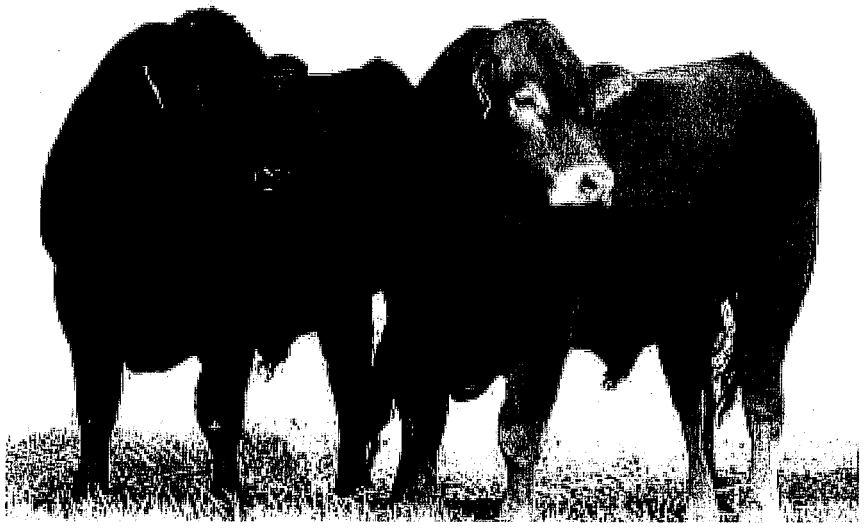
UC
CE

Cattle Beef: Breeding



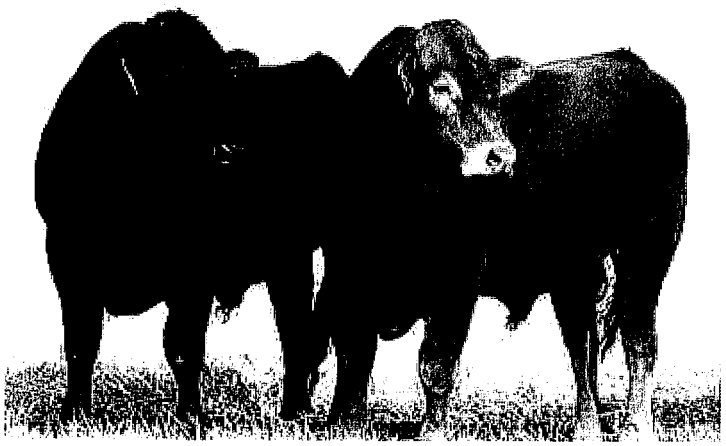
CATTLE BEEF - BREEDING

BINGO

Find someone who can sign a square acknowledging that they have done that or know the answer

Can name two techniques for working safety with cattle	Can name four cuts of meat	Name two ways to identify a calf	What is a heifer
What is dehorning a calf?	Can name three types of cattle	Can name one type of equipment for dehorning	Can identify five parts of the cow
Name a cattle handling facility	Know a cattle breeding farmer personally	Have you ever worked with beef cattle	Has seen a live calf birth
Knows what a calf castration is	Can name two instruments used for castration	Knows how to take an animal's temperature	Knows what a rope halter is

Depending on the size of group, limit the number of times a person can sign on the same sheet



This We Believe:

- The boy and girl are more important than the projects.
- The member should be their own best product.
- No award is worth sacrificing the reputation of a member or leader.
- Competition is a natural human trait and should be recognized as such. It should be given no more emphasis than other fundamentals.
- Learning how to do the project is more important than the project itself.
- Many things are caught rather than taught.
- A blue ribbon member with a red ribbon project is more desirable than a red ribbon member with a blue ribbon project.
- To learn by doing is fundamental in any sound educational program.
- Generally speaking, there is more than one good way of doing most things.
- Every member needs to be noticed, to feel important, to win, and to be praised.
- Our job is to teach members *how* to think, not what to think.

CALIFORNIA 4-H PROJECT SHEET

4-H Beef Cattle Project

The 4-H beef program is part of the animal science project. The program will help you learn to select, manage, produce, market and show cattle.

- Learn basic principles of animal science by owning, caring for, and keeping records on one or more head of livestock.
- Demonstrate knowledge of sound breeding, feeding, and management practice.
- Learn value of scientific research in its influence on animals and the meat industry.

Starting Out *Beginner*	Learning More *Intermediate*	Exploring Depth *Advanced*
○ Identify parts of your animal and cuts of meat ○ Understand the different types of feed (grain, mix, hay, supplement, pasture, silage) and quantity (pounds per day, etc.) to feed. ○ Learn how to groom your animal. ○ Learn about all the different beef by-products. ○ Learn to show your animal. ○ Determine quality grades of cattle.	○ Ramp up your judging and meat grading skills. ○ Understand the digestive system. ○ Identify common external parasites and other health issues. ○ Understand medication uses, storage, how to administer the medication and how it relates to food safety. ○ Learn appropriate handling techniques and housing for beef cattle.	○ Learn about EPD's and select a sire for your animals. ○ Balance a beef ration and understand feed quality. ○ Learn about breeding and reproduction techniques. ○ Identify and learn to treat common diseases. ○ Evaluate beef carcasses and market your product.

The activities above are ideas to inspire further project development. This is not a complete list.

4-H Thrive!

Help Youth:

Light Their Spark

A spark is something youth are passionate about; it really fires them up and gives them joy and energy. Help youth find what it is about archery that

Flex Their Brain

The brain grows stronger when we try new things and master new skills. Encourage youth effort and persistence to

Reach Their Goals

Help youth use the GPS system to achieve their goals.

Goal Selection: Choose one meaningful, realistic and demanding goal.

Pursue Strategies: Create a step-by-step plan to make daily choices that support your goal.

Shift Gears: Change strategies

Reflect

Ask project members how they can use their passion for this project to be more confident, competent and caring. Discuss ways they can use their skills to make a contribution in the

Expand Your Experiences!

Science, Engineering, and Technology

- Learn how to evaluate meat cuts, quality grade, yield grade and how these effect taste and cost.

Healthy Living

- Ride with a local veterinarian to learn about animal health
- Visit a local meat locker or local grocery store meat case to observe preparation and packaging.

Citizenship

- Volunteer to do a beef promotion presentations during May Beef Month.
- Provide beef taste testing at a grocery store to promote local food.

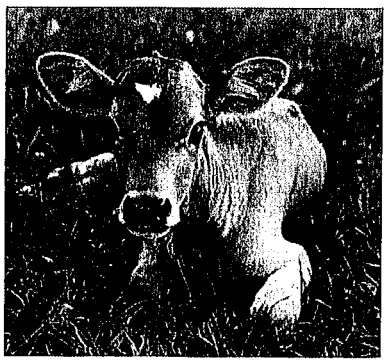
Leadership

- Teach someone the importance in selecting a breeding heifer.
- Share a presentation on the importance of following drug labels.
- Arrange a tour of a farm.

Resources

- http://www.4-h.org/resource-library/curriculum/4-h-beef/
- https://texas4-h.tamu.edu/project_beef
- http://www.ohio4h.org/project-books-and-resources/learning-lab-kits/beef
- http://www.thejudgingconnection.com/pdfs/Guide_to_Livestock_Showmanship.pdf
- http://meat.tamu.edu/beefgrading/

Connections & Events	Curriculum	4-H Record Book
Presentation Days – Share what you've learned with others through a shooting sports presentation. Field Days – During these events, 4-H members may participate in a variety of contests related to their project area.		4-H Record Books give members an opportunity to record events and reflect on their experiences. For each project, members document their personal experiences, learning and development. 4-H Record Books also teach members record management skills and encourage them to set goals and develop a plan to meet those goals.



BEEF

Sonoma County 4-H

Name: _____ Date: _____

Guidelines for Project Proficiency Award
Beginning

	Date Completed	Leader's Initials
1. Enrolled in active Beef Project.	_____	_____
2. Identify 5 beef cattle breeds.	_____	_____
3. Identify animal parts.	_____	_____
4. Have a general knowledge of which retail cuts come from which carcass sections.	_____	_____
5. Know the grading system for carcasses.	_____	_____
6. Knowledge of hays and grains (palatability, protein count, uses).	_____	_____
7. Attend Judging Skills Day.	_____	_____
8. Knowledge of animal selection (feeder purebred, grade)	_____	_____
9. Knowledge of facilities required for steer project	_____	_____
10. Showmanship		
• Knowledge of washing and grooming animal	_____	_____
• Knowledge of halterbreaking and leading animal	_____	_____
• Enter showmanship contest	_____	_____
• Identify and discuss use of supplies and equipment needed for showmanship	_____	_____
11. Vocabulary: Know meaning of the following terms:	_____	_____

Breed	bull	calves	Castrate
cow	dam	Feeder	finish
Fitting	grade animal	heifer	pedigree
polled	purebred	ration	registered animal
steer	open	fresh	

12. Health		
• Identify and give treatment and/or prevention for:	_____	_____
◦ Pink eye		
◦ Foot rot		
◦ Lice		
◦ Worms		
• Know normal body temp and respiration rate	_____	_____
• Know characteristics of healthy vs. sickly animal	_____	_____

Project Leader's Signature of Completion: _____ Date: _____

Club Leader's Signature of Completion: _____ Date: _____

BEEF

Sonoma County 4-H

Name: _____ Date: _____

Guidelines for Project Proficiency Award
Intermediate

	Date Completed	Leader's Initials
Complete requirements for beginning medal. To qualify for the advanced medal, one must also fulfill the requirements for the intermediate medal, without necessarily having the intermediate medal.		
1. Identify different rations for fattening, growing and maintenance	_____	_____
2. Be able to balance a ration	_____	_____
3. Make calculations to determine rate of gain	_____	_____
4. Explain calving difficulties, and methods for prevention and treatment	_____	_____
5. Illustrate knowledge of steer confirmation and current trends	_____	_____
6. Explain the advantages, disadvantages, and the methods of artificial insemination in beef cattle	_____	_____
7. Discuss methods to synchronize	_____	_____
8. Explain preventative measures including sanitation, balanced feeding, vaccination and parasite control	_____	_____
9. Explain oral, injection and topical methods of treatment	_____	_____
10. Explain how to document methods under quality assurance	_____	_____
11. Identify methods of treatment and/or prevention for calf scours and pneumonia	_____	_____
12. Illustrate the ability to give an 1M subcutaneous injection	_____	_____
13. Detail surgical and non surgical methods of castration	_____	_____
14. Illustrate the ability to correctly clip beef animal	_____	_____
15. Complete one of the following:	_____	_____
• advanced livestock form with records to include project expenses and income		
• submit management records for a minimum of 120 days (on feed) including feed, costs and management techniques (to raise a steer)		
16. Complete 1 of the following:	_____	_____
• Complete a Jr./Teen Leader project in Beef.		
• Assist a new member in perfecting showmanship techniques		

Project Leader's Signature of Completion: _____ Date: _____

Club Leader's Signature of Completion: _____ Date: _____

BEEF

Sonoma County 4-H

Name: _____ Date: _____

Guidelines for Project Proficiency Award
Advanced

	Date Completed	Leader's Initials
• Complete requirements for Beginning and Intermediate levels	_____	_____
• Be a Junior or Teen Leader in the beef project	_____	_____
• Put on a Judging Skills Contest for Beef project members	_____	_____
• Complete either Alternative 1,2,3,4, or 5 below	_____	_____
ALTERNATIVE 1:		
• Have a breeding project involving at least four animals. Demonstrate knowledge of line breeding, breed characteristics, performance reports, marketing channels, artificial insemination, registration papers, breeding procedures, tagging and tattooing.	_____	_____
ALTERNATIVE 2		
• Have a feeding project of at least four animals. Demonstrate knowledge of feeding steers vs. bulls, steers vs. heifers, feeding rations, rates of gain, marketing channels, general animal health, purebred vs. crossbred feeders, ability to figure expenses and needed selling price, knowledge of dressing percentage, grades, shrinkage, retail cut-out value, meat inspection and grading, and brand inspection	_____	_____
ALTERNATIVE 3:		
• Complete a research project involving some aspect of the beef industry such as breed associations and promotions, current legislative programs, current beef industry trends, commercial vs. purebred herd, career exploration, current medical research projects	_____	_____
ALTERNATIVE 4:		
• Demonstration Project-Research all by-products from beef and their uses in human life. Make display of product and present to a 4H group or other industry group	_____	_____
ALTERNATIVE 5		
• Develop beef marketing plan for niche markets. This could include grass-fed, natural or organic beef. Include a marketing schedule with a planning and processing facility as well as cut and wrap facility, production costs etc.	_____	_____

Project Leader's Signature of Completion: _____ Date: _____

Club Leader's Signature of Completion: _____ Date: _____

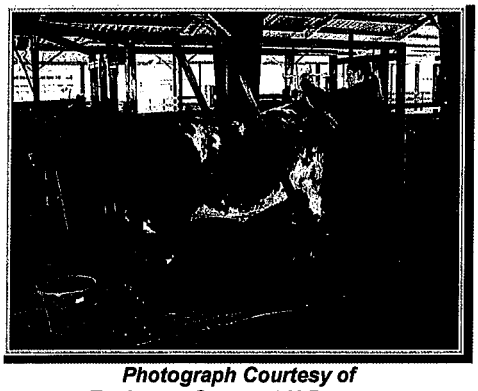
CLOVER SAFE

AGRICULTURE AND NATURAL RESOURCES
ENVIRONMENTAL HEALTH AND SAFETY

#3

WORKING SAFELY WITH CATTLE

Clover Safe notes are intended primarily for 4-H volunteers and members nine years and older.



Photograph Courtesy of Tuolumne County 4-H Program

Information available from the National Institute for Occupational Safety and Health indicates about 6,000 young people less than 20 years old were injured by animals during 1998. Thirty-one percent of these injuries (more than 1,800) involved cattle. The injuries are frequently due to an animal stepping on, falling onto, squeezing against, or kicking the handler.

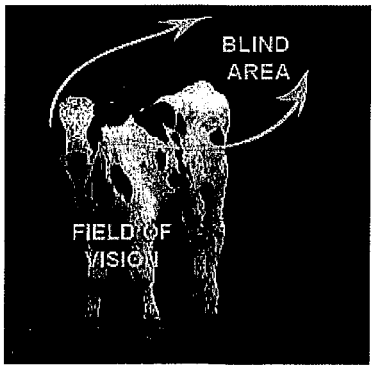
Cattle Characteristics

Cattle have a wide field of vision that encompasses about 300 degrees from the front of the animal backwards to their rear haunches (see diagram below). However, cattle also have poor depth perception and as a result, judge distances poorly. Hearing and the sense of smell are very good in cattle. There is a natural flight zone cattle maintain between themselves and other animals, including people. When the flight zone boundary is crossed, cattle will begin to move away. Flight zones range from several hundred feet for range cattle to several feet or less for dairy cows. Because of their herding nature, cattle prefer to remain together rather than being isolated from the group.

Working Safely With Cattle

Understanding how cattle perceive and react to their surroundings provides guidance on working safely with cattle as follows:

- When working with cattle, wear appropriate personal protective equipment such as steel toed boots with nonskid soles, long pants, gloves, eye protection, and a shirt. If cattle movement is causing airborne dust in the work area, use a dust mask.
- Learn the flight zone distance(s) of the cattle you work with.
- Before turning a new steer loose in a pasture, think about how you will catch him safely.
- Always approach cattle within their field of vision. Move at a deliberate pace and make the animal(s) aware of your approach as you enter their flight zone.
- Be aware of signs of fear or aggression in cattle, such as pawing or snorting, a raised tail or ears, panicky behavior, and bellowing. Avoid frightened/spooked or aggressive cattle.
- Assure you have an escape route when working nearby cattle.
- Where possible, use a blocking chute when clipping or washing cattle.
- Making loud noises or moving quickly may startle cattle.
- Be careful around young animals. Try not to get between a new calf and its mother.
- Due to their aggressive temperament, take extra precautions when working with bulls.
- Promptly report any injuries from cattle to your group leader, parent, or guardian.
- Always wash your hands with soap and water after touching cattle or any other animal.



CLOVER SAFE

AGRICULTURE AND NATURAL RESOURCES
ENVIRONMENTAL HEALTH AND SAFETY

UNIVERSITY OF CALIFORNIA 4-H Youth DEVELOPMENT PROGRAM
CITIZENSHIP LEADERSHIP LIFE SKILLS

WORKING SAFELY WITH CATTLE WORD SEARCH PUZZLE

Y F E B K Z B N L K
I L M F G M B E G X
J N K K T E Q E I S
D I J C V V F W F H
L O T U I B D T U G
D K V B R U H E N Z
E F X M E I Q B F K
T H G I L F E X D R
V I S I O N E S J C
L K H N U U D F C T

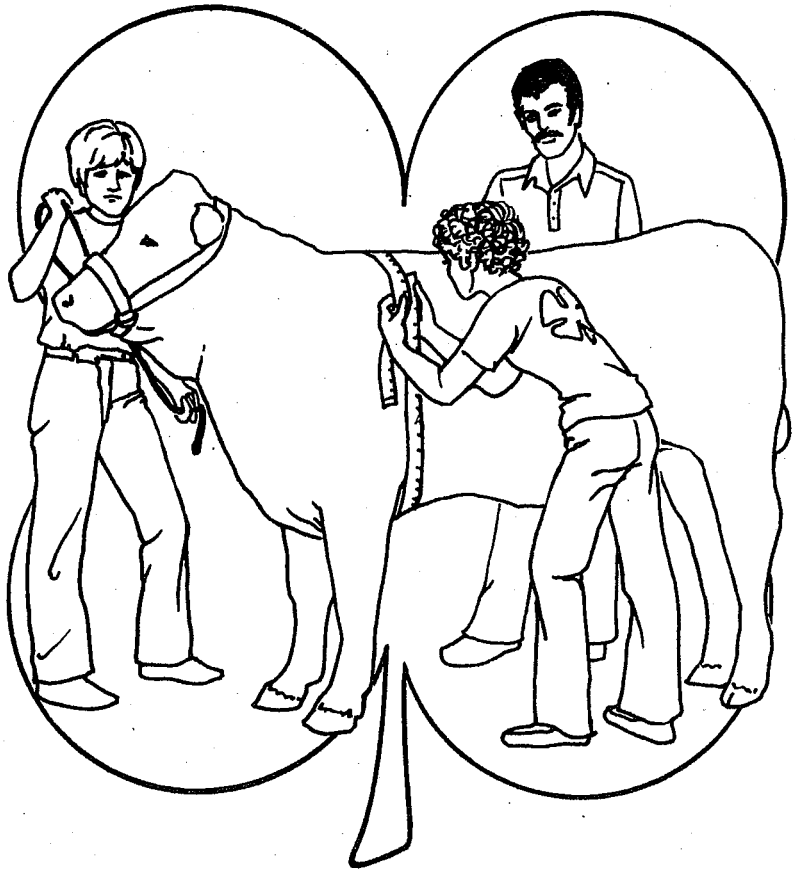
Use the following clues from the information about working safely with cattle to circle the missing words in the word search puzzle above:

- Cattle move when their ____ zone boundary is crossed.
- Moving ____ may startle cattle.
- Do not get ____ a new calf and its mother.
- Promptly report ____ to group leaders, parents, or guardians.
- Always approach cattle within their field of ____.

Note: Word may be written upwards/downwards, laterally, or diagonally in the puzzle and spelled forwards or backwards in all directions.

MINNESOTA 4-H PROJECT MEETING GUIDES

BEEF



....to develop
project and life skills

4-H Animal Science
Project Meeting Guide , AS-14, '81

BEEF

SELECTING BEEF & MEATS PROJECT MEETING TOPICS

THOMAS D. ZURCHER
Extension Specialist, 4-H Youth Development

IMPORTANCE OF THE TOPIC

This project meeting guide is designed to help you and your 4-H project members identify the topics you will explore at your five or more yearly project meetings. Following each activity is a (1), (2), or (3) to give you an indication of the degree of experience it will usually require for a 4-H'er to be able to demonstrate this skill to others. The higher the number the more experience needed. If your learning by doing activities can be sequenced so your members may build on what they already know, a better learning experience will result. You will find a line preceding each topic for you to write in the date of the meeting at which your members will explore that particular topic. Check with your extension agent for the availability of project meeting guides for the topics you and your members choose.

The project meeting guide "Planning The Project Group's Yearly Program" will help your group get off to a good start.

4-H BEEF PROJECT MEETING TOPICS

Selection & Judging

____Identifying Breeds (1)
____Identifying Parts (1)
____Selecting Your Project Animal (1)
____Constructing The Ideal Project Animal (2)
____Recognizing Abnormalities & Faults of Animals (2)
____Conducting A Judging Contest (3)
____Selecting A Judging Class (3)
____Judging A Judging Class (1)
____Talking Like A Livestock Judge (3)
____Presenting Oral Reasons (2)
____Scoring A Judging Class (2)

Management Practices

____Identifying Your Project Animal (1)
____Making A Rope Halter (1)
____Identifying Project Equipment (1)
____Setting Goals For Profitable Beef Production
____Dehorning A Calf (2)
____Weaning A Calf (2)
____Implanting Beef Cattle (2)
____Castrating A Calf (2)
____Designing A Cattle Handling Facility (2)
____Calendarizing Livestock Management Practices (3)

Calving Time Skills

____Delivering A Calf (2)
____Caring For The Newborn Calf (2)

Health Practices

____Recognizing The Healthy Animal (2)
____Taking An Animal's Temperature, Pulse and Breathing Rate (2)
____Identifying Herd Health Supplies (2)
____Stocking The Medicine Cabinet (2)
____Examining A Fecal Sample For Parasites (2)
____Controlling External Parasites (2)
____Controlling Internal Parasites (2)
____Diagnosing & Treating Beef Cattle Diseases (2)
____Treating The Scouring Calf (2)
____Administering Medication To Animals (3)
____Outlining A Herd Health Program (3)
____Treating Minor Wounds (3)
____Tracing The Roundworms Life Cycle (3)
____Understanding The Life Cycle of the Horn Fly (3)
____Recognizing Common Animal Health Problems (3)

Records and Recognition

____Receiving Recognition Through 4-H (1)
____Understanding 4-H Livestock Records (1)
____Advancing Through Your 4-H Project (1)
____Keeping Feed Records (1)
____Keeping Your Animal Records (1)
____Registering Your Animal (2)
____Culling Animals through Records (3)
____Selecting Sires on Production Records (3)

Feeds & Feeding

____Identifying and Classifying Feed Ingredients (1)
____Selecting And Judging Hay (1)
____Feeding The Young Calf (1)
____Feeding A Market Steer (1)
____Growing Out A Beef Heifer (1)
____Understanding A Feed Tag (2)
____Feeding Your Project Animal (2)

___Sampling Livestock Forage (3)
___Understanding Animal Nutrient Requirements (3)
___Formulating A Ration (3)
___Balancing A Ration (3)
___Roaming Through The Rumen (3)
___Following Feed Through Farm Animal's Digestive System (3)
___Recognizing Mineral Deficiencies of Beef (3)
___Improving Forage Production (3)

Fitting & Showing

___Fitting Your Project Animal (1)
___Showing Your Project Animal (1)
___Packing Your Show Box For Fair (1)

Careers

___Identifying Products From Farm Animals (1)
___Exploring Animal Science Careers (2)

Reproduction & Genetics

___Caring For The Pregnant Cow (2)
___Detecting Heat In Cows (2)
___Selecting A Beef Herd Sire (2)
___Inseminating A Cow Artificially (3)
___Understanding Systems of Breeding (3)
___Tracing The Development Of The Unborn (3)
___Understanding The Bovine Heat Cycle (3)

Meats & Marketing

___Identifying Wholesale Meat Cuts (2)
___Identifying Retail Meat Cuts (2)
___Preparing Meats For The Table (2)
___Judging Meat Cuts (2)
___Exploring A Retail Meat Counter (2)
___Understanding A Livestock Auction (2)
___Touring A Meat Processing Plant (2)
___Following A Farm Animal From Farm to Plate (2)
___Figuring Cost Per Serving Of Meat (3)
___Taking Carcass Measurements (3)
___Figuring Grade And Yield (3)
___Breaking A Carcass (3)
___Establishing A Credit Rating (3)
___Reading the Livestock Market Report (3)
___Outlining Livestock Marketing Alternatives (3)

Other Project Activities

___Giving A 4-H Presentation (1)
___Attending A Livestock Show (1)
___Conducting A 4-H Project Bowl (2)
___Conducting A 4-H Beef Skillathon (2)
___Evaluating Your 4-H Project Meeting (2)
___Conducting Tours and Field Trips (3)

4-H MEATS PROJECT MEETING TOPICS

Selecting & Judging

___Identifying Meat Cuts From Four Species (1)
___Judging Meat Cuts (2)
___Grading Meat (2)
___Evaluating Meat Animals (2)
___Seeing And Cooking PSE Pork (2)

Preserving

___Preventing Spoiled Meat (1)
___Storing Meat by Refrigeration and Freezing (2)
___Freezing, Thawing, Refreezing and Thawing Meat (2)
___Wrapping And Storing Meat (2)

Careers

___Exploring Careers in the Meat Industry (2)
___Following Meat From Farm To Table (2)
___Visiting A Retail Meat Counter (1)
___Touring A Feedlot (2)
___Visiting A Purveyor (3)
___Visiting A Restaurant (3)

Buying & Labeling

___Determining Cost Per Serving of Meat (3)
___Designing A Label (3)

Processing

___Making And Tasting Pork Sausage (2)
___Sharpening A Knife (2)
___Carving A Bone Steak (2)
___Making Jerky (2)
___Curing Meat (2)
___Canning A Roast (3)
___Smoking Pork (3)
___Making Lard (3)
___Cutting Up And Freezing A Carcass (3)
___Tanning A Hide (3)

Cooking

___Cooking And Eating Beef, Lamb, Pork, And Veal (1)
___Building A Pizza (1)
___Cooking And Eating A Hot Dog (1)
___Cooking And Eating A Hamburger (1)
___Cooking Low and High Fat Hamburgers (1)
___Cooking Pork to 130, 150, and 185 degrees Fahrenheit
___Cooking Meat Outdoors (3)

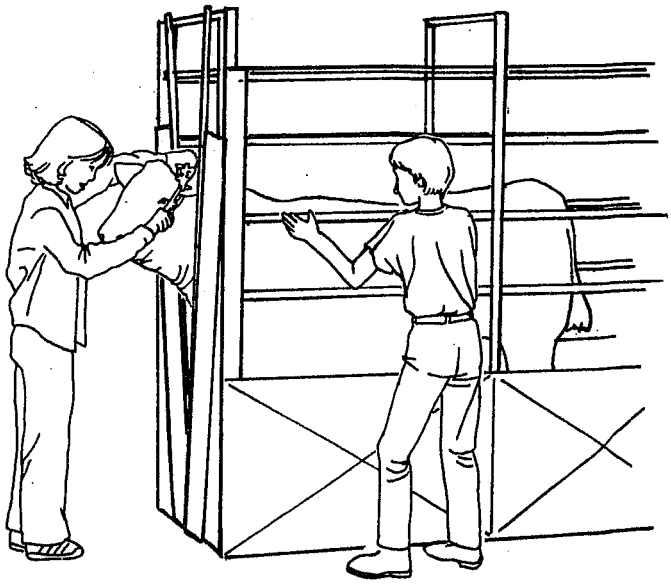
Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Norman A. Brown, Director of Agricultural Extension Service, University of Minnesota, St. Paul, Minnesota 55108. The University of Minnesota, including the Agricultural Extension Service, is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, creed, color, sex, national origin, or handicap.

4-H Animal Science
Project Meeting Guide, AS-15, '81

BEEF

IDENTIFYING CATTLE

ROBERT J. BYRNES
Extension Agent



IMPORTANCE OF THE TOPIC

Identification of cattle is essential in order to calculate performance data for the animal, as well as that of the sire and dam. Identification is also necessary to record health information, and may be helpful in proving ownership.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

By actively participating in this project meeting your 4-H'er will:

1. Tell why identification of cattle is essential for good herd management.
2. Demonstrate at least one method of animal identification.
3. Name at least two ways to identify a calf.
4. Further develop life skills of problem solving, working together and demonstrating to others.

PREPARE FOR THE MEETING

You and your members will want to briefly review the many methods of identifying cattle prior to the meeting. As your group plans see that each family is asked to bring some of the supplies. What you decide to have will depend somewhat on whether you have a dairy or beef group.

Suggested Supplies:

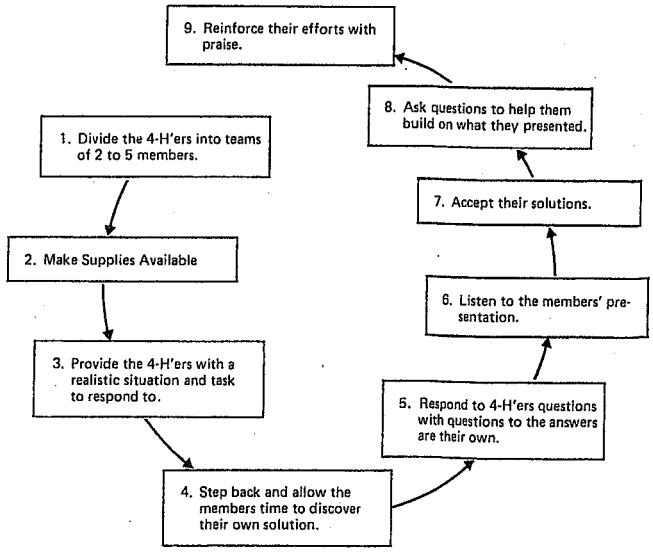
The following are items which will allow the 4-H'ers to expand their understanding of cattle identification. If some equipment or supplies are not available check magazines or catalogues for pictures. Filled-out animal record, barn nameplate, ear tattoo, pliers, picture of an animal, sketch of an animal, hot brand, freeze brand, metal ear tags, plastic ear tags, neck chain, neck strap or horn chain with numbered tags, ankle tag, tail tag, model calf or real calf, or cow.

References:

4-H Dairy Project Manual, dairy management books, slide set on cattle identification and branding.

FACILITATE THE ACTIVITY

Your challenge as the project leader is to help your members discover for themselves why and how to identify cattle. By allowing each one the satisfaction which comes from the "I did it myself" approach you'll not only contribute to a greater understanding of the project skills but you'll also be helping your members develop important life skills. One way of being a helper instead of an "up front" teacher is to utilize a learn by discovering experiential approach outlined below:



SITUATION: While checking the calving pasture, you discover a newborn calf with its mother. Also in the pasture are several other cows expected to calve within 24 hours.

YOUR TASK: Demonstrate how you would identify the calf both temporarily and permanently. Include the reasons behind the system chosen.

QUESTIONS TO ASK

Assist the teams in preparing their demonstrations, skits, or puppet shows by moving from team to team and asking questions as required to stimulate ideas.

Q. Why should cattle be permanently identified?
A. Permits accurate records to be kept which allows for production testing, establishing ownership, etc.

Q. What is important in selecting an identification method?
A. Easily administered, easy to read at a distance and long lasting.

Q. What identification methods are available?
A. (See listing under suggested supplies.)

Q. Which methods would be considered temporary and which ones are permanent?
A. Temporary: Ear tags, neck chains and ankle tags. Permanent: Hot brands, freeze brands, tattoos, and photographs which cannot be lost.

Q. When is the best time to identify a calf?
A. Right after its birth.

Q. Which breeds can best utilize photographs and sketches?
A. Gurnsey, Holstein, and Ayrshire breeds plus other breeds with unique color patterns. Note: Ask your members to bring a sketch of their project animal to the meeting to compare.

Q. In which part of the ear should plastic tags be inserted?
A. The lower half so hair won't make the tag illegible at a later date.

Q. When are ankle tags and tail tags most often used?
A. Dairy farmers using milking parlors use these types of tags because they can easily be seen in the parlor.

ADDITIONAL ACTIVITIES

1. **Understanding an Animal Record**—Provide each team with an animal's record and ask them to point out the system used to identify the animal.
2. **Identifying Identification Equipment**—Lay out various types of equipment and have your members demonstrate the use of each one. Encourage questions.
3. **Project Bowl**—Divide into teams of 3-4 and ask questions.

Summarize the Meeting

The demonstrations given by the members will help summarize the meeting. You may also want to ask each one to tell one thing they learned to do at the meeting.

Pat on the Back

You deserve a pat on the back for giving your members an opportunity to be responsible for their own learning and making their own decisions.

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4-H Animal Science
Project Meeting Guide, AS-16, '81

BEEF

DEHORNING A CALF

RAYMOND L. ARTHAUD
Extension Animal Science Specialist

IMPORTANCE OF THE TOPIC

Dehorning a calf is an excellent learn-by-doing project activity. The members will learn an important management practice as well as develop life skills. 4-H'ers should understand the dehorning process to avoid being injured by the animals and as well as animals injuring each other.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

1. Explain why horns are taken off animals.
2. Demonstrate how to dehorn an animal.
3. Develop the life skills of utilizing knowledge, working together as a group, problem solving, and understanding humane treatment of animals.

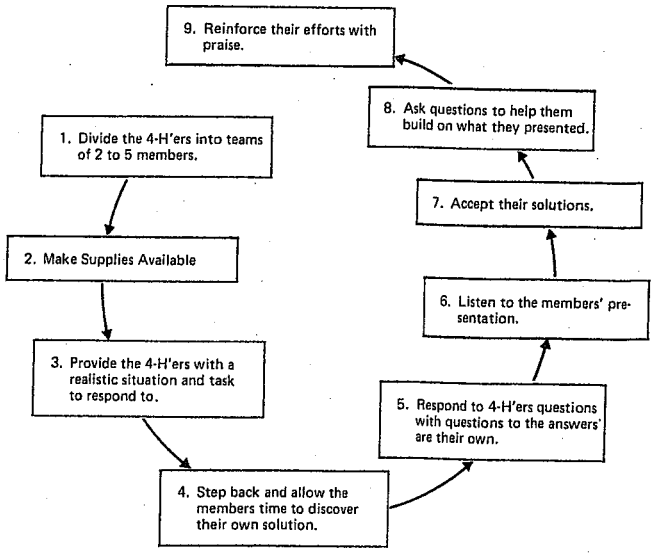
PREPARE FOR THE MEETING

Supplies needed: Minnesota 4-H Model Calf with velcroed horns or other make-believe horns; caustic stick & heat dehorning irons for button horns; calf tube dehorner for button to 1" horns; Barnes type dehorner for 1/4-4" horns; stiff back dehorning saw; disinfectant solution; vaseline; hand clippers.

Reference material: 4-H Beef Manual

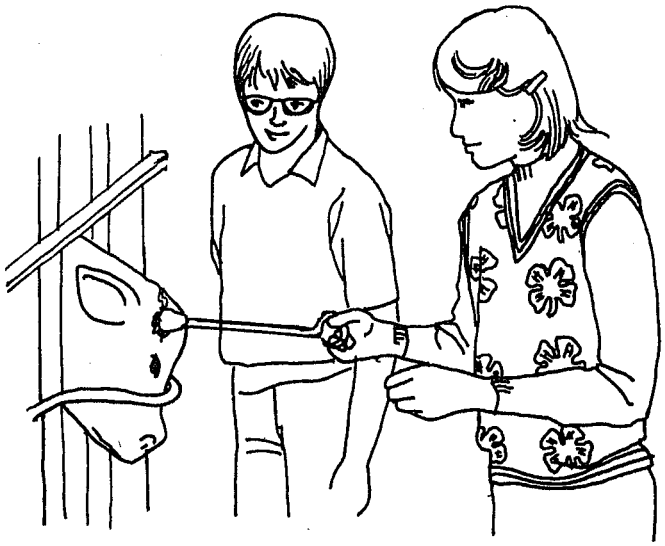
FACILITATE THE ACTIVITY

One way to start the activity is to ask your members to name as many ways as they can think of to dehorn an animal. Wait until each one has an answer before accepting any answers. Let those with the same answer explain what they know about that dehorning technique. After you've got their attention the steps outlined are suggested as a way to develop their life skills at the same time as they learn the various ways to dehorn a calf. A situation and task plus questions are included in this guide.



SITUATION: Your new 4-H project calf has just arrived. You noticed that the horns are (only buttons) ½" long or 4" long and you decide to take them off. (Choose a size for each team.)

YOUR TASK: Demonstrate how you would remove the horns.



QUESTIONS

Q. Why should horns be removed?
A. Horns can cause damage and injury to both animals and people. Animals with horns are more difficult to handle. Sometimes horns that are allowed to grow and not trained properly may grow into the head or into an odd shaped angle which will tend to cause excessive damage.

Q. What equipment might be used to take off the horns?
A. See list "Prepare for the Meeting".

Q. What equipment is recommended to dehorn a newborn calf?
A. The equipment recommended would be a caustic stick, tube calf dehorner or heat dehorning iron.

Q. When is the best time to dehorn a calf and why?
A. The best time is when the horns are in their least developed stage which will cause less problems to the calf. This is within the first three months and as young as right after birth in the first day of life.

Q. What problems might occur if the horns are not taken off when the animal is young?
A. When the dehorning is delayed until the animal is mature and the horns are mature the blood vessels have grown up into the horns and this results in excessive bleeding when the horns are taken off. This causes a great deal of additional stress to the animal.

Q. How do you use the caustic stick on the newborn calf?
A. Use a hand clippers or scissors to snip the hair around the horn button. Spread a ring of vaseline outside or around the ring of the horn button so the caustic won't burn the skin. Apply the paste or caustic stick to the horn button by rubbing vigorously in a circular motion.

Q. How would you use the hot iron method?
A. After heating the iron either electrically or in a fire, place it over the horn button or the horn and apply pressure until a deep copper colored ring appears around the horn.

Q. How long will it normally take the horn to sluff-off?
A. 4-6 weeks.

Q. What is one of the big advantages of the hot iron?
A. The heat stops the bleeding and cauterizes the wound.

Q. How would you use the dehorning tube?
A. Put the tube over the horn and push down and twist until the tube cuts the skin around the horn. Apply pressure and twisting motion until the horn is gauged out.

Q. How would you use the Barnes type dehorner?
A. Push the dehorner firmly against the skin around the horn, spread the handles apart. This closes the knives and removes the skin.

Q. If you had to use a saw for larger horns how would you use this?
A. Cut from underneath the horn so that the angle of the skull may be followed. Do not cut from the top since it is easy to cut into the skull this way.

Q. What precautions can you use to prevent infections?
A. Have a disinfectant solution to dip the tools in prior to and between each use.

Q. If you have excessive bleeding, what would you do to stop this?
A. Use a forceps or thin needlenose pliers to grasp the blood vessel, pull it out. This will tend to break the blood vessel at a lower point which will increase the pressure on it and allow coagulation to occur.

Q. Is there a less painful way to eliminate horns from your herd?
A. The use of cattle that are naturally polled will eliminate the problem.

Summarizing the Activity

Have members demonstrate one of the methods that they used. Allowing the entire group to put on a skit or a play will make the experience memorable for everyone.

Additional Project Meeting Topics

Dehorning a calf
Castrating a calf
Vaccinating a calf
Implanting beef cattle
Giving medication to your animal
Conducting a 4-H project bowl
Conducting a 4-H skillathon

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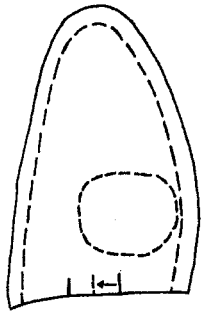
4-H Animal Science
Project Meeting Guide, AS-17, '81

BEEF

IMPLANTING BEEF CATTLE

RAYMOND L. ARTHAUD
Extension Animal Science Specialist
TIMOTHY K. LAWLER
Extension Agent



IMPORTANCE OF THE TOPIC

Learning to properly implant will help a 4-H'er raise cattle which gain faster on less feed. In addition, the 4-H'er will learn to appreciate the application of science and research in the beef industry.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

1. Develop the life skills of learning by doing, responding to questions, working together, and applying research information.
2. Demonstrate where and how to implant beef cattle.
3. Tell others why implanting of cattle is recommended.

PREPARE FOR THE MEETING

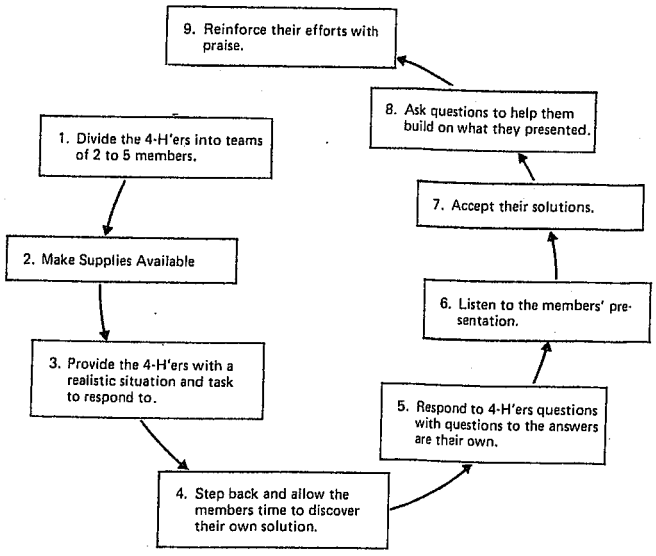
Supplies needed: Implanting tool; implants; sharpening stone; disinfectant; model ear with two layers made out of cloth or other materials. Making ears using the following directions is an excellent activity for your members.

DIRECTIONS FOR MAKING BEEF EAR MODEL

1. Cut one **inside ear** from back side of fur fabric. Reverse pattern and cut **outside ear** from fur fabric.
2. Cut an interfacing from heavy weight non-woven interfacing (e.g. pellon). Trim off seam allowances. Fuse to wrong side of **inside ear** using fusible web.
3. Cut **plastic insert** from a clear disposable plastic drinking glass. Glue to wrong side of **inside ear** where indicated with concave curve (inside glass) against fabric. Allow glue to set. Use a glue, such as Duco Cement, that will soften the plastic.
4. Stitch **inside** and **outside ears** together (right sides of fabric together) on stitching line. (1/2" seam allowance). Trim and grade seam, notching curves. Edge stitch seam with zigzag or straight stitch. Turn right side out. Finger press seam. With pin or needle, pull fabric pile that has been caught in seam from stitching.
5. Form pleat in bottom of ear. Whip stitch to hold.
6. Fold on **fold line** and bring point "A" to inside of ear. Whip stitch in place, leaving an opening through which pellets can be removed from ear.

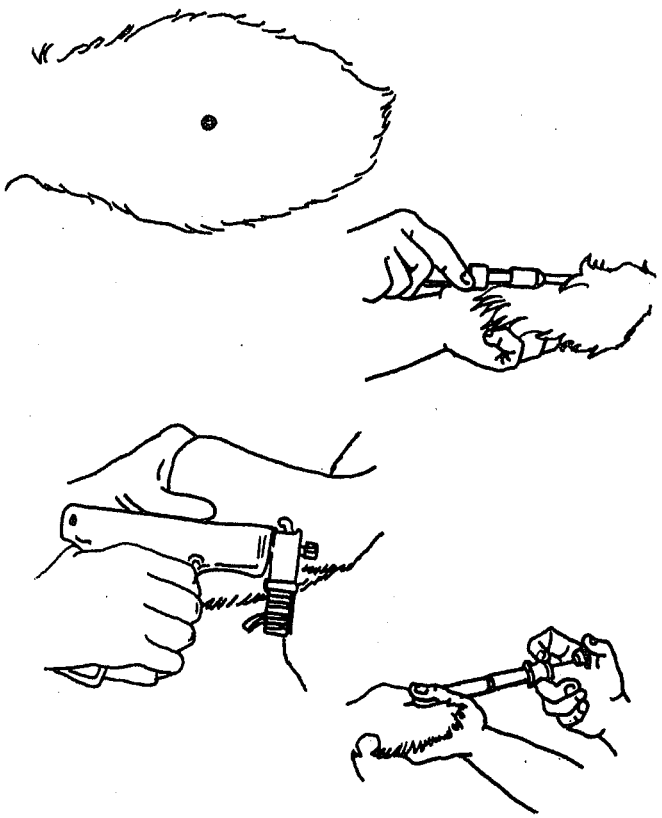
FACILITATE THE ACTIVITY

Gain your members attention by asking them a question like, "What are some ways you can think of to lower the cost of gain of your animals?" If your group is large have teams of 2 or 3 list items and then share them. One way to quickly involve your members in a learn by doing activity is to follow the steps described below. This method is called "Learning by Doing Before Being Told or Shown How." You'll find that you will have more opportunities to develop your members life skills as well as project skills with this method. Suggested situations, tasks, and questions are provided to help you.



Situation: You are interested in going all out to win the rate of gain contest in your county. You decide to use implants to see if this will help your animal to gain faster.

Your Task: Demonstrate how you would implant your calf.



QUESTIONS & ANSWERS

Q. What materials can be used to implant beef cattle?
A. At present there are two commercial products available—Synovex® and Ralgro® which are available in pelleted form.

Q. What equipment is needed to implant the pellets?
A. A special implanting tool with a needle on it.

Q. How is the tool used?
A. In the case of the Ralgro® the needle is inserted under the skin close to the base of the ear. The object is to insert the pellet as close to the base of the ear as possible. The needle is inserted under the skin and then pulled back slightly so a cavity is formed for the pellet. The trigger is then squeezed once to release the pellet and withdrawn. With Synovex the pellets are inserted about the middle of the ear. In this case instead of a single pellet, a string of pellets are released which occupies a greater space than in the case of the Ralgro.®

Q. How much increase in weight gain can you expect by implanting your calf?
A. A 6-10% increase in weight is expected, this would mean on a 1,000 lb. calf you would expect an additional 60-100 lbs. gain. A calf that would gain 2.5 lbs. without the implant could be expected to gain up to 2.75 lbs. per day with an implant.

Q. What increase in feed efficiency would you expect?
A. Studies indicate that an 8-12% increase in feed efficiency is possible. This would mean that a calf that would normally be gaining 1 pound a day on 8 lbs. of feed when implanted could be expected to gain 1 pound on a little over 7 lbs. of feed.

Q. What is an implant and how does it work?
A. An implant is a combination of hormone-like materials which help make more efficient use of the protein in the feed to develop muscle.

Q. What is the approximate cost of an implant?
A. About $1.00 per implant.

Q. How long will one implant be effective?
A. One implant is absorbed gradually over a period of 3-4 months.

Q. Can a second implant be given after 3-4 months?
A. Yes, with about the same benefits as the first implant.

Q. Should heifers be implanted?
A. Yes, it's recommended that heifers intended to be slaughtered should be implanted but that heifers to be kept for breeding should not be implanted.

Q. Why should heifers not be implanted that are going to be kept for breeding?
A. There's a possibility that the materials in the implant might interfere with reproduction.

Q. When can implanting be done?
A. The time to implant will vary with the product used. Ralgro® can be implanted anytime from birth to within 65 days of slaughter. Synovex® is approved only for cattle above 400 lbs. and should not be implanted within 60 days before slaughter. Two different kinds of Synovex® are available; one for heifers and one for steers.

Summarizing the Activity

Give your members a chance to demonstrate how they implanted the ears. Encourage questions to be asked so the demonstrators have the experience of answering them.

Supporting Activities

Castrating a Calf
Dehorning a Calf
Identifying a Calf
Conducting a 4-H Project Bowl
Conducting a 4-H Skillathon

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4-H Animal Science
Project Meeting Guide, AS-18, '81

BEEF

DETERMINING A CALF'S WEIGHT

SUSAN M. A. CARLSON
4-H Extension Agent

IMPORTANCE OF THE TOPIC

The 4-H'er who is able to determine the weight of his project calves will be able to determine the proper feeding of the calves throughout the project experience. The knowledge of birth weight, and/or breeding weight can help every 4-H member develop an overall young stock program.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

1. Each 4-H'er will be able to determine the weight of a calf.
2. Each 4-H'er will learn the average birth weight of his particular calf's breed.
3. The 4-H'ers involved will learn new knowledge to use in making decisions so he/she can develop a youngstock program in relation to feeding and/or breeding confidently.

PREPARE FOR THE MEEING

Plan now before the 4-H'ers arrive. This step will help you direct a 30 minute project meeting smoothly. If you decide to use some of the weight comparison methods, be sure the 4-H'ers do not overlift. The ideal situation may be on a local farm with with live calves and a large feed scale, but ideal conditions do not always exist. Therefore, use your imagination and you may accomplish this activity in the home family room.

Materials: Weigh tapes (dairy and beef); cloth tape measures; 10, 25 or 50 lb. sacks of sugar, flour, or feed; a human weigh scale; depending on meeting location—a live calf, a large friendly dog, a 4-H'er on all fours, or a scale model of a calf such as one made from the University of Minnesota 4-H Calf Pattern; one or more copies of the Dairy Project Workbook—Dairy-Calves and Heifers, page 25.

FACILITATE THE ACTIVITY

You will find that once a member becomes involved in doing an activity, the 4-H'er will gain better understanding of the idea or concept you are teaching. As the leader, your challenge is to let your 4-H'ers do the teaching as they learn. You only need to motivate the members to use their imagination to explore the topic.

LEARN BY DOING ACTIVITY

Questions and situations can help the members determine the birth weight of the calf. If the group is large divide members into teams of 2 or 3 and present them with a specific situation and task. This will help them focus on the activity.

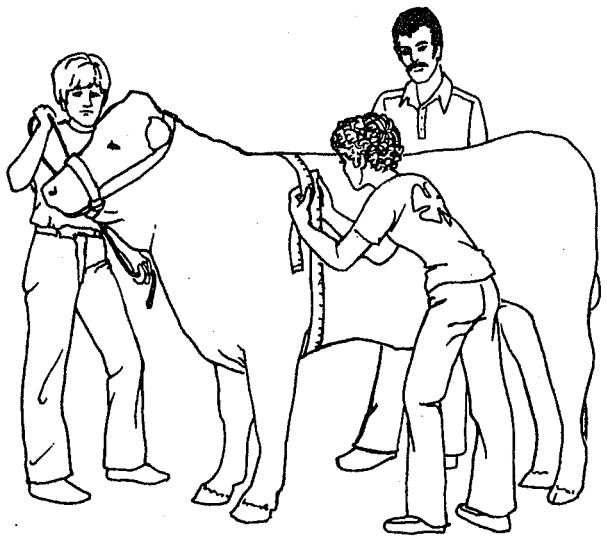
SITUATION: Your dad's best cow has a heifer calf on your birthday. The calf is yours as a birthday gift. Because she is so special you want to take care of her the best way you can.

YOUR TASK: Demonstrate how you would determine the weight of the calf.

Methods

At this point you may want to make available some materials for them to use. Even without materials you will find that your members will think of several ways to solve the task you have given them.

Here are some suggested methods in case some of the teams need an idea or two to get started:



1. Using sugar, flour, or feed sacks that weigh 10, 25 or 50 lbs. determine how many sacks equal the calf's weight.
2. Use a comparison method—compare the calf to a large farm dog. The dog's weight needs to be known.
3. Use a feed scale and a live calf—weigh it.
4. Use a bathroom scale, pick up the calf and weigh the calf and yourself.
5. Use a calibrated weigh tape for dairy or beef to measure your calf's weight.
6. Use a cloth tape measure to measure your calf and check the chart for dairy or beef.
7. Use a calibrated weigh tape for dairy or beef as a guide and make your own weigh tape. Need 2 yards or 6 feet of ribbon for each member along with a permanent marker. Use the calibrated tape to mark the weight scale on the blank ribbon.

QUESTIONS & ANSWERS

Q. Do all calves weigh the same at birth?
A. No, each breed will vary. Check with reference weigh charts for your specific breed.

Q. Why do you want to determine a calf's birth weight?
A. There are several reasons. Two important reasons are to determine proper feeding procedures so you do not overfeed and to keep an accurate record of rate of gain.

Q. How do you use birth weight to determine proper amounts of milk or milk replacer?
A. Birth weight times 6% equals pounds of milk or prepared milk replacer for the first days after birth, then increase to 8% after 3 days until weaning.

Q. What is the expected weight gain for a calf?
A. Beef breeding heifers and dairy heifers should gain about 1.6-1.7 lbs. per day from 200 to 1,000 lbs. of body weight. Market beef should gain 2.25-3.00 lbs. per day, whether heifer or steer.

Q. Why would you want to determine a calf's weaning weight?
A. To determine if the calf feeding program is correct. It gives you a measurement to judge growth of the calf against the breed standards.

Q. Why is the weight of a calf important when she is of breeding age?
A. By determining weight, you can judge if your heifer is ready for breeding at 15 months. Growth rate and nutrition are as important as age at this time.

Q. What is the minimum weight a dairy heifer should be at breeding time?
A. A beef heifer—depending upon breed—500-750 lbs. The low limit is for a Jersey and the upper limit is for a Holstein. The beef heifer should be at least 650 lbs. but breed will also play a role.

Supporting Activities

Delivering a Calf
Caring For The Newborn Calf
Feeding The Young Calf
Treating The Scouring Calf
Weaning A Calf

References

Dairy-Calves and Heifers 4-H Dairy Project Handbook
Land O'Lakes Calf Growing Guide
Dairy Cattle: Principles, Practices, Problems, Profits, Foley, Bath, Dickinson & Tucker
The Calf, Management and Feeding, JHB Roy
Beef Manual, 4-H 325.

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4-H Animal Science
Project Meeting Guide, AS-19, '81

BEEF

CASTRATING A CALF

RAYMOND L. ARTHAUD
Animal Science Extension Specialist

IMPORTANCE OF THE TOPIC

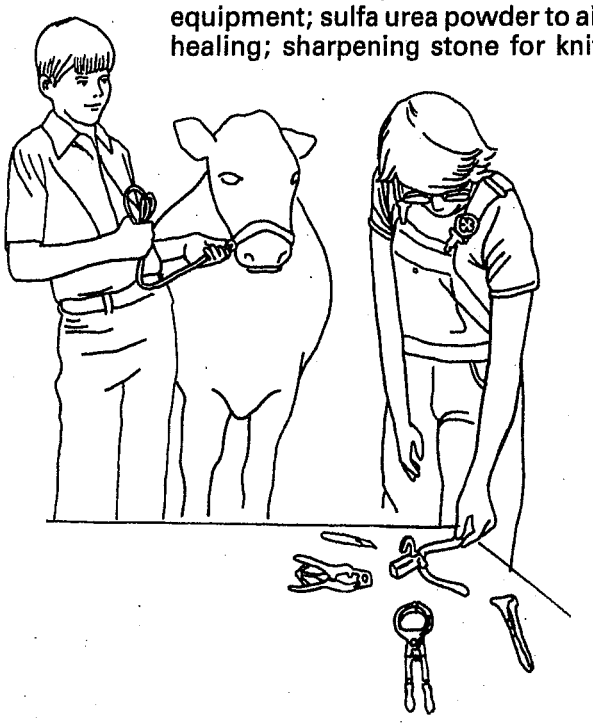
A 4-H member who raises cattle should understand how to castrate a calf since this is one of the accepted practices of raising beef. This will also give the 4-H member an increased understanding of reproduction in cattle.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

1. Further develop the importance of life skills of sharing knowledge with others, decision making, and learning by doing.
2. Demonstrate how to castrate a calf.
3. Tell others how castration influences the marketing and management of cattle.

PREPARE FOR THE MEETING

MATERIALS NEEDED: A Minnesota 4-H Model Calf or a cloth scrotum; knife; emasculator, burdizzo and/or elastrator; disinfectant for the equipment; sulfa urea powder to aid in healing; sharpening stone for knife.

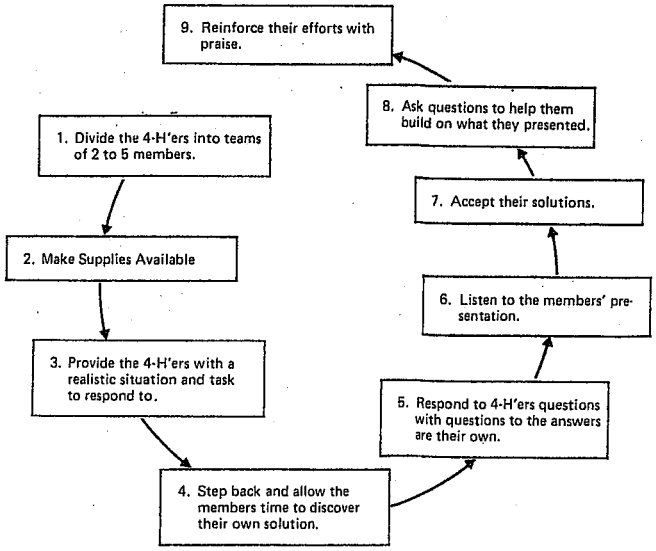


REFERENCE MATERIALS: Ask each member to read the information on castration 4-H Beef Manual prior to the meeting.

FACILITATE THE ACTIVITY

A question to the group will help them focus on the topic. Consider one such as "Why would you want to castrate your bull calves?" Discuss this with them in a way that everyone will be able to participate. If your group is large, dividing into small teams of 2-3 works best to involve everyone. Share with them the three goals mentioned above that they will be expected to accomplish at this meeting.

After you have set the stage a useful technique called "Learning by Doing Before Being Told or Shown How" may be used. A diagram of the steps is listed. This technique will help everyone be involved in a way which will help them develop both their life skills and castrating skills. Ideas for each of the major steps are included in this guide.



SITUATION: A business person in town moved to a small farm near you. He has just acquired two bull calves and has asked your help in castrating them.

YOUR TASK: Demonstrate how you will castrate the calves.

QUESTIONS AND ANSWERS

Q. What is castration?
A. Removing the testicles of male calves which eliminates production of the male hormone testosterone.

Q. Why do you castrate a calf?
A. Castration results in easier handling of the calves and a higher price at market time.

Q. When should you castrate a calf?
A. As soon as possible after birth, preferably in the first two months.

Q. What are some pieces of equipment used for castration?
A. Sharp knife, emasculator, burdizzo or elastrator.

Q. What method is most commonly used by producers?
A. The use of the knife is still the most common method.

Q. If you decide to use a knife how would you use this?
A. Two methods are commonly used:
1. Grasping the scrotum and cutting the lower third off with a sharp knife, or
2. Slitting both sides of the lower two-thirds of the scrotum–being certain of slitting all the way through the bottom. In each case, the procedure is to squeeze the testical out of the scrotum; slit the outer membrane back. On a small calf, the testical and the cord may be pulled out. On an older calf, pull only the testical out until the cord is visible and then using a knife scrape the cord until it's apart. This will reduce any bleeding.

Another method which is recommended is to crush the cord with an emasculator after it's visible.

Q. If you decide to use a burdizzo how would you instruct your neighbor to do so?
A. In this method the skin is not broken. The cord of one testical is worked or pushed to one side of the scrotum. The burdizzo is then clamped over the one cord an inch and a half to two inches above the testical. After clamping the burdizzo hold for a moment and then remove. In order to increase the certainty of crushing the cord a second clamp may be made ½ to 1 inch above the first one. The same procedure is followed on the second testical and cord. It is very important not to try to crush both cords at one time which will cause blood vessels and nerves in the median of the scrotum to be severed.

Q. How do you test to see if the burdizzo is working properly?
A. Place a piece of paper between the clamps and clamp down. The paper should be cut.

Q. How long after you pinch the cord will the testical shrivel up?
A. This usually takes several weeks.

Q. If an elastrator is used, when should this be used and how might it be demonstrated to your neighbor?
A. This may be used on a calf up to a week of age, although some people use it on older calves. There is a risk of tetanus infection, especially with calves over two weeks old. A special rubber ring is put on the elastrator. The ring is then inserted over the scrotum where it attaches to the body. The blood supply is cut off and the testicals wither in 20-30 days. This method causes no internal hemorrhage but may result in more intense pain for a longer period of time for the animal than the other methods discussed.

Q. What is a castrated male calf called?
A. A steer.

Q. When should a fly repellent be used?
A. In warm weather when the chance of a fly strike is present.

Summarizing the Activity

Give your members a chance to show everyone the method they used and to explain why they used it. Encourage questions so the demonstrators have the experience of answering them. A skit often works well and is a lot of fun. If you have the slide set #412 on beef cattle castration, now's the time to show it, after the youngsters have had a chance to challenge themselves with this activity.

Supporting Activities

Dehorning a calf
Identifying a calf
Implanting beef cattle
Conducting a 4-H project bowl
Conducting a 4-H skillathon

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4-H Animal Science
Project Meeting Guide, AS-29, '81

BEEF

DETECTING HEAT IN CATTLE

JEFFREY K. RENEAU
Extension Dairy Specialist

IMPORTANCE OF THE TOPIC

A basic understanding of how to detect heat in dairy cattle and its application to successful dairy farming is important for every 4-H member who utilizes artificial insemination. It has been estimated that 50 percent of the heat cycles in dairy cattle are not observed by dairy farmers. When calving intervals exceed 12-13 months, dairy farm income is lost. Estimates indicate that for every day behind 12 months that a cow has not freshened, the cost is $2-$3 per cow per day.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

By the end of the project meeting the 4-H'ers will be able to do the following

1. Identify the signs of heat
2. Identify the proper time to breed
3. Understand the importance of recording every heat and anticipating the next heat
4. Further develop the life skills of observation and communicating with others.

PREPARE FOR THE MEETING

A little preparation will make the meeting enjoyable for all. Ask each 4-H'er to read the information on detecting heat in the 4-H Dairy Project Workbook prior to coming to the meeting. Be sure to invite the parents to attend the meeting.

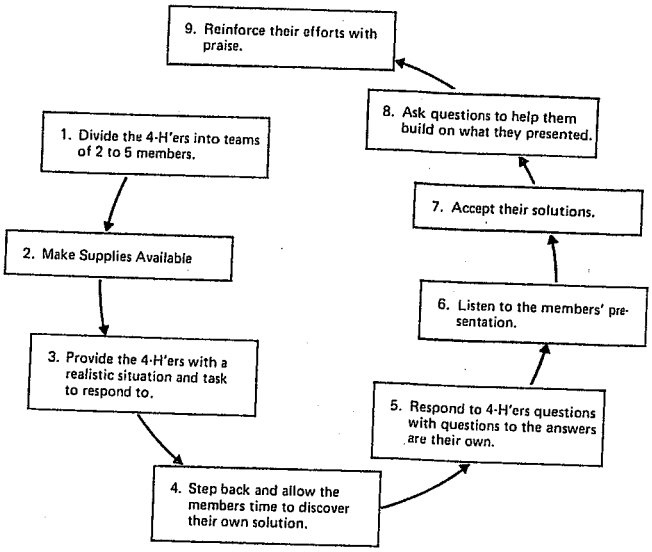
Supplies to Gather:

4-H Dairy Project Workbook, reproductive records of several cows, a calendar, and the "Steps in Good Heat Detection" put on notebook cards.

FACILITATE THE ACTIVITY

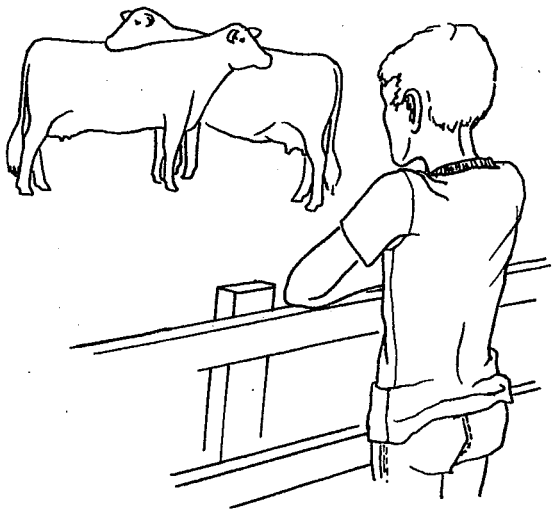
You may have some 4-H'ers who are very familiar with detecting heat. For others, this may be a new area to explore. Your challenge is to allow the members an opportunity to discover for themselves what they know or don't know about the topic. Then let them help each other increase their understanding. Your ability to sit on your hands as well as to ask thought stimulating questions will make the difference between helping them learn and helping them develop an understanding of the topic and of their own abilities.

Here is a method popularly known as Learning by Doing Before Being Told or Shown How:



After providing each team with the 4-H Project Workbook, and reproduction record of one cow per team give them the following situation:

SITUATION: Your dad has gone to a two-day extension meeting and has left you to do the chores. This morning you noticed that while the cows were out exercising,



two cows were riding each other. One of the cows was doing a lot of bellowing and would stand while the other cow rode her.

YOUR TASK: Prepare a short talk on what was happening and what steps you would take. After a few minutes if some teams are stuck, you might want to give them a set of notecards with one of the "Steps in Good Heat Detection" on each one to help them along. Follow up their talks with questions and praise. Emphasis on proper sequence is not necessary as long as they have good reason for what they are doing.

Steps in Good Heat Detection

1. Let cows out of the barn for observation of heat at least once a day.
2. Observe carefully for signs of heat.
3. Mark observations on calendar and in herd reproductive record.
4. Record next anticipated heat.
5. Check freshening date and reproductive health record to see if ready to breed.
6. Call A.I. Technician.

QUESTIONS TO ASK

The following are questions to ask corresponding to each step:

Q. In loose housing, when is the best time to observe heats?
A. Early a.m. and late p.m.

Q. One once-a-day heat detection will result in what percentage of heats being detected?
A. 60 percent.
2X/day heat detection 80 percent.
3X/day heat detection 90+ percent.

Q. What are the signs of heat?
A. Restless, bellowing, reddened vulva, clear mucous discharge, stands while another rides.

Q. Which cow is in heat in this situation?
A. The one standing.

Q. What is the most reliable sign of heat in a cow?
A. Standing while others ride.

Q. Why should all observed heats be recorded?
A. This will make heat detection simple when it comes time to breed the cow back. On the average 50 percent of the heats in dairy cows are missed in this country.

Q. How long is the heat cycle in a cow?
A. 21 days is the average.
18-24 days is the normal range.

Q. When would you begin to look for this cow to be in heat again? (Have members calculate when the cow in this situation will be in heat again.)
A. 3 days prior to anticipated.
21 days since the heat shown by the cow today.

Q. What is the earliest one should begin to breed a cow back after calving?
A. 45 days postpartum.

Q. On the average, when is the best time to begin breeding a cow back?
A. 60 days postpartum.

Q. We are told that in order to maintain the highest possible milk production we should maintain a 12-13 month calving interval. When must we get a cow bred back to be sure she will have another calf in one year? Hint: normally a cow has a 9 month gestation period).
A. 85-95 days after calving.

Q. For most cows, if you first see them in standing heat in the morning, when should she be bred?
A. That p.m.

Q. What if first seen standing in p.m.?
A. The next a.m.

Q. What are two main factors resulting in long calving intervals?
A. Missed estrus cycles and improper timing of artificial insemination.

SUMMARIZE THE ACTIVITY

A 4-H dairy project bowl played with as few as two 4-H'ers (or parents) on a team is an excellent way to summarize the project meeting topic. Use the questions and project materials as guides to questions. Keep the questions and add them into your next set of project bowl questions.

Supporting Activities

Meeting topics which support this activity, include the following:

Selecting a Dairy Sire.
Determining Pregnancy of a Cow.
Understanding the Heat Cycle of Cows.
Inseminating a Cow Artificially.

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4-H Animal Science
Project Meeting Guide, AS-91, '83

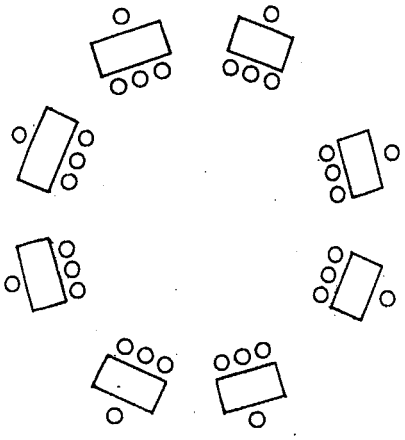
BEEF

CONDUCTING A 4-H BEEF SKILLATHON

THOMAS D. ZURCHER
Extension 4-H Specialist

WHAT IS A 4-H SKILLATHON?

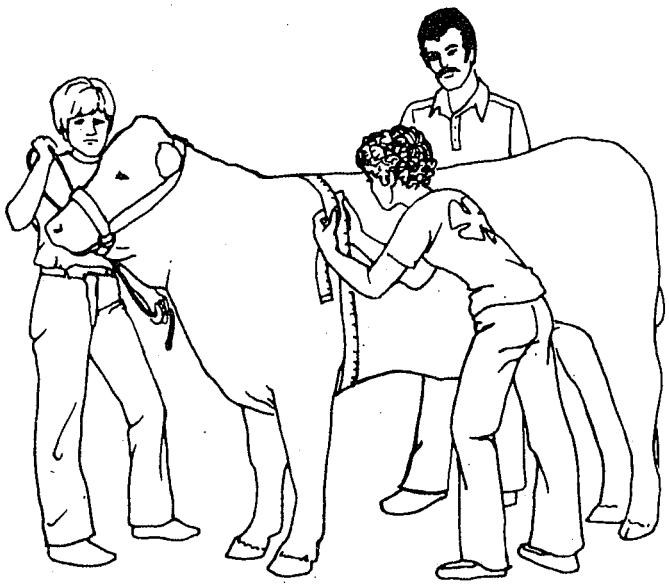
A skillathon is an excellent method of involving your 4-H'ers and their parents in challenging, noncompetitive, learn-by-doing activities. This method of helping 4-H'ers develop both their life skills and project skills is designed as a series of mini-learning stations with a facilitator at each one (see illustration below). The participants rotate from station to station, attempting to perform the specific tasks given at each station. The station facilitator allows all team members to test their own knowledge and abilities before giving them any hints. This technique is referred to in 4-H as experiential learning or learning by doing before being told or shown how.



A skillathon works well not only during project meetings, but also at the 4-H community club. It is an excellent way to involve several project groups in the program at once. By asking various project groups to set up one or two learn-by-doing stations, the entire club can be actively involved at once. In addition, you can use a skillathon to give recognition to the project groups and their leaders.

The skillathon approach has also been successfully used to strengthen the educational value of county and state fairs. Both adults and youths enjoy the challenge posed by each situation and task.

This project meeting guide briefly outlines how to set up and conduct a 4-H beef skillathon. Included are a checklist for the planning committee, advice for the facilitator, and suggested supplies, situations, and tasks for each station.



WHAT YOUR 4-H'ERS WILL ACCOMPLISH

By participating in a skillathon your 4-H'ers will accomplish the following:

1. Given a situation and a task they will be able to evaluate their abilities to solve the challenge presented and discover for themselves what they need to know to do the activity.
2. They will learn to work as members of a team.
3. They will practice making decisions and speaking before others.
4. They will receive recognition and praise for their efforts.

CHECKLIST FOR THE SKILLATHON COMMITTEE

_____ Decide on the stations wanted, considering time and resources available.

_____ Make up a realistic situation and task for each station.

_____ Decide who will be in charge of each station.

_____ Decide on the equipment or supplies needed at each station.

_____ Delegate responsibility for gathering supplies.

_____ Depending on the size of the group and the number of stations, group the members into teams of 2 to 4, assigning each team to a station and moving them to the next station every 10 minutes or so.

_____ After all teams have rotated through the stations, have each team select a station and give a short presentation to the entire group on how the team solved the task at a particular station. Let teams choose which station they want to present.

_____ Praise everyone's efforts.

RESPONSIBILITIES OF THE STATION FACILITATOR

You will find it challenging and rewarding to be a helper at one of the stations. The extent to which the participants develop project skills and life skills depends largely on how successfully you relate to them. Here are suggested steps:

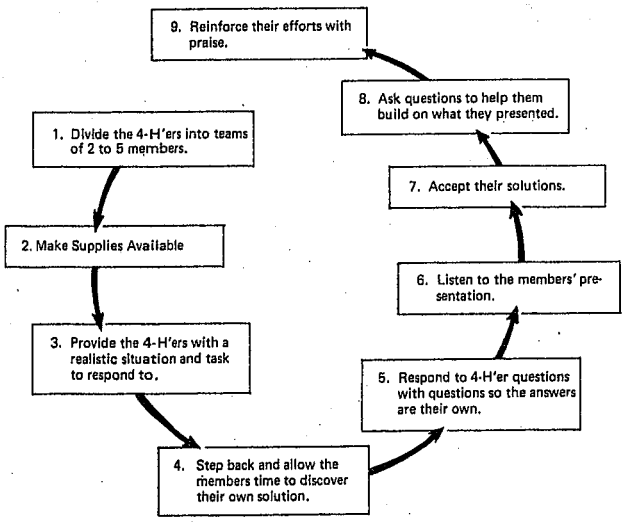
_____ Familiarize yourself with the topic and any available project meeting guides, supplies, and training aids.

_____ Compile a list of questions to ask each team.

_____ Set up your station to include a stand-up situation and task sign, and necessary supplies.

_____ Allow the team members to discover for themselves how to accomplish the task, instead of telling or showing them how first.

_____ Facilitate the learning situation for each team in the following suggested manner:



_____ Ask 4-H'ers how they would set up and conduct this same activity at a 4-H project meeting.

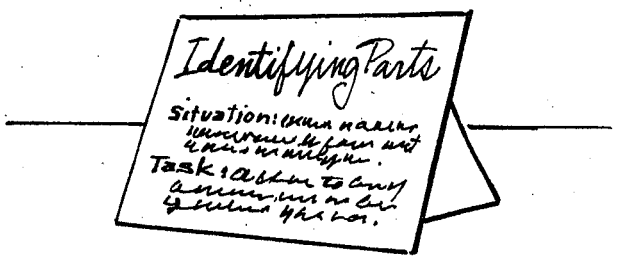
_____ Mark the team's participation card if one is used.

_____ Prepare your station for the next team.

_____ Following the skillathon, inventory and pack up all equipment, materials, and signs.

STATION INFORMATION

Some possible topics and suggestions for presenting each topic at individual stations are included here. Station topics are limited only by your imagination and interest. The model calf made from the Minnesota 4-H calf pattern can be a useful training aid for several of the suggested topics. At all stations, try displaying the situation and task on an 8 x 11" stand-up so that the teams can start solving the task immediately.



You will need the following supplies for each station described: project meeting kit containing the project meeting guide "Conducting a 4-H Skillathon", a stand-up situation and task sign as previously described, a project meeting guide about the topic, and a station sign.

1. Identifying Beef Breeds

SUPPLIES: Pictures of beef breeds, index cards with names of beef breeds on each, cards with breed characteristics.

DIRECTIONS: Let the teams match the breed and characteristics with each of the pictures and check their answers. Follow up with questions.

SITUATION: A new 4-H'er asks your help identifying breeds.

TASK: Identify and give one characteristic of each breed.

2. Identifying Parts of Beef

SUPPLIES: Minnesota 4-H Beef Parts Chart, parts T-pins, sponge for pins, cardboard for chart.

DIRECTIONS: Let the team members make their decisions and check their answers. Follow up with questions.

SITUATION: You are preparing for the judging contest.

TASK: Match the names with the parts.

3. Judging Hay

SUPPLIES: 4 flakes of different quality hay, notecards numbered 1-4, 50 oral reasons notecards.

DIRECTIONS: Let the teams complete the task. Work with them as needed particularly to determine the cuts (degree of differences) between the pairs.

SITUATION: Your hay supplier has just brought over four samples of hay for you to evaluate.

TASK: Discuss what makes good hay. Judge the samples as a class and determine the cuts (degree of differences) between the pairs.

4. Presenting Oral Reasons

SUPPLIES: 50 oral reason notecards.

DIRECTIONS: Refer to information on the oral reasons notecard in the kit. Let each 4-H'er give a complete set of oral reasons.

SITUATION: The parents and members of the 4-H beef project group are interested in why you placed the hay as you did.

TASK: Using the 4-H oral reasons notecard as a guide, present your reasons.

5. Scoring a Judging Class

SUPPLIES: Hormel computing slide, paper, and pencils.

DIRECTIONS: Give the team a scorecard with different placings, have them study the project meeting guide to figure the class score. If they are still completely confused after a few minutes, walk them through an example using the six steps. Let them check the score using the Hormel computing slide.

SITUATION: The official cuts and placing for the class have just been given.

TASK: Work together to figure your score for the class.

6. Dehorning a Calf

SUPPLIES: Dehorning equipment, model horns, caustic potash, scissors.

DIRECTIONS: Provide the supplies and let the team solve the task. Follow up with questions.

SITUATION: You have been asked by your neighbor to dehorn his calf. You agree.

TASK: Demonstrate how to dehorn the calf.

7. Castrating a Calf

SUPPLIES: A model calf made from the Minnesota 4-H calf pattern, elastrator with rings, burdizzo, emasculator, knife, or all-in-one castrator.

DIRECTIONS: Listen while the 4-H'ers demonstrate how to castrate a calf. Follow up with questions.

SITUATION: Your neighbor has asked for your help to castrate his calf.

TASK: Demonstrate your castrating technique.

8. Identifying a Calf

SUPPLIES: Ear tags, ear tagger, tattoo set.

DIRECTIONS: Let the team demonstrate how to solve the task. Follow up with questions.

SITUATION: You want to be able to identify your new calf.

TASK: Demonstrate one or more ways to make the calf identifiable.

9. Implanting Growth Hormones in Beef Cattle

SUPPLIES: Model ears, implanting gun, implanting pellets, calf puppet head.

DIRECTIONS: Let the team complete the task. Follow up with questions.

SITUATION: You are determined to make your market animal grow as fast as possible.

TASK: Demonstrate how to implant the pellets in the animal.

10. Identifying Feed Ingredients

SUPPLIES: Packet of 9 to 12 feed ingredients, chips with ingredient names and human food names, paper plates with the words PROTEIN, ENERGY, WATER, VITAMINS, and MINERALS written on them.

DIRECTIONS: Let members match the chips to the ingredients. Then have them put all chips on the plate specifying its nutrient category. Ask questions and discuss.

SITUATION: Your local feed store manager has dropped off some feed ingredients for your project group's use.

TASK: Identify the ingredients and divide them into nutrient categories of energy, protein, vitamins, minerals and water.

11. Understanding a Feed Tag

SUPPLIES: Feed tags.

DIRECTIONS: Provide the teams with feed tags. Let members explain what they read. Ask questions and discuss. Refer to the project meeting guide.

SITUATION: You're in a feed store and a customer sees your 4-H t-shirt. The customer ask your help in understanding a feed tag.

TASK: Explain to the customer what information the tag contains and how it helps in choosing a feed for a flock or herd.

12. Delivering a Calf

SUPPLIES: Minnesota 4-H model calf, calf delivery box, K-4 jelly, Ivory flakes, obstetrical equipment.

DIRECTIONS: Let the team demonstrate how to deliver the calf. Follow up with questions.

SITUATION: Your cow has been in labor for a long time.

TASK: Demonstrate how to deliver the calf.

13. Caring for the Newborn Calf

SUPPLIES: Minnesota 4-H model calf, towel, 7% iodine bottle, sentence fragments as listed in the project meeting guide, colostrum bottle.

DIRECTIONS: Let the team demonstrate, and then follow up with questions. If time permits, have each member do the card exercise described under the third question in the project meeting guide.

SITUATION: A new calf has just come into the world.

TASK: Demonstrate what you would do during the calf's first 24 hours.

14. Taking an Animal's Temperature

SUPPLIES: Model or real calf, thermometer, string to attach to thermometer, notecards to record information.

DIRECTIONS: Provide the supplies and let the team deomonstrate how to solve the task. Follow up with questions.

SITUATION: The veterinarian has asked you to take your sick animal's temperature, pulse, and breathing rate.

TASK: Demonstrate how you take each of these.

15. Administering Medication to Animals

SUPPLIES: Needle and syringe, I-V needle and tubing, feed packet, drench gun, bolus gun, model calf made from Minnesota 4-H calf pattern.

DIRECTIONS: Provide the supplies and let the 4-H'ers demonstrate how to solve the task. Follow up with questions.

SITUATION: At various times your animal has been given medication orally, subcutaneously, intravenously, and/or intramuscularly.

TASK: Demonstrate how to use these methods to administer medication.

16. Identifying Retail Meat Cuts

SUPPLIES: Pictures of meat cuts, chips with names of meat cuts, 4-H Beef Parts Chart, Meat Board Chart for reference.

DIRECTIONS: Let the 4-H'ers match the chips with the cuts, and then check their scores. Follow up with questions about where various cuts are located.

SITUATION: You are practicing for the Meats Judging contest.

TASK: Match the names with the meat cuts.

17. Taking Carcass Measurements

SUPPLIES: Ruler, acetate tracing paper, pencils, grid paper, planimeter, rib eye steak.

DIRECTIONS: Provide the materials and allow the teams to demonstrate how to determine the loin eye area and any other carcass measurements.

SITUATION: You have been asked to help take carcass measurements.

TASK: Demonstrate how you would take the measurements required.

18. Making a Rope Halter

SUPPLIES: Nylon or manila three-strand rope, hog rings, pliers, animal puppet head.

DIRECTIONS: Provide copies of "Making a Rope Halter" to the team if they need them, and let them make a halter. Have them put a complete halter on an animal puppet head before leaving the station.

SITUATION: You are unable to find your favorite halter.

TASK: Demonstrate how to make a rope halter.

19. Tying Farm Knots

SUPPLIES: Eight 5-foot lengths of rope, available board or other object to which to tie knots.

DIRECTIONS: Let the 4-H'ers attempt to tie the knot before asking any questions.

SITUATION: You want to brush up on your knot-tying skills before you begin training your project animal.

TASK: Demonstrate how to tie eight different knots and tell when you would use each.

Acknowledgment

Special thanks go to the Minnesota Livestock Breeders' Association, which provided funding for the development of the training aids and materials used for the seven species skillathons conducted at the Minnesota State Fair, as well as for the printing of this project meeting guide.

I'm a 4-H Project Leader: Now What Do I Do?

How do I know who is in my project?

- Your club organizational leader will provide you with the names, addresses and phone numbers of the members enrolled in the project for which you are the leader.
- If you are working on the county level, contact the UCCE for the list of project members.
- The organizational leader may indicate to you if any of the youth have special needs. At your first project meeting, note any other youth that may have special needs.
- You may wish to consult with the parent or your 4-H Youth Development Agent as to how to work with a special needs child.

How often should I hold project meetings?

It is recommended you hold 4-6 meetings that each last 1½ to 2 hours in length. Some projects require more meetings or a longer meeting time to accomplish your goals. Some projects, such as leathercraft, may lend themselves to individual project work as members progress on their projects. In this case, you should hold several introductory meetings for all members and then set up a schedule of time for them to sign up for individual help.

When do I start?

Get started as soon as possible! Members' interest in a project is most keen when they are signing up for a project and when they get their project books.

How do I cover the cost of project meetings?

- There is a wide variety of means for covering the cost of project meetings. Some methods used include:
- Each member pays for their share of the expenses or provides a portion of the supplies.
- The club agrees to cover expenses using funds from their treasury. Approval in advance is needed for this.
- Members and leaders can solicit donations/supplies from area businesses.
- Sometimes funds from sources outside your club may be available to cover your project meeting costs.

How do I establish a project meeting schedule?

First, determine when you are available to work with project members. Then determine an initial project meeting date by consulting with your project members.

Thanks to 4-H Youth Development Programs, UW-Extension, Cooperative Extension for use of these materials.

Publicize the date using one of the following means:

- County and/or club newsletter
- Club meeting or leader association meetings
- Postcards or phone calls to project members

You may not be able to schedule an initial meeting that everyone can attend. Establish a time to meet with those unable to attend before you hold your second project meeting.

Where do I hold project meetings?

Typically project meetings are held at project leader homes, schools, or community buildings. For more information on facility adaptability and liability concerns contact your 4-H Youth Development Agent.

What safety precautions do we need to consider?

Consider the type of safety issues your particular project involves. Request and secure necessary safety items such as ear protection, eye protection and head protection.

How do I let others in my club or other clubs know I am a project leader?

Prior to enrollment ask for time on your club's meeting agenda to let families in your club know you're a project leader and to share some things the kids could do in the project if they enrolled in it. When the project materials are handed out, take the opportunity to inform or remind members that you are their project leader and set an initial meeting date with the group. If no one in your club is in your project, you may wish to offer your services to a neighboring club. Talk to your club organizational leader or county 4-H Youth Development agent about this opportunity.

How do I prepare for the first meeting?

You may want to establish a 4-H resource box where you keep your project materials and any additional resources you will be using. Take time to become familiar with your project literature and talk to others who were project leaders for this project to find out what activities the members enjoyed.

What should I do at the initial project meeting?

- At the initial project meeting, here are some ideas of what you might want to cover:
- Find out what the members want to learn and accomplish in the project. The project literature is an excellent source of ideas.
- Review the safety practices that members will need to follow.

Thanks to 4-H Youth Development Programs, UW-Extension, Cooperative Extension for use of these materials.

- Do an introductory activity related to the project so the members get to know one another
- Have a small project the members can complete and take home
- Talk about how the project meeting supplies will be paid for. Experienced leaders have found it easiest to charge a small fee to cover the cost of the expenses.
- Assess when members are available for additional meetings. You may wish to ask the parents or members to bring along their calendars of family activities.
- Encourage parents to participate in project meetings, especially the initial meeting.

What does a typical project meeting look like after the initial orientation?

Use the experiential learning model (found in the introductory pages of your Helper's Guide) to plan your project meeting. The project helper's guide will provide suggestions for designing a project meeting. Here are some suggestions for each section of the model:

Do

- Plan an activity to focus the project members on what they'll be doing today. Work on the project for that meeting.

Reflect

- Review the process completed
- Discuss what worked and didn't work.
- Talk about how any problems that arose were solved.
- Assist members in documenting their project work for inclusion in their record books/portfolios.

Apply

- Ask the project member the following questions:
- What else have you seen that is similar to this?
- How can you apply what you learned today to other situations?

What resources are available to help me?

- 4-H Project Literature – You will receive project literature through your 4-H club or the UW-Extension office. Typically there is a helper's guide and member literature for three to four levels.
- Other People in my Club & County – There are a number of people in your county who would be willing to share project ideas and tips with you.

Thanks to 4-H Youth Development Programs, UW-Extension, Cooperative Extension for use of these materials.

These include:

- Project leaders in other clubs
- County Staff
- Older youth who have been involved in the project

- Media Collection & Public Libraries – Additional resources can be obtained from the Cooperative Extension Media Collection. They have videos, skillathons, displays and resource packages available to support a variety of projects. There is a user fee per item you or your club will be responsible for. You can view their catalog at their website http://www.uwex.edu/ces/media/. Check with your local public library to find out what resources they may have or that you can obtain through inter-library loan.
- 4-H Website – Wisconsin 4-H is continually adding more information and activities to their website. Visit this site at www.uwex.edu/ces/4h/onlinepro/. You may wish to check out websites from other state 4-H programs also.
- Volunteer Leaders Conferences – Review each issue of your county's newsletter to learn about training sessions for project leaders offered by your county, district or at statewide events. Sessions focusing on new project literature are typically offered at the State 4-H Volunteer Leader Conference held every other year. Periodically statewide conferences focusing on specific project areas are offered in addition to sessions at the volunteer conferences. You can also exchange ideas with other leaders at statewide Field Day.
- Field Trips – Youth always enjoy the opportunity to see firsthand how things are done and how they work. Consider taking your project group on a field trip or tour of a local business or company to enhance their project experience. An example would be taking your dairy members to a cheese factory or your foods group to a local bakery.
- Local Experts – Bring in a local "expert" to share their ideas and experiences with your group. One example would be asking a Master Gardener to share information on choosing perennial or trimming shrubs at one of your project meetings.
- Magazines – Many leaders have found creative ideas to supplement those in the project literature in magazines they have or those at the public library.

Thanks to 4-H Youth Development Programs, UW-Extension, Cooperative Extension for use of these materials.

How can I incorporate activities not included in the project guide?

We encourage you to use the ideas in the project literature as they have been successfully used with youth. If you have some additional activities you would like to incorporate, consider the following criteria:

- Of interest to kids
- Developmentally appropriate
- Incorporate the experiential learning model
- Youth and adults are involved in determining what will be done
- Enhances the development of member life and project skills
- Research based source of content utilized

What is the relationship between project work and the county fair?

The County Fair is an opportunity for an independent evaluation of life and project skills a member learned through completing a project. County fair entries typically match the activities included in the project literature and may include other activities that are being emphasized in your county. One of your roles is to help maintain the focus of members and parents on the goal of 4-H, which is to develop blue ribbon kids. Talk with members about what they learned about each of their fair entries from the judging process. Help members celebrate their accomplishments regardless of the color of ribbon each project member received at the fair. This may be done through individual encouragement or at a meeting following the fair. While entering and displaying a project at the County Fair is the traditional method of public affirmation, there may be other means of exhibition such as a club tour, open house, community celebrations or others.

Who can I go to if I need someone to help me during the project meetings?

If you are leading beginning level project meetings, ask older members in the project to help you. This is a great leadership experience for them! Parents are another excellent source of help. Don't hesitate to ask them to stay for the meeting and be actively involved in their child's project work.

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