

Ideas for Beef Learning Activities

Advanced Level

Need more ideas for your beef cattle project? There are hundreds of things you can do! This list is organized by topics that match the chapters in the 4-H *117R Beef Resource Handbook*. You are being asked to complete **at least five** activities each year. Use this list and your imagination, and then write your ideas in your Beef Project and Record Book. Have fun!

Selection

- Name the seven types of common feet and leg structural differences and describe each to your 4-H club or project helper.
- List the mature weights of finished cattle with frame scores of 1, 2, 3, 4, 5, 6, and 7.
- Using frame score, estimate the slaughter weight of your animal.
- Demonstrate how to take a hip height measurement and how to calculate frame score at a 4-H club meeting or another 4-H event.
- Describe how qualities you evaluate for when selecting market cattle differ from selecting breeding stock.
- Attend a livestock judging clinic or contest and present a set of oral reasons.
- Teach younger 4-H members how to judge cattle.
- Explain the three criteria used to grade feeder cattle.
- Teach younger members how to grade feeder calves.
- Help a new 4-H member get started with their beef project.
- Describe disposition and why it is important in cattle selection.
- Research five beef cattle breeds. Report to your 4-H club about how they each differ in physical characteristics, qualities they excel or lack in, and their history.

Management Practices

- Set a goal for average daily gain (ADG) and explain what management practices may help you reach this goal.



- Give four reasons why it is important to keep accurate and up-to-date records.
- Hold a training session in beef cattle management for younger members with beef projects.
- Evaluate your project animals for economic value, disease problems, and conformation.
- Describe the steps that can be taken to assure that your management techniques are environmentally sound.
- Observe a herd of beef cattle over several days. Notice the feeding and behavior patterns of the overall herd and individuals within the herd. Make note of the things you observe (i.e.: how often they graze, chew cud, pecking order, etc.).
- Prepare a chart of “stresses” a calf will experience. Make a poster to illustrate how you are planning to “spread out” the stresses of your calf.
- Demonstrate how to properly nose print, ear tag, and tattoo a calf.
- Describe three kinds of farm designs used for finishing beef cattle.
- Learn and then teach club members how to make a rope halter and how to properly tie it.
- Develop a herd management calendar for your herd. Include essential practices and goals you want to achieve throughout the year.
- Describe how the space requirements change for your project animal from when you purchase the animal, the mid-point of the project, and the end of the project. Create a plan of how you will adjust your animal’s pen throughout your project in order to accommodate its space requirements.
- Describe what essential practices are needed for good calf management.
- Describe the process of breaking and training a beef animal to a younger member and help them get started with their own animal.

Working Safely With Livestock

- Describe four things you can practice to reduce the risk of a livestock accident.
- Learn what a flight zone is and share with other members what you’ve learned about how it affects livestock handling.
- Evaluate the handling facilities on your own farm or someone else’s and make suggestions on how to improve the set-up.

- What are zoonotic illnesses? Describe what diseases are zoonotic and how you can prevent and treat them.
- Describe an ideal safe working facility for cattle.

Health Maintenance

- List five common diseases in beef cattle and for each give a description, treatment, and preventative measures. Also, explain preventative measures and why they are important to the beef farmer.
- Consult your veterinarian, Extension Educator, or 4-H advisor to learn the cycle of an external or internal parasite. Make a diagram of the life cycle and present it at a 4-H club meeting or discuss this with your parents or 4-H advisor.
- Report on how to prevent internal and external parasites.
- At your next club meeting, demonstrate the proper way to vaccinate your animal.
- Organize and update all medications used on your farm. Discard any expired drugs.
- Interview a beef producer about how disease is prevented on his/her farm.
- Give a presentation to your club about how to prevent cattle diseases.
- Develop a 12 month health maintenance schedule for a cattle herd.

Reproduction and Genetics

- Visit a commercial cattle producer that conducts crossbreeding. Observe the results of crossbreeding and discuss why crossbreeding is used.
- Learn to palpate and determine pregnancy.
- Participate in an artificial insemination training session to learn the proper techniques.
- Learn more about animal breeding and genetics by investigating the topics of sexed semen, embryo transfer, embryo splitting and cloning, gene transfer and gene mapping. Share what you have learned at a club meeting or at a county activity.
- Visit a producer to learn the criteria used to cull animals from the herd.
- Talk with a producer about the type of breeding system they use and learn the advantages and disadvantages of their system (purebred, two breed rotation, cross, two breed rotation with terminal sire).
- Assist with a difficult calving.

- From a breed sire summary publication, identify four sires and explain what their EPDs mean and determine which sire has the most desirable EPDs.
- Prepare a calving “kit” containing all the supplies you will need for the calving season.
- Describe what happens during each of the three stages of calving.
- Demonstrate how to calculate the 205-day adjusted weaning weight and the 365-day adjusted yearling weight and explain why this information is important.
- Discuss the four traits of economic importance in beef cattle and why each of them is important.

Nutrition and Feeding

- Explain how feed records help you in determining a feeding program for next year’s beef project.
- Trace the flow of a bite of hay through your animal’s digestive system and explain what occurs in each portion.
- Explain how the digestive system of a newborn calf differs from that of a mature animal. Tell how the differences influence what the animal is fed up to maturity.
- Develop a medium energy ration with 80-83% TDN.
- Make a diagram of the ruminant stomach for a 4-H demonstration. Explain the functions of the rumen, reticulum, omasum, and abomasum. Also, describe how feeding a ruminant animal is different from a non-ruminant.
- Investigate how the rumen produces its own vitamins and converts roughages into usable feeds.
- Discuss body condition scoring (BCS) with your project helper. Include the BCS group descriptions, when you should evaluate your animals, and how nutrition plays a role in this.
- Take a forage or grain mix feed sample and have it analyzed for nutrient content.
- Develop cost comparisons of various feeds.
- Obtain a copy of the *Ohio Agronomy Guide* from your county Extension Office to learn more about forage and pasture management. Topics to cover might include establishment, seeding, fertilization, harvesting, insect and weed control, recommended species, and varieties of legumes and grasses.

- Compare several different protein sources that are available for beef cattle. Compare methods of feeding, analyze cost, and determine what would be more economical.
- Explain how and why antibiotics may be added to feed or milk replacer.
- Name the nutrient groups and describe their role in the animal diet.
- Visit a feed store and compare the cost of a commercially-prepared feed to a feed with home-grown ingredients.
- Describe the characteristics that a good free-choice mineral supplement should have.
- Describe a good feeding schedule and explain why it is important to stick to it.

Carcass Evaluation

- Tour a cattle processing plant. Describe the various beef carcass quality and yield grades.
- Demonstrate to younger members the retail cuts of beef and where they are located on the live animal.
- Choose five cuts of beef and demonstrate to your 4-H club how to prepare each for a meal.
- Gather and explain 10 uses of beef by-products.
- Demonstrate to younger 4-H members how to determine dressing percentage and tell why it is important.
- Describe the differences between carcasses produced by steers of dairy and beef breeds.
- Describe the process a beef animal takes from the farm to the retail counter.
- Demonstrate to your 4-H club how to measure the loin eye area and talk about what size is most desirable for the industry.

Getting Ready for the Show

- Exhibit your steer in an open show.
- Give a showmanship clinic for younger members in your club.
- Give a demonstration on clipping and fitting a beef animal to younger 4-H members.
- Help a new 4-H member prepare their beef project for the show ring.
- Explain how nutrition plays a role in preparing your animal for the show ring.

Marketing

- Describe what function a market (auction) performs.
- Give a talk or demonstration on your project and the beef industry to a local organization.
- Attend an auction and learn the various jobs associated with the process of selling cattle through an auction.
- Explore the futures market as a tool for marketing cattle. Share the advantages and disadvantages with other members.
- Describe what steps can be taken to aid in minimizing dark cutting.
- Explain the options you have for your feeder calf at the end of your project to your project helper.
- Explain the various markets that are available for cattle. Discuss the purpose of each and who would typically use this market.
- Explain to your club what influences the value of market animals.
- Describe what steps can be taken from hoof to rail to assure a quality product for the consumer.
- Exhibit and if you sell your 4-H steer at the county fair, send a thank you note to the buyer.
- Send a thank you note to award donors and anyone who helped you with your project (i.e., advisors, older members, parents).
- Organize a beef showmanship contest.
- Give a talk to describe the beef industry to a group of people who are not familiar with it.
- Participate in a local beef promotion activity.

Dairy Beef

- Explain what causes “yellow” fat in some breeds of dairy beef feeders.
- Hold a training session about the management of dairy beef feeder projects.
- Demonstrate how to save and preserve colostrum using fermentation.
- Using a model or diagram, demonstrate two techniques that can be used to remove horns on a dairy beef feeder.

- Give a talk or demonstration on your project and the role that dairy beef plays on the beef industry.
- Describe how you might explain the management practices used to raise dairy beef feeders (for example, castration, dehorning, and weaning) to someone who does not understand these practices and has concerns about animal welfare and the care of animals.
- What diseases are dairy beef feeders especially vulnerable to and how can you aid in preventing them?

Caring for Animals

- Demonstrate how you would trim the hooves of a calf.
- Discuss what show ring ethics are and how you plan to use them.
- Tour three beef farms with different housing and feeding systems and report your findings to your project helper.
- Describe in detail to your club how to properly inject drugs into a beef animal.

Environmental Assurance

- Plan a waste disposal system for a beef farm.
- Choose a waste disposal system for a facility that raises 200 to 300 dairy beef feeders from weaning to 400 to 600 pounds and explain why you selected that system.
- Explain the importance of environmental assurance to younger members.
- Describe in detail the suggested environmental assurance techniques available for improving the management of livestock facilities.
- How can manure have an effect on water quality and the environment?

Public Relations

- Serve as a clerk or chairperson at a 4-H show.
- Attend a breed association field day.
- Attend a county/regional/state beef tour.
- Attend a breed association show and sale.
- Join a beef cattle organization.

- Attend a meeting of a cattlemen's group and see what topics they discuss and actions they take to solve issues facing the beef industry.
- Teach at a beef clinic.

Careers in Animal Science

- Tour a beef research facility.
- Learn about ten or more careers associated with the beef industry.
- Identify what type of career you would like to pursue in animals sciences and determine what kind of education you will need to obtain it. Also, if you career requires a college education, identify three colleges that you are interested in attending and why.