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Feeding Beef Calves

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Feeding Beef Calves

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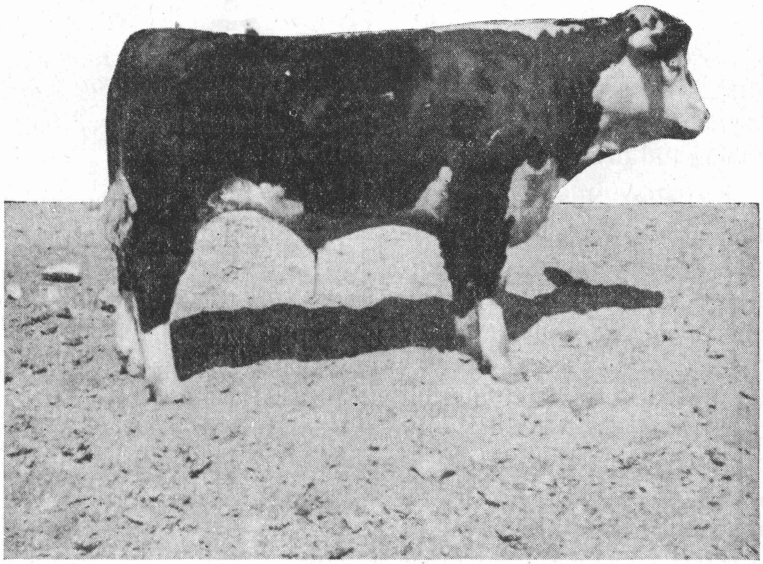
Beef calves are available anywhere in Texas and can be successfully fed where there is a surplus of home grown feeds in the hands of capable feeders. Texas has many advantages: plenty of calves, a wide variety of feeds, favorable climate and suitable markets. Many feeders have a knack for it, and certainly it's an enterprise in which experience and judgment count a lot. There is no rule of thumb method insuring success. Conditions and cattle vary so widely and market and margins fluctuate so much that hard and fast rules will not work. There are principles, however, that practically always hold good. By following these guides and using shrewd business judgment a profit can usually be made by feeding beef calves.

SELECTION OF FEEDER CALVES

In selecting feeder calves the feeder keeps in mind that good to choice calves, when well finished, will make good to choice beef, while medium and common calves will always be plain cattle. He does not accept as good to choice in grade, calves that are leggy, low backed, high and peaked at the rump or those that are undersized and show a lack of constitution. He desires uniformity in size, flesh, age, color and type, for uniform lots feed out evenly and offer a good appearance. He notes the amount of fill calves carry when they are offered for inspection, and if buying on weight considers same. He looks carefully for any appearance of stagginess, remembering that such characteristics increase with age. In addition to what can be seen with the eye, he likes to know something of the calves' previous history, whether they have been vaccinat-



A Choice Calf

ed for blackleg and hemorrhagic septicemia, if they have been taught to eat, and what they were fed, where they came from and the breeding behind them. This information is important for it gives the feeder an indication as to the future health, constitution and performance on feed of the calves in question. One is most often unable to accurately predict gains of individual feeders in the lot, but by knowing the history of the herd he may know what similar cattle have done and be reasonably sure as to whether or not he is buying good doers.

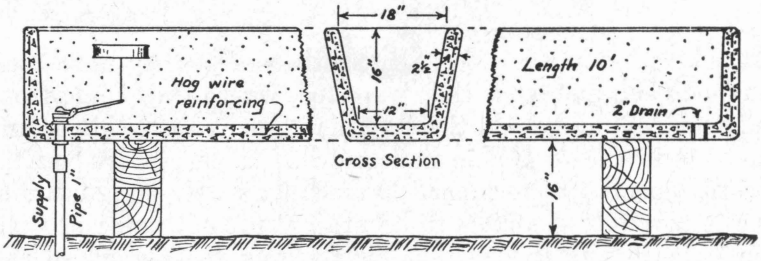
Most primary markets issue price quotations on choice, good, medium and common grades of calves, and very often make special mention of "good stocker calves." By noting the quotations on these grades and having in mind their comparative appearance, the feeder has a basis on which to buy when he goes to select his feeders. Buying is the biggest day's work in the feeding enterprise, and it is very often correctly stated that more money is lost in buying than in feeding.

FEED LOT EQUIPMENT

Feedlots for handling calves should be located and fenced with respect to other necessary factors such as storage barns, hay stacks, silos, windbreaks, water facilities, shelter, shade and drainage.

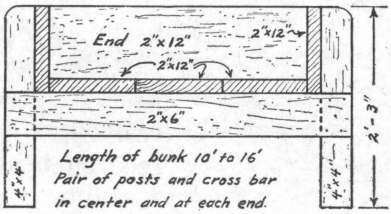
Shelter, Shade, Bedding and Space—Dry lots should have sheds, 20 square feet per head, to protect from the weather, and insure the best grains. Similarly, calf creeps should have shade handy to hold the cows nearby so the calves will spend plenty of time eating grain. Calves should be kept out of mud. They at least should have a dry bed ground. This may be provided by litter put in the pens or by having additional pens to use for bedding space. A minimum of 75 square feet of feedlot space per calf is necessary under best conditions, while on sticky, black soil, poorly drained, ten times as much space may be required.

Fresh, Clean Water Must Be Available at All Times

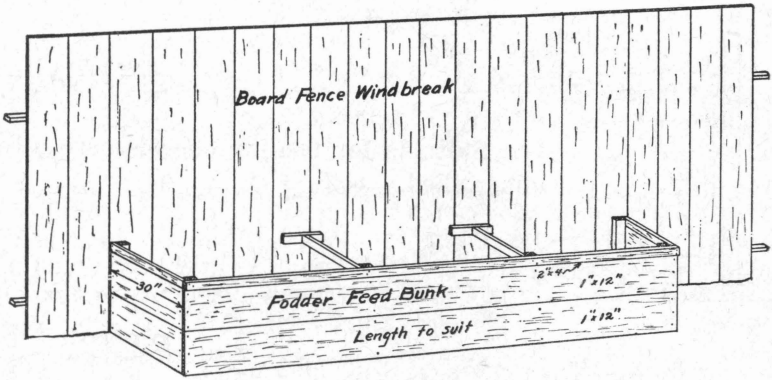


A water trough of approximately 100-gallon capacity, preferably constructed of concrete (although lumber will do) will supply from 100 to 300 calves, depending on water pressure from reservoir. It should be equipped with float valve and drain pipe. Such a trough may be moved and is easily cleaned with very little wastage of water. It should be located to allow waste water to drain outside of feedlot. Calves will consume from 5 to 8 gallons per day, depending on weather conditions and kind of feed. For safety the water supply should be capable of furnishing 10 gallons per head daily.

Feed Bunks for Grain and Hay

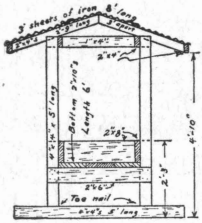


Here is a practical feed bunk for feeding grain, or a whole mixed ration. It is simple to build, strong, movable, and with no inside obstruction for harboring moldy feed. Feed bunks should provide 1½ feet of linear space per calf when calves are hand fed in dry lot, whereas ½ foot is sufficient when self feeder is used.



Board fence windbreaks built in combination with fodder feed bunks that can easily be filled from outside the feedlot, have proven satisfactory. If shelter is not provided in feedlot, windbreaks should be available.

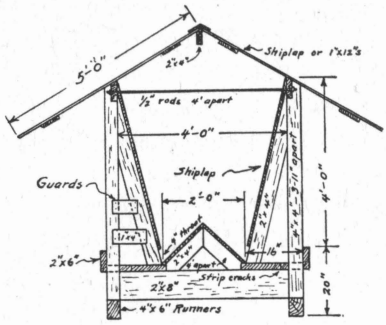
Mineral Boxes Have Advantages

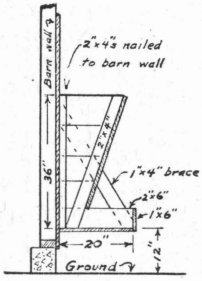


The mineral supply is of sufficient importance to merit a special mineral box. A partition may be placed in it if minerals are to be fed separately. If preferred, open mineral boxes attached to ends of self feeder or feed bunk may be used.

Self Feeders Save Labor

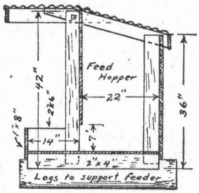
This self feeder has a capacity of 125 bushels grain and is suitable for feeding 60 to 80 calves in feedlot.



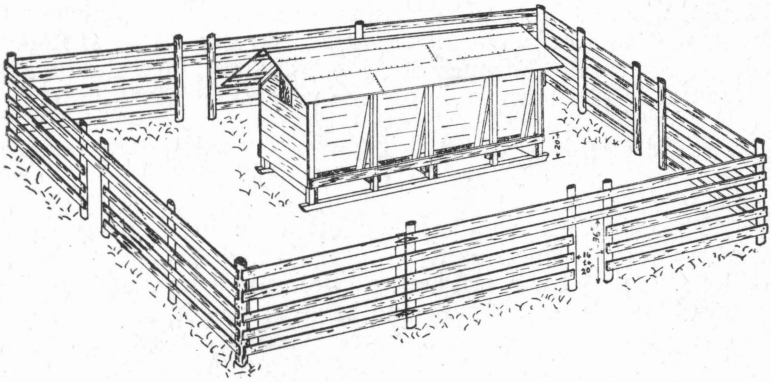


Suitable for feeding one or more calves under shed.

This range self feeder is capable of handling 30 calves. It holds 30 bushels of grain or ½ ton of cake, and is designed especially for creep feeding calves.



Creep Feeding is Popular



Creep and feedlot fencing should be strongly built. Lumber, poles or wire may be used.

The entrance to calf creep should be from 16 to 20 inches wide and 3 feet high.

FEEDS FOR BEEF CALVES

There is very little difference in the feeding value of the basic fattening grain feeds such as corn, wheat, barley, milo, kafir, feterita and hegari in fattening beef calves. Oats is considered more of a growing feed and is an excellent one to use at the start. Brewers' rice, rice polish or rice bran are better used in combination with other grains.

Blackstrap molasses is a carbonaceous feed in the same class as corn and not a protein supplement. When purchased as cheap as grain it may profitably replace not more than 2 pounds of the grain ration per head daily.

Protein Supplements to Balance Grain Ration

With the exception of whole cottonseed, protein supplements for balancing the grain ration must ordinarily be purchased. Cottonseed meal or cottonseed cake is the standard protein supplement. Cottonseed may replace cottonseed meal in a ration but should be fed in limited amounts not to exceed 4 pounds per head daily for calves and yearlings. Four pounds

of cottonseed is about the equal of 2½ pounds of cottonseed meal. Peanut meal is extremely palatable and about the equal of cottonseed meal, but its use is limited to areas where it is produced. Wheat bran is classed as a protein supplement although it has only about one-third the digestible protein of cottonseed meal. Because of its bulk, palatability and laxative effects it is often desirable to use in starting calves on feed.

Roughages For Bulk In The Ration

The sorghum roughages show very little difference in feeding value. The quality, maturity and method of feeding will determine their efficiency. Johnson grass, sudan grass, prairie hay and oat, wheat and barley hay cut in dough stage are excellent roughages. All are classed as carbonaceous feeds and all are superior in food value to cottonseed hulls.

Alfalfa is the standard legume roughage, although peanut, soybean, cowpea or clover hay are good substitutes. The cost of roughage may be lessened and good results secured by feeding carbonaceous roughages in combination with any of these hays. Legume roughages are high in protein and minerals and consequently the amount of protein supplement and minerals may be cut down where legume hay is used.

Silage is the easiest roughage to feed in all kinds of weather conditions. Because it is very palatable, the feeding of silage increases the amount of roughage consumed, and eliminates waste. Its value depends on its quality, maturity and grain content.

Ration Must Contain Minerals

All carbonaceous feeds are low in lime and it should be supplied by mixing 1/10 pound per head daily of limestone flour or finely ground oyster shell in the grain ration.

Flake or loose salt should be kept before calves at all times. If calves are on grass they should be fed bone meal also. It may be mixed equal parts with salt in a mineral box.

Should Feed Be Ground?

The value of grinding the grains and the chopping or grinding of roughage will, in the main, depend upon the kind of feeds, their price and the cost of preparation. Calves are more efficient grinders of grain than older cattle. Combination feeds such as ear corn and grain sorghum heads, and the hard grains as barley, wheat, brewers' rice, etc., should be crushed

or ground for them. Unless they are followed by hogs the sorghum grains (milo, kafir, etc.) should also be ground. Corn and oats need not be ground. While calves can be forced to consume poor quality roughages when they are ground and mixed with grain and cottonseed meal, and certain situations can justify such feeding, it is certainly unnecessary to grind or chop quality hays.

FEEDING GRAIN TO SUCKLING CALVES

Two satisfactory methods of feeding grain to suckling calves are, first, supplying grain in a creep while calves run with their mothers, and second, separating cows and calves except for nursing twice daily, and feeding the calves grain. The latter is adapted to small herds on small pastures, whereas creep feeding is adapted to practically all conditions in Texas. Suggested grain rations apply to either system. Calves run in separate enclosures from mothers should have their pasturage supplemented with fine quality hay to give fill and to prevent scouring.

Creep Feeding

For the stockman producing his own calves and grain feeds there is no more common sense or economical method of handling suckling calves than to allow them access to grain in a creep while following their mothers. The advantages of this method of fattening calves are as follows: Adds weight and finish, permits marketing at an earlier age, the cows are not suckled down so much, calves grow out more uniform in size, labor costs are lessened, and there is very little shrink at weaning.

Success depends on having good foundation stock, early calving, good grazing and a central watering place for location of the calf creep. Although primarily suited to the stock farmer or small rancher, the larger ranchman may use it to advantage by fencing trap pastures of from 1 to 3 sections in area, cutting out some of the best cows and calves, purchasing grain feeds from nearby farm areas, and marketing as slaughter calves or fleshy feeders at weaning time. They can be finished on full feed in pasture or dry lot if desired.

Calves must secure feed from creeps regularly in order to make good gains. Therefore, a central watering place with nearby shade is necessary to attract cows and calves once or

twice per day. Locating the mineral box near the creep is another means of securing regularity of feeding. Shade will hold the cows while the calves eat.

The amount of grain necessary for creep feeding calves varies considerably with the age and time they are started on feed. Early calves started on creep feeders in March or April make more economical gains, learn to eat more readily and will consume 10 bushels of corn or its equivalent in other grains by weaning time. Threshed grains are recommended for young calves, while older calves started in mid-summer may be fed to an advantage on ground heads or crushed ear corn with cottonseed meal supplement.

SUGGESTED RATIONS FOR CREEP FEEDING

SUCKLING CALVES

150 to 200 lbs. Weight

Age of Calf (Months)	Month	Grain Mixture Ration No. 1	Average Daily Consumption	Grain Mixture Ration No. 2	Average Daily Consumption
2 to 3	April	Whole Oats	1 to 3 lbs.	Milo heads 6, c.s.m. 1	2 to 3 lbs.
3 to 4	May	Shelled Corn 2, oats 1	2 to 3 lbs.	Milo heads 6, c.s.m. 1	3 to 4 lbs.
4 to 5	June	Shelled corn 5, oats 2	3 to 4 lbs.	Milo heads 5, c.s.m. 1	4 to 6 lbs.
5 to 6	July	Corn 6, oats 3, c.s.m.1	4 to 6 lbs.	Milo heads 5, c.s.m. 1	6 to 8 lbs.
6 to 7	Aug.	Corn 8, oats 2, c.s.m.1	6 to 7 lbs.	Milo heads 4, c.s.m. 1	8 to 9 lbs.
7 to 8	Sept.	Corn 7, oats 1, c.s.m.1	7 to 9 lbs.	Milo heads 4, c.s.m. 1	8 to 10 lbs
8 to 9	Oct.	Corn 6, c.s.m. 1	9 to 11 lbs.	Milo heads 4, c.s.m. 1	10 to 12 lbs.

In these rations the grain sorghums (milo, kafir, feterita, hegari) may be inter-changed with corn. Wheat, barley or rye may be substituted pound for pound in these rations but must be ground. Grain sorghum heads and ear corn must likewise be ground. Pea size cake works to an advantage when threshed oats, corn or grain sorghums are fed, but cottonseed meal is preferred in rations using ground feeds. The amount of cottonseed meal or cake may be reduced when abundant green pasture is available, but when forage gets dry the amount must be increased.

Additional weight and finish can be given and economical gains made on weaned creep fed calves by placing them in dry lot and continuing the same grain feeds in self feeder. They should also be given access to all hay they will consume unless ground grain sorghum heads or crushed ear corn is used, in which case little additional roughage is needed.

DRY LOT FEEDING

The better the quality of calf the longer it can profitably be fed. A six months' feed will be required to fatten well-bred 400-pound steer calves. If calves are as light as 350 pounds when started on feed, seven months will be required. Heifer calves will finish 30 to 50 days the earlier than steer calves. More rapid gains may be secured on steer calves the second 90 to 100 days of feeding than the first. In the fattening period a calf should at least double his weight. A gain of 2 pounds per day may be considered satisfactory.

The amount of feed necessary to fatten a feeder calf will depend upon the condition, quality and weight of the calf and the ability of the feeder. Under ordinary farm conditions, if feeding calves of good quality, the feeder should have 1500 pounds of shelled grain, or one ton of grain sorghum heads or ear corn, 300 pounds of cottonseed meal, and from 3/4 to 1 ton of roughage per head.

Hand Feeding Is Efficient Method

After weaning, the most efficient use of both grains and roughages is secured by hand feeding calves in dry lot. The usual method is to feed grain regularly twice per day and to provide roughage free choice at all times.

Grain must be fed in limited amounts at the start of feeding period and gradually increased until calves are on full feed. They should then be allowed all they will clean up in one or two hours' time, twice per day.

Protein supplements must be fed. They may be supplied in limited amounts and gradually increased until calves are on full feed, but a more simple and satisfactory method is to feed a constant amount throughout the feeding period. To prevent bolting of cottonseed meal or other protein supplements it should be mixed with grain.

Properly fed, there are advantages to using silage as part of the roughage for calves, but they cannot be satisfactorily finished on it. Silage may be mixed with a full amount of cottonseed meal as the sole feed for at least 30 days to give fill and develop stomachs. As grain is increased cut down on silage and it may be satisfactorily cut out entirely during the last 30 days of the feeding period. At least 2 pounds of dry roughage should be fed at all times.

Briefly the whole feeding process consists of starting calves on a little grain and a lot of roughage and gradually changing to a little roughage and a lot of grain. The skill with which a person times and makes these changes largely determines his success as a feeder. The following rations, based on experimental trials, illustrate ways by which rations may be gradually changed, and may be safely used as guides in dry lot feeding of calves.

RATIONS FOR WEANED CALVES

350 lbs. to 400 lbs. Weight

RATION NO. 1

(Fed shelled or threshed grain)

	1st 15 Days	2nd 15 Days	2nd 30 Days	3rd 30 Days	4th 30 Days	5th 30 Days	6th 30 Days
Grain	2.75 lbs.	4.0 lbs.	6.75 lbs	7.5 lbs.	8.5 lbs.	9.5 lbs.	11.0 lbs
Cottonseed meal	0.75 lbs.	1.0 lbs.	1.5 lbs.	1.6 lbs.	1.75 lb.	1.8 lbs.	2.0 lbs.
Roughage*	12.0 lbs.	12.0 lbs.	10.0 lbs.	9.5 lbs.	9.0 lbs.	8.5 lbs.	7.0 lbs.
Limestone flour	0.1 lbs.	0.1 lbs.	0. 1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.

RATION NO. 2

(Fed ground grain sorghum heads or crushed ear corn)

	1st 15 Days	2nd 15 Days	2nd 30 Days	3rd 30 Days	4th 30 Days	5th 30 days	6th 30 Days
Grain	3.5 lbs.	4.5 lbs.	7.5 lbs.	8.5 lbs.	9.5 lbs.	10.5 lbs.	12.5 lbs.
Cottonseed meal	0.75 lbs.	1.0 lbs.	1.5 lbs.	1.6 lbs.	1.75 lbs.	1.8 lbs.	2.0 lbs.
Roughage*	12.0 lbs.	12.0 lbs.	10.0 lbs.	9.5 lbs.	9.0 lbs.	8.5 lbs.	7.0 lbs.
Limestone flour	0.1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.

RATION NO. 3

(Fed ground grain sorghum heads and silage)

	1st 15 Days	2nd 15 Days	2nd 30 days	3rd 30 days	4th 30 days	5th 30 days	6th 30 days
Grain milo heads	2.0 lbs.	5.0 lbs.	7.5 lbs.	8.5 lbs.	9.5 lbs.	10.5 lbs.	12.5 lbs.
Cottonseed meal	2.0 lbs.	2.0 lbs.	2.0 lbs.	2.0 lbs.	2.0 lbs.	2.0 lbs.	2.0 lbs.
Cane silage	16.0 lbs	20.0 lbs.	20.0 lbs.	20.0 lbs.	18.0 lbs.	16.0 lbs.	12.0 lbs.
Hay	2.0 lbs.	2.0 lbs.	2.0 lbs.	2.0 lbs.	2.0 lbs.	2.0 lbs.	2.0 lbs.
Limestone flour	0.1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.	0.1 lbs.

* Roughage assumed to include no legume hay. If legumes furnish all the roughage, cottonseed meal may be cut 25% and limestone flour eliminated in these rations.

Self Feeding

In self feeding beef calves the whole ration—grain, protein supplement, roughage—is all ground together. Grain sorghum bundles furnish both grain and roughage and for this reason are almost always used in self feeding on farms.

Well matured grain sorghum bundles usually run about 10 pounds of which about 40% is heads and about 25% grain. Ear corn (corn, cob and shuck) of good quality will average 120 ears per bushel. Ear corn, grain sorghum heads or shelled grain are added to the ration to bring up the grain content as the feeding period progresses. The protein supplement, preferably cottonseed meal, is increased rapidly to add palatability to the bulky ration.

Careful attention must be given to uniform mixing of rations and to frequent changes of their percentages of grain, protein supplement and roughages. As in hand feeding, the guiding principle is a gradual increase in grain and a corresponding decrease in roughage content of the ration. The following suggested ration mixed on an approximate ton basis can be used as a guide..

RATION FOR CALVES OR YEARLINGS

400 lbs. to 600 lbs. Weight

(Self fed)

1st 15 Days
1900 lbs. ground grain sorghum bundles
100 lbs. cottonseed meal
10 lbs. limestone flour

2nd 15 Days
1750 lbs. ground grain sorghum bundles
150 lbs. cottonseed meal
10 lbs. limestone flour

2nd 30 Days
1800 lbs. ground grain sorghum bundles
200 lbs. cottonseed meal
10 lbs. limestone flour

3rd 30 Days
1700 lbs. ground grain sorghum bundles
100 lbs. crushed ear corn
200 lbs. cottonseed meal

4th 30 Days
1450 lbs. ground grain sorghum bundles
300 lbs. crushed ear corn
250 lbs. cottonseed meal
10 lbs limestone flour

5th 30 Days
1150 lbs. ground whole bundles
600 lbs. crushed ear corn
250 lbs. cottonseed meal
10 lbs. limestone flour

6th 30 Days
950 lbs. ground grain sorghum bundles
800 lbs. crushed ear corn
250 lbs. cottonseed meal
10 lbs. limestone flour

Calves self fed in open bunks should clean up feed daily with very little feed left in bunks over night. Feed should be ground fine enough to crack grain sorghum grains and to crack shelled corn into 4 or 5 pieces. All feeds should be thoroughly mixed to prevent bolting, and stale feeds discarded promptly or fed to other livestock. Cottonseed may be substituted for meal at the rate of 1 2/3 pounds of cottonseed for 1 pound meal but cottonseed should never exceed 20% of the whole mixture.

Combination Feeding

Summer grazing on sudan grass with a protein supplement consisting of one to two pounds of cottonseed cake per calf per day has proven a profitable preliminary feeding period, especially with calves on the yearling order.

To secure a portion of the feed needed for fattening, calves may be turned into part of the grain sorghum crop as soon as it is in the dough stage. Since grain sorghums will lodge after maturity, enough calves—one to three per acre—should be turned in to completely clean up the fields by the time the grain is fully ripe.

Winter grazing of calves on wheat, barley, rye or oat fields with a limited amount of grain feeds and dry roughage has produced economical gains. Calves are run on fields during day and lotted each night for grain and roughage feeding.

Hogs Following Cattle

It usually pays to use hogs in cattle feedlots to utilize the grain that would otherwise go to waste. Good, well-bred, thrifty pigs do best. Shotes weighing from 60 to 75 pounds are most desirable. They should be removed when they weigh 160 to 175 pounds, or when they start climbing up into the cattle feed troughs.

The number of hogs to use varies with the age of the cattle and the kind of feed. When whole grain is fed one to two hogs per calf is about right, and when grain is ground one hog to four or five calves is enough. Older cattle require more hogs than calves.

Hogs following cattle should get some feed in addition to that they pick up. A field adjoining the feedlot planted to small grain for winter use and sudan or peas for summer grazing will usually furnish most of the needed feed not provided in the droppings. Hogs should have free access to such fields as well as to the feedlot. In addition they should be hand fed one-fourth pound of tankage daily. This will also help to prevent hogs annoying heifer calves in heat. If green grazing is not available hogs should be fed a mixture consisting of ¼ alfalfa leaf meal and ¾ tankage, at the rate of one-half pound of the mixture per pig per day. A mineral mixture of two parts bone meal and one part salt should be self fed.

Hog feed troughs and water troughs should be located outside the cattle feed lot. A good supply of fresh, clean water should always be available, and shelter-shade in summer and warm quarters in winter—must be provided if profits are expected.

Hogs following cattle should gain from ¾ pounds to 1 pound per pig per day. After they reach 160 pounds they should be finished on a full grain feed and protein supplement. Whole grain can be fed in a self feeder with a protein supplement of equal parts of tankage and cottonseed meal.

SHIPPING SUGGESTIONS

Certain precautions should be taken to avoid excessive shrinkage in going to market. Water and salt should be allowed up to the time of loading. If it is to be a long haul, it is advisable to cut the concentrate allowance in half and allow fill on dry hay twelve to twenty-four hours before loading. Prairie hay is ideal for this purpose. Since an excessive fill is not desired on the stockyards, there is no advantage in giving a heavy allowance of salt prior to loading.

If possible, sort cattle according to grade and avoid mixing cattle from different lots. Avoid over-heating. Load cars slightly in excess of their minimum rated capacity so that full advantage of the minimum rail rate may be obtained. A thirty-six foot stock car has a minimum of 22,000 pounds; a forty-foot car 24,500 pounds. If the average shrink expected is 5% then load from the feedlot about 23,000 pounds in a 36-foot car or about 26,000 pounds in a 40-foot car. See that cars are well bedded with at least two inches of sand dampened with water in hot weather.

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