

371.42
Or31ch
No. 22
Rev.
1959
C. 3

OREGON STATE LIBRARY
Documents Section
AUG 18 1959

DOCUMENT
COLLECTION
OREGON
COLLECTION

Your 4-H

Beef Project

Club Series H-22
Revised August 1959

DISCARD



FEDERAL COOPERATIVE EXTENSION SERVICE OREGON STATE COLLEGE CORVALLIS

Cooperative Extension work in Agriculture and Home Economics, F. E. Price, director. Oregon State College, the United States Department of Agriculture, and the State Department of Education co-operating. Printed and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

CONTENTS

	Page
Selecting Your Steer.....	4
Your 4-H Beef Breeding Program.....	5
Feeds and Nutrition.....	10
Animal Health.....	12
Control of External Parasites.....	13
Commercial Feeding of Steers.....	14
Fitting Your Cattle for Show.....	17
Showing Your Cattle.....	19
Selling Your Beef.....	20
Explanation of Terms.....	22
Activities and Opportunities for 4-H Beef Club Members.....	22

BEEF PROJECT REQUIREMENTS

To be a 4-H Beef Club member you must :

- Be at least 9, and not 21, years old before January 1 of the club year.
- Own and care for one or more beef heifers, cows, or steers. You may start with a heifer or steer calf, yearling heifer, or a cow. Your animal need not be purebred but should be a good animal of a beef breed. If registered, it should be registered in your name.
- Get your first animal and start your 4-H beef project by June 1. Beef calves usually are weaned in the fall. That is a good time to get your 4-H calf and start your project. After the first year your beef project should continue the year round.
- Be responsible for feeding and caring for your animals. You should do most of the work yourself and all of the fitting and training for show.
- Fill out your Project Enrollment Card and give it to your club leader or send it to your County Extension Agent when you get your first animal or when you start your project.
- Keep a record of your beef project in a "My 4-H (Livestock) Record." Records should start when you get your first animal and continue until the end of the club year. Show your completed record to your club leader at the end of the club year.
- Fill out a 4-H Project Completion Card and give it to your 4-H club leader when you have completed the above requirements. This card is due in your County Extension office by September 30.

Your 4-H

Beef Project

JOHN H. LANDERS, Jr.
Extension Animal Husbandry Specialist
Oregon State College

THE BEEF PROJECT is popular with 4-H boys and girls. Here are some reasons WHY:

- The project fits in with operations on many ranches. Neither special equipment nor special feeds are needed. Plenty of good hay and pasture and a small amount of grain are the feeds needed. Most Northwest farms can provide these necessities.

- The project offers the chance of a good return on investment. By good management many a 4-H'er has saved money for college or has built up a good beef herd.

- A beef production project provides excellent opportunity to learn practical management—experience useful in later years on almost any ranch.

- A breeding beef project is continuous. The member has his animals in possession at the beginning of each Club year.

- Often the best calves for Club projects are found at home. Thus, the family can see its own line of cattle fattened out.

- And building up a herd with which to start farming on his own makes the project attractive to a farm boy or girl.

In a 4-H beef project you learn HOW TO:

- ▶ Select and breed good animals.
- ▶ Feed and care for them.
- ▶ Keep and use records.
- ▶ Fit and show animals.

The author acknowledges assistance from William Y. Fowler, Extension Livestock Marketing Specialist, in preparing sections on selecting and selling your beef, and from Dr. J. O. Schnautz, Professor of Veterinary Medicine, in preparing sections on animal health and control of external parasites.

Selecting Your Steer

Much of your success will depend on selection of feeder steers. Size, condition, quality, and age of steers purchased are important. Price paid per pound must be related to these, as well as to the market. Always buy by the pound, not by the head.

When to Buy

Feeder calves should be bought in the fall. Feeders are then available in greater numbers and often at lower prices. This is because cowherd owners usually grow rougher types of feed than are desirable for wintering calves, and prefer to sell them at weaning time.

What to Buy

Good to Choice grade feeders are desirable for your 4-H project. (See Explanation of Terms, p. 22). Get the beef breed you prefer. Good to Choice feeders can be fed to the slaughter grades of Good and Choice. Lower quality cattle may be purchased at lower prices, but lack type. Selling price of a finished steer, graded Good to Choice as a feeder, generally is high enough to more than compensate for the difference in original purchase price.

Grade is decided by four things—the animal's conformation, quality, finish, and maturity. Each animal presents a different combination of these. In two animals, of the same



FIGURE 2. Select calf with a deep thick body—note depth of hind-quarters.

grade, one might have less maturity and finish than the other—yet have enough quality and conformation to make up the difference.

Feeder grade—corresponds to—Slaughter grade

Fancy	Prime
Choice	Choice
Good	Good
Medium	Standard
Common	Utility

Feeder grade should decide slaughter grade when your animal is finished. It also determines the most economical time to market.

Cattle should be marketed when they reach the degree of finish that corresponds to their grade as feeders. If a steer grades Good as a feeder, he should go to market when he grades Good as a fat steer. Trying to “up-grade” your animal by extra feeding is expensive.

Where to Buy

Various places can supply feeder cattle for your 4-H steer project. Best source is your own commercial cowherd. A high quality herd on the home farm will assure desirable qualities in the calves used. (If you use steers you have raised, weigh them at the beginning of the feeding period and appraise them on the basis of the going price so your feeding project records will be complete.)

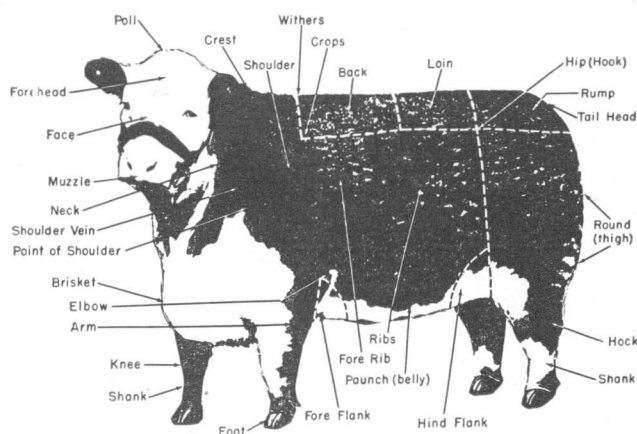


FIGURE 1. Parts of a beef animal.

Other sources are your neighbors' quality commercial herds, reliable purebred breeders, and commercial breeders that have good quality cattle.

Commission men in terminal markets can help you obtain calves of the desirable type and quality. This is part of the regular service offered by commission companies at terminal markets.

Many public auctions in Oregon handle large numbers of feeder cattle each year. Auction operators often help members select desirable 4-H steers.

In some counties, Cattlemen's Associations hold cooperative feeder sales to make top quality feeders available to club members.

How Much to Pay

Get market information on what cattle are worth, then pay market prices. It is not necessary to pay premiums to get good cattle. Plan your steer-fattening project on market prices only. Consider the margin. To make profit or prevent loss, you must obtain more per pound for fat cattle when marketed than you originally paid per pound for feeders.

Your 4-H Beef Breeding Program

You may be interested in raising a beef heifer or in starting with a cow that would help you establish a herd in a shorter time. This is a profitable project providing you have access to 6 or 8 months good pasture each year.

Selecting a Breed

The common beef breeds are Aberdeen Angus, Hereford, and Shorthorn. There isn't a "best" beef breed. There are good and poor animals in any breed. You may like one breed better than another. If your father has beef cattle, why not select the same breed so your breeding program can follow along with his.

Get your heifer or cow from a reliable breeder. Select one of straight beef breeding. Do not use a dairy crossbreed as you will be disappointed when you sell her calf. A dairy crossbreed makes satisfactory gains but will not bring as much per pound as a good-quality, straight-bred beef calf.

Purebreds are not necessary. It is less risky to learn with a commercial heifer of high quality. Later you may be interested in purebred cattle.

Select about the same type you would in a beef steer. You want the same low-set, blocky, compact form, with straight lines and balance. ("Balance" means the animal should be as

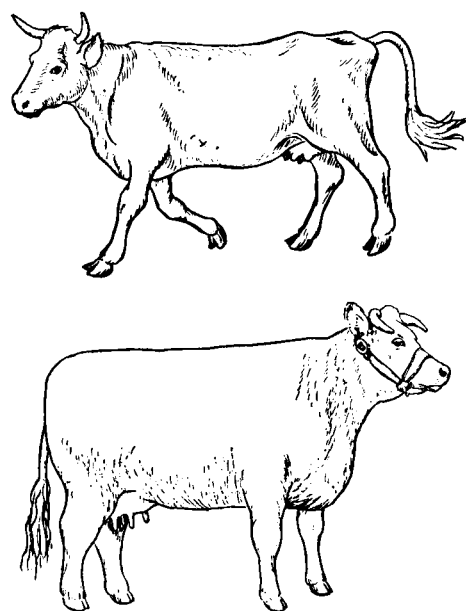


FIGURE 3. Select female of blocky conformation, gentle and easy to handle.

good in front as it is behind, or any other part of the body.) The head should be broad and short, have a wide muzzle and a strong jaw. The heifer or cow should look like a female—not like a bull.

Bone of a breeding cow or heifer should be strong, but not coarse. Legs should be placed squarely under the corners of her body. Do not select a heifer that has bowed or buck knees. Hind legs should have a slight bend at the



FIGURE 4. Hindquarters sell for the most money. Have them deep and wide.

hocks, but should not be "sickle hocked." (Feet should not be placed so far under body that the legs remind you of snowshoes.)

Back should be straight from top of shoulder to base of tail. Rump should be level and straight. Round should be well developed, extending well down to the hock. Top line and bottom line should be parallel.

Body of your heifer should be deep, wide, carrying width from top of shoulders clear back through the rump and well down in the hind flank and twist.

Look at other calves sired by the same bull. Occasionally a good-looking individual is produced from a rather ordinary family. Look at both sire and dam.

Do not select on looks only. Buy your starting heifer from a herd with several years' pro-

duction records. (See Explanation of Terms, p. 22.) Production records include a score for body type and conformation, and for rate of gain. Rate of gain may be on sucking calves, bulls that are feedlot tested, or steers from this particular herd that have been in the drylot. It is desirable to know rate of gain and ability to convert feed into pounds of edible meat.

Keep complete production records on your 4-H cow to guide you in making replacements. Lifetime 4-H Beef Cow Production Record sheets are available from your County Extension Office. Get one for each of your producing cows. Keep a good calf that makes a satisfactory rate of gain and has a high weaning weight. But, do not keep a calf with poor conformation and low weaning weight.

To determine average daily gain of a weaner calf, subtract birth weight (if available) or 70 pounds from weaning weight. Divide remainder by days of age.

Example: A calf born January 15, 1958 weighed 64 pounds, and when weaned October 1, 1958 weighed 515 pounds. The calf would be 249 days of age. Subtracting 64 pounds from 515 pounds, makes 451 pounds gain in 249 days. Dividing 451 pounds gain by 249 days, results in an average daily gain of 1.81 pounds.

Insure your animal. It's unfortunate to put considerable money and time in your 4-H animal and lose it a few days before the show. If you borrow money to get started, get your



FIGURE 5. Deep body, parallel top and bottom lines. Note strong top line and full loin.



FIGURE 6. A good feeder usually has a short neck and a broad muzzle. Calves should be dehorned.

dad's help in signing the note. Understand what you are signing. Good commercial cattle operators must understand finances as well as feeds.

Feeding

Feeding breeding heifers is considerably different from feeding for market. It is not necessary to grain-feed beef heifers at any time. Feed a full ration, all the heifer will eat, of a good legume hay or grass or grain hay plus some protein supplement such as soybean meal, cottonseed meal, linseed meal or dried peas, whichever is most economical. It is not necessary, even with poor-quality grass hays, to feed more than three-fourths of a pound of meal per day.

Have available at least 1 ton of hay per heifer and from 1½ to 2 tons of hay per cow. A ton of hay is not enough for a cow during the wintering period, particularly in eastern parts of the Northwest where winters are more severe. In western regions there may be some grass available during the winter. Do not depend upon this for winter feed as it will not

provide sufficient nutrients to maintain your heifers or cows. They must have hay to carry them adequately through the wintering period. It is not advisable, nor economical, to feed any grain to your heifers or cows on pasture during summer. They will make sufficient growth on pasture alone.

Minerals are needed for bone development and general growth. Sodium chloride (common salt) and iodine should be added to every cow's ration in the form of iodized salt. Calcium and phosphorus are low in some rations, especially where no legume hay is fed. These minerals can be added by giving them free access to steamed bonemeal. All other minerals are present in adequate amounts in Northwest feeds. Vitamin A sometimes is needed in the winter ration, particularly where green feed is not available for long periods during the year. Vitamin A can be provided by feeding legume hay or bright green grass hay.

Always provide a generous amount of clean, fresh water. About 70% of the body weight is water.

Breeding

Your heifer should not be bred until she is 16 months old and weighs 650 pounds. Breeding a heifer under this weight results in a smaller calf and will retard the heifer's growth. The suckling period rather than actual production of the calf stunts the heifer. Most purebred registry associations require that heifers be at least 24 months old at calving time before the calf can be registered. Always breed cows and heifers to a good type, production tested, registered bull of beef breeding.

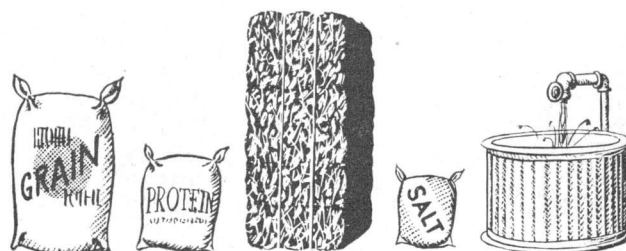


FIGURE 7. The five essentials of any good ration.

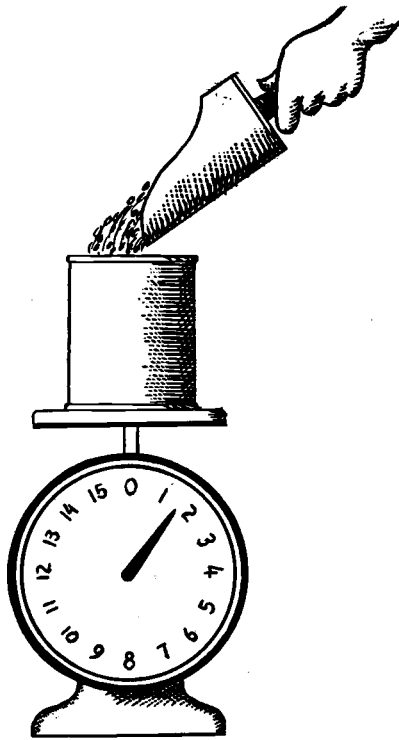


FIGURE 8. Always weigh feeds accurately.

It is advisable to have calves be born in January, February, and March rather than in April, May, and June as most calves are weaned in October and November. The higher the weaning weight, the more return for each cow bred. Bad weather may be a factor in your area, so consider this when breeding for a certain time of the year. The gestation period of a cow is approximately 9 months.

Preparation for Calving

Cows should gain weight during fall and winter up to calving time. Approximately 100 pounds is lost in calving. Feeding of protein meal or of a small amount of grain may be wise at this time. This enables the cow to have a strong, healthy calf that has a good chance of living. Usually it is not necessary to help the cow while calving. If she has difficulty, call an experienced stockman or local veterinarian.

Castration

Castrate bull calves when they are from 3 days to 3 weeks old. At this age there is little

or no setback from the operation and much less time, work, and equipment are required than later. To be sure the castration job is done permanently, use a knife. Other methods are less sure. (See Explanation of Terms, p. 22).

Dehorn Early

All calves should be dehorned, with the possible exception of some purebreds. Dehorn calves under 2 months of age. It causes less shock and is much easier to do than later. The Barnes type dehorner is satisfactory for calves up to weaning age. Other types, or a saw properly used, are satisfactory. *Be sure you get at least a ¼-inch ring of hair around the horn.*

Dehorning may be done at the same time as castrating.

Vaccinate for Blackleg

Always vaccinate for blackleg and malignant edema. If calves are vaccinated at 2 months of age or less, vaccinate again at weaning time to insure immunity. Calves may be vaccinated for blackleg at the same time they are dehorned, castrated, and branded.

Management Practices

Good management is essential in economical beef production.

Use homegrown feeds when possible. Buy only the supplements that are absolutely necessary. All grains are about equal, except oats, which have a lower feeding value.

Control external parasites such as flies, warbles, and lice. This is discussed on p. 13.

In some areas, because of wet weather, it is necessary to trim the feet of cattle once or twice per year.

In the fall always have available 1½ to 2 tons of good quality hay for each cow in the breeding herd. Buy this hay at harvest when the price usually is cheapest.

When feeding out steers, it is not desirable to feed more than 1½ pounds of grain per 100 pounds of live steer per day. This will not pro-

duce a prime steer. It will produce an economical steer that will make you the most money in the long run.

Importance of Pastures

Livestock owners have learned that the cheapest meat can be obtained from grass. If you have irrigated pasture, or pasture that will provide good feed for 6 to 8 months during the year, use it for your 4-H beef animals.

Points on Pasture Management

- A grass-legume combination will produce more beef than a straight grass pasture.
- An ideal pasture for beef cattle contains approximately 60% grass and 40% legumes. Higher proportion of grasses over legumes will lessen bloat hazard.
- Steers pastured on grass-legume pasture usually make a higher daily gain, have a higher carcass grade, and require less grain than those on straight grass pasture.
- Check with your County Extension Agent regarding recommended species, seeding rates, and fertilizers for your area. Use nitrogen fertilizers to boost the growth of grass in grass-legume combinations. Proper use of both nitrogen and phosphorus fertilizers can aid materially in getting a maximum production per acre from your pasture, maintaining high daily gains, and lowering bloat hazards.
- On irrigated pastures, figure a plan for rotating grazing and irrigation. Cattle should not be grazed on pasture under irrigation or while still wet.
- Don't overstock pastures. Sometimes you can produce more beef per acre from overstocking, but daily gains and grades of cattle will be lower, and pasture stands will not last as long as with normal stocking.
- On dryland pasture, daily gains usually begin to drop when pasture begins to dry up. In the Northwest this occurs from the latter part of June until July 15. Experiments have

indicated daily gains can be maintained if 1 to 1½ pounds of cottonseed meal or its equivalent are fed to steers on dry grass. You may self-feed a salt-protein mixture.

Salt can be used with cottonseed meal to regulate the amount animals will eat. Use a mixture of ¼ salt and ¾ cottonseed meal on yearling steers, or 1/3 salt and 2/3 cottonseed meal on 2-year-old steers or cows. These mixtures generally will insure the right consumption of cottonseed meal, but you need to feed it as a loose feed so the salt can be increased if animals eat too much.

- Water is essential. It should be clean, and close to pastures. If cattle have to go over ½ mile for water, their daily gains will be affected by the exercise and time needed to get back to pasture. If you feed a salt-protein mixture, it is especially important that the water supply be adequate and close.
- Always keep loose iodized salt in front of the cattle on pasture.
- A mineral mixture of 200 pounds steamed bonemeal to 100 pounds salt should be kept available. Both salt and bonemeal could be fed in a small homemade feeder, closed on three sides and covered on top to prevent blowing and wetting.

Breeding Animals on Pasture

Your breeding heifer can be carried on good pasture during the summer with little other feed. On good pasture the mature cow probably will need no grain and should stay in good condition.

In some of the Northwest, particularly the western part, good pasture grasses will furnish some feed during winter. Breeding animals should also be fed hay or silage because grass does not have as much feed value during winter months.

Cattle on pasture should have salt and bonemeal free choice, access to fresh water, and shade to protect them from the sun. They should be sprayed frequently with DDT solution to ward off flies.

Feeds and Nutrition

Grain Rations

It is important to feed a balanced ration. Make greatest use of homegrown grains so only feeds to balance the ration need be bought.

A calf on full feed will eat about 2 pounds per hundredweight per day. The following rations make use of homegrown grains and are balanced when fed with legume or high-quality grass hays:

Ration 1	Pounds
Ground oats.....	20
Ground barley.....	35
Ground wheat	20
Dry beet pulp	15
Coarsely ground peas	5
Cottonseed meal or equivalent ..	5

Ration 2	Pounds
Ground oats	25
Ground barley	20
Ground wheat	20
Ground corn	20
Wheat bran	10
Cottonseed meal or equivalent ..	5

Ration 3	Pounds
Ground oats	5
Ground barley	20
Ground corn	40
Dry beet pulp	15
Wheat bran	10
Cottonseed meal or equivalent ..	10

Ration 4	Pounds
Ground corn (or wheat)	60
Ground oats	20
Dry beet pulp	10
Cottonseed meal or equivalent ..	10

Ration 5	Pounds
Ground barley (or wheat)	50
Ground oats	25
Dry beet pulp	15
Cottonseed meal or equivalent ..	10

Consult your club leader or County Agent for help in developing a steer ration.

If you grind the grains, make them coarse. Fine grinding lowers palatability and some-

times causes digestive disturbances. Rolling is a good method of preparing feeds. It allows little waste, and cattle like rolled grain.

Be sure to maintain the protein requirement. Generally, 1 pound cottonseed meal or its equivalent will replace 5 pounds grain until the protein requirement is met. A ration properly balanced with protein will insure high daily gain and efficient use of feed.

Feed Nutrients

Five feed nutrients must be included in the ration for beef cattle. They are carbohydrates, proteins, fats, minerals, and vitamins.

Carbohydrates are supplied in grain feeds. They furnish energy and are used to produce fat.

Proteins are needed to develop muscle and bone. Grain feeds carry some protein but not enough to meet the steer's needs. Add protein supplements, therefore, such as linseed meal, cottonseed meal, soybean meal, or pea meal to balance the ration. When the grain feed is properly balanced with protein, steers make faster and cheaper gains.

Fats are a source of heat and energy. From the practical feeding standpoint, all rations contain enough fats to meet the steer's requirements, and it is not necessary to add them to the ration.

Minerals are needed for bone development and general growth. Sodium chloride and iodine should be added to every steer ration in the form of iodized salt.

Calcium and phosphorus are low in some rations, especially when no legume hay is fed. They can be added by giving free access to steamed bonemeal. All other minerals are present in adequate amounts in northwest feeds.

Vitamins are essential for the health, growth, and vigor of cattle. Vitamin A is sometimes low in rations if steers are fed in a drylot with poor-quality or nonlegume hay.

Good-quality alfalfa hay is the best source of vitamin A for steers. All other vitamins are either manufactured by the steer in his rumen, contained in the ration, or absorbed from sunlight.

Barley is a good fattening feed having about 90% the fattening value of corn. It is not wise to feed barley as the only grain, since cattle have a tendency to bloat on barley alone, especially when fed with legume hay.

Corn is a good fattening feed. Since most feeders do not have homegrown western corn, other grains can be used. If you buy grain you often can buy corn as cheaply as other feed grains.

Oats make a bulky feed that steers like. However, oats produce growth rather than finish when they form more than 25% of the ration. A steer will lack finish at marketing time if his ration has had too high a percentage of oats.

Wheat, fed as a part of the ration, gives good results in fattening steers. Do not feed more wheat than recommended in the suggested rations (50%). Too much wheat sometimes will cause a steer to go off feed, and may cause bloat.

Wheat bran is a good feed. It is palatable and high in protein and phosphorus. It has a slightly laxative effect. Bran should not be fed more than 10 or 15% of the ration.

Dried beet pulp or dried molasses pulp may be used in steer-fattening rations, not to exceed 20% of the ration. When fed at this level, beet pulp has about the same fattening qualities as ground barley.

Dried beet pulp is palatable, adds bulk and variety to the ration, and has a tendency to lessen bloat hazard.

Blackstrap, or beet molasses, is well liked by cattle and often used as an appetizer. It has a feeding value of about 70% that of corn.

Feed molasses in limited quantities at first because it might have a laxative effect. It is common practice in some sections to self-feed molasses to steers on full feed.

Molasses and molasses feeds are low in protein and do not take the place of grains that contain more protein.

Protein Feeds

Linseed, cottonseed, or soybean meal are high-protein feeds which, fed as recommended, supply protein needed to balance the grain.

You can use pea meal satisfactorily as the protein supplement. Pea meal contains twice as much protein as grain, but only about half as much as cottonseed or soybean meal. It is often available in the northwest at a lower cost than other protein feeds.

Feed and Growth Records

4-H Feed and Growth Record sheets for market animals are available from your County Extension office. They will help you keep more accurate records.

To determine the cost per pound of gain of a steer on feed, subtract starting weight from finished weight, and divide the cost of feed by pounds of gain.

Example: Starting weight 445 pounds, finished weight 935 pounds, total feed cost \$125.00. Subtracting 445 pounds from 935 pounds makes 490 pounds gain. Dividing \$125.00 by 490 pounds gives a cost of 25.7¢ per pound gain.

Animal Health

Livestock health is the aim of all disease study. A health program with its many approaches should be on a club and community basis. Everyone in the community can assist by participating. Acquaintance with preventative measures including barn construction, safe squeezes, chutes, and restraint all help in preventing injury and loss. Animal first aid courses are beneficial for club members.

Sanitation in livestock care needs special consideration. Animals need dry bedding. Sunshine through windows, doors, or open sheds helps reduce moisture and infection. Freedom from drafts is more important than warmth. Quarters should always be light and free from odors and dampness. Wet stalls may cause pneumonia. The best test for quarter livability is: Do they seem fresh and pleasant as you first enter?

It is especially beneficial to know what diseases can be prevented by immunization, and when these immunizations are desirable. In such a community program, veterinarians will gladly participate.

The most desirable treatments vary according to conditions. Beneficial drugs are continually being added to our present ones. The best and most modern diagnosis and treatment can be obtained through your veterinarian.

Blackleg

Blackleg is a highly fatal disease, especially for young animals 6 to 24 months old. It affects the heavy musculature, particularly of the legs, causing the muscles to turn black. Lameness and rapid death follow. Early vaccination is most effective. Revaccination is advisable under great exposure.

Brucellosis

Brucellosis (Bang's disease) causes abortion and some sterility in cattle and undulant fever in man. It is contagious for most animals.

Vaccination is desirable in many areas. Age for vaccination is 4 to 8 months at no cost to owner. Consult your veterinarian for local program. Oregon law effectively outlines brucellosis control.

Shipping Fever

Shipping fever is a cattle disturbance, usually with pneumonia symptoms, caused by infections due to exposure, faulty housing, and poor care—especially during bad weather. Contact with strange cattle is the usual history. Protection and treatment measures vary according to conditions. Preparation for shipment should be arranged with your veterinarian several weeks in advance to insure healthy delivery. Vaccination is of questionable value.

Ringworm

Ringworm is a fungus infection easily recognized by its rounded light spots, (often referred to as "dollar spots"), of an asbestos-like appearance, with the hair tending to disappear. Ringworm is highly contagious, and infected areas itch, causing animals to rub. Infection is spread from animal to animal, or from infected quarters and equipment. Early care prevents spread and destroys infection in 1 to 3 treatments.

Ringworm appears most often on the head and neck or rump of animals less than a year old. No vaccination is available. But a 3% Phemerol solution will remove spots in three treatments. Swab with cotton at weekly intervals.

Bloat

Bloat in cattle is a digestive disturbance with accumulation of gases in the rumen. It causes discomfort, and in acute cases, even death in a matter of minutes.

Feeding conditions causing bloat are quite variable. Keep coarse hay before animals on

legume pasture. Legume pastures are most often involved, but other feeding conditions also bring on the condition at times. Heavy grain rations may cause trouble in the feedlot. Walking the animal often removes slight bloat. Antifoaming agents given by mouth usually relieve it. A garden hose passed into the stomach allows gas to escape. Use a speculum or a block with a hole in it for hose to pass through to keep animal from chewing hose. Mineral oil or linseed oil, a pint to a gallon depending on size of the animal, will prevent immediate recurrence. Turpentine or kerosene, 2 to 3 ounces in a pint of milk or water as a drench will cause belching. Sticking the middle of area between hip and last rib on the left side with a trocar and canula, or knife, should be attempted only as a last resort. Call your veterinarian immediately.

Scours

Scours is a digestive disturbance usually of an infectious nature. The feces are variously colored, thin, and sometimes bloody.

Most calf deaths are caused by scours within the first month of life. Overfeeding is the usual cause. Handfed calves should be taken off the mother after 18 to 24 hours, and not fed for a day. Then feed milk at the rate of 8% of bodyweight for the total daily feed in 2 or 3 feedings. Increase to 10% after a week. Feed immediately after milking, or warm the milk to body temperature. Nipple feeding is preferred to open pail method. Milk out beef cows to prevent over-eating by the small calves. Always clean and disinfect quarters before a

new calf is put in. Clean and sterilize calf pails as you do milk pails.

Acidopholus milk is beneficial in controlling scours in young calves. Antibiotics help prevent and cure scours. All exposed calves, such as those coming from public sales, should be treated before first feeding. Later scours may be caused by improper feeding and other diseases, including parasites. Consult your veterinarian for a diagnosis and proper treatment. There is no good vaccination for all kinds of scours.

Foot Rot

Foot rot in cattle is a contagious infection causing lameness due to swelling, inflammation, and decaying tissue. It can be recognized by a characteristic foul odor. Rough footing likely to cause foot injuries, plus mud and filth make ideal conditions for foot rot to spread.

Many treatments are effective after trimming hoof and removing all dead tissue. Soaking feet in bath of saturated solution of copper sulfate is effective. Repeat after 4 or 5 days, if necessary. Several injections, including penicillin, are very good. Discuss effective control measures with your veterinarian.

Warts

Warts are diseased skin growths caused by virus infection. They are contagious to men and animals. Application of castor oil or other oily base materials daily may cause them to disappear. Wart vaccines often are effective on beef animals. Consult your veterinarian.

Control of External Parasites

Lice

When to treat—In fall or early winter.

How to apply—Dipping vats or "automatic spray dip" machines give the best coverage. Sprayers are most effective when used at pressures of about 400 pounds. Low pressure sprayers will give good results, but more care is

needed to get the animal completely wet to the skin.

To prepare the sprays use toxaphene, malathion, lindane, or methoxychlor. Follow the manufacturers recommendations.

When only a few animals are involved they can be treated successfully by hand dusting

the entire animal. Use a 15% toxaphene or 50% methoxychlor dust.

Cattle Grubs

Treat animals in the early fall with either a Co-Ral spray or Trolene bolus. These are systemic insecticides that kill the grubs in the animal's body before they reach the back.

Horn Flies

Use one of the insecticides recommended for louse control. Good control can be obtained with less spray. Thorough coverage is not as important as with louse control. Make the first application when flies begin to appear and repeat when 30 or more flies can be seen on the animal.

Ticks

Use toxaphene or lindane as recommended for lice. Thorough coverage is important.

Back Rubbers

Back rubbers are effective in the control of horn flies and aid in the control of lice. Use a 5% solution of DDT, toxaphene, TDE, or methoxychlor in stove oil or a light grade of fuel oil. To prepare this solution, add one quart of a 25% emulsifiable concentrate to 4 quarts of oil. Some emulsifiable concentrates of insecticides come in concentrations other than 25%. If these are used, it will be necessary to calculate the amount necessary to make a 5% solution.

Commercial Feeding of Steers

Use Good Pasture and Quality Roughage

Steer-feeding programs which provide for maximum use of roughage and pasture result in least risk and most profit. This is particularly true in the Northwest where roughages and pastures are more available than feed grains.

A successful steer-feeding operation provides good quality pasture for a maximum number of days each year. Green succulent pasture must be provided to maintain high daily gains. A legume-grass mixture gives higher gains than a grass mixture alone. Daily gain is important. A good pasture system keeps daily gains high. This results in a higher grad-

ing animal at the end of the pasture season. Pasture systems frequently provide high gains in the spring and medium-to-low gains in the late summer, leaving your steer in the condition he was when you started.

A sound steer-feeding program also makes use of high quality roughage feeds in the winter program. Top quality hay is desirable.

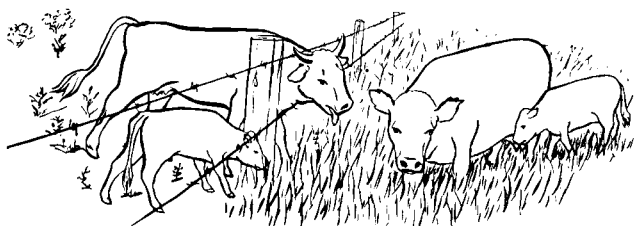


FIGURE 9. Use plenty of fertilizer to produce good grass. Keep fences repaired.



FIGURE 10. Cheapest gains are made from grass. Supply plenty of grass.

Grass or legume silages, or a mixture of the two, will usually benefit your wintering ration. If only low quality hay is available, feed some protein supplement feeds and vitamin A supplements.

It is not possible in this bulletin to discuss the various combinations of pastures which are adapted to the various sections of the Northwest. With your County Extension Agent plan what your pasture crops will be, what rotation method you will use in grazing, your fertilizer program, and the best date to start grain feeding.

Plan the Feed Supply

For success in any steer-feeding project, adequate feed and pasture must be provided before feeders are purchased.

Adequate amounts of high quality roughage are needed for the wintering phase of the program. These can be figured closely. See tables 1, 2, and 3 on pages 15 and 16.

Carrying capacity of pastures varies with the kind of pasture you have and where you are located. One of the first steps in setting up your program is calculating carrying capacities with your County Extension Agent.

The amount of grain needed for the short feed to produce the high Good to low Choice carcass can also be closely estimated if the cattle have been on good pasture. If the pasture has not been up to expectations, more grain will be needed to produce the desired grade.

When you're new in the project, estimate at least a 15% overrun on pasture and roughage, and at least a 10% overrun on grain to offset variations in seasons and in individual lots of steers.

Table 1 shows the amount of feed required to winter a calf to gain from $\frac{3}{4}$ to 1 pound per head daily. This quantity of daily gain is desirable for maximum gains on grass the following summer.

TABLE 1. FEED FOR CALVES TO BE WINTERED AND GRAZED THE FOLLOWING SUMMER*

Feed	Pounds per day	Total for 150 days
With silage and legume hay		
Silage	20-30	2 tons
Choice legume hay	2-4	$\frac{1}{3}$ ton
Mineral	Free choice	Free choice
With silage and nonlegume hay		
Silage	20-30	2 tons
Nonlegume hay	2-4	$\frac{1}{3}$ ton
Cottonseed meal or equivalent	1 $\frac{1}{4}$ -1 $\frac{1}{2}$	200 pounds
With legume hay alone		
Legume hay	12-18	1 $\frac{1}{4}$ tons
With nonlegume hay		
Nonlegume hay	12-18	1 $\frac{1}{4}$ tons
Grain	3-4	500 pounds
Cottonseed meal or equivalent	1 $\frac{1}{4}$ -1 $\frac{1}{2}$	200 pounds
Mineral	Free choice	Free choice

* Feed required to produce $\frac{3}{4}$ to 1 pound gain per head per day during the winter period.

Plan to have about 1,200 pounds of grain ration available per steer for the short feed following summer grazing. This figure will vary according to the productiveness of your pasture and the quantity of legumes there. It will be determined also by the condition of your cattle. In some instances, it shouldn't take 1,000 pounds; in others, it may run slightly over 1,200 pounds.

If you've selected yearling steers for your project, table 2 shows the amount of feed required for wintering them to gain about 1 pound daily.

In using these tables, you can arrive at the feed needed if you have a good estimate of the number of days of your productive pasture. Figure the approximate number of days your cattle will be in the winter feedlot, multiply this by the daily feed requirement, and then

TABLE 2. FEED REQUIRED BY YEARLING STEERS FOR WINTER GAINS OF ABOUT ONE POUND DAILY*

Feed	Pounds per day	Total for winter
With silage and legume hay		
Silage	40-50	2½-3¼ tons
Legume hay	2-4	½ ton
Cottonseed meal or equivalent	¾-1	100-150 pounds
With silage and nonlegume hay		
Silage	40-50	2½-3¼ tons
Nonlegume hay	2-4	½ ton
Cottonseed meal or equivalent	1¼-1½	200-250 pounds
With legume hay alone		
Legume hay	16-24	1½ tons
With nonlegume hay		
Nonlegume hay	16-24	1½ tons
Grain	5	725 pounds
Cottonseed meal or equivalent	1½-1¾	200-250 pounds

* If fed grain 30 to 60 days in fall before marketing, use 400 to 600 pounds of grain. Use 50 to 100 pounds cottonseed meal, or equivalent.

by the number of head you own. Even when wintering cattle on rough feeds, your feed cost per day is higher than when they are on pasture. Maximum use, therefore, should be made of pasture as one method of lowering costs.

Fall Pasture for Feeder Steers

Another method of cutting wintering costs is to provide fall pasture for feeder cattle immediately after purchase.

Practical steer feeders frequently save some pasture for fall. The pasture may be irrigated and cattle may be taken off before the steers are brought, giving the forage an opportunity to grow into productive feed. Other producers remove a hay crop from meadows and save the late summer growth as a starting pasture for feeder steers.

Good use is made of wheat stubble as fall pasture in some sections of the Northwest. If your calves are on the light side of 400 pounds, however, stubble may not provide enough feed until the volunteer wheat has grown enough to be grazed. Wheat pasture, whether volunteer or seeded, is good feed for steers, and results in very good gains.

The main thing to keep in mind when using fall pasture is that feeder steers should not lose weight. This is particularly true of a calf that is being weaned and placed on another ration. Some loss in weight or shrink always results from weaning. After the calf is adjusted, the feed supply should be enough so he makes about ¾ to 1 pound daily gain.

Winter Feeding Rations

As has been mentioned, an advantage of buying feeders in the fall is that they can be wintered to make highest gains on grass. The winter-feeding phase of a steer operation is, therefore, highly important. The job you do here may have considerable effect on the profit of the whole operation.

A moderate winter gain is all that's necessary. Three-fourths to a pound daily gain is considered about right. Cattle wintered to gain better than a pound daily don't usually make the total gain on grass that more moderately wintered cattle do. This is shown in table 3—an outline of results from experiments carried on at an agricultural college. Two lots of cattle were wintered for approximately 120 days, grazed without grain supplementation until the middle of summer, and then drylot fed. Summer gains do not reflect a full season's growth in this case.

TABLE 3. RELATION OF WINTER TO SUMMER GAIN

	Winter gain	Summer gain	Total
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
Lot I	133	177	310
Lot II	87	226	313

Since it takes more expensive feed to put on the higher winter gain, the Lot II cattle cost less to produce.

High quality roughage feeds are essential in a sound steer-feeding program, particularly with calves. Top quality hay is essential. Grass or legume silages, or a mixture of the two, usually will benefit your wintering ration. Corn silage, where available, is of great value. If only low quality hay is available, it is necessary to supplement with protein feeds and sometimes with vitamin A.

A good rule in measuring approximately how much dry feed a steer needs is as follows:

A steer will normally eat 2½ to 3% of his bodyweight each day in dry feed. That means for each 100 pounds he weighs, he should get 2½ to 3 pounds of hay daily. If you're feeding silage divide number of pounds of silage by 3 to get the hay equivalent in terms of dry matter.

Tables 1 and 2, which outline the quantity of feed needed, also can be used as guides on what to feed.

Winter Ration 1: Free-choice alfalfa hay and corn silage, nothing added, have always given wintering calves desirable gain varying between ¾ to 1 pound per day.

Winter Ration 2: Good quality alfalfa hay fed alone and free choice will give the desired gain.

Winter Ration 3: With nonlegume hay of good quality, add 3 pounds of a half oats-half barley mixture plus 1 pound of cottonseed meal or its equivalent in a protein feed.

Winter Ration 4: With grass silage and nonlegume hay, add 3 pounds of the barley-oat mixture and 1 pound of cottonseed meal or its equivalent.

Fitting Your Cattle for Show

Management

Regular feed and fresh water for your animal are very important.

In winter, provide a dry place out of the wind. In summer, provide shade and freedom from flies.

Training

Train your animal to lead easily, to walk slowly with its head up, to stop at your command, to stand quietly with feet set squarely under it, to change positions by use of halter or show stick, and to hold its head up and look alert.

Accustom your animal to other animals, to crowds and noise, and to being handled.

Start training several months before show time. A few minutes daily training is better than training several hours weekly.

Washing

Beef animals should be washed at least once each month prior to the show (not oftener than once a week). Curl after each washing. Final washing should be a day or two before showing.

Do not wash your animal during cold or stormy weather.

Clipping

Clip heads of dehorned and polled animals back to a point behind ears where the head joins the neck.

Usually ears are not clipped; sometimes backs of ears are clipped.

Clip tail from a point even with depth of twist (where legs start to divide) to tail-head. Blend tail-head smoothly with rump.

Curling

Beef animals are usually shown with coat curled to give the appearance of greater depth, thickness, and smoothness. Hair over the loin and rump is curled to show thickness. Twist is combed out smooth to show width.

Three common types of curl are:

Parallel curl—Generally is used on Shorthorns and Angus.

Wavy curl—Is used on Herefords.

Fluffy curl—Can be used on any animal with extra-long hair.

If hair is too short to curl, the animal may be shown smooth. Use the type of curl that makes your animal look best. Angus bulls and cows are sometimes shown with front and rear quarters curled and middle smooth.

Parallel curl—Brush or comb dampened coat down smooth, make parallel lines about 1 inch apart from front to rear. Start lining where back breaks over the side and continue down to knees and hocks. Comb or brush hair upward, leaving a definite parallel pattern. Loin and rump may be left smooth or curled by lining over the back and combing up from rear to front.

Wavy curl—Comb down as for parallel curl but make pattern with the tip of a round curry comb starting at top of the side and working down in close zigzag lines. Comb or brush upward, leaving a distinctive wave pattern. Curl loin and rump by waving from front to rear, then comb up from rear to front.

Fluffy curl—Start with parallel or wave curl or variations, then continue upward combing or brushing until hairs stand up separately and the effect of the pattern is lost. This curl is especially attractive on animals with extra-long hair.

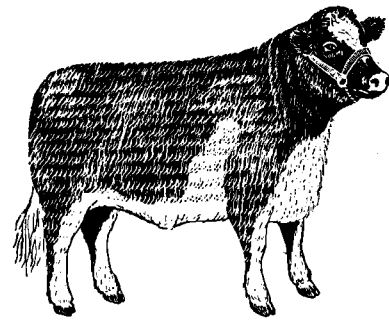


FIGURE 11. Parallel curl, often used on Shorthorns and Angus.

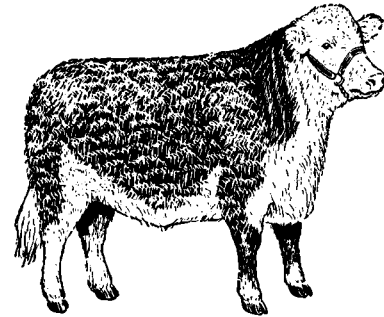


FIGURE 12. Wavy, or Hereford curl.

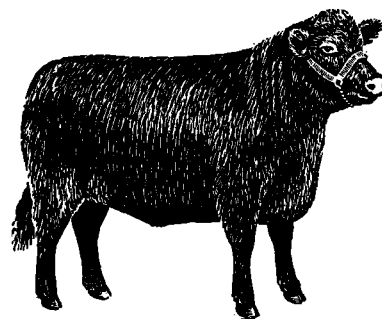


FIGURE 13. All breeds have good individuals. Pictured: Shorthorn, at top; Hereford, in center; Angus, at bottom.

Showing Your Cattle

Rules for Showing

You should:

Be neat, clean, and prompt in entering show ring.

Be alert, pay attention to the judge, and follow instructions promptly.

Keep your animal under control and well posed at all times.

Be courteous to other exhibitors.

Move quietly and confidently.

Look and be pleasant.

Your animal should:

Be clean, well-groomed, and show evidence of training.

Have no excess oil or water on coat. (A judge does not enjoy handling an animal that is wet or oily.)

Have switch clean and fluffed; have hooves and horns clean, hooves trimmed so animal will stand squarely on its feet.

Be dehorned, if it is a steer. Cows and heifers may be dehorned.

Be ready for market, grade Good or better, if it is a steer. Cows and heifers should be in good flesh but not overly fat for breeding animals.

Equipment:

Halter should be clean and adjusted to fit animal. It may be of rope or leather. (Fancy halters that may attract attention from your animal are undesirable.)

A staff or show stick may be carried to help pose animals correctly.

A scotch or straight comb may be carried to smooth coat when necessary. (Use sparingly.)

Showing your animal:

Lead strap or rope should be folded neatly and held in right hand or in both hands when leading. Hold lead to keep animal under control at all times. Usually an animal will show

better when lead is held a foot or more from halter.

Always lead from left of animal. Be sure your lead strap comes out on that side. Lead with animal's head at your right side.

Lead slowly, walk forward, keep animal's head up. Turn animal to the right by leading around him. Lead in a circle large enough to keep him well posed. Never turn animal on heels.

Do not back animal more than two steps. If necessary, lead forward and around to position.

Do not lead ahead of position in front of other animals. Keep enough distance to start and stop without disturbing other exhibitors or animals. Never lead up against other animals either in circle or when forming a line side by side.

Pose animal when possible with front feet on higher ground than hind feet, never with front feet in a hole or on lower ground.

Show beef animal with feet squarely under it. Never stretch or allow animal to stand with front feet back and hind feet forward.

Give the judge full view of your animal at all times. You may step to the front so the judge can get a good side view, but do not get on opposite (right) side. As the judge moves around to the front you can quietly step back to the left of your animal's head.

Other Points to Remember

Know the age of your animal, its weight, how long it has been on feed, points in fitting, etc.

Move animal clockwise in ring unless otherwise instructed. (Clockwise places leader on outside of circle.)

Line animal from left to right with rear of animal toward major part of audience, if possible. Line up in straight line on right of animal that the judge places in position first.

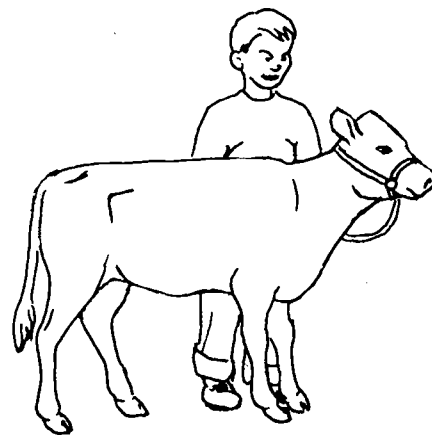


FIGURE 14. Be alert when showing. Always follow the judge's instructions.

If judge instructs you to show some other animal, move promptly. Reset or pose animal when asked to change.

Do not overshadow or fuss with animal if it is standing correctly. If animal gets tired or begins to sag, move it or change pose.

When animal is being posed, change lead to left hand, show stick in right. You can keep the animal in better position.

Know where the judge is at all times.

Above all, pay attention to your job of showing. Do not divide your interest between the judge and the animal.

If the judge disturbs the coat of your animal or if another animal brushes against it, use a scotch or straight comb or brush sparingly to smooth the hair.

Be a good sport (win, lose, or draw).

Selling Your Beef

Market Outlets

Newspapers carry daily market reports from both terminal and auction markets. Radio and TV stations carry market reports several times daily. Your dad probably gets a copy of a market report from a commission company, or the market news service, or perhaps announcements of auction sales.

Three types of market outlets are open to any seller of livestock:

- Private Treaty
- Auctions
- Terminal Public Markets

Private treaty is a method of marketing whereby you sell your meat animal to the buyer of your choice, at the price he is willing to pay. Some of the things to remember in dealing in

private treaty are: weighing conditions, how much "pencil" shrink you will have to take on your animal before the pay weight can be figured, where you are going to weigh the animal, and what the date of delivery will be.

Auction sales are held regularly in many Northwest communities once or twice a week. The animal comes into the ring, people have a minute or two to look it over, and the auctioneer calls for a bid. The fellows sitting around the ring bid up to the maximum price they are willing to pay. The auction company will charge you a small fee for handling and selling your animal. This fee is called a "commission." It is based on the total dollars you receive for your consignment and includes yardage. Yardage is the steer's "hotel bill."

A terminal public market is located at N. Portland. Many Northwest producers send livestock to markets at Spokane, Ogden, and San Francisco. A terminal public market operates differently from an auction in three ways:

- (1) It is open five days a week.
- (2) Sales usually are handled by commission firms and are made at private treaty.
- (3) The stockyards company is a "hotel" for livestock. It is separate from the commission firms that sell the livestock.

After the market opens, buyers come to the commission man and bid on the animals. The bids are kept secret until the commission man figures he has the highest bid he will receive. Then the sale is made and the animal weighed. Deductions are made for yardage, feed, handling the sale, weighing, and insurance. Sometimes an additional deduction is made which goes into the National Livestock and Meat Board for meat research and promotion. Then you receive your money.

Handling Livestock

In shipping your livestock to a market, there are some points which you should remember:

- Animals going a distance may get car sick just like humans. If you live far from the market, take your animal off feed in the morning, load him out in the afternoon, and get him into market enough ahead of time so he can rest, eat, and drink before the market opens.
- If you live close, take animal off feed at night, get up early the next morning, load him in the truck, and have him there before the market opens at 9:00 A.M.

There are many kinds of livestock losses. You may not know about "hidden losses" occurring during loading, in transit, in marketing, and processing. To prevent such losses, you can:

- Improve condition of equipment used to handle livestock.
- Select transportation and marketing agencies that will give your livestock good care.

Auctions

Some shows provide auctions for the marketing of 4-H Club livestock. For these sales there are certain requirements. You may be limited to the number of animals you can sell. Be sure that you know and understand the rules and follow them.

Buyers pay premium prices for 4-H animals because they are interested in you as a 4-H Club member. Any premium you get above market price is paid because that buyer is interested in you and the work you have done. He wants to reward you and encourage you to continue your good work. Never complain about the price received in an auction. Always be grateful to the buyer of your animal. If he had not been there, you would have received less.

You should plan your beef feeding program so you can buy your feeder calf, feed him out, and be able to sell him for a profit at market price. If you buy right, make good use of homegrown feeds, do not feed too much high priced feed, and manage wisely, you usually can make a profit in your beef project.

Some 4-H groups hold special auctions for their livestock. Here are some suggestions for improving your 4-H livestock auction of either feeder or fat cattle:

- A local county organization should sponsor the sale and handle prize money, checks, etc.
- Sale-yard facilities may be used for an evening sale.
- Animals should be brought to the sale yard on the morning of the sale day.
- Animals should be graded during the afternoon, then paint-branded, showing grade and sales order number.

The list of donors of prize money should not show amounts.

Following an auction it is always good business to write a thank-you note to the buyer of your animal. The premium that he paid above market is just like a cash award to you.

Explanation of Livestock Terms

Abortion—Loss of premature calf.
Brucellosis—Bang's disease; affects reproduction.
Bull—Male for breeding purposes.
Castrate—Removal of testicles of males.
Concentrate (Grain)—Feed high in energy (starch-like).
Concentrate (Pro)—Feed high in protein (cottonseed meal).
Cow—Mature female.
Feeder—Steer or heifer going to a feedlot.
Grade—Not purebred.
Heifer—Female that has not calved.
Open heifer—Not pregnant.
Pedigree—Recorded ancestry of an animal.
Performance Test—Feed testing one animal.
Polled—Naturally hornless.
Private Treaty—Individual sale to a buyer.
Production Test—Growth and conformation records.

Progeny Test—Feed testing offspring of one bull.
Purebred—100% pure breeding of one breed.
Registered—Purebred with recorded ancestry.
Roughage—Hay, silage, straw, or pasture.
Rumen—First stomach of a cud-chewing animal.
Ruminant—Animal with four stomachs (cow, sheep).
Silage—Roughage preserved by fermentation.
Spay—Removal of ovaries of heifers.
Steer—Castrated male.
Stocker—Steer or heifer going to pasture.
Terminal Market—Public market for livestock where stock is sold at private treaty.
Thoroughbred—A breed of horses.
Yardage—Charge for animals' feed and lodging while held for sale.
Type of Livestock—Cattle, sheep, horses, hogs.
Yearling—An animal approximately 1 year old.

Activities and Opportunities for 4-H Beef Club Members

Exhibits

Exhibiting is a privilege. If you are a 4-H Club member and have met the requirements of your project, you may exhibit in 4-H Club classes at fairs and shows. The animals you exhibit in 4-H classes must be your own, must have been carried in your 4-H project, and if registered, must be registered in your name.

Ask your 4-H Club leader about fairs and shows at the beginning of the club year, then make your plans accordingly. If the shows where you plan to exhibit have special rules, be sure you understand them and that you follow them.

Be sure you get your entries in on time and that you make necessary arrangements for transporting your animals and caring for them at the fair.

To exhibit at the Oregon State Fair you must have been 11 years old before the previous January 1, and you must earn the privilege of representing your county. The county fair judge or a committee will determine who can go and which animals they can take.

Demonstrations

Demonstrations are perhaps the best activity in 4-H Club work to help you learn how to do a job correctly and to express yourself to others. Demonstrations may be given alone or with a team mate. Choose a topic that shows something you have learned in your 4-H Club work, practice until you can do it well, then show and tell how to do it.

There are three main parts to a demonstration. First, the introduction in which you tell what you are going to do and why; then you do the job, explaining how; then in conclusion tell what you have done and why. Check with your club leader regarding demonstration materials available to help you.

All counties have demonstration contests. Participation in demonstrations count a great deal when your records are being considered for 4-H Summer School scholarships, and especially for the major trips and scholarships.

Here are some good topics: How to make a rope halter; how to throw and hold an animal; how to treat for lice, flies, or cattle grubs; how

to dehorn a calf; how to balance a feed ration; how to figure rate of gain or cost of gain.

Judging Contests

Each county has livestock judging contests and there is a state-wide contest at the State Fair. In a judging contest, you compare your ability to judge animals with that of the official judge.

Classes of four animals are selected. You study them carefully, then place them 1st, 2d, 3d, and 4th. If your placing agrees with the official judge, you get a score of 100. If you place them differently, your score is determined by the degree and seriousness of your differences.

To be a good judge, you need first to learn the parts of an animal, learn the desirable characteristics, and form a mental picture of an ideal type. Then by comparing the animals in the class with this ideal picture and considering their good points and faults, you arrive at your placing. Livestock judging is fun and an excellent learning experience.

Reasons are very important. You need to know why you placed the animals as you did and how to explain your placing. Your reasons may either be written or spoken. Speak or write clearly. Look at your audience. Tell how you placed the class, then starting with your first place animal tell why you placed each animal over the one below it. Summarize by repeating your placing and any general statements you may have about the class.

Your reasons are scored and are part of the contest. You can still get a good score on your reasons even though you placed the class incorrectly. Sheep and hogs sometimes dairy cattle are also included in livestock judging contests. You will want to learn about them too. If we keep in mind the purpose for which animals are produced, it will help us with our judging. The top judges in each county are chosen to go to the State Fair. Do your best.

Herdsmanship Contests

Many counties provide herdsman-ship contests for livestock club members. In a herdsman-ship contest, you work with the other members of your club in caring for your animals at the fair and making an attractive exhibit. The three C's of the herdsman-ship contest are: cooperation, courtesy, and cleanliness. 4-H members should do their own work.

4-H Livestock Herdsman-ship Contests help teach club members to be courteous, neat, and orderly, and to take proper care of their animals.

Basis for scoring:

Club Members (50)

Appearance clean and neat.....	10
Friendliness, courtesy, and conduct..	10
Cooperation, on the job when needed	20
Work done by club members	10

Animals (25)

Securely tied or penned	5
Clean and comfortable	10
Regularly fed and cared for	10

Barns (25)

Alleys, stalls, and pens (clean and orderly)	10
Feed and equipment (safely stored)	10
Stall cards (neat and complete)	5

100

Sportsmanship

Good sportsmanship is courtesy in the show ring. It takes courage and control to be a gracious winner or a good loser. When you win, do not brag or boast. Be quick to compliment the losers on the good job they did, too. When you lose do not complain or make excuses. Compliment the winner. Think through what you did and try to do better next time. It is no disgrace to lose fairly when you have done your best. It is a disgrace to win unfairly or to complain or make excuses when you lose.

4-H Summer School

4-H Summer School is held at Oregon State College each June for outstanding club members. To attend you must have been 12 years old before January 1, must have completed a 4-H project and be currently enrolled. To attend you must earn a scholarship. Your 4-H records will help you get one.

Trips and Scholarships

When you are a junior or senior in high school there will be opportunity for out-of-state trips to National 4-H Club Congress in Chicago and National 4-H Club Conference in Washington, D. C. If you start now, doing a good job as you go along, taking advantage of your opportunities, growing with your project, and keeping good records, you may win one of these wonderful trips. In addition to trips, there are opportunities to win college scholarships. It all depends on you.

You and Your 4-H Club Records

Records are an important part of whatever we do. 4-H Club work provides a good opportunity to learn how to keep records. You are required to keep a 4-H livestock record on your beef project. Start it when you get your first animal and bring it up to date at least once every month. Records are interesting and very meaningful if you keep them up to date.

You are also provided with "My Permanent 4-H Record" to keep a record year by year of the projects you carry and your many activities. Also you will write a 4-H story each year. Always do your best and you will be proud of the work you have done.

Much of your success in 4-H Club work, and in later life, will depend upon the records you keep. If you have a beef cow, get a 4-H Beef Cow Production Record; or if you are feeding out a steer, get a "Feed and Growth Record for Market Animals" to keep more accurate records.

Grow With Your Project

You may start your 4-H project with a steer or heifer calf. If you start with a heifer calf, you may want to buy another calf the following fall. The following year your first heifer should calve; then you are in business. By keeping your heifer calves and purchasing animals occasionally you can soon develop a good breeding herd, one that will start you in business as a cattleman or provide money for your college.

If you start with a steer calf, you may want to buy a heifer the following fall to get started on a breeding program. If you do not have suitable pasture and homegrown feed for a beef breeding project, you may want to feed several steers. Steers may be fed on a commercial basis using pasture and homegrown feeds to good advantage.

Tours

You will have opportunity to go on 4-H Club tours. It is always interesting to go places, see new things, and to learn more about beef production and agriculture in general. Your club may plan a tour. Or there may be a county tour for the livestock club members or possibly a district tour with several counties. Take advantage of these opportunities to learn more about your project whenever you can.

A Day in the City

While you're at the terminal market, why not tour the exchange building? Veterinary pharmaceutical houses may have their offices there along with railroads and trucking firms. The meat-grading services, the market news service, and the brand office are also generally located in the exchange building. All these folks have a hand in moving livestock from the time it leaves the farm until it reaches the hands of shoppers. You also might tour a nearby packing plant and meat market to see how meat is prepared, stored, and shipped.