

Date 8/11/95  
Amount 200-3  
shelf 175  
FNU 38028

# 4-H Leader Guide for Dairy Projects

## Objectives for Leaders

- To help boys and girls learn to accept responsibility, make decisions, develop self-confidence, and gain a sense of achievement through their dairy project.
- To interest boys and girls in the many opportunities related to dairying, both scientific and commercial.
- To help 4-H members learn the value and importance of the dairy industry to the economy of the Pacific Northwest.
- To help young people learn to like milk and milk products and realize the place of dairy foods in healthful living.
- To assist 4-H members to learn about sound business methods, good management, and how milk is marketed.
- To supervise and aid 4-H members in completing their projects successfully and keeping good records.

Many youth are vitally concerned with the "Whys" and "How-to-do-its" of their 4-H projects. Your role as leader is to help them reach their objectives by providing a variety of learning experiences. The materials suggested here, and the manner in which you present them, can guide the attitudes of 4-H members toward dairying and lead them to further work in livestock or related fields.

Leading a 4-H club can be a rewarding endeavor. Your wages will be the satisfaction you receive from watching boys and girls grow in knowledge, skill, and self-confidence.

## Purpose of the Guide

This guide has been developed to give you ideas and suggestions for your meetings, club activities, and individual member participation—at home and in club meetings. These suggestions are not requirements, and it is not neces-

sary to be limited to them. You may vary the subjects and the method of teaching from meeting to meeting, and you are not expected to cover all of the material in any one year.

One section of this guide includes many topics and subjects that are important as well as interesting to 4-H members. You may add ideas of your own to fit your local club situation. Suggestions for conducting fifteen club meetings are given on page 2, and monthly activities and management information will be found on pages 3 and 4.

In some instances, sources of information are listed that will be valuable in conducting your meetings and in obtaining the required information. It would be a good idea to go over the plans at the beginning of the year so that reference materials will be available when needed.

## Reference Materials

Each 4-H Dairy Club member should have his own project bulletins:

*The Calf and Yearling in 4-H Dairying*, PNW 78;

*The Cow in 4-H Dairying*, PNW 82; and

*4-H Dairy Science*, PNW 91.

These project bulletins contain the basic information needed for completing the dairy projects, but they are not intended to furnish full reference material and data. Check with your county Extension agent for individual state publications that are available and for assistance in obtaining publications, films, visual aids, and other program materials.

Many local dairymen, especially those who are former 4-H members, can be helpful in presenting parts of your programs. Representatives of dairy plants

and organizations can give valuable assistance and can be called upon occasionally.

## Ideas for Leaders

The following ideas may illustrate ways to accomplish the objectives of a 4-H leader.

- Help members plan and conduct their regular meetings.
- Assist them in selecting lessons and other materials that are timely, interesting, and of value. It may be worthwhile to outline the program for the entire year with the members, or with other leaders, before the first regular meeting.
- Organize club tours and home visits to help create and sustain interest. These visits provide an excellent stimulus for each member to keep his project in good condition.
- Help your 4-H members to become better citizens through the application of knowledge that may lead them into a vocation that best suits their interests and abilities.
- 4-H members learn by doing. Use "roll-call" topics or identification contests to help hold their interest while they learn.
- Ask members to bring notebooks, growth and feed records, production records, and other data to each meeting. This gives each member a chance to follow the progress of other members and encourages each one to keep his own records up-to-date.
- Involve and inform the parents of meeting activities. If possible, hold some meetings when the parents may attend. A special meeting for members and parents could be valuable just before show-time to explain health and other requirements for the exhibition of animals.

# Suggested Schedule for Club Meetings

## First Meeting

- Enroll club members and organize the club officers for the year.
- Appoint committees and plan the program for the next several months or for the year.
- Help new members select dairy projects and assist them in starting their record books.
- Distribute project materials to the members.
- Hand out discussion material or give references for discussion topics at the next meeting.
- See that the news reporter sends a report of the meeting to the local newspaper.

## Second Meeting

- Discuss dairy calf selection and breeds of dairy animals. (Reference: Pages 1-8 in PNW Bulletin 78, *The Calf and Yearling in 4-H Dairying*.)
- Help members develop their project job calendar, feed estimates, and special events for the coming months. Assign program references for the next meeting.
- Assist the news reporter in preparing a story for the newspapers.
- Discuss and demonstrate record keeping.

## Third Meeting

- Discuss the feeding of dairy animals. (References: PNW Bulletin 78, PNW Bulletin 82, and the National Research Council "Nutritional Requirements of Dairy Cattle.")
- Divide discussions on feeding among members and continue these discussions at several meetings.
- Ask older members to discuss how different feed nutrients are used by calves and cows and why they are needed.
- Invite a representative of a local feed company to your meeting to discuss nutritional requirements for dairy cattle.

## Fourth Meeting

- Discuss forage quality.
- Discuss silage quality, kinds of silage (grass, corn, etc.).
- Have a hay sample analyzed and discuss its feeding value.
- Break a bale of hay and look for mold, weeds, and other foreign material.

## Fifth Meeting

- Discuss feed grains and their role in animal feeding.
- Obtain feed grain samples from a feed company and learn how to identify them.
- Discuss the purpose of grinding, rolling, crimping, pelleting or texturizing grains.

## Sixth Meeting

- Discuss herd health and sanitation.
- Discuss milking management, milk "let down," etc.
- Use references in the project manuals as subjects for brief reports by members.
- Invite a local dairyman to discuss the health program of his herd *or*
- Invite a local veterinarian to discuss cattle diseases and their prevention.

## Seventh Meeting

- Discuss management and housing of dairy animals.
- Arrange a tour or plan to visit two or more dairy farms to observe housing arrangements, feeding facilities, milking arrangements, and facilities for the disposal of wastes and manure.
- Ask the operators of these farms to describe labor-saving techniques and other methods of management on their farms.
- If possible, attend a local or county DHIA, breed organization, or general dairy meeting.

## Eighth Meeting

- Discuss dairy cattle judging.
- Enter the *Hoards Dairyman* pictorial dairy judging contest.
- Study pictures of contest classes and discuss differences in animals.
- Talk about how to prepare decisions (both oral and written).

## Ninth Meeting

- Discuss the marketing of milk. Have a field representative of a local milk company talk to the members, discussing the care of milk at the farm and the processing and distribution of dairy products.
- Visit a local milk plant in your community.
- Have a discussion on the value of milk and dairy products in the diet.
- Have a demonstration of testing milk for butterfat, for nonfat solids,

for mastitis (screening test), and for sediment.

## Tenth Meeting

- Discuss off flavors in dairy products and their causes. Learn to identify and describe the following flavors: oxidized, rancid, feed, malty, unclean.
- Bring milk samples from your tank and from several store brands for sampling and scoring.

## Eleventh Meeting

- Discuss and demonstrate record keeping.
- Discuss methods of keeping feed records and milk production records for cows.
- Discuss health records and breeding records.
- Invite the local Extension agent, a dairyman, or a DHIA supervisor to discuss dairy production records and how they are used.

## Twelfth Meeting

- Consider grooming and fitting of animals for showing.
- Have several short demonstrations on various topics, such as clipping, dehorning, hoof trimming, washing, making a blanket, and feeding and care at shows.
- Invite someone to talk on health requirements for showing cattle.
- Have an exhibitor discuss recommended practices for feeding and fitting animals.

## Thirteenth Meeting

- Plan for club participation in a county show.
- Discuss herdsmanship and care of equipment at the show.
- Discuss leading and posing animals (this could be handled by short demonstrations).

## Fourteenth Meeting

- This meeting could be devoted to a tour to examine each member's project.
- This meeting might also be an opportunity for a club picnic or other special event.

## Fifteenth Meeting

- This meeting might be used to plan the next year's program, discuss prospective new members, and outline the program for the following year.

# Monthly Activities and Management Tips

(The suggestions and information given below may be used as discussion topics at meetings or as home activities.)

## October

- Prepare corrals and buildings for winter use.
- Put in bedding supplies—sawdust, shavings, straw.
- Watch fresh cows for signs of milk fever.
- Check grain rations to prevent fall slump in milk production.
- House baby calves in individual pens for several days.
- Dehorn all heifer calves to be raised.
- Vaccinate heifers at 2 to 6 months old for brucellosis.
- ▶ Cows bred during October should freshen July 10 to August 10.

## November

- Check calves for normal growth for their ages.
- Keep production records for the producing herd.
- Keep the resting shed and stalls well bedded and the alleys clean.
- Clip cows' udders, tails, flanks, and bellies for clean milk production.
- Inspect cattle for lice and grubs. If needed, treat with recommended materials.
- ▶ Cows bred during November should freshen August 10 to September 10.

## December

- Provide access to clean fresh water at all times for all animals.
- Provide shelter for cattle during storms.
- Keep calves dry and out of drafty areas.
- Practice sanitation and preventive measures for disease control.
- Take the guess out of dairying. Keep records of production.
- Summarize yearly DHIA records, analyze them, and make the needed changes.
- Cull unprofitable cows from the herd.
- Produce and market only top-quality milk every day.

## January

- Dehorn all dairy heifers to be raised.
- Join the local DHIA to keep records of herd production and management.
- Check your inventory of feed supply for the balance of the winter feeding period.
- Vaccinate heifers at 2 to 4 months of age for brucellosis.
- ▶ For fall-freshening, cows bred during January will calve October 10 to November 10.

## February

- Continue lice and grub control measures, as needed.
- Use DHIA records to select herd replacements.
- Get soil tests of your pasture soil in order to fertilize properly for early spring growth.
- Check all cows regularly for mastitis.
- Keep fresh water available at all times for all animals.
- ▶ Cows bred during February will freshen November 10 to December 10.

## March

- Use DHIA tests and records to measure herd production and cow performance.
- See that pastures have at least 6 to 8 inches of growth before turning in cattle.
- Check irrigation equipment for repairs and replacements.
- Register young animals of desirable quality with the Breed Association if they are eligible for registry.
- Clean up boards, nails, wire, and trash from around buildings and corrals.
- Provide salt free-choice and fresh water every day to all animals.

## April

- Teach calves to lead.
- If there is an opportunity to do so, attend and exhibit at a spring dairy show.
- Check to see if heifers on pasture need additional grain or hay to maintain normal growth.
- Cull low-producing cows.
- See if winter or fall-sown grain crops can provide some early pasture.

- Adjust grain rations when cows are turned into pastures.
- Watch cattle on new pasture to prevent bloat losses and be sure to follow bloat control measures.
- Officially vaccinate heifers for brucellosis when they are at 2 to 6 months old.
- ▶ Cows bred during April will freshen January 10 to February 8.

## May

- Continue feeding young calves grain and hay.
- Keep salt and fresh water available to animals at all times.
- Plan for early fly control by removing breeding places. Use only approved materials.
- Check silos and harvesting machinery. Operate equipment *safely*.
- Do not neglect dry cows.
- To prevent bloat losses, keep hay available to cows on pasture or green chop.

## June

- Consider seeding Sudan grass for emergency pasture or forage if needed.
- Check summer feed supplies to prevent a slump in production.
- Feed extra grain as long as the extra milk produced pays the cost of the feed.
- Watch heifers on pasture to be sure that they have adequate feed for continuous normal growth. Extra grain or hay may be needed.
- Market clean, sweet milk.
- Prevent bloat—keep watching pastures and forage conditions.
- ▶ Cows need a 6- to 8-week dry period before calving and should gain 10 percent in body weight during this dry period.
- ▶ Cows bred during June will freshen March 10 to April 10.

## July

- Start grooming and fitting your animals for fairs at least a month before the show. Groom regularly and lead daily. Feed additional grain if it is needed for proper conditioning. Blanket as needed.
- Have a veterinarian test animals as required for exhibiting at fairs.
- Use Sudan grass for emergency pasture or use green chop when needed.

### July (continued)

- Have salt and bone meal or other needed minerals available free-choice.
- Check registration papers and transfers so they can be checked at fairs.
- Keep plenty of clean fresh water available to animals at all times.

### August

- Make entries for county and state fairs.
- Continue testing cows for production, and feed individual cows accordingly.
- Put in bedding supplies when materials are available.
- Check buildings for repairs.

- Exhibit at the County Fair.
- ▶ Animals bred during August will freshen May 10 to June 10.

### September

- Show your best animals at state and district fairs.
- Be sure your cows are in good flesh at calving time.
- Start feeding grain gradually to dry cows, 2 to 3 weeks before they are due to calve, so they will be eating up to 1 percent of their body weight daily by the date to freshen.
- Put sawdust or shavings in unpaved corrals for winter.

- Harvest corn silage when kernels are well-dented.

- Do not overfeed small calves. Accurately measure the proper amount when hand feeding milk at uniform temperatures of 90° to 100° F.

- Keep calf-feeding buckets washed clean after each feeding.

- ▶ Milk should be properly cooled every day, regardless of the weather.

- ▶ September-bred cows will freshen for summer production on June 10 to July 10.

- ▶ Have forage tested for protein, fiber and moisture.

- ▶ Plan winter feeding program.

## Teaching Ideas and Topics

Members learn by doing. Keep them busy to hold their interest.

*Use roll call topics* such as breeds of cattle, grains to feed, and parts of animals.

*Hold contests* to identify terms, forage plants, feed grains, and breeds.

*Conduct picture-judging contests.*

*Have members make simple reports* and demonstrations and show films.

*Hold tours.*

*Visit different homes* where members show their own projects.

*Make things* such as rope halters, blankets, and club banners.

*Do things*, for example, lead animals, clip a calf, trim hoofs.

*Visit open class shows*, experiment stations, and universities.

*Tour milk plants*, creameries, feed mills, and livestock auctions.

*Visit A. I. Sire Stud.*

### Demonstrations

Help members select topics for simple demonstrations—something an individual or a team of demonstrators can actually do in a few minutes. Preparing models for demonstrations may add interest, such as *Building Free Stalls, Temporary Silos, or Calf Hutches.*

The following list of suggestions may provide ideas for other practical demonstration topics:

Free Stalls for Cattle

Using Bunker Silos

Dehorning Calves

Controlling Flies on Dairy Cattle

Cattle Grub Control

Stimulating Milk Let-Down

Testing Milk for Fat (SNF-Mastitis)

Milking Parlor Arrangements

Clipping a Calf for Showing

Clipping Cows for Clean Milk Production

Trimming Hooves of Cattle

Tattooing for Identification

Making a Rope Halter (See page 5)

Making a Calf Blanket

Showing Dairy Cattle

Layout for Dairy Buildings

How to Conduct CMT Test

### Discussion Topics

The *Exercise Sheets in 4-H Dairy Science*, PNW 91, provide numerous topics that would make good short talks or reports by members for meetings. You may wish to add others that are practical and useful, such as the two examples of true-false quizzes in the section which follows.

# Other Ideas for Meetings

## Quiz on Calf Feeding

(Reference: *The Calf and Yearling in 4-H Dairying*, PNW 78, pages 9 to 11.)

### True False

- \_\_\_ \_\_\_ The first milk produced after calving is not normal and should not be used for feeding calves.
- \_\_\_ \_\_\_ Milk fed to young calves should be about body temperature, 95° to 100° F.
- \_\_\_ \_\_\_ Young calves should be fed all the milk they can drink.
- \_\_\_ \_\_\_ Growing calves need plenty of fresh clean water.
- \_\_\_ \_\_\_ Milk fed to calves should be weighed or measured.
- \_\_\_ \_\_\_ Calves should be fed regularly twice daily for good growth.
- \_\_\_ \_\_\_ Calves can be fed some dry calf starter when they are 1 to 2 weeks old.
- \_\_\_ \_\_\_ A newborn calf should be left with its dam for at least 3 weeks.

## Quiz on the Digestive System of Cattle

(Reference: *4-H Dairy Science*, PNW 91, pages 5 to 9.)

### True False

- \_\_\_ \_\_\_ The cow has a simple stomach like people.
- \_\_\_ \_\_\_ Most feed for cows is ready to be used by the body as soon as it is eaten.
- \_\_\_ \_\_\_ Cows' stomachs are well equipped to handle large quantities of forages.
- \_\_\_ \_\_\_ A cow chews her feed only once.
- \_\_\_ \_\_\_ Proteins are needed for growth.
- \_\_\_ \_\_\_ Excess carbohydrates may appear as body fat.
- \_\_\_ \_\_\_ Pasturing is usually the cheapest forage because cows harvest their own supply.
- \_\_\_ \_\_\_ Salt is not necessary for cows as long as they eat plenty of hay and silage.

# How to Make a Rope Halter

Rope halters are easy to make. They are inexpensive, adjustable, useful in leading and tying, and are quite durable if kept dry. In making your halters, use good quality three-strand manila rope. Use the table as a guide for selecting the right size and amount of rope.

## Suggestions for Leaders

- Make at least one halter yourself and be sure that you understand all of the steps *before* teaching your members.

- Show your members a completed halter and tell them its advantages. Let them decide if they want to make halters.
- Determine the size of the halters, and the size and amount of rope needed.
- Discuss whether or not the club wants to go to the store to buy rope.
- Have all members make their halters at the same time. Make one with them as an example.
- Take each step in turn. Tell and show members how to do each step. Stand

so members can see and follow your hand movements.

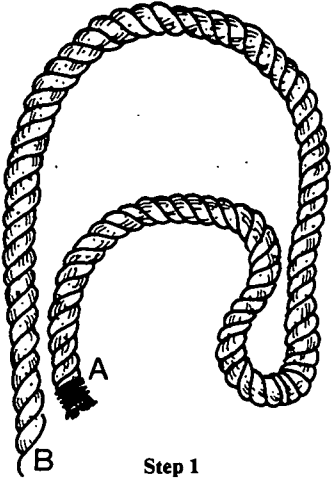
- Let all members complete each step before starting the next.
- Plan for members to halter animals after completing the rope halter.
- Discuss the care of rope halters.
- Allow a junior leader or older club member to assist or instruct rope halter demonstrations.
- Remember, 4-H develops boys and girls. What they learn is more important than what they make.

Kind and size of animal	Size of rope (inches)	Length of rope (feet)	Nose piece* (inches)
Sheep, goats, small calves	1/4 to 5/16	8 to 10	8 to 9
Calves to 1 year	3/8 to 7/16	10 to 12	9 to 11
Yearlings and cows	7/16 to 1/2	12 to 14	11 to 13
Horses and bulls	1/2 to 9/16	13 to 16	14 to 16

\* Add 3 inches to the proper nose piece length needed to start the loop described in Step 2 of *Adjustable Halter* instructions. To assure proper fitting halters, measure the animal's nose for proper length of nose piece.

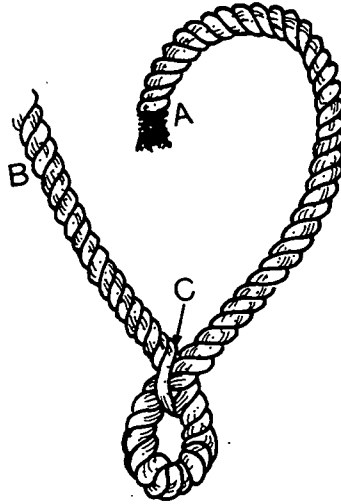
## Adjustable Halter

**Step 1.** To make an adjustable halter for cattle, measure and cut off about 12 to 16 feet of rope. Lay it out in the manner shown below. At the end of the nose piece (A), attach rubber electrical tape to prevent ravelling. Then measure from end (A) a length of rope about 14 to 16 inches long; make the loop for the lead rope to go through. For illustration purposes (A) will be the short end or nose piece.



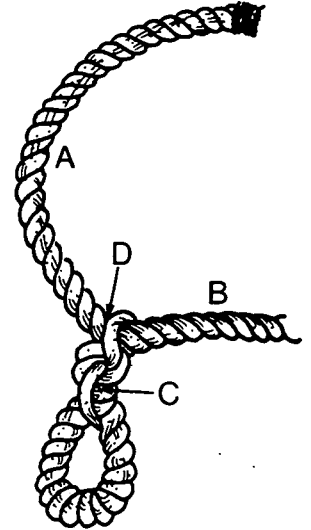
Step 1

**Step 2.** Open the rope at (C) and put the short end (A) through (B) at (C).



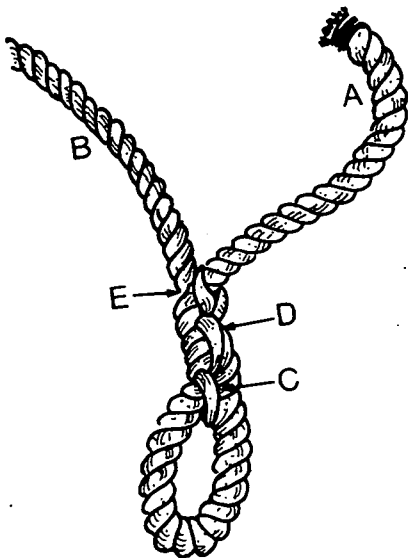
Step 2

**Step 3.** Open rope (A) at (D) and put long end (B) through (A).



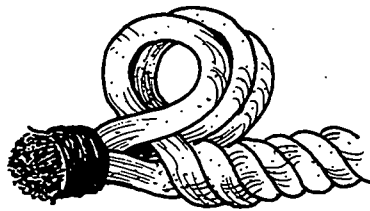
Step 3

**Step 4.** Put (A) through (B) again at (E) and draw up tight



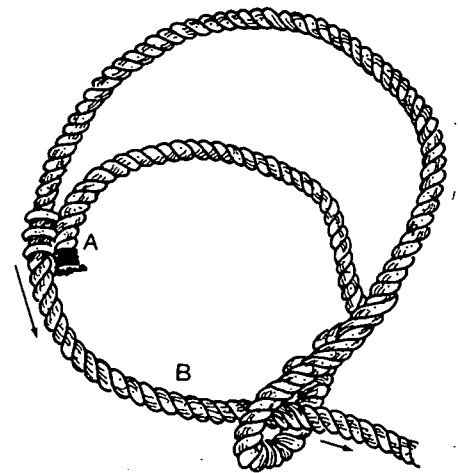
Step 4

**Step 5.** Take the end of (A), next to the tape, and twist it until three rope loops appear. Twist the three loops around until they are parallel to each other.



Step 5

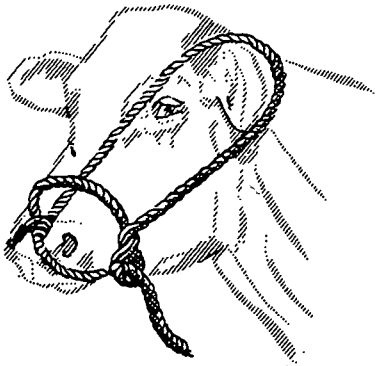
**Step 6.** Pull lead rope (B) through the three loops; take the long end of lead rope (B) and put it through the larger loop on the other side. The halter is now ready to use except for the end of the lead rope. Tape or splice the end of the lead rope.



Step 6

## Haltering an Animal

To put a halter on an animal, adjust the size of the head stall, allowing slack in the chin strap. Take the lead and loop splice in your left hand, holding the nose piece and chin strap open, and the head stall in your right hand. Approach the animal from its left side, slip nose piece over the nose with the chin strap underneath; place head stall over the top of the head and back of the ears. Adjust head stall if necessary.

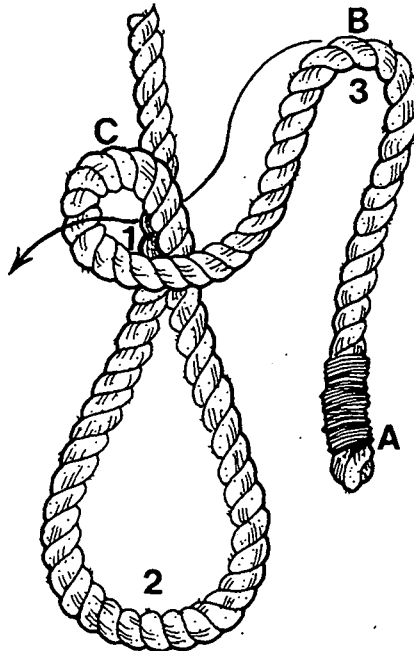


Halter and animal

## Manger (Quick-release) Knot

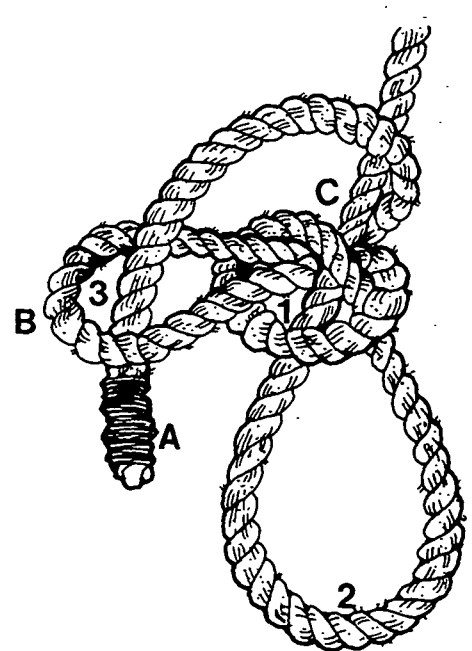
The manger (Quick-release) knot is best for tying cattle anywhere. It is similar in construction to the slip knot, but is much easier to untie.

**Step 1.** Throw a loop at (1) in front of rope (C). Bring the bight at (B) around back of (C) and through the loop at (1).



Step 1

**Step 2.** Finish by putting end (A) through bight (B) and draw up tight.

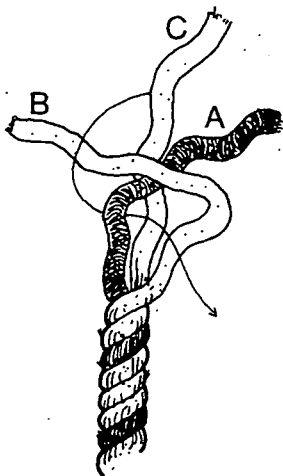


Step 2

## Spliced Crown

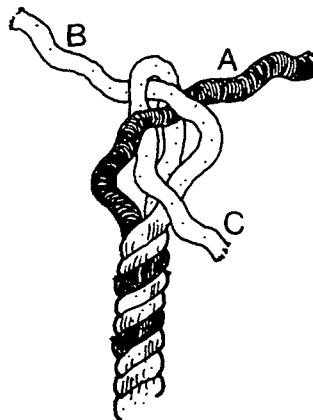
The spliced crown prevents the end of the rope from unravelling and provides a good hold for leading.

**Step 1.** Untwist the rope five turns. Cross (B) in front of end (A).



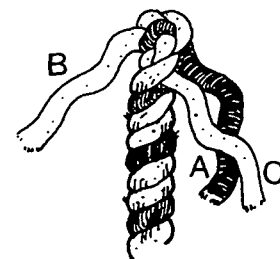
Step 1

**Step 2.** Bring end (C) down in front of (B), under (A), and through the opening.



Step 2

**Step 3.** Form the crown by pulling all the strands up tight. A solid three-cornered knot, with the ends pointing down the rope, results.

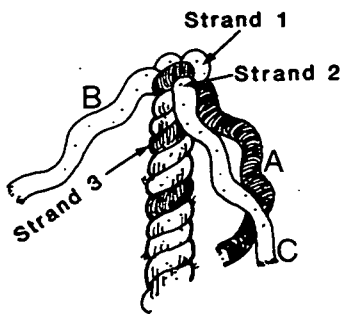


Step 3

### Spliced Crown (continued)

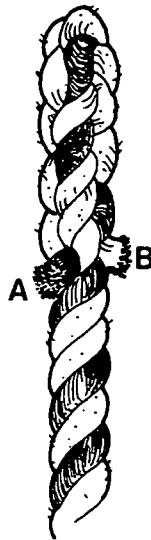
**Step 4.** Weave the ends back into the rope. Start with any end such as (C), put it over strand 1 and under strand 2, keeping it at a right angle to strands 1 and 2.

Draw strand (C) down tight and give the rope one-third turn to the left. Give the rope another one-third turn to the left, and put end (B) over strand 3 and under strand 1. Pull the ends down firmly and weave all the ends in at least once more.



Step 4

**Step 5.** Cut the strand about 1/4 inch from the rope, making the completed crown as shown. After completing the braided areas, roll them with your shoe to smooth out the edges.



Step 5

### Securing the Ends

Never let rope strands unravel. If they do, the rope is harder to work with and is not as strong. To secure the ends, first make a clean, square cut by placing the rope on a firm block and cutting with a sharp knife or axe. Secure the ends by either wrapping the rope (two or three turns) with friction tape about 1/2 inch from the end or whipping the ends with strong string.



Secure the ends

Pacific Northwest Extension publications are jointly produced by the three Pacific Northwest states—Oregon, Washington, and Idaho. Similar crops, climate, and topography create a natural geographic unit that crosses state lines. Since 1949 the PNW program has published more than 450 titles. Joint writing, editing, and production have prevented duplication of effort, broadened the availability of faculty specialists, and substantially reduced the costs for participating states.

Published and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914, by the Oregon State University Extension Service, Lyla Houghlum, interim director; Washington State University Cooperative Extension, Harry B. Burcalow, interim director; the University of Idaho Cooperative Extension System, LeRoy D. Luft, director; and the U.S. Department of Agriculture cooperating.

The three participating Extension Services offer educational programs, activities, and materials—without regard to race, color, religion, sex, sexual orientation, national origin, age, marital status, disability, and disabled veteran or Vietnam-era veteran status—as required by Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973. The Oregon State University Extension Service, Washington State University Cooperative Extension, and the University of Idaho Cooperative Extension System are Equal Opportunity Employers. Published July 1979; reprinted September 1995.

\$1.00/0/\$1.00