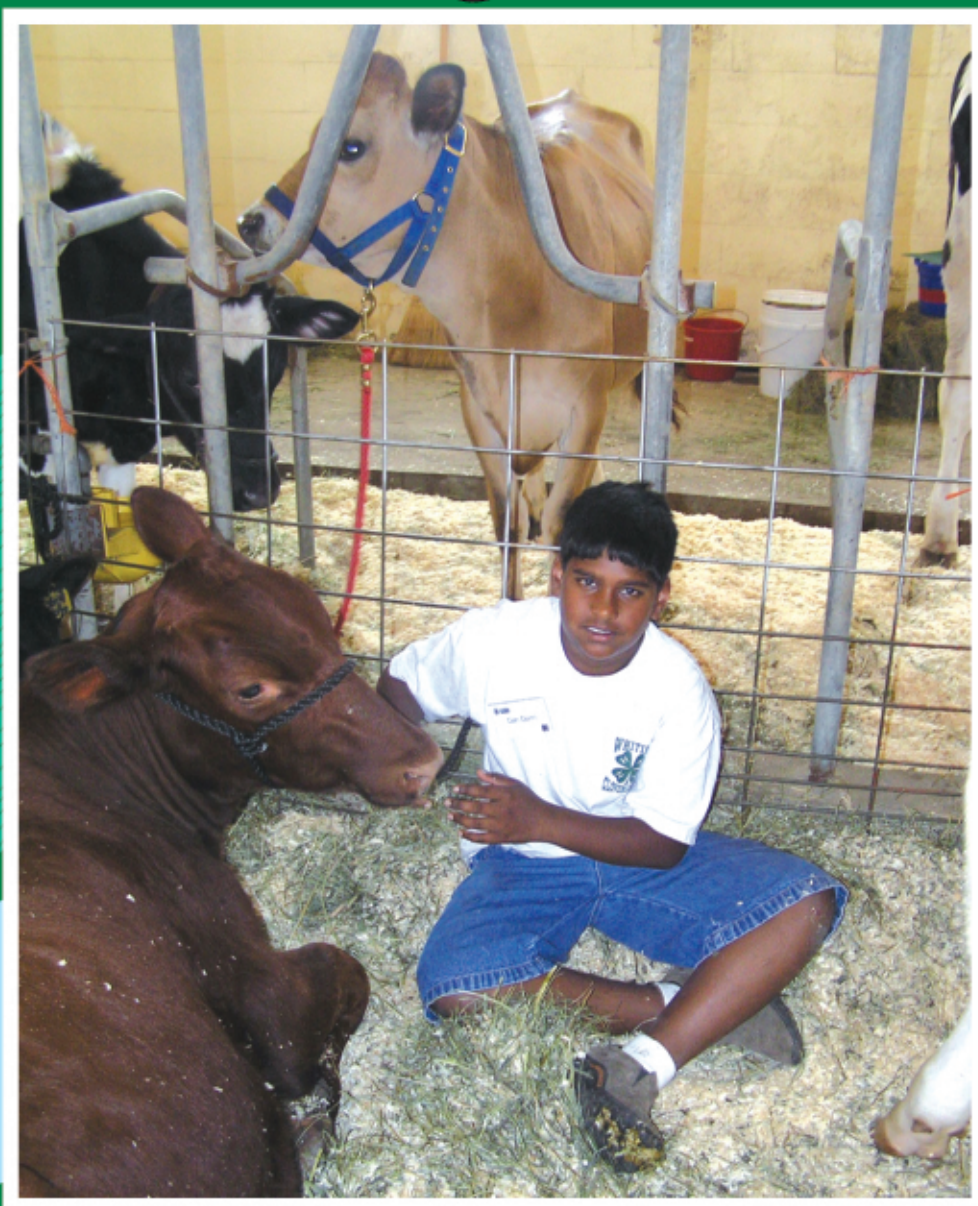




Dairy² Mooving Ahead



Dairy Project Youth Activity Guide

Name _____

County _____



Note to Parents and Project Helper

If you were a project helper for youth involved in completing Dairy 1, *Cowabunga!*, you know what a great experience this role is. As the Helper, you are in a perfect position to help youth develop in positive ways as they learn about the Dairy Project and themselves. You can nurture and cultivate their interest in this project by guiding their planning, helping them complete their projects and recognizing them for a job well done.

Youth Learner Outcomes

- Become knowledgeable and responsible animal caregivers
- Develop experience-based science skill sets that pertain to health and disease
- Appreciate the variety of opportunities available in animal and dairy careers
- Recognize and practice the skills necessary for success in dairy and animal careers
- Practice the life skills of communication, acquiring and evaluating data, leading self and others, planning and organizing, character development and more.

Your Role

- Become familiar with the material in this guide and the Dairy Helper's Guide
- Support youth in their efforts to set goals and complete each Achievement Program
- Discuss, date and initial the activities of the Dairy Achievement Programs as youth complete them
- Help youth know themselves, including their strengths and weaknesses
- Encourage the use of the experiential learning model described on this page



The Dairy "Skills for Life" Series

Mooving Ahead is the second in the series of three activity guides for youth that also includes Dairy 1, *Cowabunga!*, Dairy 3, *Rising to the Top* and the *Dairy Helper's Guide*. These guides are developmentally appropriate for grades 3–5, 6–8 and 9–12 respectively, but may be used by youth in any grade based on their project skills and experience.

All activities include a description of the skills to be practiced, discussion questions, suggestions for additional activities and other helpful information. The Success Indicator listed for each activity is an excellent way to evaluate the youth's progress. Each of the guides includes an Achievement Program to encourage youth to learn more about the Dairy Project while developing important life skills. Before and After – "What Do You Know" is a quick and fun way for youth to assess their knowledge BEFORE and AFTER they complete the activities. In the *Helper's Guide* you will find another evaluation piece titled "Evaluating the Impact." Use this before beginning each level and after the youth has completed each level.

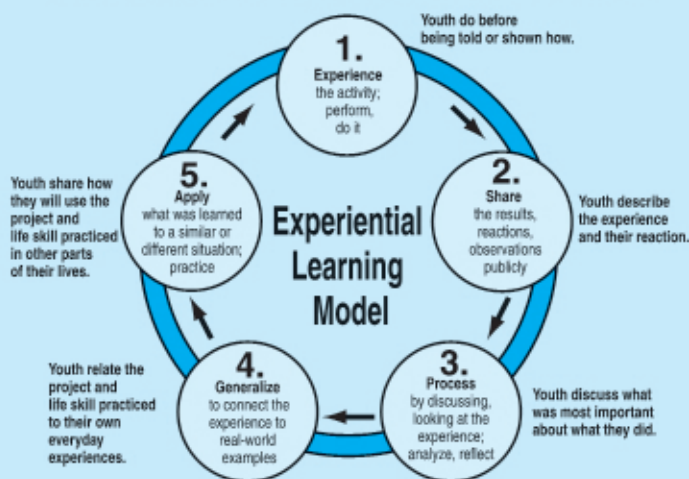
Each activity gives youth an opportunity to LEARN BY DOING before being told or shown how. Your challenge is to stay in the background while youth explore and learn from the experience. You can help best by listening as youth consider the questions and offer their answers.

Dairy Helper's Guide

The *Dairy Helper's Guide* contains more learn-by-doing activities that can be adapted for families, classrooms, after-school activities, child care settings, 4-H groups, other youth groups or camps. You'll also find information about characteristics of youth, life skill development, teaching experientially, meeting ideas and answers to many of the activities in the youth guides.

Experiential Learning Model

This five-step model is used in each activity in this series.



Pfeiffer, J.W., & Jones, J.E., "Reference Guide to Handbooks and Annuals" © 1983 John Wiley & Sons, Inc. Reprinted with permission of John Wiley & Sons, Inc.

As you can see, youth first attempt the activity on their own. After they do as much of the activity as they can, you then meet together and discuss: What did they do? What was important? How does what they did relate to their lives? How might they use these life and project skills in the future? Your ability to ask thought-provoking questions and listen to the youth's ideas will add to the educational impact of the experience.

Good luck in your role as Project Helper and thanks for contributing to the positive development of youth!

Acknowledgments

2005 Revision Team: Carrie Chickering-Sears, Coordinator, MA; Julie Settle, NY; Martha Edwards Manning, VT; Susan Kerr, WA; Mark Nelson, UT; Clark Israelsen, UT; Donna Durbin, KY; Carol Ward, NJ; Allan Smith, Liaison and Editor, Washington D.C. Julie Settle, Word Processing, NY; Tom Zurcher, Editor, MI.

Design and Production: Northern Design Group, MN

Previous Design Team Members: Rika Cecil, Coordinator, WA; Richard Pursley, MI; Arlin Holtan, WA; Tracy Behnken, NE; Mike Peters, MI; Tom Zurcher, Liaison and Editor, MI; Ron Orth, IA; Cheryl Schwanke, WI; James Aarthel, WI; Tracy Behnken, NE; Lee Raeth, MN; Tony Rickard, MO; Jan Sweers, MI; Marcia Woeste, MN.



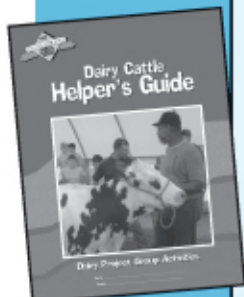
For more on dairy cattle, look for these other guides in the 4-H Dairy Cattle Series.



Dairy 1
Cowabunga!
BU-08161



Dairy 3
Rising to the Top
BU-08163



Dairy Helper's Guide
BU-08164

Cloth Model Calf
BU-07332

Dairy 1 - Cowabunga!

- Chapter 1**
Selection and Judging
Black & White & Red All Over
Selecting a Project Animal
From Head to Tail
You Be the Judge
- Chapter 2**
Udder Things
How Much Does a Calf Eat?
From Moo to U
- Chapter 3**
Fitting and Showing
Getting Ready to Show
Fitting for Show
Showing Your Project Animal
- Chapter 4**
Management and Records
Dollars for Dairy
Circle of Life
From Bottle to Bunk
Cow Tally
Truth, Justice and the American Whey

Dairy 3 - Rising to the Top

- Chapter 1**
Selection and Management
Scoring a Cow's Body Condition
Report Card Time
Debating Animal Welfare Issues
What's Your Opinion?
Inspection Time
- Chapter 2**
Health and Feeding
CSI: Mastitis
Balancing a Dairy Ration
- Chapter 3**
Reproduction and Breeding
The Heat Is On!
E.T. Clone Home!
A Womb with a View
The LaMOOze Method
- Chapter 4**
Milk, Marketing and Careers
Promoting Dairy Products
Exploring Career Options
Applying for a Job

Dairy Helper's Guide

- Chapter 1**
Dairy Word Games
Planning the Dairy Project Year
Let's Judge!
Dairy Quiz Bowl Time
Dairy Talk Games
Fun with Dairy Pyramid
- Chapter 2**
Dairy Skill Building
Loud and Clear
Knot Only a Rope Halter
Show What You Know!
Start to Finish
- Chapter 3**
Feeding and Dairy Management
Reading Pedigrees and Classifications
The Doctor Will See You Now
Moo-rades
Dairy Cattle Diseases (Chart)
- Chapter 4**
Dairy Products and Images
Discovering Dairy Products
Touring a Dairy Farm

Mooving Ahead Bucket of Contents

Note to Parents and Project Helper	Inside Front Cover
Bucket of Contents	1
Welcome to <i>Mooving Ahead</i>	2
<i>Mooving Ahead</i> Project Goals and Highlights	3
<i>Mooving Ahead</i> Achievement Program	4

Chapter 1 Judging, Identification and Ethics

I Placed This Class...	5
Identifying Your Calf	8
Ethical Choices	10

Chapter 2 Animal Health

How Now, Brown Cow?	12
Down the Drain	14
It's On the Label	16

Chapter 3 Management Practices and Feeding

Handle with Care	18
Selecting Dairy Housing	20
Let's Talk Hay	22
Following Feed Through the Digestive System	24

Chapter 4 Milking, Marketing and Careers

Preparing a Cow for Milking	26
Safe Milk Is Cool!	28
Milk...for the Health of It	30
So You Want to Be a Dairy Farmer?	32

Dairy Talk 2	34
Dairy Cattle Resources	36



Explore more at

www.4-hcurriculum.org

National 4-H Curriculum

Welcome to *Mooving Ahead*

Let's get started! This guide is an important part of the dairy project. Dairy 2 offers you new challenges and opportunities to explore a wide range of activities related to dairy. You'll also have fun meeting new people, becoming better acquainted with your community and expanding your interests and goals. Like Dairy 1, an achievement program is included to guide your efforts and provide you with an opportunity to be recognized for meeting your goals.

What You'll Do

You'll find activities to help you develop your judging skills, explore animal health and teach others. Here are some of the things you'll do:

- Judge a class of cows and present reasons
- Demonstrate how to identify a calf
- Discuss ethical situations
- Describe signs of health and illness in dairy animals
- Review the contents of a drug label
- Analyze dairy cattle behavior
- Judge and give reasons on hay quality
- Compare a cow's and a pig's digestive system
- Demonstrate proper milking procedures



Place a photo of yourself with your project helper in this space.

Mooving Ahead Dairy 2 Project Guidelines

- Set your goals and record project highlights.
- Do a minimum of seven activities in Level 2 of the Dairy Achievement Program each year and complete Level 2 within three years.
- Keep the Goals and Highlights page current by setting project goals and recording the project highlights you experience.
- Increase your dairy knowledge and skills.

Mooving Ahead Achievement Program

The activities will challenge you to explore areas of the project you perhaps haven't experienced before. Do your best to complete each activity and answer the questions. Work with your helper to complete each experience. You may need additional resources to complete some of the activities. Dairy magazines, books, tapes, commodity groups, feed and equipment manufacturers and marketing groups are good resources. The Internet has a great deal of information about dairy and the dairy industry.

Remember this is your own personal project activity guide. As you complete the activities, answer the questions and record your project highlights you'll realize how much you have accomplished in this project. Have fun!

Your Project Helper

The choice is yours! The person you choose to be your project helper needs to be willing to support your efforts to complete Level 2 of the Dairy Achievement Program. Your helper will meet with you to set goals, plan activities, suggest resources to use, discuss each activity with you and initial your achievement program each time you have successfully completed an activity. Write the name, phone number and e-mail address of your project helper here:

My Project Helper: _____

Phone: _____

E-mail address: _____

Project Goals and Highlights

My Dairy Project Goals

Name _____

My Animal's Name _____ Breed _____

What I want to do and learn in Dairy 2.

1. _____
2. _____
3. _____
4. _____

"What Do You Know?" Before and After - Dairy 2

Here's an easy way to tell if you learned something new and developed important project skills. Before you do the activities in this guide, indicate what you know then when you do the activities indicate what you know AFTER you complete them. You may be surprised how much you learned! Share the results with your helper.

Begin each skill with the words – **I know how to** _____
Then circle **1** (not at all); **2** (somewhat) or **3** (a lot)

I know how to -	Before	After
Judge four cows and present reasons	1 2 3	1 2 3
Demonstrate how to identify a calf	1 2 3	1 2 3
Make or defend ethical decisions	1 2 3	1 2 3
Describe signs of health and illness in dairy animals	1 2 3	1 2 3
Describe the economic and health impact of parasites	1 2 3	1 2 3
Describe the contents on a drug label	1 2 3	1 2 3
Analyze dairy cattle behavior	1 2 3	1 2 3
Make a dairy housing blueprint	1 2 3	1 2 3
Judge hay and present reasons	1 2 3	1 2 3
Compare a cow's and a pig's digestive systems	1 2 3	1 2 3
Demonstrate proper milking procedures	1 2 3	1 2 3
Identify ways to prevent food-borne illness from milk	1 2 3	1 2 3
Explain the importance of dairy products in a healthy diet	1 2 3	1 2 3
Describe 30 dairy-related careers	1 2 3	1 2 3

Dairy Project Highlights

Date and list the exciting things you do and learn.



Place a photo of yourself with your project animal in this space.

Achievement Program Guidelines

- # Milking It for More

Mooving Ahead Activities

[illegible]

Date	Helper's Initials
------	-------------------

Date	Helper's Initials
------	-------------------

Date _____ Helper's Initials _____



www.4-hcurriculum.org

National 4-H Curriculum



Judging, Identification and Ethics

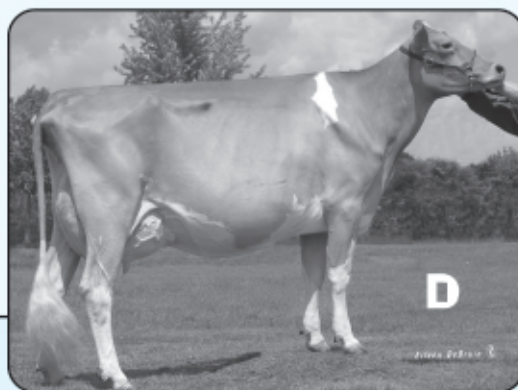
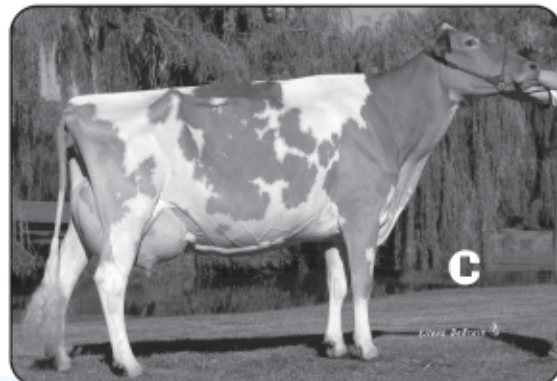
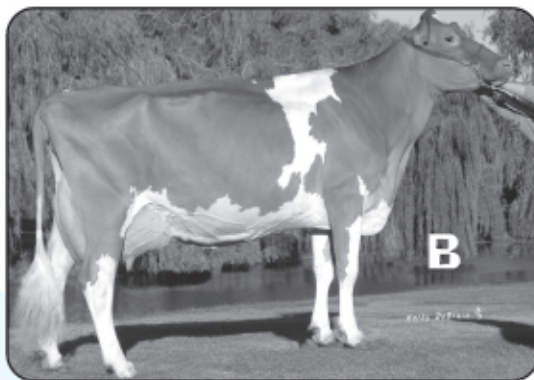
Dairy Project Skill: Judging dairy cattle
Life Skill: Making decisions through analyzing
Success Indicator: Judges four cows and presents reasons
Educational Standard: NS.K-4.3: Understanding the characteristics of organisms.

I Placed This Class...

Wouldn't it be fun to be the judge and hand out ribbons to your pick of the cows? Here's your chance! Giving your reasons for selecting an animal helps you learn how to decide and make choices. In this activity you'll learn how to be a judge, make decisions and clearly explain your reasons to others.

Taking On the Challenge

Compare the pictures of the four cows. Rank the class using the placing card and use the Oral Reasons Note Card to organize your reasons. Present your reasons for placing the class as you did to your helper or a family member.



Milking Cow Class Ranking

Trait	Possible Points	Ranked 1st	Ranked 2nd	Ranked 3rd	Ranked 4th
Frame	15				
Dairy Character	20				
Body Capacity	10				
Feet & Legs	15				
Udder	40				
FINAL PLACING					

Reasons Note Card

Class _____

I placed this class of _____

starting the class with _____

I placed _____ over _____

in my top pair because _____

I grant _____ was _____

Going to the middle pair, I placed _____

over _____ because _____

I admit _____ was _____

_____ than _____

I placed _____ over _____ in my

bottom pair because _____

I realize _____ was _____

However, I faulted _____ and placed

her last in this class because _____

Dairy Cow Unified Score Card

There are five major classification traits on which a classifier bases a cow's score. Each trait is broken down into body parts to be looked at and ranked in order of importance.

Trait

Points for perfect score

Frame (skeletal parts except feet and legs)

15

— **Rump** - long and wide throughout with pin bones slightly lower than hip bones. Thurls need to be wide apart and centrally placed between hip bones and pin bones. The tailhead is set slightly above and neatly between pin bones, and the tail is free from coarseness. The vulva is nearly vertical.

— **Stature** - height, including length in the leg bones. A long bone pattern throughout the body structure is desirable. Height at the withers and hips should be relatively proportionate.

— **Front End** - adequate constitution with front legs straight, wide apart and squarely placed. Shoulder blades and elbows need to be firmly set against the chest wall. The crops should have adequate fullness.

— **Back** - straight and strong; the loin, broad, strong and nearly level.

— **Breed Characteristics** - overall style and balance. Head should be feminine, clean-cut, slightly dished with broad muzzle, large open nostrils and a strong jaw is desirable.

Dairy Character (physical proof of milking ability)

20

— **Ribs** - wide apart. Rib bones are wide, flat, deep, and slanted toward the rear.

— **Thighs** - lean, incurving to flat, and wide apart from the rear.

— **Withers** - sharp with the chine prominent.

— **Neck** - long, lean, and blending smoothly into the shoulders. A clean-cut throat, dewlap, and brisket are desirable.

— **Skin** - thin, loose, and pliable.

Body Capacity (volume measured of the cow's/calf's capacity, length x depth x width)

10

— **Barrel** - long, deep, and wide. Depth and spring of rib increase toward the rear with a deep flank.

— **Chest** - deep and wide floor with well sprung fore ribs blending into the shoulders.

Feet and Legs (feet and legs)

15

— **Feet** - steep angle and deep heel with short, well-rounded closed toes.

— **Rear Legs** - (rearview) straight, wide apart with feet squarely placed. (side view) a moderate set (angle) to the hock.

— **Hocks** - cleanly molded, free from coarseness and puffiness with adequate flexibility.

— **Pasterns** - short and strong with some flexibility.

Udder (udder traits with some consideration on milk production)

40

— **Udder Depth** - moderate depth relative to the hock with adequate capacity and clearance.

— **Teat Placement** - squarely placed under each quarter, plumb and properly spaced from side and rear views.

— **Rear Udder** - wide and high, firmly attached with uniform width from top to bottom and slightly rounded to udder floor.

— **Udder Cleft** - evidence of strong suspensory ligament indicated by adequately defined halving.

— **Fore Udder** - firmly attached with moderate length and ample capacity.

— **Teats** - cylindrical shape and uniform size with medium length and diameter.

— **Udder Balance and Texture** - should exhibit an udder floor that is level as viewed from the side. Quarters should be evenly balanced; soft, pliable and well collapsed after milking.

Total possible points for perfect score

100

Ruminations

Say Cheese! (Share)

- How did you place the class?

Chew Your Cud (Process)

- What differences did you see?

Chore Time (Generalize)

- What do you learn by judging and giving reasons that can help you every day?

Mooving Along (Apply)

- How does judging help you select better animals and be a better overall consumer?



Judging Dairy Cattle

Preparation

Dairy cattle are judged by comparison. Strong and weak points are compared. The animals are then placed on their closeness to the "ideal" breed characteristics. The following are steps that you can take to understand how to judge dairy cattle:

- Study and learn the parts of the dairy cow. It is important that you know these terms (parts) and use them for dairy judging.
- Study and learn what the most and least desirable traits (characteristics) are for dairy cattle. Refer to the Dairy Cow Unified Score Card.
- Study and learn the breed characteristics of each dairy cattle breed. Hint: create a mental picture of the ideal cow to give you a standard to judge a class of dairy cattle. Observing cattle at shows and in breed magazines will give you a better idea of the ideal cow for each breed.

Contest Tips

So now that you have learned the parts of a dairy cow, can picture an ideal cow, and know the most desirable and least desirable traits of a dairy cow, you are ready to participate in a dairy cattle judging contest. Remember, you can also learn all these things and practice your judging skills at the same time.

During the Contest

- Bring paper (used for note taking) and a couple sharpened pencils.
- Examine the four calves/cows in the class.
- Record (on your paper) the correct and incorrect structures of each animal.
- Compare the differences and decide what order (most correct to least correct of ideal dairy cow standards) to place them. Sometimes it will be easy for you to notice two pairs of animals that seem to be most like each other. You will need to decide on the top pair (the best two) and the bottom pair in the class. Then study each pair and decide which animal (from each pair) has the most desirable traits. Other times it is easy to notice a top ranking animal. If that is the case you may want to search for the fourth ranked animal, and then rank your middle pair.
- Record class order/placing on your judging card and pass it to an official.
- For oral reasons . . . Examine your notes, think back to the class, and describe the differences between each pair of animals.

Milking It for More

1. Participate in a dairy judging contest.
2. Go to the Hoard's Dairyman Web Page and participate in the Hoard's Dairy Judging Contest. You can access their web page by going to the 4-H Dairy Web page.

Identifying Your Calf

Dairy Project Skill:

Life Skill:

Success Indicator:

Educational Standard:

Identifying a calf

Communicating with others

Demonstrates how to identify a calf.

NL-ENG.K-12.4 Students adjust their use of spoken, written, and visual language to communicate effectively with a variety of audiences and for different purposes.

Is your calf identified? If for some reason it was stolen or lost would you be able to show that it was yours when found? The day the calf is born is the most ideal time to identify it. Today's dairy operators primarily use ear tagging. Purebred or show cattle are often identified with tattoos or by sketching both sides of the animal. This is your chance to practice identifying cattle as you sharpen your communication skills.

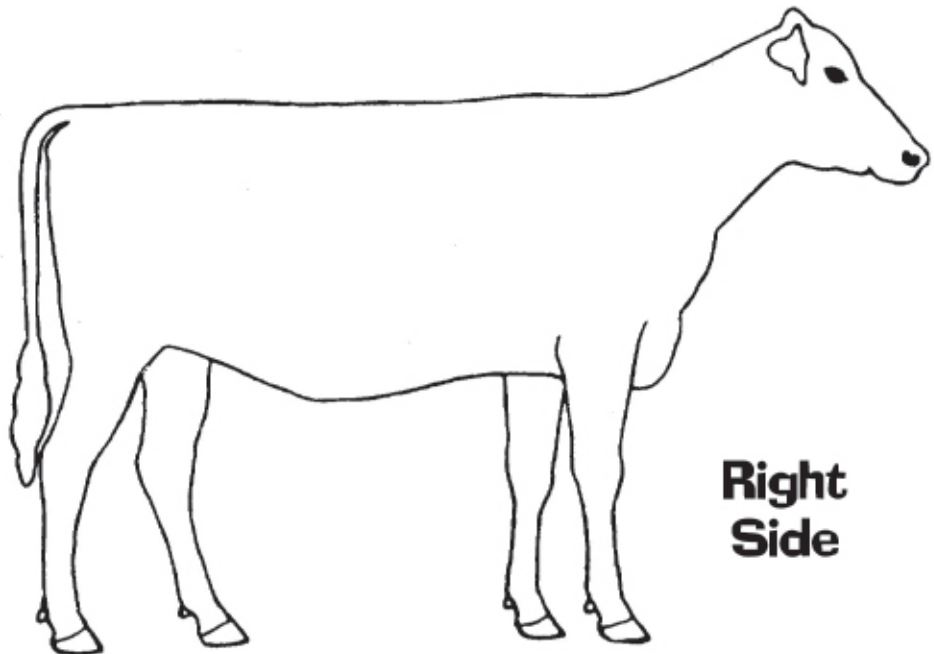
"Identify me early with either a tattoo or a permanent ID tag!"



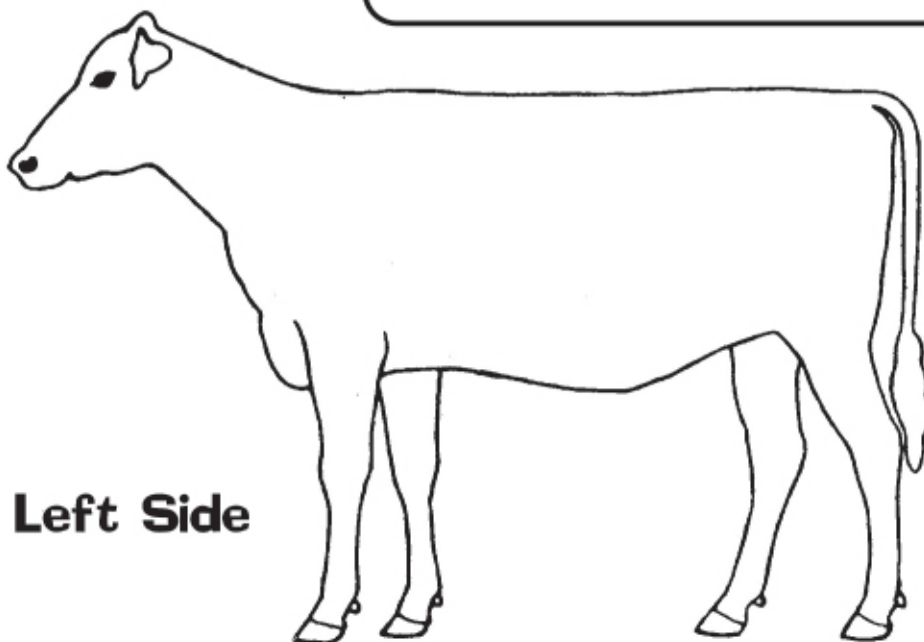
Taking On the Challenge

First identify a calf by sketching both sides in the space provided. See if a friend can use your sketches to find the calf you drew among several animals.

Now demonstrate to your project group or family how you would either ear tag or tattoo a dairy animal. Hints are given in Fresh Facts. The model cloth calf made from the 4-H pattern makes an excellent training aid for your demonstration.



Right Side



Left Side



Dairy Talk Words

Tattoo

Ruminations

Say Cheese! (Share)

- What did you include in your demonstration?

Chew Your Cud (Process)

- What is the difference between a permanent and a non-permanent identification?

Chore Time (Generalize)

- How does giving a demonstration help you learn to communicate better?

Mooving Along (Apply)

- How will you identify your animals in the future?
- How can permanent identification help reduce the spread of disease?



Identification Methods

Tattooing

Tattooing is performed with tattoo pliers which contain pins on one side and a pad on the other. The pins are arranged to make the identifying mark. A purebred's identification is assigned by the breed association, whereas a grade animal's identification is developed by the dairyman. A good tattoo is legible for life. To apply a good tattoo the ear has to be clean. Take a clean cloth or paper towel soaked in rubbing alcohol (70%) and clean between the ribs of the ear where you

will be tattooing. Apply tattoo paste or tattoo ink to the ear. Squeeze the tattoo pliers enough so all the prongs puncture just the surface. With a rubber gloved hand, rub in the paste or ink. Wash the tattoo iron and your hands in a disinfectant solution. Then rinse in 70% alcohol and let dry before continuing to the next animal.

Ear Tags

Some ear tags are self piercing and some are not. The ear doesn't have to be cleaned, but the equipment used to mechanically pierce needs to be cleaned the same as a tattoo pliers. Ear tags come in many different styles. The large plastic type can carry the ID number, birth date and sire number. Blank tags are also available to write in information. The metal ones are fine if you have only a few animals. The placement of any ear tag is important so it doesn't get pulled out by snagging on a stanchion or small object. A metal tag should be put in approximately 3/4 of the depth of the tag so it is close to the ear but still provides room for the ear to grow. The plastic tags should be put in with the pin between the ribs on the ears. Tattoos and tags should be put in the ear opposite the bangs tattoo that the veterinarian puts in.



Caution

Dairymen are concerned about spreading disease by mechanical means. The tattoo iron or non self-piercing ear tags can be the culprit if not cleaned properly. Blood born diseases such as anaplasmosis and bovine leukemia are two examples. Viruses such as warts can also be spread mechanically. Identification of individual animals is a way to help track and control disease.

Sketching

When sketching is used for application for registration, the outline of the animal is usually printed on the application. The sketch is made by drawing in the lines where the colors differ. There are two sides and a head view to draw. You can use a fine tip pencil and then go over the pencil lines with a ballpoint pen.

Milking It for More

1. Research how microchips are now being used to identify animals and support dairy management operations. Present a short report to your helper.

Ethical Choices?

Dairy Project Skill:

Life Skill:

Success Indicator:

Educational Standard:

Deciding which action to take

Making decisions through analyzing

Makes and defends ethical decisions.

NL-ENG K-12.7 Students conduct research on issues and interests by generating ideas and questions.

It's sometimes difficult to know what to do in a situation. Often things need to be considered. The decisions you make can have long term effects on the animals in your care as well as to the people and animals around you. For example, illegal and improper drug use in dairy cows is a critical food safety issue, and it can threaten the life of your cow.

Taking On the Challenge

Read the situations below. Ask several people (such as your extension agent, parent and others who raise dairy cattle) what they would think about before making their decision, and what they would do in each situation. Then decide what you would do. Write your decision and explain why you made that decision.

Discuss these additional situations with your helper

- Flavoring the animal's water
- Filling/pumping an animal with five gallons of flavored water
- Clipping your heifer for the show
- Trimming your calf's hooves
- Registering a calf born November 28th as December 1st for show
- Painting black hooves black
- Painting white legs black
- Dying the calf's hair with hair dye
- Using a painkiller in order to help your animal walk better for the show
- Using a painkiller at home in order to help your animal walk better
- Feeding nutrient supplements in your feed
- Having a professional fit your animal for you
- Paying someone else to care and feed your animal
- Dehorning and castrating animals
- Inserting genes and growth stimulants

"Is it okay if an adult clips my show calf?"



Situation 1.

It is the first year for your cow at the Fair. She is nervous and won't stand still. Your grandparents and many of your friends are there to watch you in the show ring. A friend offers you a tranquilizer for your cow. What do you do and say? Why did you make that choice? What might happen to your cow if you give her the tranquilizer? What could you have done before the show to avoid this situation from happening?

My decision:

Situation 2.

Your cow has just started breaking out in ringworm on her hind leg. You decide to not take her to the show. While visiting the show, you see another club member painting over the ringworm on his cow. Do you say anything to the club member? Should report him to the show officials? What effect may your choice have on other animals?

My decision:

Situation 3.

Your cow has a weak topline. Would you put something in her rectum before the show to correct it? Why or why not?

My decision:

Situation 4.

Before a show, you notice that your cow's udder isn't as full as it could be in one quarter. Do you manipulate her milking to balance her udder's size? Why or why not?

My decision:

Ruminations

Say Cheese! (Share)

- What decisions did you make?
- How did you feel about making those decisions?

Chew Your Cud (Process)

- What are other ethical alternatives you could have chosen in the above situations?
- Describe them.

Chore Time (Generalize)

- Why is it important to act in an ethical manner?

Mooving Along (Apply)

- Describe how you make an ethical decision.



Dairy Talk Words
Ethics



Use of Illegal Drugs

The 4-H dairy project adheres to the policy that "The use of illegal drugs and/or the improper use of animal health products or foreign substances will not be tolerated. Extension personnel, 4-H volunteers, families, youth and fair/show officials have a legal and moral obligation not to misuse these products. It is their responsibility to tell others not to use these substances and to report those who do use any illegal substance.

The administration of any drug or medication which could affect an animal's performance resulting in an unfair advantage or the disposition of the animal, is unacceptable. Additionally, there are federal penalties for using illegal substances in animals that are going into the nation's food supply."

Milking It for More

1. Create "what if" situations of your own and ask your friends how they would solve them.
2. Participate in or sponsor a community service event in support of an ethical stance, such as caring for the homeless.
3. Teach a younger youth how to win at the fair without resorting to unethical practices.
4. Have your 4-H club or group view a video on livestock ethics and survey the audience for their views on what is considered acceptable and unacceptable behavior in certain situations.