

# 4-H Market Steer Handbook:

## Nutrients and Feeds

### Feeding Your Steer

4-H members should "keep the feed better than the cattle". A balanced ration, plenty of clean, fresh water, regular feedings and clean feed troughs and watering tubs are essential to produce top quality show steers. Champions are not grown on shortcuts, magic potions, formulas or "super secret feeds."

### Nutrients and Feeds

To do a good job of feeding your steer, be familiar with the different types of grains, protein sources and roughages that could be used in feeding steers. Grains belong to a group of feeds called concentrates.

Concentrates are feeds that are high in energy and low in fiber. Some common grains fed to steers are corn and oats.

Corn is the most common ingredient in steer rations. Corn is a feed high in energy and moderate as a protein source for finishing steers. Steers like to eat corn and will do best when it is cracked or very coarsely ground. If you live on a farm, you will probably have homegrown corn available.

Oats are another good feed grain for cattle. Oats are not as high in energy as corn and can't be used to fatten cattle by themselves. Oats are palatable and a better source of fiber than corn. So when cost allows, oats should be included in the ration.

Roughages round out and make up the smallest part of the steer's ration. Examples of roughages fed to steers would be hays and silages. Roughages are high in fiber and low in energy. Hay is the roughage most often fed steers. Good grass hay would be adequate for the steer. Roughages help to keep the steer's digestive tract in working order and helps prevent scours. In some situations, it may be easier to buy a commercially pre-mixed ration. A 12 to 14 percent protein "calf finisher" or "bull test" ration would work well.

Vitamins and minerals are important in bone development and maintaining the general health of the animal. The daily vitamin requirements of your steer would usually be met by feeding normal feed sources.

Minerals and salt should be provided on a free choice basis. Use a small box with two compartments, one for salt and the other for a mineral mixture. The mineral mixture should contain one part salt and two parts of dicalcium phosphate or steamed bone meal.

Water is also essential for the market steer. An adequate supply of clear, fresh water is necessary for good growth and the health of the animal. Although water may not be thought of as a nutrient, it is the most important and cheapest nutrient you can furnish your steer. Steers limited to 90 percent of the water they need often have their gain reduced 25-50 percent.

Protein is essential for good muscle development. Protein supplements and high quality legume hays are major sources of dietary protein. In most cases, protein supplements must be added to the steer's ration. Soybean meal and cottonseed meal are the most commonly used protein supplements. These protein supplements are also high in energy and are also called concentrates. Steers on a balanced full-feed ration may consume one to two pounds of protein supplement per day (see Table 4).

Table 4  
Recommended Protein Levels and Approximate  
Daily Feed Intake (As Fed Basis)

Growing & Finishing Calves	Average Daily Gain	Average Feed Intake	Ration % Protein	Ration % TDN
400 lbs	2.0	10.5-11.5	11.5-12.0	66
600 lbs	2.5	12-15	11.0	66
800 lbs	3.0	19-22	10.5	70-72
1000 lbs	1.5	23-26	10.5	70-72

## Feeding Management

Cleanliness is necessary to keep steers healthy and gaining. Clean feed, clean water troughs and clean feed troughs are essential. If the feed trough becomes dirty and caked with moist, spoiled feed, steers may refuse to eat or may become sick. To keep fresh feed available, moist leftover feed should be removed from the feed box at least once a day.

Quality and freshness of feeds is very important. Do not use feed that is musty or moldy. Do not grind feeds too fine. Finely-ground feeds are too dusty and are not palatable.

Starting the steer on feed is very important. Gradually start the calf on feed. The first few days, feed one to two pounds of grain and all the grass hay he will clean up. Then increase the concentrate a half pound daily until the steer is receiving one pound per 100 pounds body weight (600-pound steer = 6 pounds). This should take a week to 10 days. Now, slow down to a gradual increase of two pounds per week until the calf is receiving two pounds of grain per 100 pounds body weight (700-pound steer = 14 pounds). Feeding half of the feed in the morning and the remainder at night should prove satisfactory for most steers. However, extremely fast-growing calves may need to be fed more often.

Make sure the calf cleans up the feed in 30 minutes to one hour after feeding. Remove feed left in the trough, because it may spoil and contaminate the fresh feed. When feed is not cleaned up, "back off" a small amount, then start slowly increasing grain again.

Don't stand over the calf while he is eating. Nervous calves may either leave the feed trough or not eat when people are around. After the steer has finished eating his concentrate, give him a flake (2-3 pounds) of good quality grass or grass-legume hay. While legume hay can be satisfactory, it has a laxative effect, and over-consumption can cause bloat. However, two to three pounds per day should not create problems.

Place the feed trough and hay rack where they will be protected from the weather. A watchful eye and good judgment prevent many problems. The droppings are an excellent indicator of the steer's well-being. Beware of scours and loose or sour-smelling droppings. Droppings should never be hard, but should be thick enough to "pile-up" and look oily. Overfeeding drastically changes the ration. Feeding excess protein or irregularity of feeding are some causes of scours.

Changes in the ration are necessary as the animal grows and fattens; however, make changes in the ratio gradually to keep the steer eating and gaining weight.

Weight gain should be checked every 30 to 60 days with scales to determine how the ration should be adjusted. If your calf is not finishing rapidly enough, increase the percentage of corn in the ration. Corn furnishes the energy necessary for the marbling and finish required for that animal to grade Choice.

Reduce the amount of corn if your calf is getting too fat at a lighter market weight than desired; however, do not deliberately withhold feed from your calf to make him look "modern". That is not an economically sound practice because:

1. His average daily gain will be less;
2. More pounds of feed will be required to put on a pound of gain; and
3. The carcass may not be as desirable if it lacks the marbling required to grade choice.

Above all, use feeds that are available locally at reasonable prices. Then, feed a ration according to the weight of the steer, environmental conditions and desired goal for your project.