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4-H Beef

PROJECT

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4-H BEEF PROJECT

W. E. MORRIS

AIMS OF BEEF PROJECT

- To teach boys and girls better practices in the growing and fattening of beef cattle.
- To help 4-H members taking this project to set high standards in all their livestock work.
- To help 4-H boys and girls to become more interested in their own homes and to earn money by giving them something of their own.
- To enable boys or girls to establish beef-cow herds of their own through the beef heifer project.

THE BABY BEEF CALF

The beef club calf may be a purebred or a grade of any of the beef breeds—Hereford, Shorthorn, or Aberdeen Angus. For the yearling class it must have been born the previous year between January 1 and September 1, preferably during the late winter or spring.

Calves for the calf class must have been dropped between September 1 and January 1, preference being given to those dropped in September or October.

Steer calves are much to be preferred over heifers for fattening as they make larger gains on the average, lay on flesh more evenly, reach heavier weight, and, as a rule, sell better than do heifers. By show time, yearling heifers are apt to become "cowy" in appearance, getting away from the strictly baby beef type, and as a result do not command baby beef prices when sold. Heifers are therefore barred from the Junior Livestock Show.



Fig. 1. Choose One of This Type

A good beef calf should have a short broad head, wide muzzle, and large nostrils. The chest should be wide and deep.

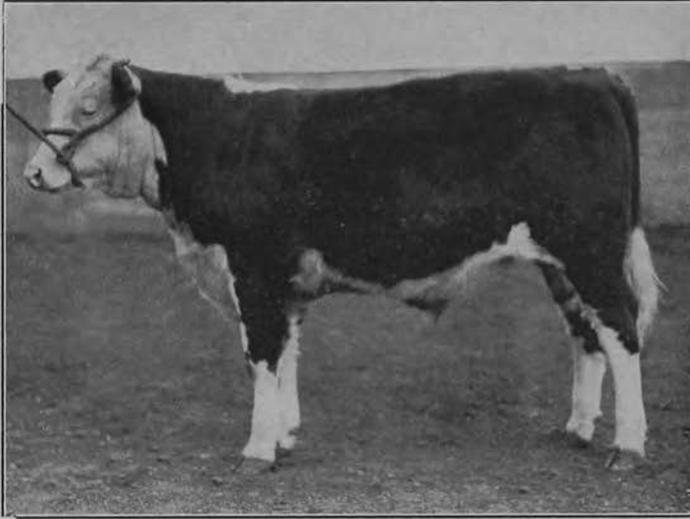


Fig. 2. A Good Feeder Calf

Top and bottom lines should be parallel, foreribs well sprung, and flanks deep.

Type to Select

Good type is important in selecting a baby beef calf. Even though the club member may have done a thorough job of feeding, fitting, and training his calf, if it is of poor type it will not place satisfactorily in the show ring and may not even bring a top price when sold.

The correct beef type is the blocky conformation obtained by good depth and width of body, short legs, straight top and bottom lines, with the fore and rear quarters approximately the same size. The back should be broad and even in width, with a thick, uniform covering of flesh. The calf should have straight legs, full flanks, deep rounds, and a broad level rump. He must be smooth, with a short neck, short wide head, wide deep chest, and a well sprung forerib.

Quality is second only to form in importance. Quality refers to the character of the bone, hide, hair, and flesh of the animal. From the standpoint of quality, the most desirable calf is one with soft, fine hair; a pliable, elastic hide of medium thickness; clean, dense bone, and flesh that will be smooth and firm when the animal is finished. Coarseness of bone, hide, and hair indicates lack of quality.

The club member should beware of paying an excessive price for a calf. Purchase at a price based on winning a championship is purely speculative. The purchase price should be such that he can hope to pay out at beef prices after having done a thorough job of fattening.

Type Not To Select

Do not choose a calf that is narrow-chested or has a small heartgirth. Also avoid those that are low in the back or sloping in the rump, or those that are rough, upstanding, and coarse.

Feeding

In feeding a calf remember that there is little danger of his becoming too fat. It is a mistaken idea that calves need to be grown out before being fattened. They have a tendency to grow too much even when on a fattening ration. The needed finish can never be obtained from pasture or the excessive use of roughage. It takes grain to fatten a calf properly. Remember, pasture will never fatten a baby beef calf.

The First Week

Feed a calf once daily the first week. Begin with only two pounds of grain and increase the amount by one-half pound each second day.

Feed ground corn and oats, equal parts, or ground barley and oats, equal parts. The bulk of the oats will prevent overeating and loss of appetite.

The second week, feed the grain twice daily. By this time the calf may have four pounds of grain daily. Continue to increase the feed one-half pound each second day. By the end of three to four weeks the calf will be on full feed or consuming all he will clean up in a reasonable time—about an hour at each feeding. About June 1, you may feed three times a day all he will eat at each meal.

Off Feed

Under the best conditions, the calf may occasionally go "off feed." If he refuses a meal or two, reduce the grain to one third of the amount he has been consuming. Then as the appetite returns, work him back gradually to full feed by increasing the feed a little each day. He should be back on full feed in about four



Fig. 3. Width and depth of rear quarters are important in a beef calf. The rear flank should be deep and the rump level.

days. After the first month, various rations may be used, depending on the feeds available. Some variety is desirable, and a protein supplement should always be fed.

Suggested Rations

Feeds are divided into concentrates and roughages. Concentrates are our farm grains and also include the protein supplements needed to balance the ration. Protein can be provided by feeding cottonseed meal, linseed oil meal, soybean oil meal, dry rendered tankage, or a mixed supplement.

For growing calves not being fattened, legume hay will supply the protein needed to balance the ration of home-grown grains. On a full feed of grain, however, the fattening calf consumes too small a quantity of roughage to provide the protein and mineral needed.

Roughages give bulk to the ration but will not supply sufficient nutrients to fatten a calf. The best roughage is a legume hay such as clover, alfalfa, or soybean hay. These have a high protein and mineral content, both of which are needed for satisfactory growth. A good legume roughage, therefore, should constitute at least one half of the roughage fed.

When alfalfa hay is not available, it may be desirable to self-feed bonemeal or a simple mineral mixture of one-half salt, one-fourth bonemeal, one-fourth ground limestone or ground oyster shells.

RATION No. 1

Corn or barley.....	60 pounds
Oats	20 pounds
Linseed oil meal.....	10 pounds

RATION No. 3

Corn or barley.....	60 pounds
Oil meal	10 pounds

RATION No. 2

Corn or barley	30 pounds
Oats	20 pounds
Bran	10 pounds
Oil meal	5 pounds

RATION No. 4

Corn	35 pounds
Barley	35 pounds
Oil meal	8 pounds

With the above proportions of the various grains, any ration may be prepared in the desired quantity. Wheat may replace a part (not more than one half) of the corn or barley. Where the starting ration is corn and oil meal, the corn may be fed as ground ear corn to add bulk for safety. The finish in the end will not be sufficiently high, however, unless additional corn is added as the fattening period progresses.

Alfalfa or clover hay should be self-fed the first half of the feeding period. Hay should be limited the last half of the feeding period to obtain a maximum consumption of grain. If the legume hay causes a laxative condition, replace half the amount fed with a good nonlegume hay.

Ration No. 2 is a good ration for those lacking experience in feeding, as its greater bulk is an aid in keeping the calf on feed.

Either ration No. 3 or 4 is a desirable finishing ration for the last 60 days of feeding, when alfalfa hay is self-fed.

If the calf can be weighed, it is possible to determine whether or not he is on full feed by using the rule that a full feed is two pounds of the grain mixture per day for each 100 pounds of weight. If the calf is not consuming this amount of the grain ration, the roughage should be reduced so that he will take more grain. Remember that grain does the fattening and must be consumed if a desirable finish is to be obtained. If the appetite lags toward the end of the feeding period, boiled barley may be fed. Five pounds (dry basis) daily will stimulate the appetite.

Blackstrap molasses has value as an addition to the ration near the close of the feeding period. This makes the ration more palatable and results in more grain being eaten and, consequently, more gain and better finish. Prepared molasses feed may stimulate the appetite but usually runs up the costs of the feed. Because it is more bulky, it may reduce the gains. Molasses is not a protein supplement. Instead, it compares with corn or barley in feeding value and may be fed in amounts of from 1 to 3 pounds per head daily. It is usually fed by diluting with water, half and half, and pouring over the grain. A protein supplement must still be a part of the ration.

In the ration of the yearling calf, milk in any form is an undesirable farm practice and is *not permitted* in 4-H club work. For the calf class, it is good farm practice to allow the calf to nurse his dam during her milking period, about ten months. After that, milk must be discontinued.

MANAGEMENT

A few definite rules of management should be adopted and followed by the calf club member.

1. Have regular feeding hours and do not vary them.
2. Feed only what the calf will clean up at the meal.
3. Increase feed gradually.
4. Make changes of feed gradually.
5. Use a variety of feeds, if possible; feed a protein supplement.
6. Keep the feed box clean; give the left-over feed to hogs.
7. Keep the stall clean and well bedded.
8. Allow salt at will.
9. Supply clean fresh water generously.
10. Provide regular exercise.

The calf should be kept quiet and contented, with a stall or pen of his own. He should be protected from extreme heat, flies, and from other animals. Fresh air and sunshine are necessary in the winter and a cool, airy, shaded place in summer. Covering the windows of the stall with burlap bags helps keep out the flies but allows the air to circulate. The stall must be kept clean, dry, and well bedded.

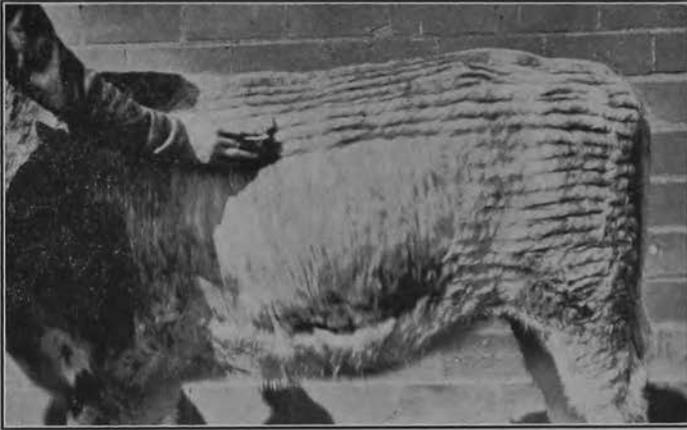


Fig. 4. Lining Around the Side Preparatory to Curling the Hair

Blanketing Is Important

Old bran bags, burlap, or light-weight canvas are good materials from which to make blankets. Calves should be blanketed during the summer months to keep the hair short and glossy. Do not blanket during the fall months as a heavier coat will be grown in this way.

Start Training Early

It is extremely important that the calf be well trained if he is to show to the best advantage. Teach him to lead at an early age. Train him to stand properly with all four feet squarely under him and his back level. Require him to stand perfectly still for several minutes at a time, as the judges may take that long to look him over.

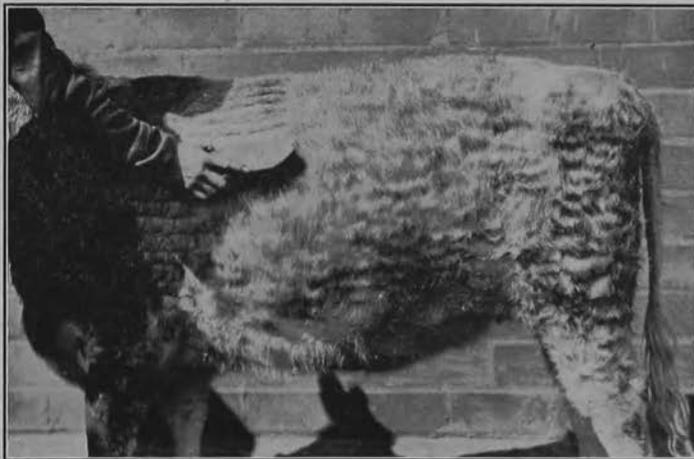


Fig. 5. Brushing Up Completes the Curl



Fig. 6. On Shorthorns and long-haired Angus the hair is brushed out smooth on the back. On Herefords the hair on the back is curled to the part down the center.

Train the animal to shift his position; to move forward by pulling on the halter and to back up by pushing with your hand on the front of the left shoulder. A staff should be used to move the feet into position.

Washing Improves Appearance

It is necessary to wash the calf to remove dandruff and dirt. Use plenty of water and soap. Work the lather in well with a brush. Then rinse with clean water to remove all of the soap. Finally scrape off all of the water with a wooden blade and let the calf dry in a place free from draft. Be very careful to get the knees, hocks, tail, and all white

spots entirely clean. Wash once each week for a month before the show. In the last rinsing before curling the hair, add one fourth of a cup of dip to 12 quarts of water. This will make the curl last longer.

Dressing Up for Show

The appearance of the calf can be improved by careful dressing, particularly by curling the hair of the long-haired calf. Short-haired animals may be brushed smooth, straight down, followed by a brisk rubbing with a woolen cloth dampened with denatured alcohol and sweet oil, equal parts (shaken well before using). In dressing the long-haired calves, first, with a Scotch or coarse bone comb, part the hair down the center of the back. From this part, comb it straight down all the way along the sides and legs.

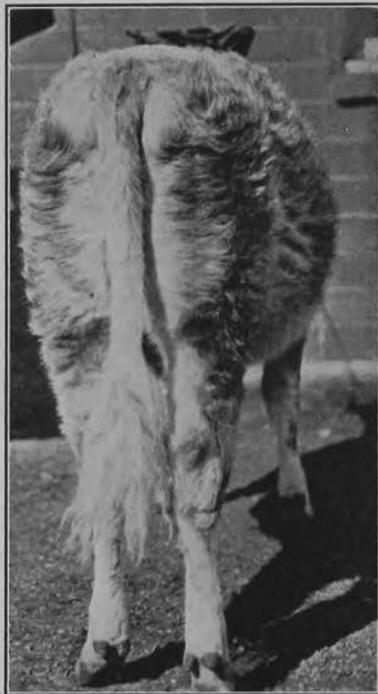


Fig. 7. The thighs are brushed out to give a broad appearance as viewed from the rear.

Then, starting at the tailhead, make lines from the tailhead along the edge of the back forward to the neck. Beginning from the rear and working forward, draw parallel lines about one inch apart all the way along the sides of the body and on the legs. An ordinary curry comb with every other row of teeth flattened down makes a good comb for lining the hair. When the lining has been completed and the hair is still damp, take a stiff brush and brush straight up toward the back, beginning at the very lowest point and continuing up to the edge of the back. This may be done on any long-haired breed, although it is customary on Herefords to wave hair starting at the part on the back, making short waves or curls straight down the side. With Shorthorn and Angus, the hair on the top of the back between the first lines drawn is brushed out smooth and straight. With Herefords, this is curled up to the part on the back. On all breeds, the hair on the rounds or thighs is combed straight out from the tail. This gives a broader appearance to the rear end of the animal.



Fig. 8. Clip the tail from above the switch in line with the twist to the tailhead.

The tail of steers of all breeds should be clipped. Start at a point on the tail above the switch, even with the bottom of the twist, and clip to the tailhead. The clipping of the tailhead will vary somewhat with animals, depending on the tail setting. The purpose of the clipping is to give a level look to the rump. The switch will be brushed out when dry. The switch is made attractive by braiding it in a number of small braids while wet, unbraiding and brushing it out when thoroughly dry.

The Horns

Roughness on the horns should be removed with a coarse file or sandpaper and finished off with fine emery paper, then polished with a wool cloth dampened with sweet oil and a metal polish. When smoothing the horns, be careful not to remove the hair at the base of the horn. The removal of such hair gives a coarse appearance to the head. The

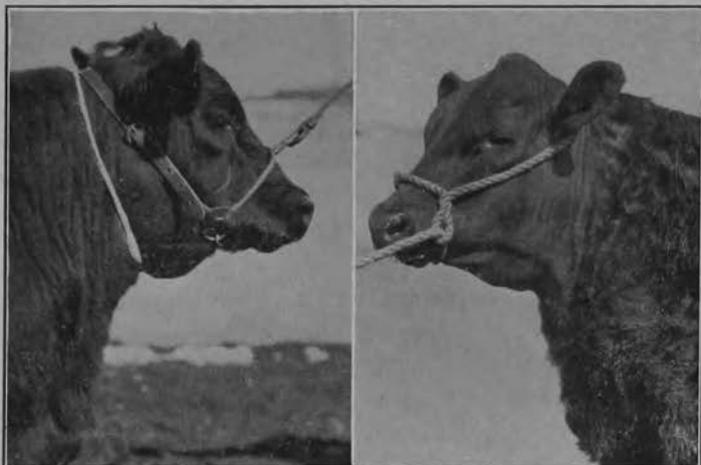


Fig. 9. Clipping Improves the Head of an Angus Calf
Left, before trimming. Right, after trimming.

hair at the base of the horn should be brushed out along the horn. Horns should curve forward, inward, and slightly downward. The desired curve can be obtained with the use of weights.

Weights of one half to three fourths of a pound are sufficient if put on at the proper time. Herdsmen usually keep the weights on for a week, take them off for four days, put them on again, repeating this until the desired curve has been made. If the horns are rather large, rasping slightly on the outer border of the desired curve will cause them to change shape more quickly.

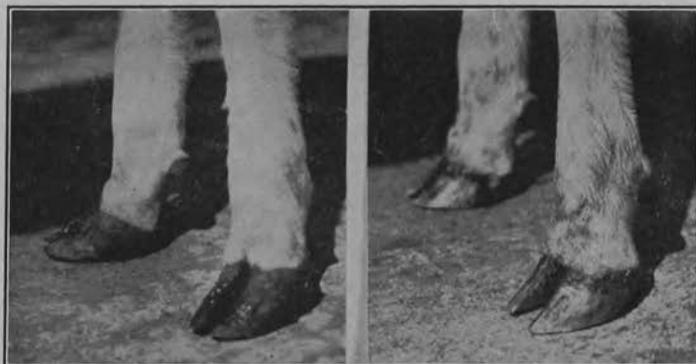


Fig. 10. Trim feet if hoofs become long or ragged. The calf will stand straighter on his legs and look much better. Exercise and a well-bedded stall help keep feet in desirable condition.

The Head

It is desirable to trim the head of an Angus calf to a line on the neck about three inches back of the ears. Do not clip the ears. If a good job of dehorning has been done, the heads of horned breeds may also be clipped. The hair of Shorthorns that are not dehorned should be parted in the center of the face and brushed out. The hair of horned Herefords should be brushed straight down on the face.

The Feet

Little difficulty will be encountered with the feet if the stall is kept clean and well bedded and the calf is given sufficient exercise. If the hoofs become too long or ragged, they should be trimmed. The hoofs should be cleaned and polished before showing.

How To Throw a Calf

It may be necessary to throw a calf for treatment of sore feet or for trimming the feet. To do this, tie a rope around the neck so the knot will not slip. Bring the rope back with two half hitches around the body,

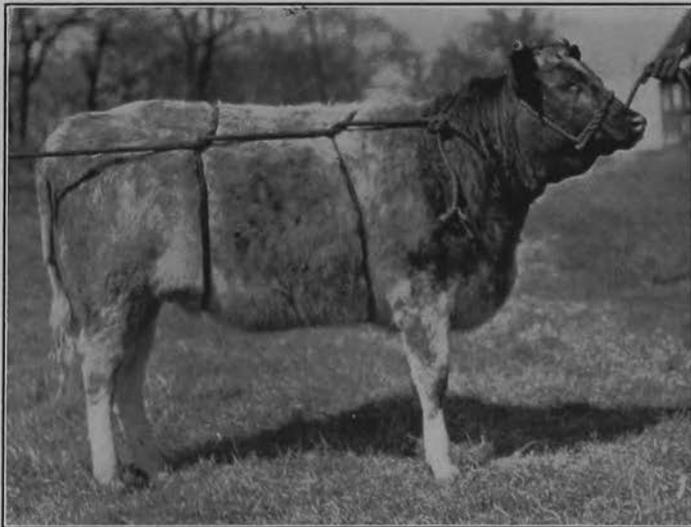


Fig. 11. An Easy Method of Throwing a Calf

one back of the shoulders and the other in front of the hips. Have one person hold the calf by the halter rope and others pull on the rope as it extends out behind and the calf will go down.

Castrate Early

Calves for club work should be castrated when three to five months of age. If castrated at an earlier age, steer calves will usually develop too much femininity. Again, if castrated after they have begun to show marked signs of masculinity, they will always be staggy in appearance.

The proper method is to turn the scrotum around so that the incisions are made on the front side. Then when the calf fattens and the cod fills in, the appearance from the rear will be smooth. The incisions should never be made on the side of the scrotum. This would offer a chance for chafing of the wound against the leg, with possible infection.

SHOWING

When you are ready to show, dress your calf according to the instructions given. Be ready before your class is called. Then the hair will be dry and his appearance the best. See first that the halter is on correctly. Hold the halter rope in the left hand and do not allow it to drag on the ground. Stand on the left side of the calf, and use a cane or stick to get the feet in place. If you have a choice of location, always try to get the front feet on higher ground than the rear feet. See that the calf stands squarely on all four legs. A touch with the stick between the



Fig. 12. This calf has been thoroughly washed, the hair dressed, the horns smoothed and polished, and the feet trimmed and polished. He is also being correctly shown with his back straight and all four feet placed squarely under him.

toes will usually make the calf shift the foot to the desired position. A brad in the end of the stick touched at the back of the foot will bring the rear foot forward. A low-backed calf can be shown to better advantage if the back is kept raised by pressing the brad a little on the belly. It takes patience to train a calf thoroughly, but a well-fitted and well-shown calf has a big advantage over one that has not been so well trained.

Be prompt in entering the ring and alert while there. Attend strictly to the business of showing while in the ring. If you have done a fine job of feeding, training, and fitting your calf, do not let him be beaten by a poor showing.

Equipment

The club member should provide himself with certain articles of equipment needed for care of the calf at the show, for fitting for the show, and for showing.

First provide a water bucket to be used only for watering, with a second bucket for the washing. For washing and dressing, provide tar soap, a scrubbing brush, a good horse brush, a circular spring comb, a Scotch or coarse bone comb, a file, coarse and fine sandpaper, a wool cloth, and polish of equal parts of sweet oil and metal polish. There should also be a good, neat halter for showing and a show cane or stick.

THE BREEDING BEEF HEIFER

The beef heifer club calf may be a purebred or a grade of any of the beef or dual-purpose breeds—Hereford, Shorthorn, Aberdeen Angus, Milking Shorthorn, and Red Polled. Classes are provided for two-year-olds, yearlings, and calves. The base dates for determining the age or class are January 1 and September 1. If you choose a grade heifer, she should be sired by a purebred bull.

In the selection of the beef heifer, whether grade or purebred, the same recommendations as to conformation will apply as described for the baby beef club calf. In addition to this, breed type must be considered. Breed type means those qualities or characteristics which designate the animal as representative of the breed—shape of the body, color, shape of the head, shape and character of the horn. All of these cannot be described in a short bulletin, but the club member should study the particular breed he has chosen. Observation of good animals and discussion with purebred breeders will help. In the selection of the breeding heifer, the low, compact animal is a good type to choose. Quality is important in all calves. This is indicated by freedom from coarseness of the bone, head, and horn, and from roughness throughout, particularly in the shoulders and the rear quarters.



Fig. 13. A Swift County 4-H boy and his Breed Champion Milking Shorthorn.

Care and Management of the Heifer

For the first year the heifer calf may be fed the same as the baby beef. There is little chance of her becoming so fat as to affect her breeding ability. To keep her in high condition of flesh until two or three years of age, however, might possibly affect her breeding ability. The rations already recommended may be used. Corn should not be fed alone. Barley makes a more desirable grain for hot weather. Oats may be used with these grains in limited quantities. A protein feed, as oil meal, should be a part of the grain ration. A good legume hay is very desirable as part of the roughage.

The management practice recommended for baby beef calves may be followed for heifers. After the show season, the heifer should be let down in condition or fat. To do this requires care. The grain should be reduced gradually, with a change to less fattening feeds; that is, oats can be substituted for corn or barley. She should not be turned to pasture as the only feed; feed a little grain in addition.

TREATMENT FOR A FEW MINOR AILMENTS

Ringworm

Remove all crusts with a stiff brush and then wash the affected parts with soap and warm water. After the spots are dry, apply tincture of iodine once daily. Avoid getting it into the eyes. After several applica-

tions of the iodine treatment, sulfur ointments may be applied with beneficial results. Be sure to wear gloves when treating ringworm.

Lice, Flies

For lice or flies, 2½ per cent DDT used as a spray, or 5 per cent powder is an effective treatment. Dust on with a garden duster or apply with a hand-type sprayer where a coarse nozzle is used. The same spray mixture can be used on the walls of the stall to kill flies. When spraying the stall, cover all feed boxes, bunks, and water equipment.

Do not use the DDT treatment on heifers or cows whose milk is to be used for human consumption. In winter, dust milking cows with 1½ per cent strength rotenone or a 5 per cent methoxychlor dust. In summer, spray with methoxychlor, 1 pound 50 per cent wettable powder in 5 gallons of water. This mixture is also suitable for spraying dairy barns.

Warts

Small warts may be treated successfully by daily applications of olive oil or sweet oil. Large warts attached to the skin by a small stalk may be cut off with scissors and the wound painted with tincture of iodine. A veterinarian should remove large warts.

Foot Rot

Foot rot can usually be attributed to unsanitary surroundings such as mud holes, poorly drained ground, or stables where manure and filth have accumulated. Symptoms are lameness, rotting of the skin between the toes, with a possible abscess formation. For good results, treatment should be applied when trouble is first noticed. If the disease is extensive, a veterinarian should be called. First clean thoroughly between the toes and remove all dead tissue. A small amount of Kreso dip or undiluted creolin may be applied, taking care not to touch the healthy skin. Apply with a cotton swab. Follow with an application of pine tar.

Bloat

Mild bloat can usually be relieved with a drench of two ounces of turpentine in a pint of milk. Extensive bloat requires tapping by an expert.

Scours

Scours may be the result of over-feeding, irregular feeding, or the use of spoiled feed or dirty buckets and troughs. For treatment, all laxative feeds should be reduced and prairie or other grass hay substituted for alfalfa for a few days. A bran mash (about a gallon of bran through which hot water has been poured) is sometimes fed. A dose of one cup of raw linseed oil or castor oil is of value. Prevention consists of regular feeding, the use of clean feed, and sanitary well-bedded quarters.

BABY BEEF PROJECT (MARKET CLASS)

Minimum Requirements

The baby beef club member may select his animal to qualify in any one of the following classes:

Purebred or grade junior yearlings dropped between January 1 and August 31, inclusive, of the year preceding the date of showing.

Purebred or grade calves dropped on or after September 1.

Only steer calves will be eligible for baby beef club work.

The club member must feed, manage, and keep a feed record for at least six months and exhibit at the county fair or local calf show.

BREEDING BEEF HEIFER PROJECT (BREEDING CLASS)

Minimum Requirements

Club members may enter this project with a purebred or grade heifer of any of the beef breeds, including Milking Shorthorn and Red Polled calves. Purebred animals must be registered in the name of the club member or in partnership with the parent. Grade heifers must be sired by a purebred bull. Club member must feed, manage, and keep a feed record for at least 6 months. Club members are encouraged to begin with a beef heifer calf and to keep this heifer as a 4-H club project to show as a yearling and two-year-old and to develop a beef-cow herd.

Classes: Two-year-old. Yearling. Calf.

Base dates for determining class—January 1 and September 1.

Basis of Representation

Basis of representation to the State Fair and Junior Livestock Show will be determined by the county enrollment in these projects.

For additional information, secure the following Agricultural Extension publications from your County Extension Agent.

Extension Bulletin 146—Beef Production

Extension Bulletin 211—Livestock Judging for Beginners

Extension Folder 70—Livestock Weights from Measurements

Extension Folder 147—Livestock Pest Control

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