of your daily need (100%) for any of the nutrients? If so, which ones?

8. Which nutrients increase when milk is added?

9. Which nutrients are minerals?

NUTRITION: FEED LABELS – HANDOUT 3

Calf Starter *Formulated for Starting Calves*

Medicated

For the prevention of coccidiosis in ruminating and non-ruminating calves including veal calves, and cattle caused by Eimeria bovis and Eimeria zornia. Feed for at least 28 days during periods of coccidiosis exposure or when experience indicates that coccidiosis is likely to be a hazard. Coccidiostats are not indicated for use in adult animals due to continuous previous exposure.

Active Drug Ingredients

Decoquinate……..27.2g/ton

Guaranteed Analysis

Crude Protein……..min 20.00%
Crude Fat……..min 3.00%
Crude Fiber……..max 6.00%
Acid Detergent Fiber (ADF)……min 7.00%
Calcium……min 0.50%
Phosphorus……..min 0.60%
Selenium……..min 0.45 PPM
Vitamin A……min 15,000 IU/lb.
Vitamin D……min 4,000 IU/lb.

Ingredients

Corn, Corn Distillers Grains with Solubles, Dehulled Soybean Meal, Wheat Middlings, Dried Whey, Dehydrated Alfalfa Meal, Dicalcium and Monocalcium, Phosphate, Calcium Carbonate, Salt, Potassium Sulfate, Magnesium Sulfate, Choline Chloride, Vitamin A supplement, Vitamin E Supplement, D-Activated Animal Sterol (source of Vitamin D-3), Niacin, Vitamin B-12 Supplement, Riboflavin, d-Calcium Pantothenate, Menadione Dimethylpyrimidinol Bisulphite (source of Vitamin K Activity), d-Biotin, Thiamine Mononitrate, Pyridoxine Hydrochloride, Folic Acid, Zinc Sulfate, Ferrous Sulfate, Manganous Sulfate, Copper Sulfate, Ethylene Diamine Dihydriodide, Cobalt Sulfate and Sodium Selenite.

Feeding Directions

Feed 1.6 lbs. Per 100 lbs. body weight per day to deliver 22.7 mg Decoquinate per 100 lbs. body weight per day. Feed this complete calf starter pellet free-choice along with hay and milk replacer for the first month. For the second through the third month, feed this starter free-choice with water and hay. Starting at 120 days of age, gradually change from this starter feed to a growing program.

***Warning:* DO NOT FEED TO COWS PRODUCING MILK FOR FOOD.**

Manufactured By:
Adventure Mills Livestock Feeds
Cowtown, OH 43210
Net Weight 50 pounds (22.7 Kilograms)
Or as shown on shipping document

NUTRITION: FEED LABELS – HANDOUT 4

Net Weight 50 Pounds

GRO-MOR

16% Lamb Finisher B

Medicated

For the prevention of coccidiosis caused by Eimeria ovina.
E. crandallis. E. ovinoidalis, E. ninakohlyakimovae. E. parva
and E. intricate

Active Drug Ingredient

Lasalocid……30 gm/ton

Guaranteed Analysis

Crude Protein……..Min. 16.00%
(Includes not more than 1.0% Crude protein equivalent from nonprotein nitrogen)
Crude Fat……Min 2.50%
Crude Fiber……..Max 4.75%
Calcium……Min 0.40%.....Max 0.50%
Phosphorus……Min 0.60%
Salt……..Min 0.40%.....Max 0.60%

Ingredients

Grain Products, Animal Protein Products, Plant Protein Products, Dicalcium Phosphate, Calcium Carbonate, Salt, Potassium Chloride, Magnesium OXcide, Vitamin A Acetate in Gelatin, D-Activated Animal Sterol (Source of Vitamin D3) Vitamin E Supplement, Menadione Dimethylprimidinol Bisultite (Source of Vitamin K), Riboflavin Supplement, D-Calcium Panothenate, Niacin, Vitamin B12 Supplement, Choline Chloride, Zinc Oxide, Ethylene Diamine Dihydroliode, Cobalt Carbonate, and Sodium Selenite.

Caution

The safety of Lasalocid in unapproved species and breeding animals has not been established. Do not allow horses or other equines access to Lasalocid as ingestion may be fatal. Feeding undiluted or mixing errors resulting in excessive concentrations of Lasalocid could be fatal to sheep.

Feeding Directions

Feed as the sole ration to lambs from 80 pounds body weight to market. Feed continuously to provide not less than 15 mg. nor more 75 mg. of Lasalocid per head per day depending on body weight. Provide plenty of clean fresh water.

Manufactured by:
XYZ Feed Company
Sheep Division

NUTRITION: FEED LABELS – HANDOUT 5

PIG GROWER

MEDICATED

For pigs from 30 pounds to 75 pounds

ADMINISTER TO SWINE IN A COMPLETE FEED FOR REDUCTION OF THE INCIDENCE OF CERVICAL ABCESSES; TREATMENT OF BACTERIAL SWINE ENTERITIS (SALMONELLOSIS OR NECROTIC ENTERITIS CAUSED BY SALMONELLA CHOLERAEUIS AND VIBRIONIC DYSTENTERY). MAINTENANCE OF WEIGHT GAINS IN THE PRESENCE OF ATROPHIC RHINITIS.

ACTIVE DRUG INGREDIENT

CHLOROTETRACYCLINE……100G/ton

GUARANTEED ANALYSIS

CRUDE PROTEIN……..MIN. 19.00%

LYSINE……..MIN 1.10%

CRUDE FAT……...MIN 5.0%

CRUDE FIBER……...MAX 4.0%

CALCIUM……...MIN 0.60%

CALCIUM ……MAX 1.10%

PHOSPHORUS……MIN. 0.55%

SALT……...MIN 0.40%

SALT……...MAX 0.90%

SELENIUM……...MIN 0.30 PPM

ZINC ……..MIN 140.00 PPM

INGREDIENTS

Grain Products, Plant Protein Products, Processed Grain By-Products, Animal Fat, Animal Protein products, Calcium Phosphate, Lignin Sulfonate, Ground Limestone, Salt, L-Lysine Monohydrochloride, Methionine Supplement, Zinc Oxide, Zinc Sulfate, Ferrous Sulphate, Manganous Oxide, Copper Sulfate, Calcium Iodate, Sodium Selenite, Vitamin A Acetate, Dimethylpyrimidinol Bisulphite, Riboflavin Supplement, Thiamine Mononitrate, Folic Acid, Choline Chloride, Pyridoxine Hydrochloride, Biotin, Ethoxyquin (as a preservative)

FEEDING DIRECTIONS

Feed as the only ration to pigs weighing from 30 pounds to 75 pounds bodyweight.

WARNING

Withdraw 10 days prior to slaughter; contains high levels of copper; do not feed to sheep.

MANUFACTURED BY SKILLATHON FEEDS
NET WEIGHT 50 POUNDS (22.7 KILOGRAMS)
OR AS SHOWN ON THE SHIPPING DOCUMENT

NUTRITION: FEED LABELS – HANDOUT 6

Goat Starter

Medicated

Starter for Growing Kids

For the prevention of coccidiosis caused by Eimeria ovina, E. crandallis, E. ovinoidalis, E. ninakohlyakimovae, E. parva and E. intricate in goats maintained in confinement.

Active Drug Ingredient

Lasalocid (As Lasalocid Sodium)……90 G/ton

Guaranteed Analysis

Crude Protein……..Min. 20.00%
Crude Fat……Min 2.50%
Crude Fiber……..Max 10.0%
Calcium……..Min 0.75%
Calcium……..Max 1.25%
Phosphorus……Min 0.55%
Salt……..Min 0.40%
Salt……..Max 0.90%
Selenium……..Min 0.30 ppm
Vitamin A……..Min 2,000 IU/lb

Ingredients

Processed Grain By-Products, Grain Products, Plant Protein Products, Forage Products, Roughage Products, Molasses Products, Ground Limestone, Salt, Lignin Sulfonate, Potassium Sulfate, magnesium Sulfate, Magnesium Oxide, Sodium Selenite, Calcium Propionate, Vitamin E Supplement, Vitamin A Acetate, Vitamin D-3 Supplement, Zinc Sulfate, Zinc Oxide, Sodium Molybdate, Manganous Oxide, Calcium Iodate, Cobalt Carbonate, Ferrous Sulfate.

Feeding Directions

GOAT STARTER MEDICATED contains 45 mg of lasalocid per pound. Feed continuously as the sole ration to growing kids from 1 to 6 weeks of age at the rate of 0.33-1.55 pounds per head per day to provide not les than 15 mg and not more than 70 mg of lasalocid per head per day. Provide clean fresh water at all times.

Caution

The safety of lasalocid in unapproved species has not been established; do not allow horses or other equine access to lasalocid as ingestion may be fatal; feeding undiluted or mixing errors resulting in excessive concentrations of lasalocid could be fatal to sheep.

Manufactured by Skillathon Feeds
Net Weight 50 Pounds (22.7 Kilograms)
Or as shown on the shipping document