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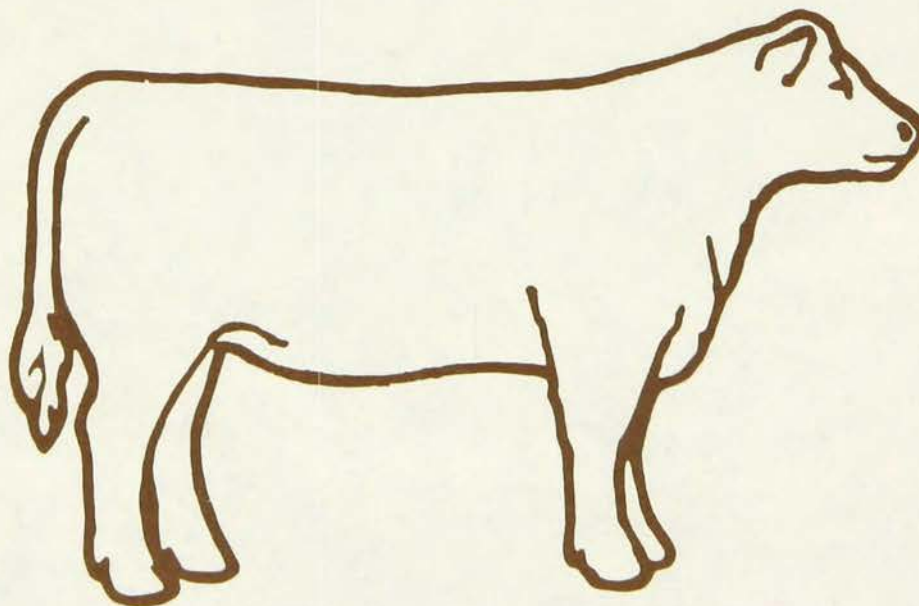
# MINNESOTA BEEF LEADER'S GUIDE

AGRICULTURAL EXTENSION SERVICE UNIVERSITY OF MINNESOTA

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DOCUMENTS

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# MINNESOTA BEEF LEADER'S GUIDE

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## AGRICULTURAL EXTENSION SERVICE

Being a 4-H project leader can be very satisfying, or it can be very frustrating. For a satisfying experience, you should:

- Plan the learning activity well (tours, clinics, or meetings).
- Find all the material that will support what you want to teach.
- Keep the members involved and busy to hold their interest.

## TEACHING ANIMAL SCIENCE LESSONS

### Why Teach Youth?

As a leader, you are helping boys and girls develop trained minds, sound bodies, skilled hands, and good citizenship attitudes.

By teaching lessons, you will be helping young people appreciate the value of research and learn scientific methods of making decisions and solving problems.

A recent study on the present status of science in the 4-H meat animal livestock program found that: "Project information is based on research; therefore, members are applying the results of science. However, most members are not aware of the science involved in their projects. The work of scientists or results of research are seldom mentioned in the publication. The attempts to stress science in livestock projects are rather isolated and must not have been followed through." Science in 4-H Study, National 4-H Foundation.

## I. PURPOSES OF THE 4-H BEEF PROJECT ARE TO:

- Learn how to select a beef steer or heifer.
- Learn about practical beef management practices.
- Learn how to select, feed, care for, and produce beef which yields a carcass of high grade and yield.
- Learn about costs, returns, marketing, record keeping, and assuming responsibility.
- Learn about the end product.
- Learn how to prepare beef for the family.
- Practice good sportsmanship in competitive events.

## II. BEEF PROJECTS AVAILABLE

### A. Market Beef Projects

Objectives for steer, heifer, and dairy beef projects are to learn how to select, efficiently feed, care for, evaluate, and market steers in a profitable manner.

### B. Breeding Heifer Project

Project objectives are to learn how to select, manage, care for, and develop a breeding heifer into a profitable beef enterprise.

### C. Cow/Calf Project

Project objectives are to learn how to select, manage, care for, and evaluate a cow and calf for the development of a profitable beef breeding enterprise.

### D. Beef Project — Without a Beef

This project is for 4-H members who do not have the facilities to keep an animal, but would like to learn about beef production and beef end-product.

### POSSIBLE PROJECTS

Project members can:

1. Learn the history and characteristics of the different beef breeds. Materials are available from various purebred breed associations. Prepare a notebook or display or present a demonstration.
2. Make several visits to one or more beef facilities (farm, research station, etc.) to observe birth and development of the beef animal and the management practices employed during various production phases. These visits should begin about February 1. During the visits members should talk with the managers and learn all they can about feeding and management practices. Members can take interesting pictures while at the facility or cut pictures from magazines which show or demonstrate the various things observed during the visits. Then, with these pictures, prepare a booklet which describes beef production. Comments should be included under each picture.
3. Take a tour of some beef facility such as a beef testing station, feed mill, packing plant (including a direct or terminal market), beef equipment manufacturer, performance-tested bull sale, or purebred breed sale.

4. Record information on at least 15 retail beef products sold in a local grocery store. The information should include where these cuts originated on the carcass, price per pound, and number of servings per pound. Obtain recipes for preparing a minimum of three retail cuts. Prepare an exhibit of pictures from magazines or photographs of the various cuts of meats and/or prepared beef dishes.
5. Prepare a 4-H demonstration illustrating the parts of the beef carcass, the value of beef in the diet, preparation of a beef dish recipe, or other subjects.
6. Visit the local store or have a meat merchandiser present a talk on beef cuts, their location, and preparation.
7. Tour a meat processing or locker plant and observe the cutting and preparation of beef products.

### III. LESSON IDEAS

This section is divided into major subject matter areas according to the experience of the member. It should give you some ideas of important areas the members should learn. Extension folders, bulletins, and fact sheets are available from Bulletin Room, 3 Coffey Hall, 1420 Eckles Avenue, University of Minnesota, St. Paul, MN 55108.

#### SELECTION

##### BEGINNER SELECTION

**Breeds of Cattle:** Help members to learn to recognize and name the various breeds of cattle in beef breeding programs in the U.S.

**Parts of a Calf:** Help members to learn the location and name of each of the main parts of a beef animal.

**Selecting Your Calf:** Help members to learn the basics of selecting a suitable project calf with respect to kind, weight, price, and source.

**Ideal Steer:** Help members to develop a mental picture of the ideal beef animal.

##### INTERMEDIATE SELECTION

**Live Animal Appraisal:** Help members to learn the techniques of evaluating, making comparisons, and arriving at decisions.

**The Breeding Heifer:** Help members to learn to select and develop a beef heifer for the breeding herd.

##### ADVANCED SELECTION

**Measuring Performance:** Help members to learn the definition of performance traits of beef cattle, how they are measured, and their economic performance.

**Using Performance Records:** Help members to learn basic performance records — Winning weights, 205-day and 365-day weights, Adjusted Daily Gains, feed efficiency, etc.

**Inheritance — How It Works:** Help members to learn the principle of inheritance of certain beef cattle traits.

**Breeding Systems:** Help members to acquire a working knowledge of currently used beef breeding systems.

**Artificial Insemination:** Help members to learn the general principles, advantages, and disadvantages of artificial insemination.

#### MATERIALS TO USE:

- Collect pictures from magazines
- Slide set #60: Beef Cattle Breeds
- Beef manual
- Slide set 946: Judging Beef Steers
- Slide set 167: Evaluation of Beef Quality and Yield Grades
- Slide set 581: Beef Cow/Calf Management, Breeding, and Selection Process Programs
- Bulletin 378 Beef Performance
- Extension Bulletin 340 — Livestock Judge

#### THINGS TO DO:

- Judge beef.
- Visit beef producers.
- Read breed magazines.
- Study selection standards.
- Study performance records.
- Attend tours, shows, sales.

#### NUTRITION

##### BEGINNER NUTRITION

**Feeds for Beef Cattle:** Help members to learn to identify and classify feeds commonly fed to beef cattle.

**The Digestive System:** Help members to learn the main parts of the digestive tract of the beef animal and how it differs from other species.

**Feeding Your Calf:** Help members to learn the mechanics of feeding with emphasis on starting a calf on feed, regularity of feeding, and the amounts to feed daily.

**A Healthy Calf:** Help members to learn to recognize a normal healthy calf.

##### INTERMEDIATE NUTRITION

**Feeding Club Calves:** Help members to learn how to feed a calf for a specific market.

##### ADVANCED NUTRITION

**Feed Nutrients:** Help members to learn the major feed nutrients, their sources and functions.

**How Beef Cattle Use Their Feed:** Help members to learn the general aspects of digestion, absorption, and metabolism of the beef animal.

**Nutrient Requirements:** Help members to learn how to interpret and use nutrient requirement tables for all classes of beef cattle.

**Ration Formulation:** Help members to learn the techniques of developing a balanced beef ration using available feed to achieve a particular purpose.

**Feed Additives and Growth Stimulants:** Help members to learn which feed additives and growth stimulants are being used in the beef industry and what benefits can be expected from their use.

## MATERIALS TO USE:

- Beef manual
- Extension Folder 404 Vitamin A and Carotene for Cattle and Sheep
- Extension Folder 405 Meeting the Mineral Requirements of Cattle and Sheep
- Extension Folder 403 Urea and Other Nonprotein Nitrogen Compounds for Cattle and Sheep
- Extension Bulletin 308 Forages for Beef Cows

## THINGS TO DO:

- Visit a feed mill.
- Balance a ration.
- Identify grasses.
- Formulate a ration.
- Bring various feeds for identification.

## DISEASES AND PARASITES OF BEEF CATTLE

### BEGINNER DISEASES AND PARASITES

**Internal Parasites of Beef Cattle:** Help members to become familiar with economically important internal parasites and learn how to control them.

**External Parasites of Beef Cattle:** Help members to become familiar with economically important insect pests and learn how to control them.

### INTERMEDIATE DISEASES AND PARASITES

**Your Friend The Vet:** Help members to learn how the local veterinarian plays an important part in a successful beef cattle operation.

**Common Diseases:** Help members to learn the symptoms, conditions, and control of common beef cattle diseases.

### ADVANCED DISEASES AND PARASITES

**Eartags, Brands, and Tattoos:** Help members to learn the various methods used to identify cattle with respect to ownership and individual identity of each animal.

## MATERIALS TO USE:

- Ent. F S 36 Fly Control for Beef Animals
- Ent. F S 25 Face Flies
- Ent. F S Controlling Cattle Lice
- Extension Bulletin 341 Freeze-Branding Cattle
- Vet. Sc. F S 12 Leptospirosis in Cattle and Swine

## THINGS TO DO:

- Dehorn.
- Castrate.
- Vaccinate.
- Take temperature.
- Brand and ear tag.
- Learn about calving difficulties.
- Control parasites.
- Visit veterinarian.
- Learn fly, tick, etc. control.

## SHOWING

### BEGINNER SHOWING

**Grooming For Show:** Help members to learn to wash and brush the calf and to clip its head and tail.

**In the Show Ring:** Help members to learn show ring procedures.

**Training Your Calf:** Help members to learn to properly halter, to gentle lead a calf, and to teach it to respond properly to the use of a show stick.

### INTERMEDIATE SHOWING

**Clipping and Trimming For Show:** Help members to learn the basic techniques of clipping and trimming a calf and how to use and care for the necessary equipment.

**Trimming Hooves:** Help members to learn the techniques of trimming a beef animal's hooves and how to use the necessary equipment.

### ADVANCED SHOWING

**Play It Safe:** Help members to learn safety techniques while working with cattle with emphasis on the safety of the handler.

## MATERIALS TO USE:

- Beef manual
- Folder 312 Fitting and Showing Beef Cattle
- Slides: 303 Fitting and Showing Beef Halter Construction and Placement

## THINGS TO DO:

- Teach how to break an animal.
- Wash animal using various products.
- Groom and clip animal.
- Trim hoofs.
- Study premium books.
- Practice showmanship and sportsmanship.
- Teach care of feet and horns (if they have them).
- Teach safety of using various pieces of equipment.

## END PRODUCTS

### INTERMEDIATE END PRODUCTS

**What's Under the Hide:** Help members to learn the relationship between the live animal and the beef carcass.

**Determining Yield of Beef Carcass:** Help members to learn the meaning of yield grade, understand how yield grade is determined, and become familiar with various yield grades of beef carcasses.

**Using the Meat Product:** Help members to learn proper preparation of the meat products, how to identify meat cuts and evaluate them.

## MATERIALS TO USE:

- Bulletin 393 Names of Retail Meat Cuts
- FSN FS 19 Labels on Fresh Meat
- AS FS 17 Dark-Cutting Meat
- AS FS 19 Fresh Meat Color Changes

- AS FS 24 Buying Meat by Cost per Serving
- AS FS 29 Buying Frontquarters and Hindquarters of Beef
- Slide set 167 Evaluation of Beef Quality and Yield Grades
- Slide set 98 Meat Animal Carcass Evaluation

#### THINGS TO DO:

- Judge meat, identify retail cuts.
- Make beef jerky.
- Hold a cookout.
- Cut up a carcass.
- Study storage of meat.

## MARKETING

### ADVANCED MARKETING

**Cowboy Arithmetic:** Help members to learn to keep records, formulate budgets, calculate performance records, and estimate the cost of operations for each project on a yearly basis.

**Market Reports:** Help members to learn how beef cattle market data are collected, become familiar with available market reports, and learn how to read and use them.

### MATERIALS TO USE:

- Records
- Future markets in paper
- Outlook meeting material

### THINGS TO DO:

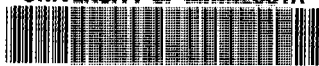
- Read beef magazines.
- Figure income and expenses.
- List inventory.
- Figure interest cost/visit at lending agency.
- Fill out income tax forms.
- Figure shrinkage.
- Identify wholesale cuts.
- Estimate yield grades and quality grades.

These are only ideas of areas within the project that can be taught. It is very important that you as a leader find out what the members know and help them learn from there. The lessons can be taught or presented in many ways. There are many people who would be willing to help you, if you just ask.

The main thing is to meet with the youth as soon as you know they are taking the project. Develop a time schedule with them as to what needs to be taught and at what time of the year.

Check with other specie areas. Could you work on some of the sessions together?

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