



You can learn all about calf care during the —

# 4-H Bucket Calf Project

Here's your opportunity to:

- Design a calf project for your level. Consider physical size and ability necessary to provide proper care.
- Provide an exciting and enjoyable project for all members of your family
- Learn proper health care and nutritional requirements of calves
- Learn basic management skills without a large investment
- Learn basic record-keeping skills

## Guidelines

### » Age group

We suggest this project for members 8 to 12 years old.

### » Bucket calf

Use an orphan or newborn calf. The calf could be male or female; dairy, beef or cross; and fed on bucket or bottle. Each 4-H member in this age group should have only one calf each year.

### » Begin project

Acquire a calf within two weeks of its birth between March 1 and June 1 of the current project year. If shown, the calf should be at least 90 days old.

### » Calf sources

Check with local dairies, farmers, sale barns or feedlots.

### » End project

End the project when your calf is sold at weaning age as a feeder calf or dies or when you have reached the end of the 4-H year, usually Aug. 31.

If you keep the calf for a breeding heifer or market steer project, begin a record book for next year with this project's ending value.

### » Exhibiting

Show calves at halter during special bucket calf projects. If participant numbers are high enough, classes could be split by exhibitor age.

### » Awards

We suggest participation ribbons for every entrant. If class is ranked, it is important spectators, participants and parents know the placings are based

on the interview and not the quality of the animal.

A judge who likes children can make judging a fun event. They might ask for the calf's name and the reason behind it, lessons the 4-H member learned about caring for and raising a calf and general health care practices. The quality of the calf should not be a consideration because purchase is not made on that basis.

### » Sale of the animal

Members could keep their animals for breeding heifer or market steer projects or sell them at sale barns or privately. We suggest the animal not be sold at a premium sale so you can learn true market value.

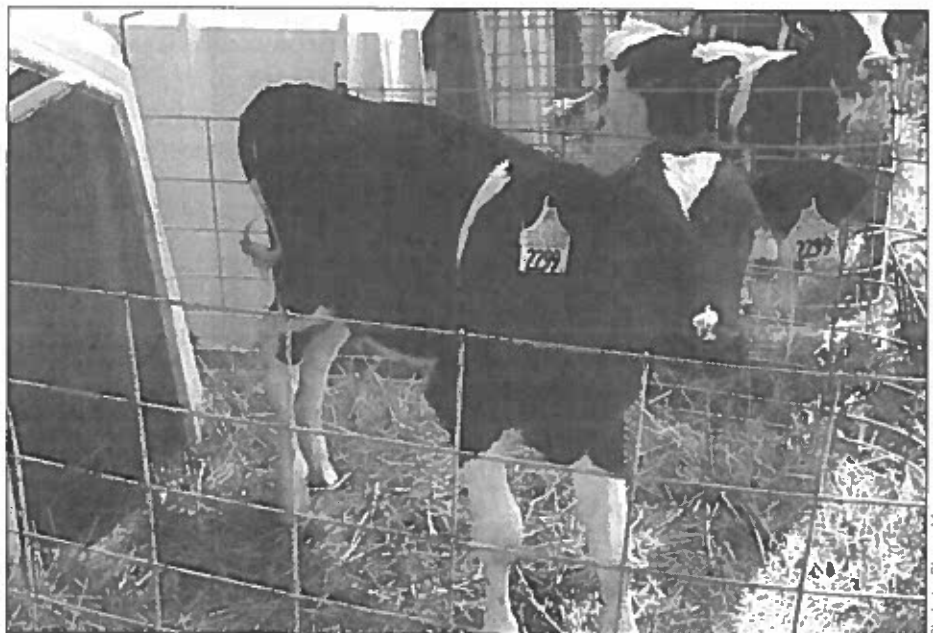


Photo by Steven Moise

» **Project assistance**

Family participation with the members is encouraged for all parts of the program except the conference interview. Get help from any source possible including family, farm producers, veterinarian, extension specialist and the Internet.

**Newborn calf care**

- Provide a clean, well-bedded, draft-free pen
- Swab the calf's navel with tincture of iodine as soon as he or she is born
- Give the calf colostrum for at least three days. Colostrum is the first milk the dam produces
- Inject vaccinations, antibiotics and Vitamins A and D based on a veterinarian recommended program
- If unusual health problems exist, consult your veterinarian

**Feeding recommendations**

**Colostrum**

We can't overemphasize the need and benefit of colostrum. Obtain a source of colostrum from a dairy and freeze for use if you get your calf within 24 hours of its birth. If colostrum is available, use it to supply the entire liquid feeding program. Because the intestinal tract can only absorb the colostrum antibodies during the first day after birth, it's essential you give the calf colostrum during the first 24 hours of its life. The first 12 hours is the preferred time period.

**Antibiotics**

Antibiotics, either terramycin or aureomycin, stimulate young calves' growth and reduces the incidence of calf scours. Feed recommended levels, 50-100 mg once a day, in the mil from the first bucket feeding. Also

**Table 1. Antibiotics for Calf Feeding**

Supplement	Grams per pound of supplement	Amount to feed each calf during milk feeding period		Supplement amount required to furnish per 1,000 pounds calf starter
		(grams)	(tsp)	(pounds)
Aureomycin*	(grams)	(grams)	(tsp)	(pounds)
Aurofac 25	25	1.5	.5	.6
Aurofac 10	10	3	1	1.5
Aurofac D	5	6	2	3
Aurofac 2A	3.6	8	3	4.2
Aurofac	1.8	16	5	8.4
Auromycin	2.6	10**	3**	5.8
Crumbles**				
Terramycin***				
TM-50	50	.75	.25	.3
TM-10	10	3	1	1.5
TM-5	5	6	2	3
TM-3.6	3.6	8	3	4.2
TM-3+3	3	9	3.5	5
* American Cyanamid Company				
** Does not mix well with milk				
*** Charles Pfizer and Company				

include antibiotics in the calf starter ration (see Table 1).

Calves don't like finely ground, dusty feeds. Coarsely grind, crack, roll or flake ingredients that must be ground.

**Milk feeding**

From the fourth day, feed the calf whole milk or properly diluted colostrum daily at the rate of one pound for each 12 pounds of body weight. Continue feeding milk until the calf is eating 1.5 pounds of starter daily. When feeding milk replacer, follow the manufacturer's directions.

Recommended analyses of milk replacers are:

- Protein 22-24 percent
- Fat 10-15 percent
- Calcium .55 percent
- Phosphorus .42 percent

- Sodium Chloride .45 percent
- Fiber 0.5 percent or less
- Vitamin A at least 1700 IU/pound
- Vitamin D at least 265 IU/pound
- Vitamin E at least 135 IU/pound
- Aureomycin or Terramycin 25-30 units

**Calf starter**

Begin feeding calf starter and quality hay during the first week. At about 4 months, replace the calf starter with a cheaper type of calf grower ration. Quality green leafy soft-stemmed hay containing at least 50 percent alfalfa is best for calves. Give them all the hay they will eat. It is important the

except under the most favorable conditions. Too often, a calf is neglected and undernourished on poor pasture.

- Good pasture near the barn with shade and a water source can provide satisfactory supplemental feed, exercise and clean quarters.

## Housing

Keep calf in a 4-foot by 6-foot pen until it is weaned. Keep the pen well-bedded and draft-free. Thoroughly clean and change bedding frequently.

Construct feeding equipment in the calf pen out of materials that are easily cleaned. Place drinking cups and feeding boxes so their top is about 20 inches from the floor.

## Management

Identify calf immediately after birth. You could use ear tags.

Dehorn calves when you can feel the horn button. The electric dehorner is the method of choice. You could also use caustic potash or dehorning paste.

Remove extra teats on dairy heifer calves as soon as possible after birth. Thoroughly disinfect the extra teat with iodine and snip it off close to the body wall with very sharp shears. Finally, disinfect the wound.

In mild weather, exercise calves outdoors, but exercise isn't absolutely necessary for calves not yet weaned.

Use nipple feeder pails to prevent the calf from gulping milk and reduce digestive upsets. But if the nipples and valves are not properly cleaned, the possibility of bacterial infection might outweigh all the advantages of their use. Wash and sterilize calf

**Table 4. Cost of Raising a Bucket Calf\***

Birth to 3 months of age		
Milk**	250 pounds at \$/cwt =	\$
Starter	300 pounds at \$/cwt =	\$
Hay	40 pounds at \$/cwt =	\$
Three months to 6 months		
Concentrate mixture	360 pounds at \$/cwt =	\$
Hay	380 pounds at \$/cwt =	\$
Six months to 1 year		
Concentrate mixture	540 pounds at \$/cwt =	\$
Hay	1 ton at \$/cwt =	\$
Estimated feed cost		\$
Estimated overhead, labor, etc.		\$
Estimate cost of raising bucket calf	***TOTAL	\$
* Cost will vary according to type of program, cost of feed, etc.		
** This cost can be replaced if surplus colostrum is stored for later use. A good milk replacer also will often be more economical to use than marketable whole milk.		
*** Does not include original cost of calf.		

pails. Keep the calf pails as clean as the dishes from which you eat.

After the calf is weaned, group it according to age in a large pen with others. Ensure all calves eat their fair shares.

Watch for sucking in groups of calves.

When calves are unthrifty, check them for external and internal parasites. Consult with your veterinarian.

**Remember** – uniform feeding is one of the essentials in raising a thrifty calf.

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**Table 2. Starter Mix**

Ingredients	Amounts
Corn, cracked, or rolled sorghum grain	400 pounds
Oats, crimped or coarsely ground	200 pounds
Wheat bran	100 pounds
Oil meal, soybean or degossypolized cottonseed	165 pounds
Dehydrated alfalfa, coarsely chopped or granulated*	70 pounds
Bonemeal, or calcium-phosphorus supplement	10 pounds
Trace mineralized salt	5 pounds
Vitamin D	250,000 IU
Vitamin A (stabilized)	2,500,000 IU
Aureomycin or Terramycin	15 grams
Molasses, could be included if mixing facilities are available	50 pounds
* Some benefit	

**Table 3. A Good Grower Ration**

Ingredients	Amounts
Corn, ground, or rolled sorghum grain	700 pounds
Oil meal, soybean or cottonseed	100 pounds
Bonemeal, or calcium-phosphorus supplement	7 pounds
Trace mineralized salt	7 pounds

calf consumes starter and hay at an early age (see tables 2 and 3).

A recommended calf starter is shown in Table 2. Calf starters should contain the following levels of nutrients:

- Protein 16 percent
- Net Energy (Lact) 72 Mcal/cwt
- Calcium .41 percent
- Phosphorus .32 percent
- Sodium Chloride .45 percent
- Vitamin A at least 1,000 IU/pound
- Vitamin D at least 150 IU/pound
- Aureomycin 5-10 units or Terramycin

Feeding a soft three-sixteenth inch hay-starter pellet, which is three parts calf starter and one part ground hay, has the advantages of faster gains,

less feed waste and saved labor. For pelleting, roll all grains. Feed the pellet in a single-hole hog self-feeder from 3 days old.

After three and one-half months on the hay-starter pellet, introduce long hay to the calf. Discontinue the pellet after 4 months in favor of a less expensive grower ration and long hay. With very thrifty calves, discontinue the hay-grain pellet at 3 months.

#### Four months to one year

Feed your calf the right amounts of nutrients for optimum growth. Keep calves in good condition but avoid letting them get too fat.

You could accomplish this feeding program by feeding all the legume or quality mixed legume grass hay the calf will eat and 2-8 pounds daily of an economical grain mixture. The amount would depend on the calf's

condition and the quality of available forages.

Good pasture or silage could replace a portion of the hay as long as grain is sufficient enough in energy and protein. Make trace mineralized salt and fresh water available at all times.

### Feeding Highlights

- Give the calf colostrum immediately after birth for at least the first three days of its life. Leaving the calf with its mother for three days is most desirable.
- Do not over or underfeed your calf. Weigh or measure milk and follow feeding recommendations. For example, feed milk once or twice daily at regular intervals. Warm it to 100 degrees, especially during the first three weeks. Weigh, or tape, calves once a week while feeding milk to ensure accurate feeding rate.
- Use a nipple feeder pail to prevent the calf from gulping milk. Wash nipples, valves and buckets and sanitize them to prevent bacterial infections. Calves could also pass disease among each other through the nipple feeder or by sucking on one another. You could prevent this if you use an individual housing system.
- Always have fresh water available in a clean pail or from an automatic drinking cup after the calf is about 3 weeks old. Keep water pails in the front of the pen opposite the feed.
- After the calf is weaned, keep trace mineralized salt before it at all times.
- Do not depend on silage as a food source for calves younger than 6 months. Silage should not make up all of the roughage after 6 months.
- Do not depend on pasture as a food source for a young calf,