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The grand champion baby beef steer of the 1931 National Western Stock Show, Denver, Colorado. A Hereford fed and exhibited by Masa Matsutani, Keith county, Nebraska.
NEBRASKA 4-H CLUBS

Those working with 4-H clubs have had three main objectives in mind: "The development of boys and girls," "giving to each club member information which will be of value," and "the completion of a definite piece of agricultural or home economics work."

Through club organization, boys and girls are brought into contact with each other, with an adult leader, with the community, and with other club members of the county, state, and nation. These directed associations tend to curb undesirable and develop desirable tendencies. Four-H clubs are national in their scope, and are sponsored by the United States Department of Agriculture and every agricultural college in the United States.

Every 4-H club organized in Nebraska has a common problem on which each club member works—it may be the growing of a crop, development of animals, applying the best known principles of clothing or foods. These are but a few of the numerous clubs sponsored by the Nebraska Agricultural Extension Service. The best up-to-minute information on each club is given by the Extension Service, through its connection with the Nebraska Experiment Station and the United States Department of Agriculture. The latest dependable results are always placed in the 4-H club literature.

This 4-H Baby Beef Manual, together with other material, is placed with each club member and leader so that the clubs may have authoritative information on the selection, feeding, and management of a beef calf. At the end of the period the individuals should have a complete financial and labor record on which to base further activities.

So far, the standard club has been the best method to carry on all 4-H clubs. The clubs completing work as outlined by points one to ten, given below, are known as Achievement Clubs, and are issued a gold seal for each year's activity. These seals are placed on charters issued by the United States Department of Agriculture when the club is organized with points one to four completed.

1. Five or more members working on one club project. Active members are 10 to 20 years old inclusive. Those above or below are called associate members.
2. A local leader in charge who is general adviser.
3. A club organization with its own officers having charge of business meetings.
4. A program of work for the year. Success of club depends largely on well planned program.
5. At least six meetings during the year. These are to include organization, and goals, 6, 7, 8, and 9.
6. A judging contest during the year.
7. A demonstration team giving at least one public demonstration locally.
8. An exhibit of club work.
10. At least 60 per cent of the members filing final reports.

Ask your County Agent for further information and supplies for organizing any 4-H club. If your county does not have an Extension Agent, write to the Agricultural College Extension Service, Lincoln, Nebraska.

4-H Baby Beef Manual

This circular was first edited in 1928 as a guide for baby beef club members. The rapid growth of interest and enrollment from 109 members feeding 117 calves in 1924 to 850 members feeding more than 1,000 calves in 1928 made it impossible to supervise the work entirely through personal help. This year there were 1,485 members enrolled feeding approximately 2,500 calves. Nebraska's adaptability for producing a baby beef type of cattle such as present markets demand justifies this increased enrollment and a continuance of careful supervision. This circular discusses the more important phases of baby beef club work, emphasizing proper selection, buying, feeding, management, and showing of a beef calf.

Organization

Organization is one of the most important factors upon which the success of a baby beef club depends. In the first place there must be a desire for the work. The first thing to do is to hold a preliminary meeting and form a temporary organization. Talk things over and make arrangements for getting material from the County Extension Agent or State Office for the organization meeting. The time between the preliminary meeting and the organization meeting should be used to build up enthusiasm. See all boys and girls who may be interested in baby beef work and tell them about it. Get the community back of the club. Its loyal support is necessary for the success of the club.

With the material sent out for the organization of the club, there will be a circular for the local leader. Those who organize the club should read this circular very carefully. It contains information concerning the organization which is necessary for a successful and profitable club.

Select a Calf of Good Beef Type

The first and most important step in baby beef club work is that of selecting a good calf. Even the most careful feeding and development will bring disappointing results if the calf is not of the right sort in the beginning. The calf selected should be of thick and blocky beef.

Fig. 1.—The calf selected should have a good feeder head such as the head at the extreme right—a short, wide head, and broad muzzle. The head at the left is long and narrow with decided lack of quality. Animals having such heads are usually very poor feeders. The head of the calf in the middle is that of a medium type feeder. Calves of this type are usually rather coarse and upstanding and undesirable for baby beef production.
A good baby beef feeder type. Note the lines, depth of body, and compact conformation. This calf has a good feeder type head.

Fig. 4.—A good baby beef feeder type. Note the lines, depth of body, and compact conformation. This calf has a good feeder type head.

conformation. Get one that is deep, wide, and short-legged with straight top and bottom lines. By all means, obtain a smooth, tidy kind of a calf with a short neck; short, wide head; wide, deep chest, and a good spring of fore ribs. Straight legs, full flanks, deep rounds, and a level rump are also very desirable. Many club calves are criticized for being large, rough, upstanding, and coarse. The packer buyer prefers the smaller, smoother turned kind of calves.

Club members will likely find it impossible to secure a calf that entirely fulfills the above description. However, get a calf that comes as nearly to it as possible. Keep in mind that it is better to select a straight lined calf that has good quality with no outstanding defects than to pick one which is very good except for one or two outstanding faults.

Some of the most common defects to guard against are heavy, coarse fore quarters, light hind quarters, prominent hips, weak buck, sloping rump, or a long, shallow body. No matter how good a cattle feeder a club member may be, he cannot entirely overcome these defects by feeding. Of course, with feeding, a calf will widen out and get a little deeper bodied, but many such undesirable features as mentioned above may tend to become more pronounced as the fattening period advances.

Quality Calves are Best

In addition to purchasing good beef type calves, club members should secure quality calves as well. Some authorities say that quality is more important than beef conformation. Certainly it would seem that both are quite essential. Quality refers to the character of bone, hide, hair,
too much growth and really do not finish out as satisfactorily as the younger ones. A definition given by the Bureau of Animal Industry states that a baby beef must be of beef breeding, from seven to eighteen months of age when finished, weighing six to twelve hundred pounds on foot, and grade according to the Government standard, good, choice, or prime, both on foot and as a carcass. The May, June, and July calves look the best and usually show to the best advantage. The tendency is to shorten, rather than lengthen the age of baby beeves.

Steers fatten out a little more evenly and sell better than heifers. If it is not possible to get a steer, a spayed or free martin heifer will do for the long-fed class of baby beeves.

and flesh. The most desirable calf, from the standpoint of quality, is one that has soft, fine hair; a pliable, elastic hide of medium thickness; a clean, dense bone; and flesh that will be smooth and firm when the animal is finished. Coarse-boned, heavy-hided calves should be avoided. A high quality animal not only looks better when finished but will usually make better use of its feed and, therefore, make more economical and rapid gains than will a calf of poor quality.

Select a Quiet and Thrifty Calf

A calf, to do well, must be thrifty and not too wild. Most calves with proper handling will quiet down within a few months. Select a calf that has a quiet disposition. Such calves make more economical and rapid gains than wild ones. Calves that have become accustomed to eating grain previous to weaning are the most desirable, since they suffer no severe setback at weaning time, and being accustomed to grain they never lose their “milk bloom.”

It is well to avoid a calf that is too fat because it may become over done before show time, and too, the cheapest gains are made on the thin calf. On the other hand a calf that is thin and has been about half starved, may be in such an unthrifty condition that it will be quite a while before he starts to make rapid and economical gains. The best buy is the thrifty, vigorous calf in just good condition, preferably showing a little “milk bloom” and accustomed to eating grain.

The Right Age for a Baby Beef

Experiences of the past few years have proved the value of using calves born after May 1. The older calves have a tendency to make

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Feeding

Club members should realize in the very beginning that the success they have in the baby beef club will be materially influenced by the care their calves receive. No matter how good a calf they may start with, if he is not fed properly, profitable and economical gains cannot be made. A calf to sell well must be fat and have a good percentage of high priced cuts of meat. Calves not only fatten but grow as well. However, one should not get the mistaken idea that a calf must be grown out before fattening. If club members will attempt only to fatten their calves, it will be found that plenty of growth will be obtained during the fattening period.

Calves should be started on feed gradually. Animals that have become accustomed to eating grain previous to weaning go on feed a little better and do not suffer so much from the shock. For calves that have not received any grain it is not advisable to try to crowd them too fast, because there is danger of getting them off feed or even foundering them. Over-feeding is costly to the club member. When a calf goes off feed he stops gaining and often he loses in weight. This causes a loss in two ways, not only is the cost per pound of gain increased, but the calf’s appetite is dulled for several days. Calves are like human beings in this respect. When a person becomes sick from over indulging in some food that he likes, he becomes less fond of that food. Start a calf with only a pound or so a day, dividing it into two feeds.

Keep before him just what hay he will clean up each day, preferably a good grade of alfalfa or clover. One of the best starting rations to use is shelled corn and whole oats mixed in equal parts. Increase the grain feed about one-half pound per day until he is getting all that he will clean up. He should be on full feed in about 30 days. Don’t limit the feed with the idea of finishing him in the last 30 to 90 days; it can’t be done. A calf must be fat to show or sell well. Patience, regularity, and good judgment are essential for the successful feeding of a baby beef.

Be sure that the calf’s trough is clean before feeding and that he cleans up each feed of grain that is given. In case a calf goes off feed, it is advisable to cut down his feed materially at the next feeding time. Give him only one-fourth or one-half as much as usual. Continue feeding this way until the calf’s appetite comes back. Increase gradually until he is taking a normal feed again.

In the event that it is planned to grind the feed, one plan that works very well is to start on ground snapped corn, changing a little later to ground ear corn, and then very gradually to ground shelled corn. (Grind coarse, not fine; they will eat it much better.)

Most feeders, however, prefer to feed the whole grain starting half and half corn and oats, and gradually cutting down the oats until after the calf has been on feed 30 to 60 days he is getting only shelled corn. Considering the trouble and extra labor involved in grinding corn, it usually does not pay. Experiment station results show that no cheaper gains are made by feeding ground corn than by feeding the whole grain. Calves masticate their feed more thoroughly than older cattle. Grinding corn during the latter part of the fattening period may be advisable in that calves may be getting a little stale on their feed and will eat a little more feed when it is prepared in this way.

Linseed oil meal or cottonseed meal should be fed with corn. Be sure to use the pea size rather than the ground. Calves will eat it much better. The amount of these feeds to use will depend upon the kind of roughage available; that is, where alfalfa or clover hay is fed, less cottonseed meal or linseed, oil meal is required than when feeding prairie hay.

The state of Nebraska normally produces an abundance of the best feeds for use in the fattening of cattle. All of these feeds can be raised on the farm, except a small amount of protein supplement that is needed. Shelled corn or ground barley, or a mixture of the two, or a mixture of ground corn and ground wheat and alfalfa have proved to be the best fattening rations. To this, a small amount of protein supplement such as cottonseed meal or linseed meal should be added. These are perhaps the most popular fattening rations, and are used almost entirely by the feeders in this state. Clover is about equal to alfalfa as a roughage but is not so extensively grown in Nebraska. Oats, as has been stated, are very good for starting calves on feed but should not be used for fattening. Oats are too bulky for a fattening feed.

Water

The important things to remember in regard to the feeding of calves are: To feed at regular hours, and then only what will be cleaned up.
gradually; feed concentrates such as corn, ground barley and linseed oil meal or cottonseed meal; keep feed troughs clean; allow calves to have all the water and salt they desire (preferably access to salt and water at all times); and do not put them on pasture while fattening.

A great number of club members and practical feeders have been very successful at self-feeding calves. Most of them having tried this method would not feed any other way. If calves are put on a full feed gradually and then given access to grain in a self-feeder, they do very well. With such an arrangement for feeding, calves seldom go off feed. Feed is available at all times and the calves are necessarily on full feed. Such a practice eliminates the necessity of feeding at regular hours and watching to see that calves clean up their feed. All dirty or messed-over feed should be cleaned out of the feeder frequently.

The importance of fresh, clean water for the health and thrift of the calves is too often not realized. When possible, water should be kept before the calves at all times, especially in warm weather. If it is impossible to keep water before the calves at all times, they should be watered twice a day in cold weather and at least three times a day in warm weather. Irregular watering often causes calves to go off feed. If a calf is very thirsty he is likely to drink too much water which will cause him to scour. An old saying is: “Animals can live three minutes without air, three days without water, and three weeks without feed.” This is not an accurate statement, but it emphasizes the importance of water.

Feeds

Feeds are divided into two main classes—concentrates and roughages. Both supply about the same things for the fattening and growing of animals, but the concentrates (such as corn, barley, oats, linseed oil meal, cottonseed meal, and molasses), as the name implies, are of a more condensed nature, the greater part of which is readily digestible. There are two kinds of concentrates—one that produces growth and the other that makes fat. For baby beeves, the one that produces fat is the one that should be used in largest amounts. Roughages such as alfalfa, clover, and prairie hay are more bulky and it requires a greater quantity of them to supply the same amount of digestible food for the animal than is necessary in concentrates. Calves belong to the ruminant class of animals, or those chewing cuds, and for this reason roughages are very important since they help to keep their digestive systems in order.

The relative usefulness of different feeds to the animal depends on the things they contain, their digestibility, and palatability. Feeds contain proteins, carbohydrates, fats, ash, and fibre.

Proteins are essential for the growth of animals, the building of muscles, and the making of blood tissues, vital organs, hair, hoofs, and horns.

Carbohydrates furnish principally energy for the animal body. They are composed of sugar and starches and when more are eaten than is necessary for supplying energy in the animal body, they are stored as fats.

Fats furnish heat and energy and are also stored as fats in the body.

Ash or mineral matter furnishes minerals for the building of bone.

Fiber is the coarse, woody, less digestible part of the feed and usually is of no value except to give bulk to the ration.

Corn and cob meal is a desirable feed for a starting ration. The cob meal, while of little nutritive value to the calf, serves as a filler and tends to prevent over feeding. It should not be fed to baby beef calves longer than is necessary to get them on full feed safely. It should be discontinued gradually by supplementing with shelled corn.

Corn is rich in carbohydrates and fats, is very palatable, and the best fattening feed available. Since corn does not supply all the necessary proteins in the ration, better results are obtained when fed with alfalfa or clover hay and a little linseed oil meal or cottonseed meal. Corn may be fed either shelled or ground. Ground corn at the last of the fattening period is often more palatable. Calves will consume more of it and make slightly more rapid gains.

Barley when fed should be ground. It is used quite extensively in Nebraska and is nearly equal to corn as a fattening feed. Owing to the fact that animals fed barley tend to cover a little more evenly than when fed corn, it is especially desirable to feed some barley to calves that are getting a little “rough.” Barley is a good finishing and fattening feed when used half and half with corn.

Wheat should be coarsely ground for calves. It can be satisfactorily fed 1 part to 2 parts of corn, or in equal amounts with corn. The rate of gain will equal or exceed gain on corn, and it is equal in feed value, pound for pound, with corn. The cost is important in considering wheat for feed. The value of the extra weight per bushel of wheat is usually considered equal to the cost of grinding and so whole wheat and corn are equal in feeding value per bushel.

Oats are higher in protein and mineral matter than corn, a good feed to use in starting calves but too bulky to use as a fattening feed.

Wheat bran is high in minerals and proteins, a good growing feed, has a slightly laxative effect, and is a good conditioner, but too bulky to be used to any large extent as a finishing feed.

Linseed oil meal is a laxative and a good growth and conditioner feed. It is especially important in the feeding of baby beeves because it is so rich in protein. Its judicious use is soon made apparent in the pliable skin, sleek, oily coat, and the good handling qualities of the flesh of animals receiving it. The feeding of linseed oil meal should be started gradually, feeding only a very small amount at first. Gradually increase it until the calves are receiving about one pound of linseed oil meal for each ten pounds of grain consumed when feeding alfalfa hay, and one pound for each seven pounds of grain when feeding prairie hay. Usually it is not advisable to feed more than two pounds per head per day. The pea size is more palatable than the ground product.
Cottonseed meal is very similar to linseed oil meal as a protein feed, except that it is slightly constipating and is not as good a conditioner. However, it balances the ration efficiently and if used should be fed about the same as linseed oil meal. Some feeders use a mixture of linseed and cottonseed. The price will usually determine which to use.

Molasses, cane molasses, or black strap as it is commonly known, is well liked by cattle and is quite often used as an appetizer. In feeding value it is about equal to corn. It should be used only as an appetizer and then only in small amounts, because of its laxative effect. About one-fourth pint mixed with enough water to moisten the feed is sufficient.

Molasses and alfalfa feeds may be fed as appetizers in small quantities if the cost is not too high to be in keeping with the feeding value. Molasses and molasses feeds are low in protein and should not be fed as a substitute for protein feeds.

Alfalfa hay is an exceptionally good roughage to use with fattening concentrates. It is high in protein, and for that reason is very valuable in that less protein supplements are necessary when feeding it. Alfalfa is much to be preferred to prairie hay in feeding baby beefs.

Clover hay is about the same as alfalfa. It is a good roughage to use.

Corn silage is a good feed to use in moderate amounts as an appetizer and to provide succulence, but because of its high water content and bulkiness, it should never be used in large amounts. During the latter part of the feeding period, five to seven pounds are enough.

Prairie hay, sudan grass, and other grass hays are all right if of good quality. It must be remembered when feeding these that more protein supplement should be fed than when using alfalfa.

Mineral mixtures are not necessary. If a good ration is fed, calves will receive sufficient minerals. Salt, however, should be available at all times.

**Rations for Starting on Feed**

<table>
<thead>
<tr>
<th>Feed</th>
<th>Ration 1</th>
<th>Ration 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>5 parts</td>
<td>Corn</td>
</tr>
<tr>
<td>Oats</td>
<td>5 parts</td>
<td>Oats</td>
</tr>
<tr>
<td>L. O. M.</td>
<td>1 part</td>
<td>Bran</td>
</tr>
<tr>
<td>Alfalfa</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fattening Rations**

<table>
<thead>
<tr>
<th>Feed</th>
<th>Ration 1</th>
<th>Ration 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>10 parts</td>
<td>Corn</td>
</tr>
<tr>
<td>L. O. M.</td>
<td>1 part</td>
<td>L. O. M.</td>
</tr>
<tr>
<td>Alfalfa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gr. barley</td>
<td>5 parts</td>
<td>Alfalfa hay</td>
</tr>
<tr>
<td>L. O. M.</td>
<td>1 part</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feed</th>
<th>Ration 1</th>
<th>Ration 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>7 parts</td>
<td>Corn</td>
</tr>
<tr>
<td>L. O. M.</td>
<td>1 part</td>
<td>L. O. M.</td>
</tr>
<tr>
<td>Prairie or</td>
<td></td>
<td>Prairie or</td>
</tr>
<tr>
<td>cane hay</td>
<td>4 parts</td>
<td>cane hay</td>
</tr>
<tr>
<td>Gr. barley</td>
<td>5 parts</td>
<td></td>
</tr>
<tr>
<td>L. O. M.</td>
<td>1 part</td>
<td></td>
</tr>
</tbody>
</table>

Cottonseed meal may be substituted for linseed oil meal in any ration where alfalfa is used.

Remember that calves should be fed at regular hours. Feed at least twice a day at the start. Many have been successful in getting the calves to consume more feed by feeding three times a day toward the last of the feeding period. In the hot summer time, it is advisable to feed early in the mornings and late in the evenings since the calves eat better when it is cool.

Let the calves have what hay they will clean up unless they are inclined to eat too much of it. Two or three pounds should be sufficient the latter part of the fattening period. Limit the hay if they eat much more than this.

**A Comfortable Place for Calves**

In order to keep accurate records on calves, it is necessary to keep and feed them away from other cattle. Two or three calves fed together are more content than one fed alone. Once accustomed to being alone, calves will be much quieter and more contented than when running with other cattle. This is the only satisfactory way to tame and fit a calf for show.

Every precaution possible should be taken to see that the calf is comfortable at all times, for he will make maximum gain only when quiet and contented. About the only protection necessary in the winter is to see that animals are protected from rain, snow, and drafts. Usually they will keep warm enough if getting a full feed of grain. Calves should have a clean, comfortable bed of straw at all times, because fattening cattle spend a great deal of their time lying down contentedly chewing their cuds.

Until the calf is broken to lead, it may be advisable to keep him tied, but after this he will do better if given more freedom. Usually it is best to allow the calves to have the run of a small lot, or at least a good sized stall. If calves are kept in a stall, a good policy is to turn them out each day a little while for exercise, or to lend them around to give them their exercise.

![Fig. 8.—Grand champion county group of baby beefs at the 1932 Nebraska State Fair, Shorthorn shown by Webster county.](image-url)
In the hot summer time, calves do better if they have a cool, well ventilated stall. If calves are kept in during the day, they should be turned into a small lot as soon as it is cool in the evening. They will be cooler outside at night, which stimulates their appetites and improves their coat of hair.

It is advisable to keep calves out of the direct sun, since the hot sunshine tends to sunburn the hair and make it harsh and dry. There are a number of preparations on the market which will keep the flies off of the calf, but will make the calf's hair dry and harsh, so it is not advisable to use them at all unless for spraying the stall.

The most satisfactory way of keeping flies from bothering the calf is to remove the windows and tack strips of burlap over them and other openings, thus darkening the stalls, stopping the activities of the flies and at the same time allowing free passage of air to keep the calf cool.

The blanketing of calves helps to keep flies from bothering them and at the same time puts the calf's hair and hide in better condition. An inexpensive blanket can be made from a couple of burlap sacks. Another practice that meets with a good deal of favor is that of tacking narrow strips of burlap to the ceiling of the stall (some, however, use full size sacks) and let them hang down far enough so that a calf can brush the flies off by walking under them. Too, the slightest breeze blows the strips until flies will not bother a calf much that is lying down beneath them.

A stall on the north side of the barn and under a hay mow is the most desirable. The north side is shaded and cool, while the hay in the mow acts as an insulator and keeps the stall cool. If the calf is kept in a shed, away from the barn, the shed may be kept cooler by placing boards on the rafters and covering these with straw.

**Castrate Calves Early**

It is the easiest thing on earth to put off doing some things until another day. That is just what happens when the time comes to castrate calves. Usually, however, it is put off months instead of days. If calves are raised at home, castrate any time, best if done before calves are a month old. Most club members buy their calves at weaning time. In this case calves should be castrated about two weeks after they are weaned. The weather is cool then, and it is possible for calves to run in a small, clean lot or pasture. Under such conditions there is little likelihood of infection. However, what often happens is that castration is put off until the middle of the winter when the weather is cold and disagreeable and calves have to stand in the barn with little or no chance for exercise. If the stall is allowed to become filthy, the chances for infection are rather great. Clean stalls and early castration are best. The number of club members losing calves from infection after castrating, to say nothing of the calves that have infection and get well after a lot of doctoring, is astonishing. The things just mentioned are really only secondary in importance. The fundamental purpose of castrating calves soon after weaning is to prevent them from looking stagggy when finished. Too, the younger and smaller they are, the less shrink and trouble caused in castrating.

Burdizzo emasculators may be used for castrating. Since they leave no opening in the skin, there is less danger of infection. The use of these pinchers, however, has resulted in many incomplete, castrations, and so their use is questionable.

**Training Calves**

The younger and smaller the calf, the easier it is to train him, so start early. After a calf has become accustomed to his surroundings it is advisable to put a halter on him and tie him in his stall for two or three days. A rope halter that fits the calf properly should be used. If at all possible, the calf should not be allowed to get away when he is broken to lead. Start out in the barn or in a small lot. Don't be too hasty. If a calf tries to run, it is the tendency for an inexperienced handler to pull back against him. In so doing he more or less matches his strength against the calf's. A calf may be stopped much more easily by pulling out to the side, which turns his head and causes him to circle. Work with him a little every day. Leading him to water is good practice. After the calf gets so that he leads fairly well it is not necessary to keep him tied all the time.

Certainly a calf should never be allowed to get loose while breaking him to lead. Once he finds out he can get away, it is hard to break him of the habit. It is also advisable to lead the calf about the farm occasionally where he can see things he is not accustomed to seeing. In this way he will get used to conditions other than those in his stall and around the barn. He will then be much easier to handle at show time.

After breaking a calf to lead well, start training him to stand properly for showing. The most successful way is to teach him only one thing at a time. For three or four days the calf should be led out and made to do nothing but stand still. Then after he has learned this, it is easier to teach him to stand squarely on his feet and to keep his back level and head alert.

**Care of the Horns**

The shape of horns affects the appearance of a calf more than most people realize. Very few horns in their natural condition have the right set to them. About half of the horned calves shown in the last few years would have appeared to better advantage without horns than they did with their horns shaped as they were. If calves have no horns, then there is just that much less worry. If a calf has horns they should be removed at once or trained so that they will look well at show time.

“Spiked” or upturned horns (as in Figure 9) detract materially from the appearance of an animal. They tend to make the head look long and plain, while horns with the correct set to them make the same calf look as if he has a short, neat head. To draw the horns down in the
**Good Coat of Hair at Show Time.** Letting calves run outside during the hot summer days tends to deaden the hair.

**Disease and Parasites**

**Black Leg.** There is no known cure. Vaccination to prevent is money well spent.

**Lice.** There are two kinds. The blue ones bite the skin and the red ones suck the blood. Calves should be brushed often. In warm weather washing, dipping or spraying with any good coal tar or tobacco dip properly mixed is very effective. Usually a second dipping in two weeks will be necessary.

**Mange** is caused by small mites which live in the skin. A thickening of the skin, loss of hair (especially about the neck), and constant rubbing are indications of mange. If coal tar, lime and sulphur or tobacco dip do not effect a cure, a paste of powdered sulphur, linseed oil and a little kerosene applied to the affected parts should be used. Wash off in two weeks.

**Ring Worms** appear usually about the eyes or nose. Soften with a mixture of glycerine and iodine equal parts. It may be necessary to do this several times to effect a cure.

**Warts** mar the appearance of a calf. They can usually be softened away by applying castor oil or some other fine oil every day or so. Another good method for removing large warts is to tie a string around them and tighten every few days.

**Warbles or Grubs.** It is best not to tamper with them until warmer weather. Then squeeze them out when they appear. Take care that they do not break beneath the surface. Apply an antiseptic. Some squeeze them out by pressing the top of a bottle down over them.

**Scours** usually result from over-feeding of calves. The laxative or unclean feed, exposure, or over-heating of calves. The laxative feeds should be reduced and prairie or other grass hays substituted for all or part of the alfalfa for a few days. In severe cases, dose with a pint of castor oil or bran mash (1 gallon of bran through which hot water has been poured). Calves seldom go off feed when fed clean feeds and cared for at regular hours.

**Bloat** is often caused by the calves eating too much fresh, green, leafy alfalfa. A three or four-inch rope or piece of wood about that size fastened in the mouth as you would a bit, will usually bring relief. In more severe cases, and one must act quickly, a drench of 1/10 of a pint of 6 parts raw linseed oil and 1 part of kerosene mixed is usually effective. In cases of severe bloating it may be necessary to use a trocar and cannula to tap the animal on the left side somewhat in front and slightly below the hip. Some calves bloat after each feed. Sometimes the feed which disagrees with the calf can be determined and replaced by another in the ration. Calves that bloat regularly are usually disappointing feeders.

**Care of the Hoofs**

Sometimes the calves’ hoofs tend to become misshapen or too long and the calves will as a result stand poorly and become sore footed. This can be prevented by trimming the hoofs with an ordinary pair of hoof snips. To do a good job of trimming it is generally necessary to throw the calf. Care should be taken so that the hoofs are not trimmed too close.

**Hair and Hide**

A loose, pliable skin and soft hair cannot be made in one day. Calves that are brushed often and kept in a clean and well bedded stall, washed frequently and fed linseed oil meal will have a good coat of hair at show time. Letting calves run outside during the hot summer days tends to deaden the hair.
Fitting Calves for Show

The care of hair and manner of grooming are very important in making the calf look his best. The hair is an indication of the calf's quality, so every effort should be made to have it appear glossy and full of life instead of harsh and dead. As has been stated, keeping calves out of the hot sun during the summer months and blanketing them a few weeks before showing will put the hair and hide in good condition. Occasional washing and brushing several weeks previous to showing will improve the condition of the hair and hide. The method of grooming will depend upon the breed and individuality. All breeds may be shown with the hair curled; however, Aberdeen Angus are often shown smooth. Calves should be so fitted as to show their good qualities to the best advantage.

Curling. There are three ways of curling the calf's hair. Before curling, the hair should be wet thoroughly with water containing a small amount of dip solution. This tends to stiffen the hair and cause it to stand up. Hair should be parted down the back from the head to the swirl or about the middle of the back. Where the hair is parted, it should be brushed out smoothly in a manner to emphasize width. Hair along the remainder of the top line that is not thus parted should be brushed back to the rear. Waves (made with a round comb) may then be made on this part of the back if desired. Brush the hair on the twist and round to emphasize width. It should be remembered in the curling of the sides of the body that the best effect can be obtained by curling the entire side from the jaw to the round. To make the curl in parallel lines, brush hair down smoothly and mark lines as in Figure 12. A straight bar comb with every other row of teeth knocked down is very good for lining, except when making lines more than 1¼ inches apart on longer haired calves. After marking, the hair should be brushed up lightly with a stiff brush.

In making the curl with wavy lines, use a round comb. Press the point of the comb firmly against the hair, bring it downward slowly...
FIG. 13.—Making the wavy curl with a round comb. Notice the tail clip and the broadening effect of the fitting.

FIG. 14.—Making the diamond curl.

with a frequent wrist movement from side to side. Then brush up (as shown in Figure 13). Many ruin this curl by making the lines with too much downward and not enough sidewise motion.

The third curl, the diamond curl, is one that has not been used a great deal, but some like it, especially for the short haired calves. The straight bar comb used for marking parallel lines works best to mark

off in the manner shown in Figure 14. Then use a stiff brush and brush up lightly. The hair covering all depressions on the animal's body should be brushed so that it will stand on end.

Brush the hair of short haired calves down smooth and rub with a woolen cloth dampened with equal parts of olive oil and denatured alcohol. This gives a gloss to the hair.

Clipping. The head of Aberdeen Angus and Red Polls should be clipped in front of a line drawn around the neck about 1½ inches back of the ears as in Figure 16. Brush and curl hair on the heads of horned cattle. Part hair on top of horns and comb down to swirl on face, and then brush in natural direction.

The tails of all breeds should be clipped from just above the switch (beginning just a little above the lower end of the twist, as some say, "where the split begins") to the tail head, tapering off to the tail head so that it will not be necessary to clip any hair from the rump. (Note clipped tails of calves in Figure 7.) Be sure to wash the switch out well. Usually if it is a little coarse, showmen braid the hair into three or four braids while it is still wet and leave it over night. Unbraid and brush it out well just before going to show. To brush the switch out, take hold of the tip of the tail and brush forward.

Horns. The appearance of the horns will add much to the appearance of the calf. If they have been weighted as suggested, all that will be necessary is to remove the rough surface with a rasp and
smooth them down with a horn scraper of some kind. A piece of glass makes a good horn scraper. Push hair back from base of the horn and scrape outward to the end of the horn, taking care to scrape the horn evenly all the way around. Don’t scrape so close that they bleed. If the horn is a little sharp pointed, half an inch can usually be cut off of the end and the horn repointed. After scraping, smooth down a little more by using emery cloth. (Use of rasp and emery cloth shown in Figure 17.) Polish with a woolen cloth dampened with sweet oil.

Hoofs may be polished in the same way. If they are black, lamp black may be used.

Shipping
Calves often suffer considerably in shipping either to market or to fairs. Oats and prairie hay should be substituted for the regular feed a day or two before shipping to prevent scouring. A calf should not be kept off water before loading. Careful loading and hauling will avoid exciting or bruising. Proper bedding of a car or truck makes the stock more comfortable. Fine gravel or clean sand is first choice for bedding in warm weather. A deep straw bedding is second choice in warm weather and best in freezing weather. Never use cinders or wet, dirty straw.

At the fair, bed the stall deeply with straw and permit the calf to rest. When he is quiet, he should have a drink. Feeding may be resumed in a few hours or the next day. The grain feed he had at home is best, but he will eat less and should not be over-fed. Prairie hay may be preferable to alfalfa if the calf has a tendency to scour.

The state and interstate fairs conduct auction sales at which the steers which have been shown may be sold.

Halter Making
To break the calf to lead, a strong serviceable halter is necessary. Show halters should be used in the show ring only. They are too expensive for general use. Following are the directions for making an economical and easily made halter.

1. Secure a piece of rope about 15 feet long (¼ to ¾ rope is strong enough).
2. Measure off 30 inches from one end and throw a triple loop (see Figure A) at this place. These loops are made by grasping the rope in both hands and turning away from the body with the right hand and toward the body with the left, at the same time pushing the hands toward each other, forcing the strands to form the loops.
3. Now draw the long end of the rope through these three strand loops, forming the large loop (B). This loop (B) should be large enough to allow free passage of the rope.
4. Throw a triple loop in the long end of the rope close to first triple loop and draw the short end through (Figure D). This makes the large loop permanent.
5. Now another triple loop is made near the end of the short end of the rope. (This end tied to prevent the rope from unbraiding. In Figure C the end is tied in a double Mathew-Walker knot.) The rope between loops C and D in the short end serves as a nose band which may be shortened or lengthened by moving the loop C.
6. The halter is completed by drawing the long end of the rope through the loop D. Loop C allows the halter to be adjusted to fit the animal.

7. Tie a crown knot in the end of the lead rope and splice the strands back.

**Showing**

Proper showmanship calls for a careful study of the individual animal to discover his weaknesses. Correct training, grooming, and handling tend to cover up the animal's faults and bring out his individual excellencies. When the calf is ready to be taken into the ring, he has been groomed properly and presents a sleek, straight lined, and trim middled appearance. "Paunchiness" may be avoided by limiting feed and water the morning of the show.

Most showmen use a light show stick four or five feet long with a bent nail near one end. They also carry a Scotch comb or a straight coarse toothed comb to add any finishing touches necessary. The calf is led from the left side, holding the lead strap about one foot from the head. As the showman enters the ring, the ringmaster will generally designate a place for the calves to line up. Generally, the first calf in is placed and the others line up on one side of him. The showman should place his calf so that the ground on which the calf stands is level, or so that the front feet are placed on a slightly higher level. The proper stance for a calf should be with the four feet placed squarely under each corner, back level, and head alert in appearance.

In placing the feet, the nail in the show stick may be used. To move a hind foot forward, hook the nail just under the dewclaw and pull forward gently. To move a foot back, place the stick just above the cleft and push back, and to move the foot to a side, work from the inside or outside of the foot. A calf may be taught to keep his back up by stimulating him with the nail in the end of the show stick against his belly each time he lets his back fall. The judge should be given an unobstructed view of the calf at all times, and one should be ready to follow any instructions that he or the ringmaster might give.

The calf should be presented in a quiet, courteous manner, with all due consideration to other showmen. It is a showman's duty to make room when another calf is placed over him. A good showman takes the judge's decision like a gentleman and a cattleman. He waits until records have been made and never leads out of the ring ahead of those calves placing above him.

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