

The Potential Benefits of Accelerated Feeding Programs for Dairy Calves

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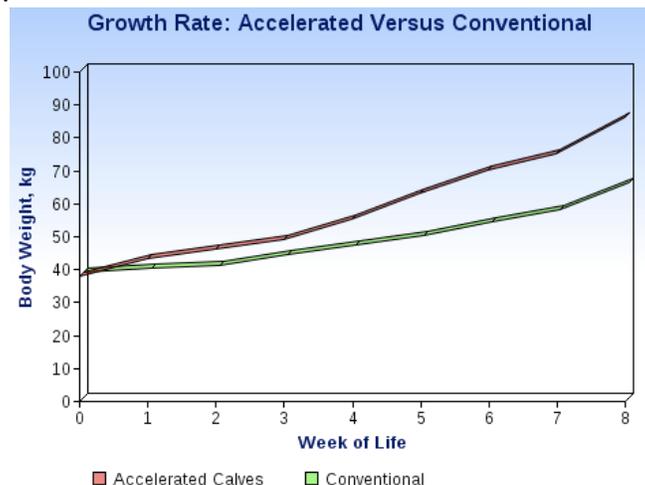
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The way dairy replacement heifers are raised has a major impact on their future milk production and health. As far as nutrition is concerned, many farms choose to feed their calves waste milk from the parlor, milk from the bulk tank, or they will use a traditional 20-20-milk replacer. The first number refers to the percentage of protein, and the second is the percent of fat. In addition, calves are offered water, along with calf starter. Accelerated feeding programs, also known as intensified programs, may be a better option. A milk replacer with higher protein content, usually 26-20, is fed to calves. When compared to traditional systems, accelerated calf feeding programs yield many more benefits under the right conditions.

Even though accelerated programs are very beneficial, they are not for everyone. In order for a farm to have a successful program, they must put in the time, money, effort, and dedication. General calf care must be properly implemented. Heifers should have protection from the elements, a constant source of clean water, and they must be in good health. If a farm has a strong replacement heifer program, accelerated feeding may be more applicable. Calves on this program must be closely monitored, replacer must be properly prepared, and body weights should be taken to monitor progress. Other than more intensive labor, the costs of switching to accelerated programs usually turns farmers away. It has been determined that feed costs increase roughly \$50.00 to \$80.00 per calf. What many farmers don't realize is that if done properly, the high costs of accelerated programs will benefit them in the future. Research studies comparing conventional versus accelerated growth programs show that accelerated calves produce 800 to 2000 lbs more milk in their first lactation.

To start off, heifers that are fed using these accelerated programs have a better growth rate. With an increase of protein in the diet, there is an increase of lean tissue development. The higher protein content is necessary in meeting the nutritional needs of the growing animal. This is what makes the calves grow at a more rapid rate. Accelerated calves also tend to have a better immune system, and they seem to be healthier than traditionally fed calves. Figure 1, below, shows the comparison of growth between conventional and accelerated feeding:

Figure 1:



J.K. Drackley, "Does Early Growth Affect Subsequent Health and Performance of Heifers?"
University of Illinois, 2011

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Though the immediate growth results are clear, accelerated feeding programs really excel in long-term benefits. Due to the faster growth rates, accelerated heifers reach their breeding weight 20 to 30 days before traditionally fed heifers. In other words, these heifers will be having calves earlier, producing more milk in their lifetime as well as during their first lactation. It has also been found that there can be a decrease in the number of heifers on the dairy farm. Calculations show that this can increase profit per cow by at least \$60.00. Another major benefit from this program is an increase of milk production per lactation. This has also proven to increase profit from each cow.

There are also downsides to accelerated feeding programs. Cost is obviously the biggest issue. Even if a farmer can benefit in the future, costs to raise accelerated calves increase, and it may not be easy for the farmer to make the transition. It is important to understand that calves will be consuming a considerable amount of milk, and the amount of calf starter intake will be significantly less. In other words, more money will be spent on milk replacer. Also, a calf starter with a slightly higher protein content is recommended. This will most likely be more expensive than traditional calf starter.

Another disadvantage regards the digestive health of the calf. When a calf is on an accelerated feeding program, they will sometimes appear unhealthy and will have an abnormal manure consistency. Due to a more liquid based diet, calf feces may appear to be loose. This is normal. It is incredibly important to have a knowledgeable staff that realizes that this change is expected. It is possible that calves will become ill, but this is usually due to lack of available water, clean bedding, and overall management.

Many of the disadvantages can be avoided if proper management is implemented. As mentioned earlier, to make this program successful the milk replacer must have higher protein content. Traditional milk replacers usually only contain about 20% protein, while accelerated replacers have 26-28% protein. Feeding more of a conventional milk replacer will not provide the proper amount of protein and energy to the calf. It is also important to make sure the fat content is not too high, or the calves won't efficiently gain lean body tissue or muscle. Fat content may be increased during cold months. Generally, the fat content should not exceed 20%.

The diet should also be more concentrated. Traditional milk replacers usually have less than 14% solids, and accelerated calves should be fed about 16 to 20% solids. The mixing of this replacer is very important, and trained staff should do this job very carefully. It is also important to keep the amount of solids in this mixture consistent. Increasing the dry matter in the replacer will negatively effect rumen development.

In the beginning, calves should be fed about 2 quarts of this replacer per feeding. More replacer can be introduced at a fairly slow rate, and it may be beneficial to feed calves three times per day. This introductory period should last about a week, and can eventually be increased. By two weeks of age, the calf should be consuming 3-4 quarts each feeding. Water should be available at all times, and calf starter with higher protein content should be available. Though calves may not consume as much starter as traditionally raised calves, the intake of the starter is necessary in stimulating rumen development.

Weaning is probably the most crucial part of this program. If not weaned properly, problems can occur with rumen development and post weaning growth. Again, because the heifer is consuming a high amount of protein and solids in the replacer, feed intake of calf starter is dramatically decreased. Because of this decrease, the rumen of accelerated dairy calves is not as developed as it should be when it is time to wean. This is what makes this process crucial at this stage.

One of the more common weaning protocols is reducing the number of feedings per day for at least one week. This is sometimes referred to as stepping down. By reducing the number of feedings per day, the dairy heifer will be encouraged to consume more starter. For example, if a farmer is feeding his heifer a 26:20 replacer two times a day, he should reduce this to once a day a week before weaning. After a week, the dairy calf should be consuming an adequate amount of grain for rumen development. This protocol should help prevent a decrease of growth, and other digestive issues.

Accelerated feeding programs are not for every farmer and should not be attempted if the farm does not have a strong replacement heifer program. Farmers considering this method must understand the costs pay themselves off over time with proper management. Again, with a proper accelerated program, farmers will be able to maintain a healthy group of heifers, breed heifers earlier, obtain more milk from each lactation, and potentially increase their overall profit.

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