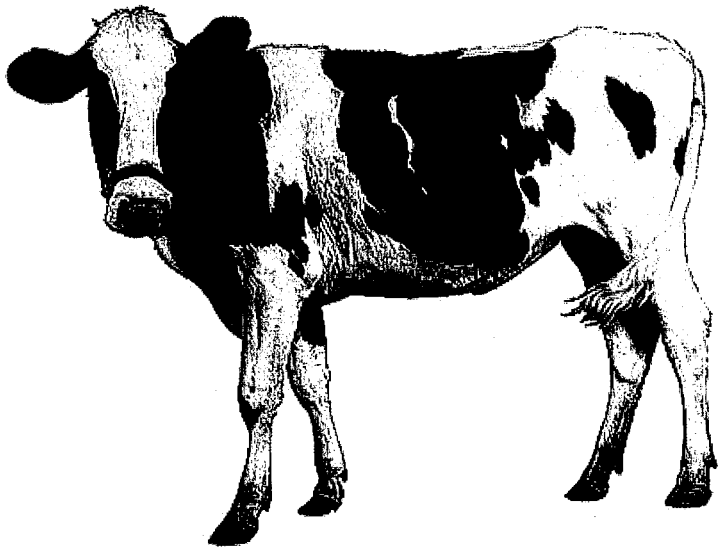
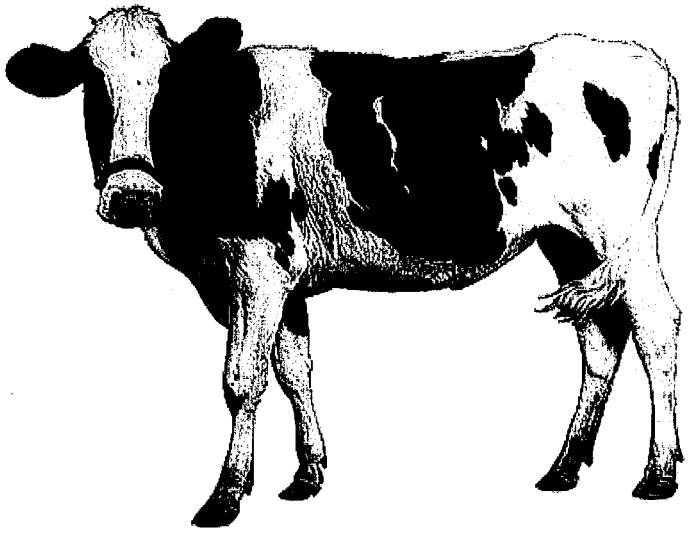
UC
CE

Dairy Cattle





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.

DAIRY CATTLE

Sonoma County 4-H

Name: _____ Date: _____

Guidelines for Project Proficiency Award
Beginning:

	Date Completed	Leader's Initials
1. Name at least five breeds of Dairy Cattle.	_____	_____
2. List and briefly describe the four main criteria used to judge a Dairy Cow or Heifer.	_____	_____
3. Explain colostrum and its function.	_____	_____
4. Describe the proper feeding of a Dairy Heifer during the first three months.	_____	_____
5. Explain the difference between the terms "registered" and "grade."	_____	_____
6. Name three different ways that you can mark your Dairy Heifer or cow.	_____	_____

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

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

DAIRY CATTLE

Sonoma County 4-H

Name: _____ Date: _____

Guidelines for Project Proficiency Award
Intermediate:

	Date Completed	Leader's Initials
1. Lactation relies heavily on the reproductive cycle of the dairy cow.	_____	_____
What is the period of receptivity to breeding called?	_____	_____
2. How often does it occur?	_____	_____
3. There are distinct stages to a cow or heifer's heat cycle. One of the most obvious signs that a cow or heifer is in heat is _____ heat.	_____	_____
4. How long does this period last?	_____	_____
5. What are some secondary signs that a cow is in heat?	_____	_____
6. When is the egg released?	_____	_____
7. When is the best time to breed a cow during its heat cycle?	_____	_____
8. What is the function of the cow or heifer's ovaries?	_____	_____
9. What separates the uterus from the vagina?	_____	_____
10. To avoid disease transfer, which type of breeding technique is preferred?	_____	_____
a. natural breeding by a bull		
b. artificial insemination		
11. Name some advantages and disadvantages of artificial insemination for dairy cows and heifers.	_____	_____
12. Name some advantages and disadvantages of natural breeding for dairy cows and heifers.	_____	_____

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

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

DAIRY CATTLE

Sonoma County 4-H

Name: _____ Date: _____

Guidelines for Project Proficiency Award
Advanced:

	Date Completed	Leader's Initials
1. The most important showing period of a Dairy Heifer's life is usually her first two years. To grow properly and to be safe, a heifer needs to be immunized against disease and medicated to remove parasites. Please answer these questions about disease and parasite control in the first 2 years of a Dairy Heifer's life:		
a. At 2 months of age your dairy calf should receive her first inoculations. What are they and explain briefly each of the diseases they prevent.	_____	_____
b. What is brucellosis and when and why should a calf be vaccinated for it by your vet?	_____	_____
c. Discuss de-worming and when it should be done. With what? Why?	_____	_____
2. Cattle are called ruminants. How many stomachs compartments do ruminants have?	_____	_____
3. Please name each stomach compartment and its function in the cow.	_____	_____
4. The mammary system is the most important characteristic of the dairy cow. It is the one element that makes the cow so different and valuable compared to other bovine. Please discuss in detail what happens during the milking process that allows that milk to come from the cow.	_____	_____

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

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

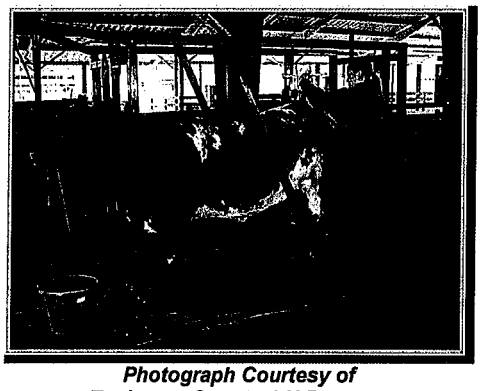
CLOVER SAFE

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.

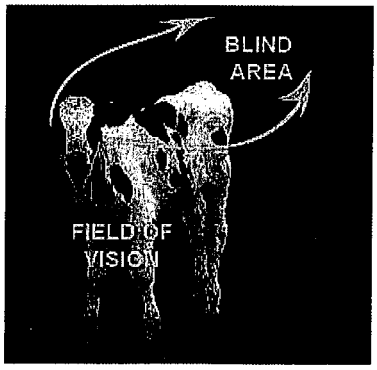
Cattle Characteristics

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

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

DAIRY & DAIRY GOAT

....to develop
project and life skills

4-H Animal Science
Project Meeting Guide, AS-20, '81

DAIRY & DAIRY GOAT

SELECTING 4-H DAIRY & DAIRY GOAT 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 learn 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 on the availability of project meeting guide "Planning the Project Group's Yearly Program" It will help your group get off to a good start.

Selection & Judging

___Identifying Breeds (1)
___Identifying Parts (1)
___Selecting Your Project Animal (1)
___Constructing The Ideal Dairy Animal (2)
___Classifying A Dairy Animal (2)
___Reading & Evaluating Pedigrees (2)
___Recognizing Abnormalities & Faults Of Dairy Animals (2)
___Conducting A Judging Contest (3)
___Selecting A Judging Class (3)
___Judging A Judging Class (1)
___Talking Like A Dairy 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)
___Determining A Dairy Animal's Weight (1)
___Tattooing A Dairy Animal (2)
___Trimming A Dairy Animal's Hooves (2)
___Castrating A Dairy Animal (2)
___Dehorning A Dairy Animal (2)
___Setting Goals for Profitable Dairy Production (2)
___Constructing A Dairy Goat Manger (3)
___Calendarizing Livestock Management Practices (3)
___Weaning A Dairy Animal (2)
___Understanding Dairy Cow Behavior (2)
___Casting Cattle (3)
___Designing Facilities (3)

Kidding & Calving Times Skills

___Preparing The Doe For Kidding (2)
___Caring For The Newborn (2)
___Delivering A Dairy Animal (2)
___Saving A Weak Newborn Dairy Calf Or Kid (2)
___Removing A Calf's or Kid's Extra Teats (3)

Health Practices

___Recognizing The Healthy Animal (2)
___Taking A Dairy Animal's Temperature, Pulse and Breathing Rate (2)
___Identifying Herd Health Supplies (2)
___Stocking The Medicine Cabinet (2)
___Treating Scours In Dairy Animals (2)
___Treating Foot Rot (2)
___Detecting And Treating Mastitis (2)
___Examining A Fecal Sample For Parasites (2)
___Controlling External Parasites (2)
___Controlling Internal Parasites (2)
___Detecting And Treating Mastitis (2)
___Vaccinating Your Calf (3)
___Diagnosing And Treating Infectious Dairy Cattle Diseases (3)
___Tracing The Roundworms Life Cycle (3)
___Recognizing Common Animal Health Problems (3)
___Outlining A Herd Health Program (3)
___Administering Medication to Animals (3)

Records & 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)
___Understanding DHIA Records (2)
___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)
___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 The Animal's Digestive System (3)
___Improving Forage Production (3)

Fitting & Showing

___Fitting Your Project Animals (1)
___Training A Dairy Animal For Show (1)
___Clipping A Dairy 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

___Understanding Systems Of Breeding (3)
___Tracing The Development Of the Unborn (3)
___Understanding The Heat Cycle Of Dairy Animals (3)

Milk & Marketing

___Using Proper Milking Procedures (1)
___Cleaning Milking Equipment (1)
___Identifying Milk Products (1)
___Preventing High Bacterial Count (2)
___Making Yogurt (2)
___Making Soap (2)
___Evaluating Milk Flavors (2)
___Preventing Mastitis Flare-Ups (2)
___Examining The Composition Of Milk (2)
___Understanding Milk Related Terms (2)
___Making Cheese (3)
___Making Butter (3)
___Producing Milk In a Dairy Animal (3)
___Following Milk From Farm To Table (3)
___Selecting A Milking System (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 Skillathon (2)
___Evaluating Your 4-H Project Meeting (2)
___Conducting Tours And Field Trips (3)

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DAIRY & DAIRY GOAT

SELECTING A 4-H DAIRY PROJECT CALF

JEFFERY K. RENEAU
Extension Dairy Specialist

IMPORTANCE OF THE TOPIC

Selecting a calf is a very important decision for the 4-H member. Choosing the right project animal requires lots of study and thought. Just as the dairyman, the 4-H member should use all the tools available to assure a wise decision.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH:

By actively participating in this dairy project meeting your 4-H'ers will be able to:

1. Select a calf using 3-5 different criteria.
2. Explain the reasons for the selection.
3. Develop skills in decision making, learn how to use information and gain confidence.

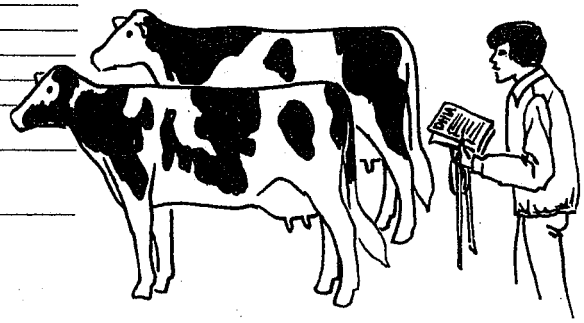
PREPARE FOR THE MEETING:

In order to be prepared to help your members actively learn how to select a calf you'll want to have available for them:

- 2-4 actual calves (or pictures if calves are not available)
- information on each calf so that members will be able to fill out the calf selection form
- paper to make a calf selection form (see reduced form below)
- University of Minnesota Oral Reasons Note Card (optional)
- Pedigrees, DHIA records, growth chart weighing tape and health records from which to extract the needed information
- Dairy Calves and Heifers, 4-H Dairy Project Notebook

Calf Selection Form

	Calf #1	Calf #2	Calf #3	Calf #4
Date-birth				
Herd Name				
DHIA (yes or no)				
AI Sires (yes or no)				
Size for Age				
Health Records (Vacc., etc.)				
PDM Sire				
PDT Sire				
Dams Prod.				
Dams Ranking in Herd				
Dams Cow Index or DHIA EATA				
Dams Type (if known)				
Price				
Rank which calf you would pick 1st, 2nd, or 3rd				
Reasons for Decision:				



FACILITATE THE ACTIVITY:

Before your 4-H'ers are told or shown how you or some other expert would go about selecting a calf, allow them an opportunity to see how much they can figure out themselves. One way to do this is to divide them into teams of 2 or 3; provide them with information they can use to make their selection; and then present them with a situation and a task to do. For example:

SITUATION: You are just beginning a 4-H dairy project. Your brothers and sisters all have had 4-H dairy projects before and have had lots of fun showing at various county fairs and the State Fair. Your dad says you may select from any of

the cows in his herd or you may buy the calf from a neighbor. You would like to select an extra special calf.

YOUR TASK: Using the selection form and all the information available, select a calf you would like for a project animal and be prepared to explain why you made the decision.

If you are using actual calves ask your junior leaders or other adults to assist by providing specific information to the teams as they ask for it. After each team member of the team has compiled the necessary information they should analyze it and make their decision. Allow each team an opportunity to present its decision and reasons for deciding as they did.

After all teams have given their reasons, have the member who you have previously asked to give the "official" placing and reasons, do do at this time. Questions and comparison of information on the teams' calf selection forms should be encouraged.

QUESTIONS TO ASK:

Q. How do you decide which breed to select?
A. After studying each breed, select the one you prefer (Ayrshire, Brown Swiss, Guernsey, Jersey, Holstein).

Q. Should a registered or grade animal be purchased?
A. Although it is not necessary, you should consider selecting a registered animal. A registered animal may be worth more later and is usually eligible to be shown in more shows than grade. However,not all registered animals become profitable cows. Certainly a top-quality grade heifer is a better investment than a 'just average' registered purebred. Be sure to select a good calf whether registered or grade.

Q. From whom should you purchase your calf?
A. Perhaps if your parents have a good herd, this may be the best place to get your calf. If your neighbors have good herds they might be glad to give you a start. Rely on the wisdom of some of these good breeders. Other resource people that may be able to suggest where to buy a good calf will be your 4-H Agent, AI technician or veterinarian, or any member or official in your county or state dairy breed organization. They will know which dairymen have good cattle. Regardless of where you go to buy your calf (even if from your parent's herd) be scientific in your selection; use all the toos available to you.

Q. How old should your calf be?
A. There are two matters that must be considered here. First of all, it is best to buy a calf that is 3 to 6 months old. By this time the calf has been weaned, off to a good start, and less susceptible to disease. Secondly, the birth date is an important factor in determining which class the calf will be whown in. Generally the older calves in each class are at an advantage and place higher. Therefore, it would be advisable to select a calf that would be one of the older animals in its respective class.

Q. What are some additional guidelines which are used in calf selection?
A. 1. The herd should be on DHI records and one where AI sires have been used for several years.
2. Pick a calf from a dam ranked in the upper one-third of the herd.
3. The PDM of the calf's sire should be +1000 lbs. or more and the PDT should be plus.
4. Either the USDA Cow Index or the DHIA EATA rating for the dam of your prospective calf should be about + 600 lbs. of milk.
5. The type classification of the dam should be at least Good Plus or Desirable.

Q. What do the following abbreviations in words mean when selecting a calf?
A. **USDA Cow Index (or DHIA EATA)** The estimated transmitting ability of a cow for milk and fat production is a measure of the cow's genetic merit.

PDM—The Predicted Difference Milk is the best estimation of a bull's ability to transmit the ability to produce milk to his daughters over and above the production of their herdmates.

Classification—Numerical score 0-100 based on the conformation of the individual as compared to the ideal.

PDT—Predicted Difference Type is the best estimate of a bull's ability to transmit conformation (type) characteristics to his sons and daughters.

TPI—Total Performance Index Composite estimate of a sire's genetic cabability derived by emphasizing milk to type at a three to one ratio.

RPT—Repeatability—Statistical reliability of the measurement.

Summarize the Activity:

After the teams have given their reasons allow one of your members the opportunity to be the "official" judge by giving placings, reasons, and cuts (margin of difference) between the pairs. Questions and comparison of information collected on each team's calf selection form should be encouraged. Talks, demonstrations, films, and slide sets are appropriate as followup activities.

Pat on the Back:

You deserve a pat on the back for allowing your members to actively seek out answers for themselves in a supportive atmosphere which recognizes your 4-H'ers right to make mistakes and have fun.

Supporting Topics

Scoring A Judging Class
Judging A Dairy Class
Using Dairy Judging Terminology

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DAIRY & DAIRY GOAT

USING DAIRY JUDGING TERMINOLOGY

JEAN WIEGREFE
Extension Agent

IMPORTANCE OF THE TOPIC

Every field of endeavor has its own language, its own vocabulary, its own set of terms. Communicating ideas and justification to others concerning the evaluation of an animal or placing in a class will be easier if you use the most descriptive, appropriate terms available.

This activity will be most effective if it follows the "Identifying Parts of the Cow" activity.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

By actively participating in this project activity, your 4-H'ers will do the following:

1. Use at least three descriptive terms per scorecard category.
2. Develop skills in expressing justification for decisions and comparisons.

PREPARE FOR THE MEETING

This activity will proceed most smoothly and successfully if you can plan to hold it in a location where you have access to several (at least two) dairy cows on which the differences in characteristics, expressed in specific terminology, can be pointed out. If this is not possible, illustrations available from the various breed organizations may serve a similar purpose, although the live animal is usually more effective. Slide sets are also available through your extension office.

After a five minute review of the parts of the cow, allow ten minutes per scorecard category to go over the terminology appropriate to that category (45 minutes total) and two minutes per 4-H'er to practice his or her new skill. You will need to have on hand to help illustrate your activity:

1. A poster listing the four dairy cow scorecard categories (General appearance, Dairy character, Body capacity, Mammary system)
2. Copies of Extension Folder 346 "Judging Dairy Cattle" for each 4-H'er, or copies of the dairy cow scorecard
3. Copies of 4-H M-148 Oral Reasons Note Cards for each member

FACILITATE THE ACTIVITY

4-H'ers absorb and retain more information when they actively participate in the learning activity than if they listen to a lecture or watch a demonstration. Also, knowing why this information could be important to them will give them more reason to pay attention. For example, if you understand dairy judging terminology you can:

1. Understand why judges at dairy shows place classes the way they do—their reasons make sense.
2. Communicate more easily with other people interested in dairy cattle.
3. Be on your way to giving a good set of oral reasons, since reasons are 75 percent accurate terminology, 15 percent planning, and 10 percent style.

Review the parts of the cow, either through a short verbal quiz or a written diagram. Once the correct names of the parts are in mind, the rest of the terminology comes easily. Figure 5 in Extension Folder 346 offers several suggestions for comparative terms. Experienced judges and county extension agents can, in many cases, find lists of many more. Constantly remind your 4-H'ers that aside from naming a part of a cow, a term will often also compare that trait of one cow with that of another, using adjectives like more, smoother, higher, wider, sharper, cleaner, longer,

stronger, straighter and shorter. These terms are very descriptive and are much more accurate than using "better". Presenting terms to describe dairy cows in groupings that fit the scorecard categories can help your members remember them through association. This method can also help teach what desirable traits are included in each category.

SUGGESTED ACTIVITIES

1. Presenting several terms in each category with a complete explanation of what it means, by showing the comparison on two cows, can be very effective. Question your 4-H'ers at the conclusion of your list in each category to quiz them, reinforce the terminology, and be sure they understood what you showed them.
2. After presenting the comparison between a couple of sample terms, have the 4-H'ers break down into teams of 2 or 3 members to work together to figure out what a selected 3 to 5 terms mean. Their results should be shared with the total group, giving them an opportunity to practice their "public speaking" skills and support their decisions, as well as work as a team.
3. Ask each 4-H'er to give a short (2 minutes at most) comparison of two cows in one scorecard category, using the terms learned. This reinforces the terminology, helps 4-H'ers think in a comparative fashion, and creates opportunities to speak in front of a group.

QUESTIONS AND ANSWERS

Some questions you might ask members during this project activity are listed below. Try to ask questions that require members to refer to the parts of the animal, compare traits between two animals, or use the terminology being studied.

1. What does the mammary system of an ideal dairy cow look like?
2. How do these cows differ in general appearance (or body capacity, dairy character, mammary system)?

SUMMARIZING THE ACTIVITY

Your 4-H'ers may like to see someone give a formal set of oral reasons comparing the cows they've been talking about, to get an idea how the terminology can be used. Encourage older members to try this, and try to help all members use the terminology they've learned when referring to their project animals, etc.

Supporting Activities

Other meeting topics which complement this activity include:

Identifying Parts of an Animal
Recognizing the Ideal Animal
Judging a Dairy Class
Presenting Oral Reasons

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4-H Animal Science
Project Meeting Guide, AS-23, '81

DAIRY & DAIRY GOAT

JUDGING A DAIRY CLASS

JEAN WIEGREFE
Extension Agent

IMPORTANCE OF THE TOPIC

Many activities are difficult to grasp until you are familiar with the rules, expectations, and process. Learning how to judge a dairy class not only allows a 4-H'er to participate in a judging workshop or contest, but also builds a framework for comparison of cattle, selection of show or breeding stock, and helps the individual to practice the process of decision-making.

This activity will be most effective if it follows the "Identifying Parts of the Cow", "Recognizing the Ideal Animal" and "Using Dairy Judging Terminology" activities.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

By actively participating in this project session, your 4-H'er will do the following:

1. Use at least three decision-making frameworks when judging a dairy class.
2. Develop skills in making and justifying decisions.

PREPARE FOR THE MEETING

This activity will proceed most smoothly and successfully if it can be held in a location where you have access to four dairy cows of the same age grouping (i.e. two-year olds) which can be used as a practice judging class. In an optimum situation, two groupings would be available so that one class can be used for the discussion and another for reinforcement.

After a five minute review of the parts of the cow, how a cow is evaluated and how to use the dairy cow scorecard, (as found in Extension Folder 346 "Judging Dairy Cattle"), a couple of short activities would illustrate steps that can be used when judging a class (5 at 5 minutes each). A consensus placing with informal reasons on the practice class, plus ten minutes to judge the second class and ten minutes to discuss it, with five minutes in between to explain how to mark the judging card, brings this total activity to 55 minutes.

Supplies to have on hand:

1. Judging cards
2. Pencils, notepaper, clipboards
3. Some method of numbering the cows
4. Extension Folder 346 "Judging Dairy Cattle"
5. University of Minnesota Oral Reasons Note Cards

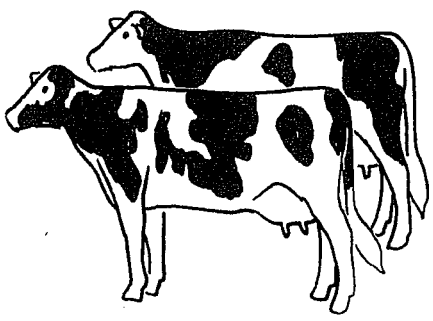
FACILITATE THE ACTIVITY

There are several steps that 4-H'ers can use to help them place a judging class. Here are suggestions for showing your members how each can be used. You will find that each step builds upon the last, refining the placing to a final decision.

First Impression: Ask your 4-H'ers to take a quick look at each animal and write down a placing based on those quick looks (allow them only a minute or so). Your first impression is often the best. Stick with it unless close inspection gives you a good reason to switch. If a class has an easy top or bottom, recognize it. Then spend your time on difficult placings.

Compare placings on first impression. What do you notice right away that tells you whether or not a cow belongs at the top of the class? How can this be misleading?

Note Each Animal: Ask your 4-H'ers to spend a minute per cow going over the dairy cow scorecard. They should make note of outstanding or detracting characteristics. Then, place them according to this close inspection (or modify first impression placing). Compare placings after close inspection. Did anything you noticed here change your mind about how the class should be placed? Can placing a class based on close inspection be misleading?



Place the Class Based on Scorecard Categories: Ask your 4-H'ers to spend a minute per category deciding how the individuals in the class compare to one another only in those characteristics . They should write down those placings and formulate a total placing from the averages. Compare placings after reviewing the class based on categories. Did anything you noticed here change your mind about how the class should be placed? Did the point weight of the categories (general appearance and mammary system at 30 and dairy character and body capacity at 20) have any influence over your total placing?

Take Notes: Ask your 4-H'ers to spend five minutes taking notes on the class according to their total placing from the previous activity. They should write a brief description of each animal to assist in recall, two to four definite differences on each pair, and a list of all grants. The use of the oral reasons note cards may be helpful for beginning judges.

Were there items to jot down for each pair? Does it look like there are enough points of justification for placing the class this way? Did you change your placing at all after you started taking notes?

Reasons: Thinking through your reasons helps avoid bad placings. Ask a couple of your 4-H members to informally share their reasons for their placings. They may only wish to start out by talking about just one pair instead of the whole class.

Did each 4-H member have the same final placing? Why or why not? Did each 4-H member agree as to the reasons one cow was placed over the other?

SUMMARIZING THE ACTIVITY

Developing a routine to gather the information you need makes judging a dairy class much less threatening. However, this is a skill that takes time and practice to develop. Many opportunities should be provided to judge classes of different ages and breeds, as well as to develop other skills related to judging dairy cattle.

Supporting Activities

Meeting topics which support this activity include:
- Identifying Parts of the Cow
- Recognizing the Ideal Animal
- Using Dairy Judging Terminology
- Preparing and Presenting Oral Reasons
- Scoring a Judging Class
- Conducting a Judging Contest

References

Extension Folder 346 Judging Dairy Cattle
Extension Bulletin 340 Livestock Judging (on marking cards)

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4-H ANIMAL SCIENCE
PROJECT MEETING GUIDE, AS-24, '81

DAIRY & DAIRY GOAT

CARING FOR THE NEWBORN CALF

JEFFREY K. RENEAU
Extension Dairy Specialist

IMPORTANCE OF THE TOPIC

On the average only 80 percent of our dairy heifers born on the farm will reach the milking string. Although there are several reasons for this, the major cause is calf death loss in the first month of life. We would like to keep calf death losses at a minimum (less than 5 percent). Genetic progress depends on how many good heifers your 4-H'ers are able to bring into their milking herd.

The purpose of this project meeting guide is to help you as a leader or junior leader provide a learn by doing experience for your 4-H members.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

Your members should be able to do the following by the end of the project meeting:

Demonstrate the steps necessary to care for a newborn calf.

Organize and present a team demonstration to help develop the life skills of working with others and orally presenting information.

PREPARE FOR THE MEETING

Ask the 4-H'ers to read and discuss with their family the section in their 4-H manual on caring for the newborn calf. You may also want to ask them to bring some of the supplies and materials:

Supplies needed:
Tincture of iodine; feed sack or towel; colostrum and bottle; model calf (U of MN Calf Pattern available); sentence fragments written on cardboard for matching exercise.

Resource material:
4-H Dairy Project Workbook (calves & heifers)
U of MN Ext. Folder 313, "Keeping Dairy Calves Healthy"
Hoard's Dairyman Calf Care Booklet.

FACILITATE THE ACTIVITY

The way you as a leader involve your members in the learning situation will be very important. In order to allow the members to develop both their project skills and life skills, actively learning by doing instead of listening or watching someone else will be especially important. Here are 9 steps which will help you quickly involve your members:

1. Divide into teams.
2. Make available supplies
3. Provide each team a realistic situation and a task to do.
4. Step back and allow the members time to discover their own solution.
5. Respond to 4-H'ers questions with questions so the answers are their own.
6. Listen to the member's presentation.
7. Accept their solutions.
8. Ask questions to help them build on what they presented.
9. Reinforce their efforts with praise.

SITUATION: You have been assigned the responsibility of caring for the newborn calves. Your sister has just come from the barn and let you know that "Old Dolly" was beginning to have her calf.

YOUR TASK: Demonstrate the steps you would take during delivery and the first 30 minutes of the calf's life.

QUESTIONS TO ASK

Some teams may need assistance preparing their demonstrations. Move from group to group and ask questions which will help them broaden their understanding. Here are some examples:

Q. Suppose you do not have a maternity pen, how could you provide a clean calving environment for a cow in a stall?

A. Place a grate over the gutter or a couple of bales of straw edgewise in the gutter. Also, coarse barn lime covered by fresh straw under the cow will provide a dry stall with better traction, should the cow have trouble getting up.

Q. Should we attempt to assist the cow at calving?

A. Normally it is not necessary; however, timely assistance when a cow is having difficulty reduces stress on both the cow and the calf. Recent research has shown that for every 10 minutes increase in labor the cow will take an average of two days longer to come into heat. Be sure you are working with the cow. This does not mean a block and tackle. Too much pressure on a malpositioned calf can injure both the cow and the calf. However, one or two people pulling on the calf will not cause injury. If sufficient progress is not being made within one-half hour, something is wrong and you may need help.

Q. Given the nine steps on individual cards, put them in order as you would do them, and then match them with another set of cards listing the reasons why each step is important.

A. Below are the two lists to put on cards.

WHAT	WHY
Provide a clean maternity area.	Prevents the calves or the cows reproductive tract from being contaminated with disease-causing bacteria.
Assist the cow at calving if necessary.	Reduces calving time and calving stress.
Be sure the calf's nostrils are clear.	Helps calf breathe.
Hang calf by hind legs.	Drains mucous from nose, mouth and trachea.
Tickle inside nostril or rub ribcage vigorously.	Stimulates breathing.
Dry calf.	Stimulates blood circulation and reduces cold shock.
Dip navel.	Prevents infection.
Feed colostrum.	Feed at 6 percent of body weight during the first 6 hours of life to confer passive immunity.
Place in separate clean pen.	Reduces sucking problems, and helps prevent transmission of disease.

Summarizing the Activity

The demonstrations should provide a good summary of the meeting's activities. Encourage questions and praise the 4H'ers efforts.

SUPPORTING ACTIVITIES

Delivering a calf.
Identifying cattle.
Treating a scouring calf.
Administering medication to cattle.

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4-H Animal Science.
Project Meeting Guide, AS-25, '81

DAIRY & DAIRY GOAT

TREATING THE SCOURING CALF

JEFFREY K. RENEAU
Extension Dairy Specialist

IMPORTANCE OF THE TOPIC

The serious problem of calf scours is responsible for a high percentage of calf death losses. By helping 4-H'ers to successfully identify and treat the condition an important management skill will be shared.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

By actively participating in this project meeting your 4-H'ers will be able to do the following:

Demonstrate how to identify a dehydrated calf.
Demonstrate how to prepare and administer calf electrolyte solution.
Further develop their life skills of making decisions and demonstrating to others.

PREPARE FOR THE MEETING

A little time spent planning the meeting, reviewing the resource materials, collecting the supplies required, and involving others in each of these steps will often mean the difference between a very hectic meeting and a very exciting one for both you and your members. These are the materials you'll need:

A model calf made from the University of Minnesota 4-H Calf Pattern or a real calf
Scour medication; electrolyte recipe and ingredients—corn syrup, baking soda, table salt, bowl and measuring utensils
Esophageal feeder and/or oral calf feeder, calf bottle, and pail
Slide/tape set
4-H Dairy Project Manual and Extension Folder #313,1975, Keeping Dairy Calves Healthy, D.W. Johnson & Hansen, University of Minnesota.

FACILITATE THE MEETING

In order for your members to really understand enough so that they'll be able to give a demonstration to others you'll want to let them learn by doing before you show or tell them how. One way to quickly get them involved is to have them form teams of two or three, provide them with the necessary supplies, and give them a situation and a task to do. Then step back and allow them an opportunity to discover for themselves how to do the task.

SITUATION: You notice that one of your 4-H calves has suddenly developed scours. She appears gaunt and sunken-eyed but still can stand. She will drink but is very weak. You cannot get a veterinarian.

YOUR TASK: Demonstrate what you would do to save this calf.

QUESTIONS TO ASK

Many times after the teams have had a chance to work on their task a few questions may expand their understanding. Strive to answer their questions with questions, so they solve the problem themselves.

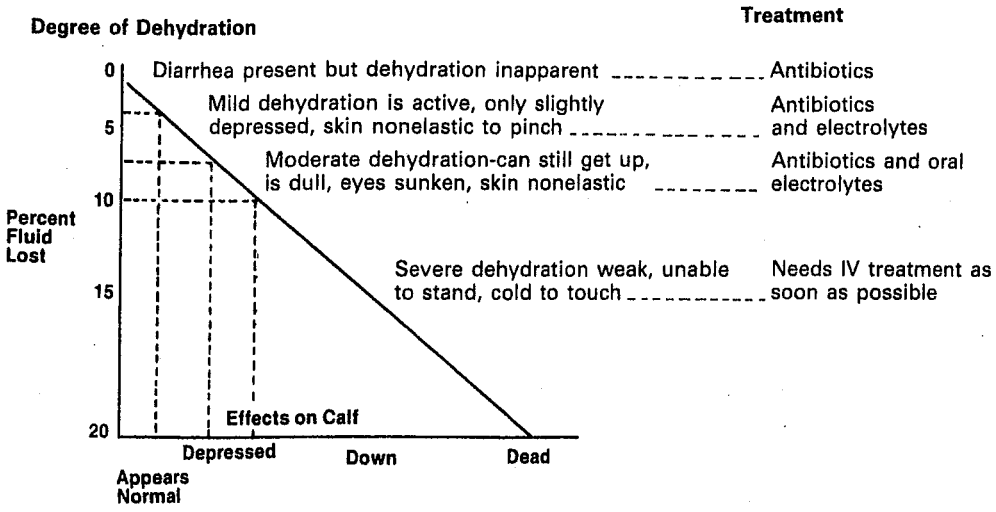
Q. What happens to the fluids in a scouring calf's body?
A. Fluids are rapidly lost leading to dehydration, shock, and acidosis which are the real causes of death rather than intestinal infection.

Q. How can you replace the fluids lost?
A. Prepare and feed an electrolyte mixture at the rate of 8-10% of body weight divided into 3 equal feedings daily.

Q. What happens if the calf is too weak to drink the electrolyte solution?
A. Use an esophageal feeder (or an oral calf feeder or fluid feeder).

Q. How do you use an esopogeal feeder?
A. 1. Lubricate the esophogeal feeder probe.
2. Extend the calves head and neck.
3. Insert the probe over the top of the tongue and gently push down the calves throat until only a few inches of the rigid portion of the probe is still visible. DON'T BE AFRAID!!! The tear shaped ball on the end of the probe is designed so that the probe cannot be inserted into the trachea (wind pipe).
4. Sanitize the feeder after each use.

Q. With the help of the chart figure out at what point in the course of this disease is it absolutely necessary for veterinary assistance with IV fluids and antibodies to save the calf.
A. When the calf is too weak to stand, eyes are sunken and limbs are cold.



Percent Fluid Lost

Q. What is an electrolyte solution?

A. A solution of various salts given to reestablish the proper balance in the animal's body.

Q. What if a commercial calf electrolyte solution is not available?

A. A perfectly adequate homemade solution can be made as follows: (actually mixing a solution should be encouraged as a part of each team's demonstration. Simply provide them these two recipes to choose from).

"Quick Formula"
1 tablespoon table salt
1 tablespoon baking soda
1 cup 50% dextrose or corn syrup

Place in one gallon of water. This is enough for one calf. It should be fed at a rate of one quart four times/day.

" Beef Consomme Formula"
1 pkg fruit pectin
1 teaspoon table salt
2 teaspoons baking soda
1 can beef consumme
Add warm water to make two

solution and feed at a rate of two quarts 2-3 times daily depending on the degree of scours.

Q. Should the calf continue to receive milk or milk replacer?

A. No, the calf should immediately be taken off the milk or milk replacer because milk tends to feed the disease causing bacteria and fuel the fire.

Q. What would you now consider the five most important steps you'll want to include in your demonstration and why?

A. Step 1: Take calf off milk replacer.
Why? milk tends to feed the disease causing bacteria and fuel the fire.
Step 2: Prepare and feed electrolyte mixture 8-10% of body weight divided into 3-4 equal feedings daily.
Why? The most important cause of death in scouring calves is dehydration and acidosis.
Electrolytes will rehydrate the calf and correct the acidosis.
Step 3: Administer scour medication.
Why? To kill bacteria causing the scours.
Step 4: Be sure the calf is isolated and in a dry, well-bedded, ventilated pen.
Why? Prevent the other calves from getting the 'bug'.
Step 5: Use a heat lamp (in cold weather).
Why? Most dehydrated calves are in shock and the body temperature is below normal.

SUMMARIZE THE ACTIVITY

The demonstrations or skits your 4-H'ers present to the entire group will provide an excellent summary. Encourage everyone to ask questions so the important points are discussed. If time permits, you may want to summarize the meeting activities by showing a slide/tape on the topic available through your county extension office.

PAT ON THE BACK

Give yourself a pat on the back for helping your members not only develop their project skills but, even more importantly, some important life skills. Your ability to sit on your hands and let your members discover for themselves how to identify and treat a scouring calf helps them deal with this and other problems with much more confidence and understanding.

Supporting Activities

Meeting topics which support this activity include:
Caring for the Newborn Calf
Identifying the Newborn Calf
Feeding Your Calf

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4-H Animal Science
Project Meeting Guide, AS-26, '81

DAIRY & DAIRY GOAT

USING PROPER MILKING PROCEDURES

JEFFREY K. RENEAU
Extension Dairy Specialist

IMPORTANCE OF THE TOPIC

Proper milking practices have proven effective in minimizing mastitis and maximizing milk yield. Learning the "whats" and "whys" of proper milking procedures can help develop valuable skills for the young aspiring dairy person. These basic skills, excercised over a lifetime, will yield extra dollars. Why not form good habits? After all, they are as hard to break as bad ones.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

By actively participating in the project meeting you 4-H'ers will be able to do the following:

1. Outline and demonstrate the steps of proper milking procedures.
2. Tell why each step is important.
3. Develop the life skills of problem solving and demonstrating to others.

PREPARE FOR THE MEETING

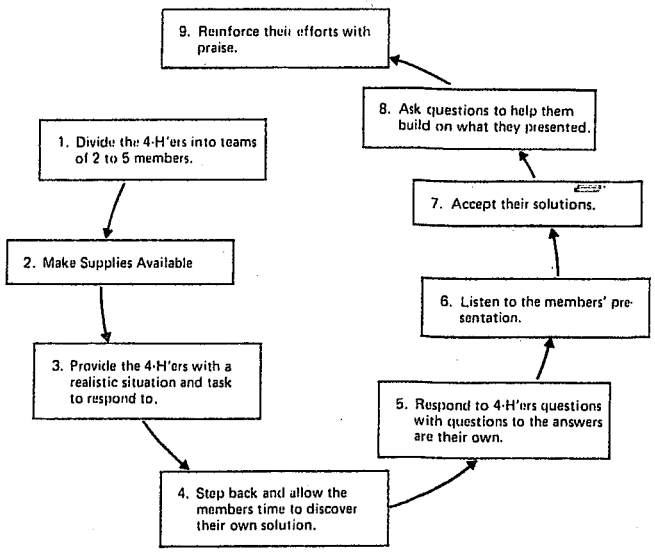
As the 4-H project leader you'll want to be ready for your members when they come through the door. With some prior planning with your members the meeting should be educational for all concerned. A review by everyone of the pages in the 4-H dairy workbook Dairy Cows and Management on milking will provide a basis for the meeting. Often your local milking equipment dealer, creamery fieldperson, or extension office will have additional books and pamphlets available.

Supplies:

Suggested supplies include a gentle cow or simulated udders using calf nipple pails, or plastic AI sleeves filled with water; paper towel; warm water udder wash, post-milking teat-dip, stopwatch or regular watch, and notecards with sentence fragments as indicated under the "Questions to Ask" section.

FACILITATE THE MEETING

Several methods may be used to help the members accomplish the objectives of the meeting. Some have a much greater opportunity than others of helping a 4-H'er develop important life skills in addition to learning proper milking procedures.



SITUATION: While your parents are taking a well earned vacation you and your neighbor have the responsibility of taking care of the dairy herd. Your neighbor has no experience milking.

YOUR TASK: Demonstrate to your neighbor the proper steps of milking and explain why each step is important.

QUESTIONS TO ASK

Make questions out of each of the following key steps. Work to respond to a question with a question instead of answers.

WHAT	WHY
1. a. Use separate towels to	—Avoid spread of mastitis between cows
b. Wash udder with warm udder sanitizers to	—Clean udder and stimulate milk letdown
c. 25-30 seconds is	—Time required for proper stimulation
2. a. Use separate towels to	—Avoid spread of mastitis
b. Dry udder to	—Remove excess moisture from udder and teat end
3. Use strip cup to	—Check for abnormal milk and check for adequate milk letdown
4. a. Apply milker to	—Milk cow
b. When teats are firm	—Good milk letdown is indicated
c. Approximately one minute after stimulation is	—Time required for good milk letdown
5. Adjust cups to	—Ensure even milk out
6. a. Quickly machine strip IF NEEDED because	—Overmilking causes teat end irration
b. 15 seconds or less	—Is all time required for mchine stripping
7. Shut off vacuum because	—Removing milker without shutting off vacuum causes teat irritation and milk droplet impacts
8. Remove milker when cow	—Is all milked out
9. Teat dip immediately because	—50% of new mastitis infections are prevented by this practice

SUPPORTING ACTIVITIES

1. An important point can be made in a fun way with one of the two calf nipples partially filled with water and both covered with turkish towel. Have a 4-H'er whom you've told which pail is which demonstrate inadequate stimulation on the empty pail or bottle and recommend stimulation on the filled pail or bottle. Ask the 4-H'er to involve others until the group figures out the secret.
2. Use a stopwatch to time how long the 4-H'ers stimulate the teats and how long a lag time there is between stimulation and application of the milker unit. A milker unit could be used but isn't necessary.
3. Using a stopwatch ask all 4-H'ers after you say "Go" to raise their hands when they think 40 seconds have gone by. Reward the one which comes closest. Have them explain the importance of this exercise in relation to proper stimulation.
4. Make up a group of cards from the list on "Questions to Ask" with a separate "What" or "Why" line on each. Stir them up. Ask the 4-H'ers to work together to put them in order with correct "Why" for each "What". If you have a large goup, additional sets may be useful. Encourage them to use their 4-H dairy workbook as a resource. Let them check each other's order (if more than one set is made) before they discuss it together. This is a good way to summarize the meeting activity.

Additional Topics for Meetings

Meeting topics which support this activity include:
- Manually Cleaning Milking Equipment
- Conducting a Dairy Project Bowl
- Conducting a Dairy Skillathon

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4-H Animal Science
Project Meeting Guide, AS-27, '81

DAIRY & DAIRY GOAT

IDENTIFYING MILK FLAVORS

VERNAL S. PACKARD, JR.
Extension Specialist, Food Science & Nutrition

IMPORTANCE OF THE TOPIC

This activity will help your members develop their sense of taste. In the dairy industry only good-flavored milk can be sold in the market place. One bad lot can ruin a whole tankload.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

By actively participating in this project meeting your 4-H'ers will be able to do the following:

1. Identify 3 to 5 flavors in milk
2. Prepare samples of off-flavored milks that can be used for practice sessions in flavor evaluation
3. Further develop the life skills of decision making and using knowledge.

PREPARE FOR THE MEETING

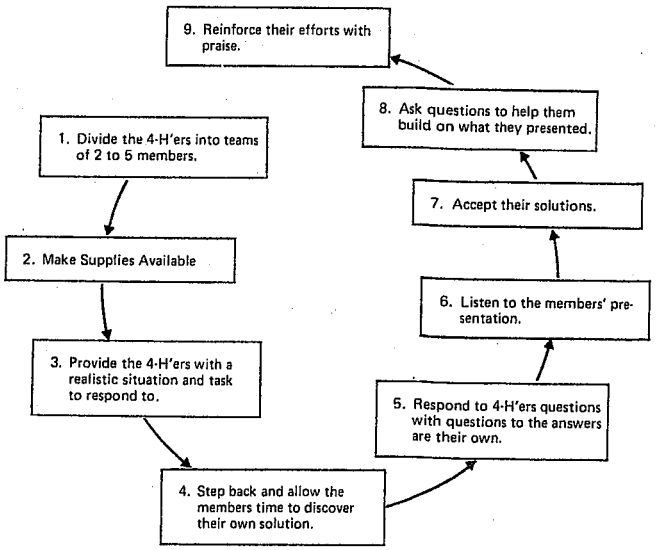
You and your 4-H junior leader will want to have the meeting well planned before the members arrive. Supplies which will be helpful include the following:

Prepare and have available five samples of various flavored milk. Samples should include 1) rancid, 2) oxidized, 3) feed, 4) salty and 5) good. Milk should be pasteurized and homogenized. Spitoons (plastic bag in a box); sample cups (small, paper, souffle cups) and paper and pencil for jotting down comments.

FACILITATE THE MEETING

This is an excellent learn-by-doing activity. As the 4-H project leader, you can facilitate the learning by making the situation realistic, providing encouragement, and asking questions to help further their understanding. Following this activity, go quickly to an ice cream social.

Here is a teaching method you may want to consider:



SITUATION: The dairy plant is breaking in a new man as quality control director. He tells you that your milk tastes like tobacco, as he rolls a cud around his mouth and sprays between his teeth a long, thin stream of tobacco juice. For some reason, you don't believe him and decide to do your own evaluation.

YOUR TASK: Smell, taste (roll around the mouth), and spit out each sample. Indicate on the paper whether it tastes all right or if off-flavored, describe the flavor in a word.

QUESTIONS TO ASK

After the members have done their best to identify the flavors, follow up with questions. Sometimes the teams participate in a project bowl setting to increase the interest.

Q. What causes oxidized, metallic, or cardboard flavor and how can these be corrected?

A. Exposure to "white metal" or rusty surfaces on milk handling equipment or possibly copper or iron in the water supply. The use of stainless steel, glass, plastic, or rubber on all milk contact surfaces will help correct.

Q. What causes rancid, soapy or bitter flavor?

A. Two causes are milk from late lactation (over 10 months) or low producing cows and agitation and foaming of milk in leaky pipeline milker systems.

Q. What causes feed flavor and how can it be corrected?

A. Eating or inhaling odors of strong feeds (silage, green chop, haylage) prior to milking or sudden changes in feed may cause feed flavors. Possible corrective measures include withhold the objectionable feed until after milking or remove cows from pasture two to four hours prior to milking. Feed should always be changed gradually.

Q. How would you describe the taste of good flavored milk?

A. Pleasant, slightly sweet taste and no odor.

Q. What are additional causes of off-flavored milk?

A. Poorly ventilated housing, dirty barns or cows, cows with mastitis, dirty milk handling equipment, slow or insufficient cooling, medications or insecticides.

Q. For contest purposes, how do you make milk taste rancid? Oxidized? Feed? and Salty?

A. Rancid—Foam raw milk with an egg beater; let stand one hour; pasteurize before sampling.
Oxidized—Add 1 part per million copper sulfate.
Feed—Distill feed flavor into milk.
Salty—add pinch of salt.

SUMMARIZE THE ACTIVITY

Ask each member to tell the group one thing they learned about milk flavors at the meeting. Encourage each one to relate something different. At the next meeting see how many tested their own farm's (or grocery store's) milk.

Supporting Activities

Several activities support a meeting on identifying milk flavors. A field trip to a processing plant, an inspection tour of a farm's milking operation plus other meeting topics may be considered.

Utilizing Proper Milking Practices
Cleaning Milking Equipment Manually
Conducting a Project Bowl
Conducting a Skillathon

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4-H Animal Science
Project Meeting Guide, AS-28, '81

DAIRY & DAIRY GOAT

MANUALLY CLEANING MILKING EQUIPMENT

VERNAL S. PACKARD, JR.
Extension Specialist, Food Science & Nutrition

IMPORTANCE OF THE TOPIC

This topic makes an excellent learn-by-doing activity for a 4-H dairy project group. Cleaning and sanitizing milking equipment are important in maintaining milk of low bacteria count and helping to prevent spread of mastitis. Both are "pocketbook" problems and in need of constant attention. Doing a good job every time is the key.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

By actively participating in this project meeting, your 4-H'ers will be able to do the following:

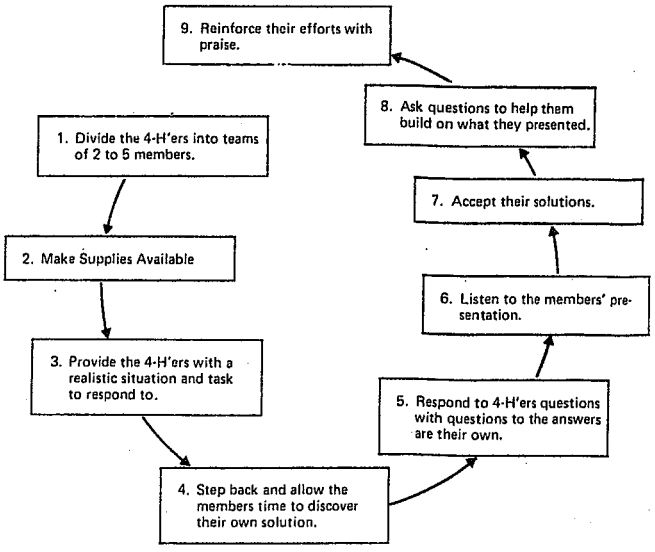
1. Demonstrate how to properly clean (manually) a milking bucket
2. Tell why each is essential
3. Further develop the life skill of working together as a member of a team

PREPARE FOR THE MEETING

Ask your members to bring a milking bucket and supplies to the meeting. Possible supplies include hard bristled brush, stainless steel sponge, dishcloth, brillo pad and perhaps two different detergents, one marked "manual" cleaning and the other "CIP". Also have available a jug or two of sanitizer.

FACILITATE THE MEETING

An easy way to conduct the meeting would be to simply show and tell the 4-H'ers how to clean the bucket and then possibly let them do it the same way. This method limits the opportunities for personal development of the 4-H'er and also limits understanding. Another method often referred to as "Learn By Doing Before Being Told or Shown How" is outlined below. You'll note that the 4-H'ers work together to solve a task and the role of the 4-H leader and junior leader involve supporting their efforts but not directly giving answers or showing.



SITUATION: Just as your mom or dad was about to clean the very last milking bucket after the evening milking, something dairy interesting happened, and though it was udder nonsense, they left right then for the city, leaving you holding the bucket!

YOUR TASK: Demonstrate to your little sister how you would clean the bucket.

QUESTIONS TO ASK

Q. What is the recommended procedure?
A. 1. Rinse bucket in clean, lukewarm water.
2. Fill the wash vat to a level high enough for the entire bucket to be submerged.
3. Read and follow directions in making up the cleaner solution.
4. Wash thoroughly in warm water.

Q. Why is warm water used instead of hot water for rinsing the bucket?
A. Warm water will melt the fat so it can be rinsed away. Hot water will "fix" the protein into the utensil being washed.

Q. What are the directions for mixing the cleaner solution?
A. For purposes of making up the proper concentration of cleaner solution what are the following equal to?
a. 3 teaspoons = 1 tablespoon
b. 48 teaspoons = 16 tablespoons = 1 cup
c. 96 teaspoons = 32 tablespoons = 2 cups = 1 pint
(Note: 1 teaspoon = approximately 1 percent of a pint)
d. 4 cups = 2 pints = 1 quart
e. 16 cups = 8 pints = 4 quarts = 1 gallon
f. 96 cups = 48 pints = 24 quarts = 6 gallons
(Note: 1 cup = approximately 1 percent of 6 gallons)

Instructions on use of some cleaners are in terms of "parts per million" (PPM). *Remember that a 1 percent cleaner solution contains 10,000 PPM.* Thus, if a hypochlorite solution is used and it calls for 200 PPM (1/50 of 10,000), one would use about 2 cups of cleaner per 6 gallons of water.
THIS IS SHOWN ONLY TO EMPHASIZE THE NEED TO FOLLOW DIRECTIONS.

Q. When should the bucket be sanitized?
A. Just prior to milking.

SUMMARIZE THE ACTIVITY

Suggest that your 4-H'ers work up a short skit which will include all the necessary steps. This is usually a lot of fun and allows everyone to get involved. A little encouragement is usually all that is needed.

Supporting Activities

Other meeting topics which help reinforce this one are mentioned below.
Conducting a Project Bowl.
Conducting a Dairy Skillathon.

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4-H Animal Science
Project Meeting Guide, AS29—Revised 1985

DAIRY

DETECTING HEAT IN DAIRY 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

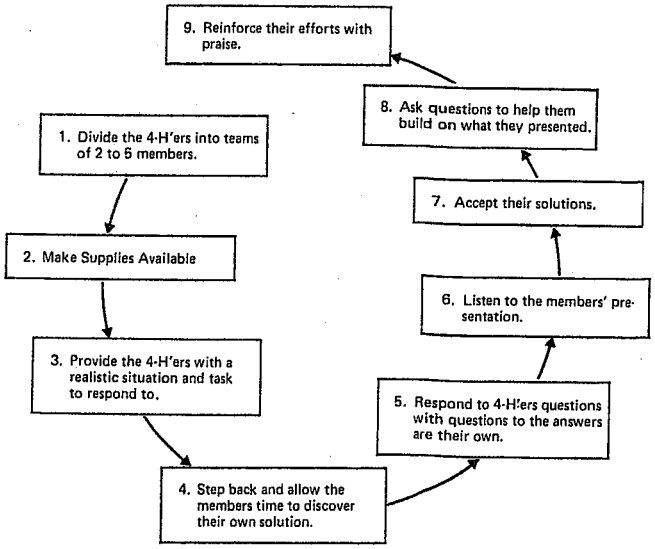
A little preparation will make the meeting enjoyable for all. Ask each 4-H'er to read the information on detecting heat in the 4-H Dairy Project Workbook prior to coming to the meeting. Be sure to invite the parents to attend the meeting.

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

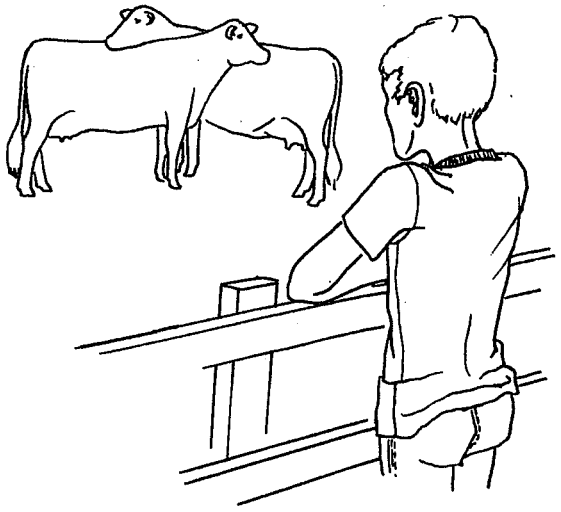
You may have some 4-H'ers who are very familiar with detecting heat. For others, this may be a new area to explore. Your challenge is to allow the members an opportunity to discover for themselves what they know or don't know about the topic. Then let them help each other increase their understanding. 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-30, '81

DAIRY & DAIRY GOAT

SAMPLING & TESTING LIVESTOCK FORAGE

JAMES G. LINN
Extension Dairy Specialist

IMPORTANCE OF THE TOPIC

Testing forages helps 4-H'ers develop skills in visual appraisal and gain an appreciation of the value of scientific testing. Forages comprise about two-thirds of the dry matter ration of cows. Knowing the nutrient content of forages is the first step in providing cows with balanced rations. The purpose of formulating and feeding grain mixes is to complement the nutrients supplied by forages. Forage testing is the only sure way of knowing the amount of nutrients supplied by forages and consequently formulating the correct grain mix to meet the animal's nutrient requirements.

WHAT YOUR 4-H'ERS WILL ACCOMPLISH

1. Tell why forage testing is necessary
2. Demonstrate how to sample forages properly
3. Apply forage test results in formulating a ration

PREPARE FOR THE MEETING

You'll want to review the resource material available from your extension office as well as collect the supplies needed for the activities indicated. A planning session before the meeting with your junior leader will help make a well organized, exciting learning experience for you and your members.

Resources

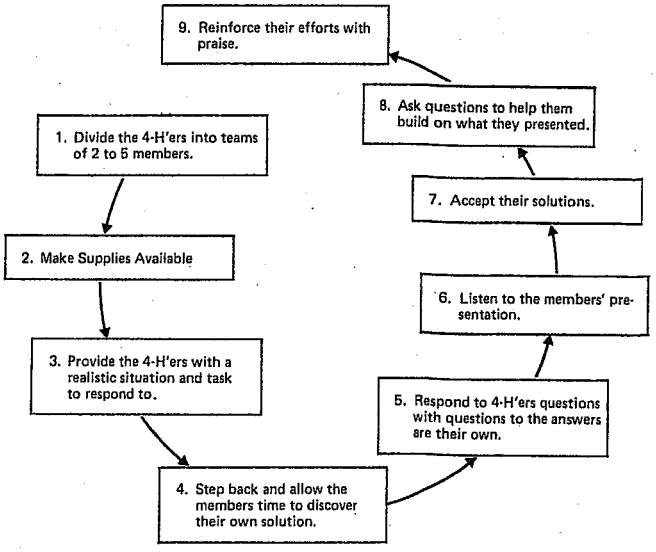
Agronomy Fact Sheet No. 25, University of Minnesota, Sampling and Testing Forages for Feeding value.
Extension Folder 297, University of Minnesota, Interpreting Forage Test Results.
Extension Bulletin 218, University of Minnesota, Feeding the Dairy Herd.

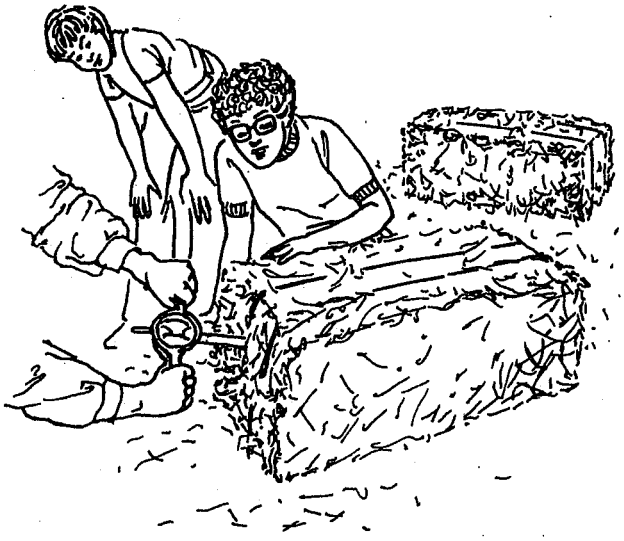
Materials

Three or more samples of forage which have previously been tested; 2-3 bales of hay; bale core.

FACILITATE THE MEETING

Activities which encourage team problem solving often support the member's personal development more than individual demonstrations. You'll find enthusiasm higher and the shyer members more willing to be involved. One method of quickly getting your members to work together is to supply them with materials, divide them into teams, and give the teams a realistic situation statement and a task to work on. Here is how the method looks:





First Activity—Sampling Forages

SITUATION: Your neighbors have asked you to formulate a ration for their dairy cows. They have alfalfa-grass, hay, and corn silage available. You decide to take samples of the forages and have them tested.

YOUR TASK: Demonstrate how you would go about taking samples of these forages.

QUESTIONS TO ASK

When appropriate, encourage the teams by asking them challenging questions as they work to put together their demonstration or skit.

Q. Why is it necessary to use a bale core rather than a slab of hay for getting a sample of baled hay?

Q. Compare samples from two or three bales of hay. Are they similar or different?

Q. Why should more than one sample be taken from a hay mow or stack of hay?

Second Activity—Guessing Forage Quality

Display three or more samples of forages on which you know the actual test results. Then present the teams with a realistic situation and task which fits your group.

SITUATION: Your team feels that it would like to see how close it can come to guessing the actual test results received on some forage samples.

YOUR TASK: Estimate on a piece of paper the dry matter, crude protein, crude fiber, calcium, and phosphorus content of the forages. Compare and discuss your estimates with the other teams and then see how close you come to the actual test results.

QUESTIONS TO ASK

Q. What is an average dry matter content for alfalfa hay? For silage?

A. Hay - 90 percent and silage–25-30 percent.

Q. What is the average crude protein content in alfalfa hay? In corn silage?

A. Hay - 14-18 percent crude protein. Silage - 8-9 percent crude protein.

Q. What is the average crude fiber content in alfalfa hay?

A. 26-36 percent.

Q. What are the average calcium and phosphorus contents of alfalfa hay? Of corn silage?

A. Hay - 1.30 percent calcium and 0.20 percent phosphorus. Silage - 0.27 percent calcium and 0.20 percent phosphorus.

SUMMARIZE THE ACTIVITIES

Ask your members to write down on a slip of paper one thing they learned at the meeting. Throw all the papers in a pile and have each take one and read it in turn. You may be surprised at the responses.

Supporting Activities

Several meetings may be built around the feeds and feeding aspects of the animal production. One or more of these project meeting topics might be used:

Identifying and Classifying Feed Ingredients
Formulating A Dairy Cow Ration
Balancing A Dairy Cow Ration
Understanding A Feed Tag
Understanding Animal Nutrient Requirements.

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DAIRY & DAIRY GOAT

DEVELOPING 4-H DAIRY PROJECT MEETING KITS

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

THE PROJECT MEETING KIT IDEA

Learn by doing 4-H project meetings in which the members develop both project skills and life skills usually do not just happen without some advance planning. Many times for one reason or another a 4-H project leader is unable to pull together all the supplies and other resources necessary. At times like these the project meeting kit is very helpful. A leader will usually find in the kit a project meeting guide with ideas on how to involve the 4-H'ers, plus training aids and equipment useful in assisting the 4-H'ers with the activity selected. Project meeting guides on several topics are available from County Extension Offices.

The information in this guide is designed to provide ideas to leaders and 4-H agents who are interested in assembling their own kits for project meetings or county use. The goal is for each county to have a readily available library of resources for leaders who want to use them as they meet with their 4-H'ers five or more times during the 4-H year.

USES OF STATE 4-H PROJECT MEETING KITS

Currently over 60 model kits have been designed by the State 4-H and Animal Science Specialists at the University of Minnesota. These kits are primarily in the animal science area. Counties who are interested in using the kits as models or in county leader workshops or skillathons may do so.

RESERVING KITS

Kits may be reserved by contacting the State 4-H Office. Arrangements must be made for transporting the kits to and from the county. Because of the size and weight of many kits, mailing costs would be prohibitive.

PROJECT MEETING BOXES

A supply of specially made boxes which can be used to package county kits are available for counties to purchase at a cost of $1.50 each. Make checks payable to the University of Minnesota. Arrangements for pick up must be made.

4-H DAIRY PROJECT MEETING KITS

Listed below are the kits which have been developed:

1. **Identifying Parts Of A Cow**
   Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, MN 4-H Dairy Parts Chart, parts T-pins, sponge for pins, cardboard for chart.
2. **Delivering A Calf**
   Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, model calf, calf delivery box, K-4 jelly, Ivory Flakes, obstetrical equipment.
3. **Caring For A Newborn Calf**
   Kit Contents: Project meeting Guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, model calf, towel, 7% iodine bottle, sentence fragments as in project meeting guide, colostrum, bottle.
4. **Treating Calf Scours**
   Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign,

model or real calf, scours medication, esophageal feeder or oral calf feeder.

5. **Dehorning A Calf**
   Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, dehorning equipment, model horns, caustic pot ash, scissors.
6. **Identifying Feed Ingredients**
   Kit Contents: Project meeting guide, Assisting at A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, packet of 9-12 feed ingredients, chips with ingredient names, plates with PROTEIN, ENERGY, WATER, VITAMINS, MINERALS, on them, chips with human food names.
7. **Feeding the Young Calf**
   Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon station guide, situation & task sign, station sign, scales, pail, plastic AI-sleeve.
8. **Identifying Calves**
   Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, ear tags, applicators, cardboard model ears, tatoo set, ink, Vaseline, small stiff bristle brush, pencil, tissues, towel, piece of chamois.
9. **Using Proper Milking Procedures**
   Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, plastic AI-sleeve, CMT test kit, teat dip, washrag, disinfectant for water, papertowels, cotton swabs, 7% alcohol, milk from a cow testing CMT-3.
10. **Judging Hay**
    Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, 4 packets of hay, notecards numbered 1-4, oral reasons notecards.
11. **Presenting Oral Reasons**
    Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign.
12. **Scoring A Judging Class**
    Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, Hormel Computing Slide, paper, pencils.
13. **Making A Rope Halter**
    Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, nylon or manila three strand rope, hog rings, pliers, animal puppet head.
14. **Detecting Heat In Dairy Cows**
    Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, reproductive record, calendar, 6 steps under "Steps In Good Heat Detection" as found in project meeting guide.
15. **Cleaning Milking Equipment**
    Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, pail, brush, stainless steel brush, sponge, dishcloth, Brillo pad, 2 different detergents, one marked "Manual Cleaning" the other marked "CIP", sanitizer bottle.
16. **Selecting A 4-H Dairy Project Animal**
    Kit Contents: Project meeting guide, Assisting At A 4-H Dairy Skillathon Station guide, situation & task sign, station sign, information cards on 2-4 calves, paper to make a calf selection form, pedigrees, DHIA records, growth chart, weighing tape, health records.

Donor Support

Special thanks goes to the following donors who provided funding to support the development of the kits:

* Minnesota Livestock Breeders Association
* Minnesota Pork Producers
* Minnesota Production Credit Associations
* Cenex Foundation
* Land O'Lakes

4-H Animal Science
Project Meeting Guide, AS-87, '83

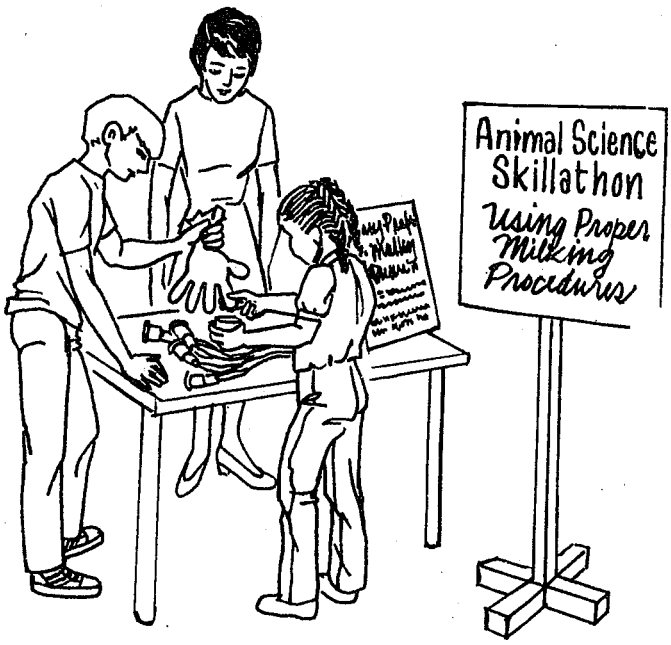
DAIRY

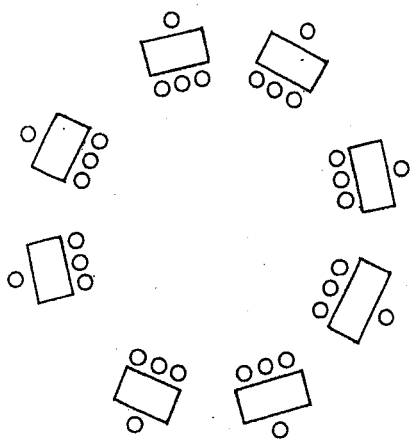
CONDUCTING A 4-H DAIRY SKILLATHON

JEFFREY K. RENEAU
Extension Dairy Specialist
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 dairy 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 station, group the members into teams of two to four, 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 to follow.

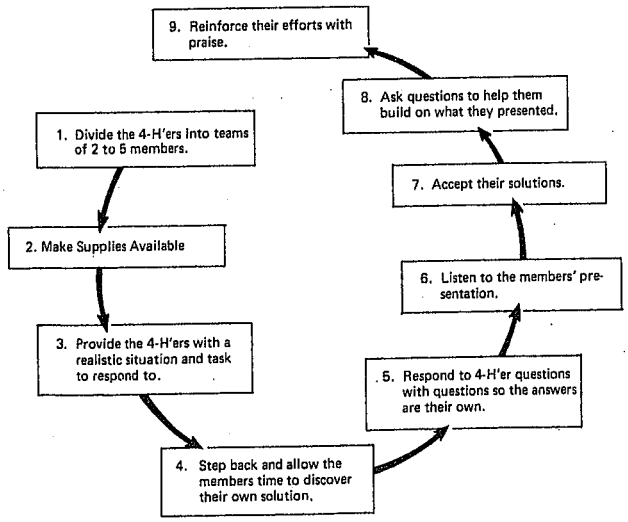
_____ Familiarize yourself with the topic and any available project meeting guides, supplies, and training aids.

_____ 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 manner:



_____ Ask the 4-H'ers how they would set up and conduct this 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

Suggested topics and ideas for each individual station are listed below. 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 station topics. At all stations, try displaying the situation and task information 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," situation and task signs previously described, a project meeting guide about the topic, and a station sign.

1. Identifying Parts of a Cow

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

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

SITUATION: You have been asked to help the younger 4-H'ers in your 4-H dairy project group learn where the parts of the dairy cow are located.

TASK: Work together to match the names with the numbers on the chart.

2. Delivering a Calf

SUPPLIES: Model calf, calf delivery box, K-4 Jelly, Ivory flakes, obstetrical equipment.

DIRECTIONS: Let team members demonstrate how they would deliver the calf. Follow up with questions.

SITUATION: Your 4-H project cow is having problems delivering her calf unassisted.

TASK: Demonstrate how to deliver the calf.

3. Caring for a Newborn Calf

SUPPLIES: Model or real calf, towel, 7% iodine bottle, sentence fragments as listed in the project meeting guide, colostrum bottle.

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

SITUATION: Your cow has just delivered a beautiful heifer calf.

TASK: Demonstrate what to do during the calf's first 30 minutes of life.

4. Treating Calf Scours

SUPPLIES: Model or real calf, scours medication, esophageal feeder or oral calf feeder.

DIRECTIONS: Let team members demonstrate how they would treat the calf. Follow up with questions.

SITUATION: You notice that one of your 4-H calves has suddenly developed scours. You cannot get to the vet.

TASK: Demonstrate how to treat the calf and tell what steps you would take to prevent scours in the future.

5. Dehorning a Calf

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

DIRECTIONS: Provide the supplies and let the team members demonstrate how they would solve the task. Follow up with questions.

SITUATION: Your neighbor has asked you to dehorn a calf. You agree.

TASK: Demonstrate how to dehorn the calf.

6. Identifying Feed Ingredients

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

DIRECTIONS: Have the teams match the chips with the ingredients. Then have them put each chip on the plate specifying its nutrient category. Ask questions and discuss.

SITUATION: Your local feed store manager has given you some feed ingredients to use in your project group.

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

7. Feeding the Young Calf

SUPPLIES: Water, scales, pail, plastic AI-sleeve.

DIRECTIONS: Follow the suggested activities in the project meeting guide "Feeding the Young Calf."

SITUATION: You have been assigned the job of feeding the new calf.

TASK: Demonstrate what and how much to feed the calf and tell why the correct amount is so critical.

8. Identifying Calves

SUPPLIES: Ear tags, applicators, cardboard model ears, tattoo set, ink, petroleum jelly, small stiff-bristle brush, pencil, tissues, towel, piece of chamois.

DIRECTIONS: Let team members choose for themselves what method to use. Follow up with questions.

SITUATION: Following the birth of the calf, you decide to permanently identify it before you put it with the other calves.

TASK: Demonstrate what you would do to make the calf identifiable.

9. Using Proper Milking Procedures

SUPPLIES: Milking machine, model udder, water, plastic AI-sleeve, CMT test kit, teat dip, washrag, disinfectant for water, paper towels, cotton swabs, 7% alcohol, milk from a cow testing CMT-3.

DIRECTIONS: Let the team members demonstrate how they would solve their task. Let them perform a CMT if time allows.

SITUATION: You are home taking care of the herd while your parents are vacationing.

TASK: Demonstrate how to milk a cow and explain why the steps are important.

10. Judging Hay

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

DIRECTIONS: Let team members complete their task. Work with them as needed, particularly to determine the cuts between the pairs.

SITUATION: Your hay supplier brings over 4 samples of hay for you to evaluate.

TASK: Discuss what makes good hay, judge the samples as a class, and determine the cuts between the pairs.

11. Presenting Oral Reasons

SUPPLIES: 50 oral reasons notecards.

DIRECTIONS: Refer to information on the oral reasons notecard in the kit. Let each member give a complete set of oral reasons.

SITUATION: The parents and members of the 4-H dairy 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.

12. Scoring a Judging Class

SUPPLIES: Hormel computing slide, paper, pencils.

DIRECTIONS: Give the team a scorecard with different placings, and 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 the six steps. Let them check their score using the Hormel computing slide.

SITUATION: One of the 4-H members placed the class of hay differently than you did.

TASK: Help the member figure his or her score on this class.

13. 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 on a complete halter on the animal puppet head before leaving the station.

SITUATION: You can't find your favorite calf halter and so you decide to make a new one.

TASK: Demonstrate how to make a rope halter.

14. Detecting Heat in Dairy Cows

SUPPLIES: Reproductive record, calendar, 6 steps under "Steps in Good Heat Detection" as found in the project meeting guide by that name.

DIRECTIONS: Let the team perform this task. Have members put 6 steps in order. Follow up with questions.

SITUATION: Your dad has gone on a two-day extension tour. As you are doing the morning chores, you notice one cow riding another.

TASK: Explain what is happening and tell what you would do.

15. Cleaning Milking Equipment

SUPPLIES: Milking machine (optional), water, pail, brush, stainless steel brush, sponge, dishcloth, Brillo pad, 2 different detergents (one marked "manual cleaning" and the other marked "CIP"), sanitizer bottle.

DIRECTIONS: Provide the team with the "dirty" bucket and equipment. Follow up with questions.

SITUATION: Just as mom and dad are about to clean the last milking bucket after the evening milking, something *dairy* interesting happened, and though it was *udder* nonsense, they left right then for the city, leaving you holding the bucket.

TASK: Demonstrate how to clean the bucket.

16. Selecting a 4-H Dairy Project Animal

SUPPLIES: Information cards on 2 to 4 calves, paper to make a calf selection form, pedigrees, DHIA records, growth chart, weighing tape, health records.

DIRECTIONS: Provide the information and let team members make their choice. Follow up with questions.

SITUATION: You have been permitted to select a calf from the family herd or to buy one from a neighbor.

TASK: Using the selection form and all the information available, select a calf and explain why you selected the one you did.

17. Tying Farm Knots

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

DIRECTIONS: Let the 4-H'ers try 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 how you would use each.

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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.

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- 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.

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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.

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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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