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Management and Nutrition of New Feeder Cattle

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Feeder calves or yearlings must be handled and fed correctly when they first arrive in the feedlot. The initial three-week period determines to a large extent whether or not a group of cattle will gain efficiently and profitably. The cattle feeder must know everything possible about his new cattle, be ready for the cattle when they arrive, and use extreme caution in handling and feeding during the starting period.

Although each cattle feeder has his own method of starting cattle on feed, there are certain general guidelines that should be considered. This publication presents a discussion of these guidelines.

A lot of healthy, well-doing feeder cattle that have been handled and fed correctly during the very critical first three weeks of the feeding period.

Know Your Cattle

If possible the feeder should know: (a) the true origin of the cattle (b) the feeder grade and past feedlot performance of cattle from the original area or ranch (c) the age of the cattle (d) the length of time off the home ranch (e) the previous feed (f) the record of implantation with stilbestrol (g) the pre-shipment vaccination record.

Generally, any vaccination should be given 14 days before exposure to the disease or shipment. Therefore, cattle should be vaccinated 2 weeks before leaving the home ranch or farm. This may cost a little more, but it is usually well worth the price.

Vaccination for shipping fever, I.B.R. (Infectious Bovine Rhinotracheal or Red Nose) and B.V.D. (Bovine Virus Diarrhea) receive first consideration. Blackleg, leptospirosis and enterotoxemia vaccinations may be needed in some areas. The decision as to what to vaccinate for and when should be made with the advice of a veterinarian.

Be Ready for the Cattle

1. Isolation
   Any new animal brought on the farm should not be allowed contact with animals already on the farm, because of the danger of spreading disease. Different groups of animals from different areas or ranches should also be kept separate. Cattle that arrive in the feedlot at different times should not be allowed to drink or eat from the same water tank or feed bunk. New cattle should be isolated for at least 30 days. Any animal showing signs of illness on arrival should be isolated from the group.
2. Water Supply

New cattle should have a dependable supply of fresh, clean water as soon as they arrive. The feedlot operator should not depend on new cattle getting sufficient water from automatic "cup" systems. These are strange and unworkable objects to new calves. Clean water should be provided in an open tank.

3. Housing and Feed Equipment

The feedlots, sheds and other equipment should be thoroughly cleaned. The sheds should be bedded and provide adequate shelter with good ventilation. Remove all wires, sticks, stones, and other objects that can injure the cattle and predispose foot-rot. Sheds should be sprayed for external parasites especially if there have been past parasite problems. Consult Entomology Department Publications E-12, "How to Control Flies in Barns and on Cattle", and E-13, "Cattle Lice".

The water tanks and feed bunks should be placed on concrete slabs in a place convenient for the cattle.

One of the biggest deficiencies in feedlot operations is a small corral and quarantine lot for treatment and isolation of sick animals. A well-planned cattle handling system is a good investment for the cattle feeder.

4. Shade

There are several ways of providing shade which is essential in warm weather. These include snow fence on top of posts, several large trees along the edges of the feedlots, and open-end sheds.

Sufficient shade should be provided so that the cattle do not crowd into the area. It is a good practice to locate the water supply in or near the shade, particularly when the cattle are on pasture.

5. Timing Arrival

It isn't always possible to control when the cattle are purchased because the feeder should buy cattle when he can obtain the kind he wants at a reasonable price. However, he should try to arrange the time of purchase so that he has some extra time to spend observing and caring for the new cattle.

Handle Cattle Carefully

New feeder cattle undergo much stress from rounding up on the home ranch, weaning, loading, unloading, laying over in sales yards, to riding long distances before arriving at the feedlot. Although the cattle feeder cannot always determine how the cattle are handled before they arrive at the feedlot, the feeder is responsible after arrival. The feeder should pay particular attention to the following considerations:

(1) Don't crowd cattle into a truck or railcar, even if the cattle are shipped short distances. Check space recommendations for hauling cattle and use a reliable, careful shipper.

(2) Don't use a "hot-shot" to move new cattle. Avoid loud noises and yelling at the cattle. Let them move slowly and naturally and avoid any unnecessary excitement.

(3) Don't handle cattle excessively on arrival or perform any serious operation such as dehorning or castrating. If you have to handle cattle to weigh, eartag, or inject with
Vitamin A, either do it on arrival or wait for two to three weeks.

(4) Pen new cattle in a smaller lot and put some hay or straw in the middle of the pen to help reduce running.

(5) Isolate any cattle that show signs of shipping fever on arrival. Having a veterinarian on hand when the cattle arrive or shortly after is a good practice.

Feeding

One of the best feeds for new cattle is about 1 1/2-2 pound of average-quality grass hay per 100 pounds of live weight (cwt.). Other good starting roughages are ground corn cobs or straw. Molasses mixed with the corn cobs or placed on top of straw or hay will make these feeds more palatable. Relatively small amounts of concentrates may also be fed as described below. Legume hays and lush pasture should not be fed to new cattle -- these promote scours and health problems.

1. Concentrate-hay system

This system is not usually recommended in Indiana because of the higher cost of gain. However, for those who use the concentrate-hay system, a good starter feed is 1-1 1/2 pound of a mixture of equal parts of corn and oats placed in the bottom of the feed bunk. The hay may be placed on top of the grain. When eating the hay leaves and chaff from the bottom of the feed bunk, the cattle also eat the grain. Another good starting feed is ground ear corn because of the added fiber in the cobs.

The protein supplement should be a natural protein source and added to the concentrates so that an 11 percent protein level is maintained in the total ration. The ration should be fortified with 50,000 I.U. of Vitamin A per head daily for the first two or three weeks of the feeding period.

The amount of concentrates should remain at 1-1 1/2 pound for the first week. If the calves are eating the concentrates and hay readily and showing signs of good health at the end of the first week, an additional 1/2 pound of concentrate may be fed.

After this level of feeding is reached, the usual procedure is to increase the concentrate 1/4 pound every third day for 450 pound calves. Yearlings weighing around 700 pounds may have their concentrate increased by 1/2 pound every third day. Naturally, the amount of concentrate should never be increased unless all of the grain is readily consumed.

2. Corn Silage

Most silages are quite palatable to cattle. One problem with starting cattle on silages or haylage in warm weather is that it is difficult to keep ahead of spoilage when feeding only a small amount. This is not a serious problem if other cattle on the farm can eat some of the silages initially. Feedbunks should be cleaned of any spoiled silage daily.

Calves may be started on two-three pound of silage per hundred weight with one pound of a 32 percent natural protein supplement placed on the silage. The initial protein supplement should be fortified with about 50,000 I.U. of Vitamin A per pound. Additional hay (three-five pound per head) may also be provided in a separate rack.

Corn silage can usually be increased as rapidly as desired as long as the cattle are readily eating all the silage that is offered. Ground shelled corn may be added at the rate of about two pound per head daily after about three weeks in the feedlot. Two pounds of a 32 percent protein supplement, fortified with about 15,000 I.U. of Vitamin A per pound, should also be fed.

Ground shelled corn can gradually be increased until the cattle are eating eight to
10 pounds per head daily after 50 days in the feedlot. Urea supplements should not be added to the ration until the calves have reached the desired level of energy intake. When this concentrate intake is reached, one pound of Purdue "64", or other supplement containing urea, can be used as the protein supplement.

Table 1. Contents of Purdue "64"

<table>
<thead>
<tr>
<th>Item</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Urea</td>
<td>21.1</td>
</tr>
<tr>
<td>Dehydrated Alfalfa Meal</td>
<td>51.0</td>
</tr>
<tr>
<td>Cane Molasses</td>
<td>14.0</td>
</tr>
<tr>
<td>Bone meal or dicalcium phosphate</td>
<td>10.4</td>
</tr>
<tr>
<td>Iodized Salt</td>
<td>3.5</td>
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<tr>
<td></td>
<td>100.0</td>
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Table 2. Micronutrients per 1000 pounds

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt carbonate, grams</td>
<td>4</td>
</tr>
<tr>
<td>Zinc Oxide (80% Zinc), grams</td>
<td>1250</td>
</tr>
<tr>
<td>Vitamin A, millions of I. U.</td>
<td>20</td>
</tr>
</tbody>
</table>

3. Grass or Legume Silage or Haylage

These feeds are also palatable to cattle and are usually eaten without difficulty. However, silages or haylages that contain legumes are quite laxative and can therefore cause scours and predispose a variety of health problems. Cattle to be fed grass-legume silages or haylages should be started on other feeds such as grass hay and concentrates. Grass-legume silages or haylages can gradually be added after one or two weeks on the starter ration.

Silage can then be fed at the rate of two pounds per hundredweight or haylage can be started at one to one and a half pound per hundredweight. The haylage or silage and the amount of concentrates can then be gradually increased. Grass hay should be fed until the cattle are eating the desired amounts of concentrate and haylage or silage.

4. Pasture

Cattle to be pastured, with or without grain, should be started in a small pasture near the main buildings. This is particularly desirable if the pastures are in a very succulent stage of maturity or contain more than 30 percent legumes. The small "starter" pastures should be of the same quality as the main fields. Never turn new cattle into back pastures, river bottoms, or woodlands where they cannot be observed closely. Grass hay should be offered free-choice in a place convenient to the cattle.

Some feeders maintain a high fiber intake by feeding four to five pound of coarsely ground corn cobs plus one half pound of molasses per head daily. If concentrates are to be fed, the grain can gradually replace the corn cobs. If no grain is to be fed, the amount of corn cobs can be slowly reduced as the cattle become accustomed to the pasture.

The hand-fed concentrate should be gradually increased until the cattle are consuming a maximum amount before using a self-feeder. Any change in the concentrate ration, such as using urea, should be made before self-feeding.

Minerals

Cattle under different management require different amounts of minerals. Force-feeding of minerals, by including them with concentrates, is not desirable as the only source of minerals. The most practical way of assuring that the cattle have adequate intake of minerals is by using free-choice mineral boxes.

A mixture of 200 pound of bone meal or dicalcium phosphate and 100 pound of trace-mineralized salt offered free-choice is
recommended. Free-choice trace-mineralized salt should also be offered in a separate mineral box. Commercial complete mineral supplements may also be used. These mixtures should contain at least 6 percent phosphorus and should not contain high amounts of molasses or sugars which may encourage overconsumption.

Under most Indiana conditions trace-mineralized salt may not be necessary. However, there is usually only a small difference in cost between trace-mineralized and iodized salt. Trace-mineral deficiencies, although rare, can be costly.

Salt or mineral blocks are a poor substitute for loose minerals because cattle may have trouble obtaining the necessary amounts.

Adding Antibiotics

Many feeders routinely add antibiotics or other medicinals (such as sulfadiazine) to the new calves’ feed or water to help reduce the incidence and severity of shipping fever, digestive troubles, and footrot. One procedure is to mix the feed so that each animal will receive 300 to 400 milligrams daily of a broad-spectrum recommended antibiotic for the first 14 days. At the end of 14 days, the antibiotic level may be reduced to 70 milligrams per head daily for the remainder of the feeding period. Some feeders are adding sulfadiazine or other medicinals to the water during the first few weeks instead of adding antibiotics to the feed. The main reason for preferring treated water to treated feed is that even though sick calves may not eat, they will drink. Automatic drinking fountains cannot be used for treatment unless special metering devices are placed in the water line.

There is no miracle or cure-all drug. Each medicine has a purpose in feedlot management, and a veterinarian should be consulted before any medication is given.

Vitamin A Injections

Feeder cattle fed 50,000 I.U. of Vitamin A per head daily usually have lower frequency and severity of shipping fever. An intramuscular injection of 1 million or more I.U. of Vitamin A per head on arrival is a good way to be sure that each animal receives a sufficient amount. This is especially desirable if the cattle are to be pastured without concentrates or if they are thin from droughty areas.

Vitamin A can also be added to the mineral mix, but the intake of minerals is so variable that this is not the best procedure.

Stilbestrol

The value of stilbestrol in increasing daily gains and feed efficiency has been proven many times. If stilbestrol implants are used, they should be inserted either on arrival or after the cattle are accustomed to the new ration and have passed the shipping fever phase. Stilbestrol is usually not added to starter rations but apparently has little effect on incidence of disease or health in new cattle.

BE SURE TO WITHDRAW FEEDS CONTAINING STILBESTROL AT LEAST 48 HOURS BEFORE SLAUGHTER TO MEET FOOD AND DRUG ADMINISTRATION REGULATIONS.

Dehorning

Dehorned or hornless cattle should be purchased if possible. Dehorning should be delayed until the cattle are beyond the danger of shipping fever and other disease problems and are accustomed to the new ration. Horns should be removed by an experienced person and accompanied by a minimum of blood loss.
External Parasites

Treatment for external parasites, although important, should be delayed for two-three weeks or until the cattle are on feed and over the shipping fever period. For specific recommendations, consult Entomology Department Publications cited below.

1. Grubs
Grubs are important because infestations of 20 or more grubs per animal will reduce daily gains and feed efficiency and relatively few grubs can cause costly trimming of hides and carcasses. The first loss is a hidden feedlot cost. The second loss is passed to the producer by the packers in the form of discounted prices during the grub season. If cattle have a history of grub problems, they should be treated. Consult Publication E-14, "How to Control Cattle Grubs".

2. Lice and Mange
Sanitation and thrifty animals are the best preventative against these parasites. Lice are most bothersome in the late fall, winter and early spring. Spraying, dipping or using back rubbers will stop lice infestations. Dust treatments are less effective.

Mites, which cause sarcoptic mange, can be controlled by pressure spraying whenever the problem exists. Several chemicals are quite effective against both lice and mange mites. Consult Publication E-13.

3. Flies
A variety of flies (horn, stable, deer, face, and bomb) bother cattle in the feedlot and on pasture. Good sanitation, prompt manure disposal, and spraying of the buildings before the cattle arrive reduce fly problems. Back rubbers are an excellent means of controlling most of these flies. Consult Publication E-12.

Always use chemicals approved for the purpose. Some insecticides are meant only for buildings and may cause sickness or death if used on animals. Others, if not approved or if used incorrectly, may produce unlawful residues in the carcass, therefore subjecting the carcass to condemnation and seizure by federal authorities.

Always follow approved methods and rates of application. Observe slaughter restrictions and withdrawal prior to slaughter.

Internal Parasites

The three most common types of internal parasites are round worms, tapeworms and coccidia. Each type has different effects and requires specific treatment.

Some feeders worm each group of cattle with commercial feeds containing phenothiazine or thiabenzole even though the cattle may not have worm infestation sufficient to warrant treatment. This is not advisable because the calves may suffer a setback as a result of the worm treatment and these materials are not completely effective for tapeworms and coccidia. According to recent research, thiabenzole seems to generally give better performance of the two.

The only way to find out if the cattle have internal parasite problems is to take several fresh fecal samples to a veterinarian or parasitology laboratory for examination. This tells which treatment, if any, should be used. Consult Veterinary Science Department Publication VY-20, "Stomach Worms of Cattle".

These medications must be used strictly according to the manufacturer's or veterinarian's directions.

Identification

Cattle feeders are recognizing the extreme differences in rate of gain, feed efficiency, market grade, and carcass desir-
ability that exist between cattle from different ranches or areas. Positive identification of groups of cattle by ear notches, eartags, marking paints or dyes make sure that the feeder knows where he purchased the best cattle.

Some feeders are also individually ear-tagging each calf and taking individual weights every 60 days. This way they know what each calf is gaining, and can sell the extremely slow gaining calves.

Feedlot "Common Sense"

Cattle frequently "go off feed" when being started. This is usually a result of the animal eating more feed than it can properly utilize. Going off feed can also be caused by excitement or even changes in the weather.

The usual corrective procedure is to reduce the feed offered to an amount that the cattle will readily eat. Increasing the intake of oats, corn cobs, or grass hay is usually effective in getting the cattle back on feed.

Feeding time is the best time to observe the cattle and detect any which are not feeling well. Any animal which does not come to the feed bunk should be suspected of sickness and observed more closely.

Sick animals should be handled carefully. They should be taken to the sick bay or corral for examination, diagnosis and possible treatment. Antibiotics and sulfa-drugs are quite effective for many feedlot problems, but should be used following a veterinarian's diagnosis. The treated animal should be placed in a holding or quarantine pen for at least three days. If, after this amount of time, the animal has no symptoms of sickness, it may be turned back into the main group. Often cattle are treated and immediately turned back into the main group. This only helps to spread the disease to the other cattle and aggravate the condition of the treated animal.

The feedlot operator should keep records of each animal which is suspected of sickness and the diagnosis, date and type of treatment, and length of time quarantined. Animals which have chronic sicknesses often perform very poorly. The feeder may be further ahead to sell these cattle as soon as the chronic tendencies are detected rather than waste feed on them.