Raising Dairy Calves

Cooperative Extension South Dakota State University

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Raising Dairy Calves

Cooperative Extension Service
South Dakota State University, Brookings
United States Department of Agriculture
Raising dairy herd replacements is an important part of dairying in South Dakota.

If you are willing to invest in the right feeds and proper care and management you can have more calves to choose from for upgrading your dairy herd. You will not have to gamble on a source for replacement animals for your own herd. If you have a reputation for good management you will find a ready market for remaining heifer stock.

Recommendations for dairy calf management vary widely. Here we will review studies conducted at South Dakota State University and other experiment stations. Successful producers, using methods other than these recommendations, would have no reason to make a change in their management practices.

**FEEDING THE DAIRY CALF**

It is very important that the calf receives colostrum, or first milk, for the first 3 days, either by nursing or drinking from a pail.

Digestive disturbances in young calves are caused by unclean equipment, over feeding, or from harmful bacteria picked up in the housing area.

It is less harmful to underfeed the young calf than to overfeed it. The amount of milk to feed depends on the weight and condition of the calf. A good rule to follow is 1 pound of warm milk (90°F to 100°F) per day for each 10 pounds of body weight. Calves must have milk or milk products in the diet until they are 4 to 6 weeks of age. Feeding programs include whole milk, milk replacers or a combination of the two.

**FEEDING REQUIREMENTS FOR WHOLE MILK, MILK REPLACER, OR A COMBINATION.**

<table>
<thead>
<tr>
<th>Age</th>
<th>Whole Milk (3.5% fat)</th>
<th>Liquid Milk Replacer (14% solids)</th>
<th>Combination Whole Milk Milk Replacer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4 days</td>
<td>Colostrum</td>
<td>Colostrum</td>
<td>Colostrum</td>
</tr>
<tr>
<td>5-7 days</td>
<td>7-10 (8) lbs.</td>
<td>8 lbs.</td>
<td>8 lbs.</td>
</tr>
<tr>
<td>2nd wk.</td>
<td>7-10 (8) lbs.</td>
<td>9 lbs.</td>
<td>8 lbs.</td>
</tr>
<tr>
<td>3rd wk.</td>
<td>8-12 (10) lbs.</td>
<td>10 lbs.</td>
<td>5 lbs.</td>
</tr>
<tr>
<td>4th wk.</td>
<td>6-10 (9) lbs.</td>
<td>9 lbs.</td>
<td>9 lbs.</td>
</tr>
<tr>
<td>5th wk.</td>
<td>4-8 (8) lbs.</td>
<td>7 lbs.</td>
<td>7 lbs.</td>
</tr>
<tr>
<td>6th wk.</td>
<td>3-4 (4) lbs.</td>
<td>6 lbs.</td>
<td>6 lbs.</td>
</tr>
<tr>
<td>7th wk.</td>
<td>3-4 (4) lbs.</td>
<td>4 lbs.</td>
<td>4 lbs.</td>
</tr>
</tbody>
</table>

*Follow the manufacturer’s recommendations.*

+Figures in parentheses represent amount for average size calf.

If limited milk and milk replacer feeding methods are to be successful, the calf must begin eating a good calf starter at an early age. Often it is necessary to encourage the calf to start eating grain by rubbing a little grain on its nose after milk feeding and at other times of the day; or, by placing a small amount in the calf’s mouth and in the pail immediately after milk feeding.

**COMMON CALF STARTERS**

<table>
<thead>
<tr>
<th></th>
<th>lb.</th>
<th>lb.</th>
<th>lb.</th>
<th>lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn, cracked or crushed</td>
<td>42</td>
<td>56</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>Oats, whole or crushed</td>
<td>42</td>
<td>26</td>
<td>50</td>
<td>35</td>
</tr>
<tr>
<td>Soybean meal</td>
<td>15</td>
<td>17</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>Dicalcium phosphate</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Trace mineral salt</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>% Crude Protein</td>
<td>15.4</td>
<td>15.5</td>
<td>18.8</td>
<td>20.0</td>
</tr>
</tbody>
</table>

It may be advisable to include vitamins A and D in the starter. This will depend on feed quality and season of the year.

**Vitamin A**—add enough supplement to provide 3,000 I. U. of vitamin A per 100 pounds of body weight daily.

**Vitamin D**—add enough supplement to provide 300 I. U. of vitamin D per 100 pounds of body weight daily.

Feeding 45 to 65 milligrams of antibiotics to calves will reduce some baby calf problems if used continuously. There is no apparent advantage to feeding antibiotics to calves after they are 3 to 4 months of age.

**HOUSING CALVES**

Dairy calves should be raised separately for the first 6 weeks or until they have been taken off whole milk or milk replacer.

Recommended are calf hutches or individual pens in isolated sheds and made with solid partitions to re-
duce chilling drafts. Each calf requires 24 square feet of floor space.

The best temperature for raising baby calves is 50°F, however, if draft-free sheds are provided, healthy calves can thrive under much higher or lower temperatures. Dryness in the calf pen is important because dampness intensifies cold. Research at South Dakota State University has pointed out the importance of having small exercise lot for calves.

When the calves are 6 to 7 weeks of age they may be raised in groups of not more than 10 animals. Calves or heifers should be grouped according to age and size. Allow 30 square feet per calf in each “group pen.” Automatic drinking cups are preferred. The top of all drinking devices should be 20 inches from the floor and placed away from the feed. When pails are used for watering, they must be kept clean and well filled with fresh water.

Build feed boxes 10 inches by 6 inches deep, allowing 2 feet of eating space per calf. The top of the ration feed boxes can be 20 inches from the floor.

**PASTURES FOR CALVES**

Calves may be turned out to pasture after they are 4 months of age as soon as conditions permit. However, they should continue to get their usual feed and have access to salt, water and shade.

Feed high quality hay as soon as the calf is taken from the cow, alfalfa brome mixture preferred.

Ensilage may be fed after the calves are six months of age.

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**FOR A GOOD CALF RAISING PROGRAM**

1. Breed each cow to the best dairy bull available.
2. Condition the cow for the coming lactation during a 6- to 8-week dry period.
3. Provide a dry, draft-free, sanitary maternity stall, or a clean lot or pasture for calving.
4. Be present and help, if necessary, when the calf is born.
5. Disinfect the navel of the new-born calf with tincture of iodine.
6. Make certain the new-born calf gets the colostrum milk.
7. Provide a dry, draft-free disinfected box stall for each baby calf.
8. Feed clean milk of consistent temperature, according to body weight.
9. Make feeding changes gradually.
10. Feed good quality, well cured hay.
11. Provide fresh, clean water.
Calf barn floor plan. This plan may be used in new construction or in converting another structure.

Floor plan and photo of calf hutch type being used at the South Dakota State University dairy research and production unit.
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