

Fattening 4-H Beef

Revised by
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Extension Livestock Specialist



Montana Extension Service in Agriculture and Home Economics, R. B. Tootell, Director.
Montana State College and United States Department of Agriculture Cooperating.
Distributed in furtherance of Acts of Congress, May 8 and June 30, 1914.

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The production of beef for human consumption in the United States dates back to the year 1007. Cattle were brought to the western hemisphere that year by the Norsemen who landed in what is now Massachusetts. Columbus brought cattle with him on his second voyage to the New World in 1493. Coronado imported cattle and sheep into Arizona from Mexico in 1540. In the 15th century pirates in the West Indies were being called "buccaneers" from the dried or "boucaned" beef they ate.

In early Plymouth, it took six people to own a cow. In Jamestown, in 1611 it was a capital offense to kill livestock.

The beef industry grew slowly with the increase in human population. Transportation was a serious problem. Not until 1805 was the first lot of fat steers driven across the Alleghanies to Baltimore. These cattle sold for \$25 each, plus a dollar for each inch of their waistline circumference over a certain average. Such a method of valuation contrasts decidedly with the present day visual appraisal.

Montana became an important beef cattle producing area as early as 1870. About 1877 Mr. Conrad Kohrs, then of Deer Lodge, saw the need for improving range cattle and brought in the first purebred bulls of which there is an accurate record.

A large percent of the cattle on the range in these early times were steers that were purchased in the southwest as yearlings. They were generally sold as 3- and 4-year-olds. Steers were considered a safer risk then. When little or no winter feed was stacked or piled the cattle were grazed during the entire year. These big steers could also stand the long shipment to market better than younger cattle.

The homesteader-farmer (tiller of the soil) was responsible for the first changes made in the type and quality of cattle on the range. As the ranges were reduced, by plowing up, the cost of grass became greater and it was no longer profitable to raise 4- and 5-year-old steers which were formerly sold at 4 to 4½ cents in Chicago at a profit.

A second factor which had a bearing on the type of beef cattle produced was the increased preference for lighter cuts. Smaller families among consumers, a decreasing per capita consumption of beef and some significant changes in living habits and conditions were contributing factors. Producers in their attempt to meet consumers' demands and to off-set increased production costs, developed a type of cattle which matures and finishes at an early age and at lighter weights. The cheaper gains made by younger animals has been a vital factor in the growth of this practice.

Finishing of beef cattle can be most economically carried on in areas that produce a surplus of feed which is suitable for fattening. The irrigated valleys of Montana produce an abundance of very high quality feeds. The type and quality of these feeds is excellent for finishing beef animals. Grain generally can be marketed most economically in this manner. Feeding operations also provide fertilizer that will help maintain the fertility of the land.

The possibilities of finishing steers in Montana can best be studied through the feeding operations of 4-H club members. The continued growth of this project indicates that it is a profitable industry.

The 4-H club member who chooses to finish beef cattle must



Fig. 1—These steers represent changes in type since 1860; the native four-year-old, the southern type and native baby beef.

have certain information if the project is to be profitable. It is the purpose of this publication to enlighten the club member on those points which are most vital.

Your Cattle Vocabulary—If you are to talk and read intelligently about cattle you must first have a good knowledge of the different parts of the animal. This information will be especially valuable to those who wish to become livestock judges.

After you have learned the names of the various parts of the animal it will be best to study the score card for fat cattle to better acquaint yourself with the proper comparative value to be given the different points.

Judging Fat Cattle is an important part of the 4-H project. Each club should arrange several practice judging contests during the year. Don't fail to participate whenever you have a chance. No one knows of any way of becoming an expert judge except through practice.

Do not confuse the judging of fat stock with judging of feeder or breeding stock. The standards are quite different. Remember that a steer can serve only one purpose—food for people. He will never have a calf so we need not think of breeding cattle standards when judging slaughter steers. With this clearly in mind you will have no difficulty answering such questions as:

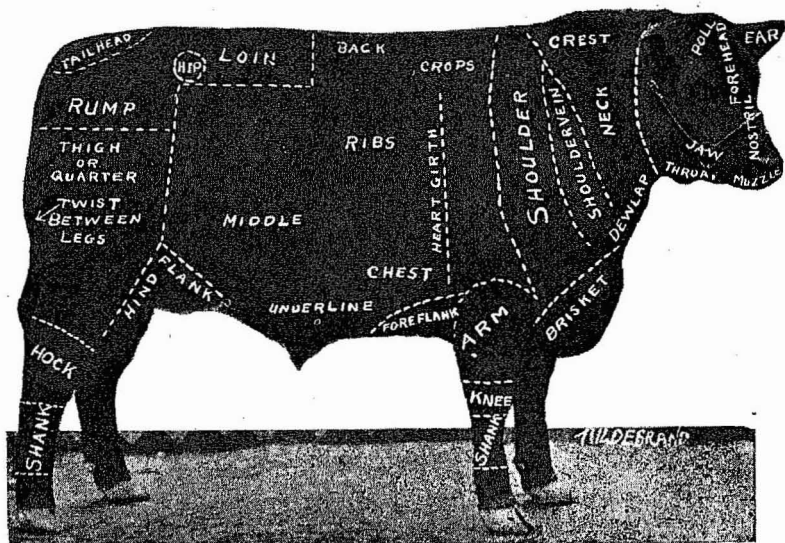


Fig. 2—Diagram showing location of various parts of baby beef.

"Does the color of this fat steer make any difference?" "Does a long, curly coat of hair increase his market value?" Don't forget, however, these statements apply **only** to steers ready for slaughter. Selecting your feeder calf has some quite different requirements.

Selecting the Feeder Calf

Be sure to spend considerable time studying the score card to know what a good feeder calf should look like before you go out to select yours. Your first consideration in a steer feeding venture is a good calf. It does not pay to finish a common or poor type of steer.

In selecting your calf or calves you should go to a breeder who uses good beef type bulls and whose cows show good beef breeding. Get the best breeding you can find. A calf should weigh from 350 to 400 pounds at 6 months of age. Do not select a calf just because he is fat. The dam may have been an exceptional milker but not a beef animal.

Observe the head carefully. It should be wide between the eyes and across the muzzle, and should be short from poll to muzzle. The eyes should be mild, indicating good temperament. Don't select a calf with a coarse head, as his body will also be coarse. The neck should be short and well filled in the shoulder vein. Select only calves with smooth shoulders as they indicate quality and general smoothness.

The body should be rectangular, deep and broad with straight top and bottom line and be close to the ground. If you intend to finish calves at 12 to 14 months of age it is very important to start with only good broad, thick fleshed, close to the ground, early maturing calves.



Fig. 3—A broad, strong head indicates a good feeder.

Feeding the Calf

The length of the feeding period will not be less than 6 months if you are planning to finish the animal. The amount of feed necessary to finish one animal will be approximately 2200 pounds of grain and 2000 pounds of hay.

Where possible, start the calf eating some grain before he is weaned. This either may be done by allowing the calves to run to a creep or you may tie the calves up and bring the cows in to nurse once or twice a day. One month of this treatment will be sufficient time to get the calves eating 5 or 6 pounds of grain a day. You can then wean them without much loss of weight.

In most cases, calves have to be weaned and moved to a new home. Under this plan it will be best to start the calves on whole oats at the rate of 1 pound per day, increasing very slowly so that in 30 days you have switched to, and should be feeding, 5 to 6 pounds of other grains per day and about an equal amount of hay. Keep in mind that an animal on full feed will consume about 2 pounds of concentrates for each 100 pounds of body weight. It is a good plan to feed twice a day until the last 60 days of the feeding period, then 3 times a day in order to get the greatest possible consumption of grain.

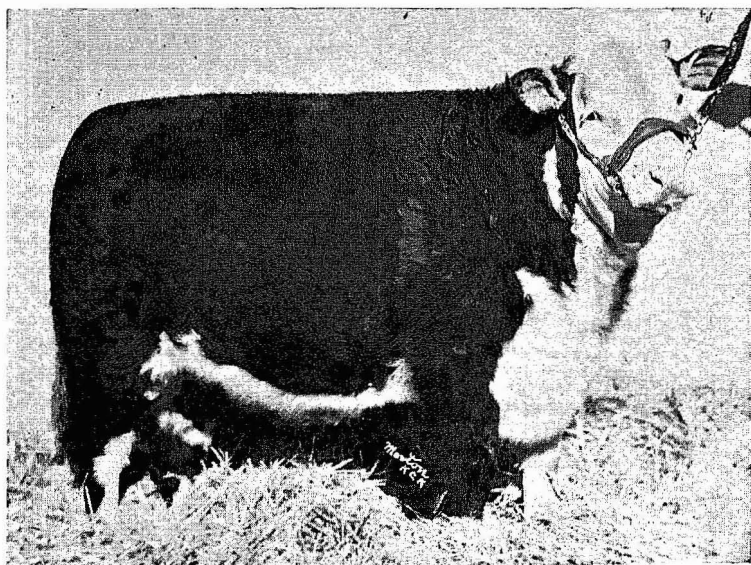


Fig. 4—An ideal fat steer in a perfect pose.

Feeds

Corn, wheat and barley are about equal in feeding value for cattle. Best results can be obtained by using a combination of two or more of these grains either coarsely ground, rolled, or in the case of barley and wheat, steam rolled—because it increases the bulk and there is less danger of bloat.

Dry sugar beet pulp is about equal in feed value to the above mentioned grains when fed in combination with other grains. It adds to the palatability of the feed when used not in excess of 50 percent of the concentrate ration. Pulp is also very valuable in preventing bloat.

Oats are especially good in starting cattle on feed. Good heavy oats can safely be fed as part of the concentrate ration, but should not be more than 25 per cent of the ration after the cattle are put on full feed.

Alfalfa hay is rich in protein and is valuable in balancing a ration where such feeds as oats, barley, corn and wheat are the principal concentrates. First cutting alfalfa is generally preferred because there is less danger of bloat and scouring. It seldom pays to grind alfalfa hay for steers. Only when hay is \$10 a ton or more, will it be advisable.

Good clean prairie hay is very good as part of the roughage, especially near the final two months of the feeding period. Where prairie hay is fed, some linseed meal or other protein rich supplement should be added.

High protein feeds such as linseed oil meal, cottonseed and soybean meal are most valuable for growing animals. When 275 pounds of barley, wheat or corn can be bought for less than 100 pounds of protein supplement, it will not be advisable to purchase the supplement. In such a case alfalfa should be the principal roughage. Linseed meal is a laxative, while cottonseed is slightly constipating. Soybean meal is slightly laxative.

Molasses has a feed value about equal to corn, but must be fed sparingly because of its laxative effect. One pound per day for animals under 1,000 pounds will generally give good results. It adds much to the palatability of the feed. A small amount of molasses (about 1 tablespoon mixed in a gallon of water) can be mixed with the grain to add palatability.

Pasture should not be a part of the ration of a steer which is being grain fed.

Salt should be available at all times. Either the block or granulated types are satisfactory.

Water is just as important as feed, especially for animals receiving a heavy grain ration. Fresh, clean water at all times is very necessary. Do not furnish ice water in the winter, it should be heated to 50 or 60 degrees.

"Little Insurance Policies"

1. Feed coarsely ground grain.
2. Clean feed and clean feed boxes.
3. Regular feeding time.
4. Gradual changes of feed mixtures.
5. Increase feed slowly.
6. Keep on full feed of grain.
7. Supply good clean water and salt.
8. Feed roughages sparingly.
9. Keep off pasture at all times.
10. Exercise in a small yard.

"A Real Insurance Policy"

It is urged that every first year feeder insure his or her feeder calf as soon as it is put on feed. It is pretty good business for all 4-H feeders to do this but beginning feeders have more death loss than experienced ones. If your leader does not know about live-stock insurance, the county agent can furnish the information.

Care and Management

Break your calf to lead as soon as you get him. Be firm in handling, but not rough, as he responds to kind treatment.

Before breaking to lead, tie the calf to something solid, and be sure that he does not get away on this first occasion. He will be much harder to handle once he gets away. Fig. 5 is a good example. Next teach him to lead and stand properly as indicated in Fig. 4.

The calf either may be tied or allowed to run loose in a stall. Where two or more calves are fed together they should be tied up at feeding time until they are on full feed. This method will give you a greater opportunity to know their individual feed requirements. If the calf is tied up during the day it is a good plan to allow him a small yard to run in at night. A yard 30 feet square is large enough. Keep the calf out of the hot sun to preserve the gloss of his hair.

A good supply of bedding should be furnished all the time, as it will keep your calf dry, free from stains, and help prevent infections such as foot rot.

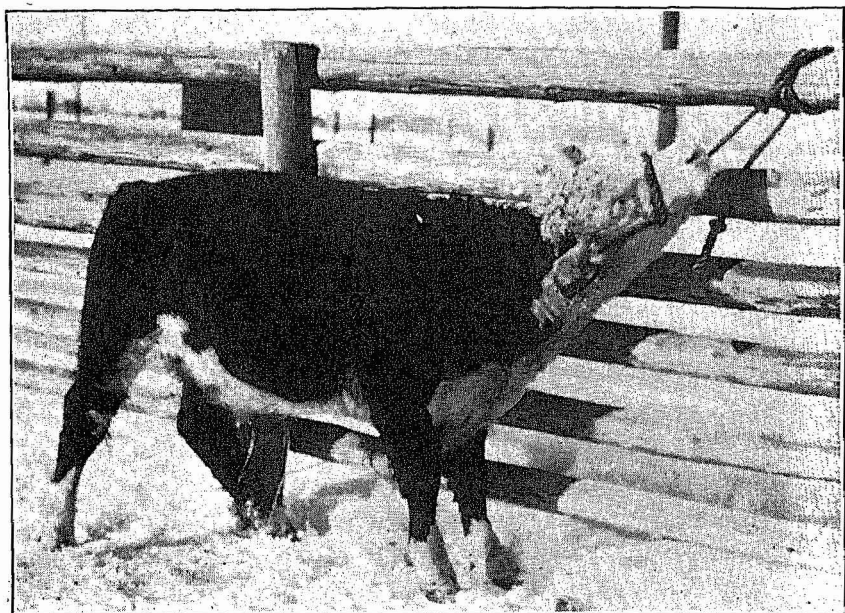


Fig. 5—Tie him up short to something solid with his head high and it won't take long to break him.

Whether or not you dehorn your calf is of little importance. However, if you do leave the horns, be sure they are properly shaped as it will add much to a calf's general appearance. They should curve in and slightly downward. Horn weights or trainers are very effective and when properly used will give the desired set. Do not start using weights until the horn is quite solid then begin with a light weight. Generally a one-half pound weight is about right. Leave the weight on for about half a day at a time until the calf becomes accustomed to it, for about two weeks.

Very often a calf that is confined to a stall or small yard is unable to wear his hoofs down, so his toes grow long. This causes a calf to walk on his heels. If the hoofs are trimmed frequently this trouble may be avoided. Once a calf's toes turn up it will be necessary to cut from the under side of the foot whereas ordinarily trimming the outer edges is sufficient.

Weighing—It is a good plan to weigh your calf every 30 days so that you will have an idea as to his gains. On full feed he will gain from 2 to 3 pounds a day.

Fitting and Showing

A calf that is kept in a well bedded dry place will keep clean. If he is healthy and well fed his hair will be bright. Under these conditions brush only often enough to keep the hair clean. Brushing and washing too often will leave the hair dry and lacking in lustre. The animal should be washed often enough with a warm water dip—about 1 tablespoon to 1 gallon of water—and soap to remove all scales and dandruff. The dip will help set the curl. After each time the calf is washed, part the hair down the middle of the back and comb all the hair down. Next line the hair with a comb making parallel lines along the body, then comb the hair up and brush up until dry. The heads of all polled cattle and Herefords that have been well dehorned should be clipped for show. It gives steers the appearance of having more quality.

A nice set of horns that are well trimmed and polished will add to the general appearance of the calf. A good rasp and emery paper are best suited for scraping off the rougher coating of the horn. Powdered pumice stone and mineral oil should then be applied to the horn in the same manner that you polish your shoes. This will give the horns a good polish.

The tails should be clipped from the twist or "divide" to the tail head.

The appearance of the hair will be improved if you mix equal parts of denatured alcohol and cotton seed oil and apply to a wool cloth and rub the hair vigorously.

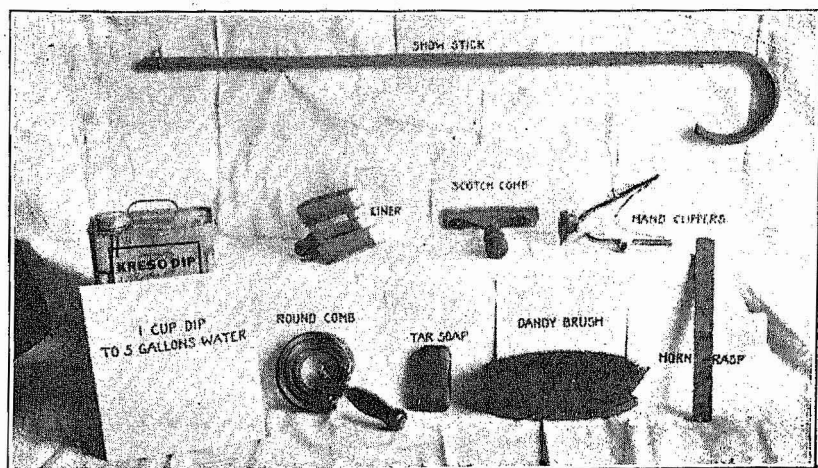


Fig. 6—Useful equipment.



Fig. 7—The head of the Angus is clipped in front of the line shown.

The Showman

If left alone a calf will show himself quite well, but if the showman leans on his calf, holds his head out of position or makes the calf stand with his head "down hill," that is the showman's fault. You must be alert, stand and walk on the left side of your calf, hold the lead strap firmly with the right hand. Be calm, and quiet so as not to excite the calf. Watch the judge with one eye and your calf with the other.



Fig. 8—Horns properly trained will look like these.

The Health of the Animal

By

DR. HOWARD WELCH

Except for blackleg, there is nothing serious likely to happen to calves and yearlings. There are no serious infectious diseases, no parasites except lice, and, in fact, from a veterinarian's viewpoint, most calves are disgustingly healthy.

Blackleg

Blackleg can be absolutely prevented by the use of any good blackleg vaccine, and no one should take any chances with this disease. Unless the calf's owner knows that the calf has been vaccinated at 4 months of age or older, this must be attended to. Too many stockmen are using blackleg vaccine on very young calves, 1 to 3 months old, and many calves so vaccinated died of blackleg as yearlings. And many a calf has died of blackleg because the owner supposed that someone had vaccinated it, and let it go at that.

Bloat

Bloat may result from indigestion, from any fresh legume, such as clover or alfalfa, and often occurs when there seems to be no good reason for it. Bloat is a treacherous thing, a calf may die in a half-hour, so that a calf that starts to bloat must be watched closely until out of danger. Treatment varies with the cause, but generally a half-teacupful of kerosene mixed with a pint of milk or water will "flatten out" a case of bloat in a few minutes. Do not consider tapping a bloated calf, with either knife or trocar, except as an absolutely last resort. A calf that has been tapped for bloat may be better than a dead calf, but not much. The shock of tapping and the infection that follows, give the calf such a backset that no results, at least for several weeks, can be expected from feeding.

Chronic bloat—bloat that seldom becomes serious, but just bothers the calf, prevents him from growing and thriving—is another proposition. This is a question of indigestion, not to be treated with medicines alone, but by adjusting his feeding and feeds. Often a change of schedule will help—shifting water, grain, milk, and hay around, changing the feeding time, etc. Mineral oil or raw linseed oil may be used, in doses up to a pint, according to the age of the calf.

Parasites

Lice are no respecters of pedigree, price, or breed, and any calf may surprise his owner by developing a fine crop of these parasites. Control of lice in the winter is not so easy, as the heavy hair coat makes it risky to soak the calf all over when the temperature may drop 40 degrees at any time. We generally depend on hand-rubbing with a cloth soaked in a mixture of mineral oil and kerosene, about three parts of oil to one of kerosene. Too much kerosene will blister the skin, and the above mixture contains plenty. It might be made weaker for a very thin-skinned calf.

Ringworm

Ringworm, usually recognized by bare, scurfy areas near the eyes, on the side of the head and neck, and sometimes here and there on the body, is a fungus infection of the skin. Most cattlemen pay no attention, to it, as it disappears in the spring and summer. Any heavy oil, thoroughly rubbed in, usually cures it. A mixture of iodine and lard works well. Any treatment must include the skin for an inch or more outside the bare area.

Warts

Warts come and go on calves as they do on a boy's hands, and the smaller warts soon disappear. Big warts can be removed by a rubber band stretched tightly around the base, or neck of the wart. Flat warts, thoroughly rubbed with castor oil every day, generally become softened and disappear.

Pink-Eye

Pink-eye, an infectious disease of cattle, is hardly classed as a serious disease. One or both eyes become inflamed, reddened, and discharge quite a flow of tears. The surface of the eye-ball may turn white, and the calf may be temporarily blind. Two or three drops of a 15-20 percent argyrol solution, applied at least twice a day, will greatly hasten recovery. It is well to keep a pink-eye case in a dark shed during the bright part of the day, as the inflamed eyes are very sensitive to light. Pink-eye does not cause permanent blindness, and cattle do not contract pink-eye more than once.

Indigestion

Indigestion may be evidenced by either constipation or diarrhea, but usually by the latter. In either case, a dose of castor oil or raw linseed oil should be given. We must not expect as prompt results from oil in a calf as it produces in man. We must wait 18-24 hours before repeating oil treatment, and a severe case of diarrhea may require several days to get straightened out. As long as a calf eats his feed regularly, there is no occasion for worry.

Minerals

In many sections of the state, the supply of phosphates is not what it should be. Wherever the cows chew bones in the pastures, calves on feed should get a little bonemeal every day. A tablespoonful of any good bone meal, mixed in the feed, every day, will make a lot of difference in building a heavy frame for the growing calf. Salt, of course, should be always available.

Surgery

Dehorning and castration are surgical operations, and no surgeon ever learned to operate through a correspondence course. Every surgeon learns by watching skilled operators perform their operations, and then trying the operations under the guidance

of the older surgeon. Neither dehorning nor castrating is especially difficult, but we do not advise the beginner to try either one except under the supervision of someone thoroughly familiar with this type of work.

If possible, it is best to castrate or dehorn only in warm weather—spring or early fall. Castrated calves that have to be kept in barns or sheds after the operation nearly always get infected and have a slow recovery. No special instruments are necessary. A flexible, fine tooth saw, such as a meat saw, will do a good job of dehorning, and a sharp pocketknife is all that is necessary for castration. It is the manner in which these instruments are used that makes the difference between a bungled job and a successful operation. In dehorning, whatever instrument is used must remove a narrow strip of tissue clear around the horn. If any horn is left, it will continue to grow and result in a stub of horn. In castrating, a rather large, free incision is of more importance than disinfection. The wound will be infected before the calf gets to his feet, and will be infected again and again. But a free incision will permit good draining, and the infection cannot become serious.

These are just a few of the many things that would take pages to describe, but which can be picked up by watching the operation correctly done.