

CALF CARE: FEEDING

1. PURPOSE

To provide proper nutrition for the growth of calves from birth to weaning. This will give the calf the best start at a long, healthy, productive life. The feeding needs of a calf change quickly in the first weeks; therefore, a good feeding plan is essential to get a calf off to a strong nutritional start.

2. RESPONSIBILITY

- 2.1 All permanent and student staff
- 2.2 Dairy Manager

3. MATERIALS

- 3.1 Colostrum (C)
- 3.2 Nipple bottle
- 3.3 Nipple pail
- 3.4 Transition milk (M)
- 3.5 Milk replacer (MR)
- 3.6 Thermometer
- 3.7 Grain pail
- 3.8 Grain scoop
- 3.9 Gang Feeder
- 3.10 Calf Starter grain (CS)
- 3.11 Second Cut Hay
- 3.12 Calf Grower pellets (P)

4. GENERAL CONSIDERATIONS

- 4.1 Calves are fed twice per day: after the morning milking, and after the evening milking.
- 4.2 A calf may be fed mid-day if it did not drink in the morning, or if it is sick.

5. PROCEDURE

- 5.1 The method of feeding depends on the calf's age, type of milk fed, and number of pen mates.
- 5.2 The quantity, type of milk, and method of feeding are indicated on the feeding chart. Any changes to the chart must be approved by the lead technician or dairy manager.
- 5.3 Refer to Feeding Chart for feeding instructions
- 5.4 MILK FEEDING:

MILK FEEDING LEGEND: Types of milk in order from birth to weaning age.

Colostrum (C):	- Feed colostrum as soon as possible after birth, ideally within 2 hours. Refer to SOP DC-501: Colostrum Management
Transition milk (M):	- Fed to bulls, crossbreeds, and beef calves when Colostrum is no longer available or required. - Newborn heifers are not fed transition milk unless it has been frozen, and a colostrum booster powder will be supplemented according to the quality.
Milk Replace (MR):	- Fed to calves when colostrum or transition milk is no longer available. Refer to SOP DC-502: Milk Replacer Preparation .

5.4.1 Newborn calves:

Feed newborn calves with a nipple bottle, at least 4 liters (for a 45 kg calf) within 12 hours of birth with the first meal occurring as soon as possible, and no more than 6 hours after birth.

5.4.1.1 HEIFER CALVES:

- 5.4.1.1.1 Always feed the **highest quality** of colostrum to dairy heifer calves.
- 5.4.1.1.2 Record all feedings and observations on the Heifer Colostrum Log sheet.
- 5.4.1.1.3 1st Colostrum Feeding asap after birth. (See Table 1)
- 5.4.1.1.4 2nd colostrum feeding at the next feeding. (See Table 2)
- 5.4.1.1.5 3rd colostrum feeding until the age of 6 days.
 - 5.4.1.1.5.1 Mix 35g of Colostrum Powder into 1 milk replacer (MR) at each feeding.
The MR preparation ratio is 1 pre-measured cup of Milk Replacer (MR) to 2 Liters of water at 37.5-38.5° C.
 - 5.4.1.1.5.2 After finishing this portion, feed more MR as indicated on the feeding chart.
 - 5.4.1.1.5.3 If the calf doesn't want to drink, keep MR/Colostrum Powder mix in the fridge for the next feeding. DO NOT waste it!

5.4.1.2 Bull/ Beef and Crossbreed Calves:

- 5.4.1.2.1 Always feed the low-quality colostrum.
- 5.4.1.2.2 1st Colostrum Feeding asap after birth. (See Table 3)
- 5.4.1.2.3 If the calf doesn't want to drink, keep MR/Colostrum Powder mix in the fridge for the next feeding. DO NOT waste it!

Table 1: 1st Colostrum Feeding – Heifer Calves

Quality (%)	Quantity of Colostrum Powder (CP) to add
< 25%	225g (1 bag)
25%-27%	120g
>27%	None
No 1 st milking frozen colostrum	Use 2 nd milking frozen colostrum
No Frozen Colostrum	1MR+ 225g (1 bag) * Feed more MR if the calf is still hungry

Table 2: 2nd Colostrum Feeding – Heifer Calves

Quality (%)	Quantity of Colostrum Powder (CP) to add
< 25%	225g (1 bag)
25%-27%	120g
>27%	None
No 2 nd milking frozen colostrum	1MR+ 225g (1 bag) * Feed more MR if calf is still hungry

Table 3: 1st Colostrum Feeding - Bull/ Beef/ Crossbreeds

Quality (%)	Quantity of Colostrum Powder (CP) to add
< 20%	120 g
20%-21%	60g
>22%	None
No Frozen Colostrum	1MR+ 120g * Feed more MR if the calf is still hungry

- 5.4.2 When the calf is drinking well, a nipple pail is introduced.
- 5.4.3 When there are two or more calves in a pen, a gang feeder is introduced.
- 5.4.4 The quantity of fed milk is gradually increased according to the calf's appetite to a maximum of 12 liters of milk per day (or 3 MR per feeding) to maintain health, growth, and vigor. Refer to the feeding chart for the quantity to feed per calf or group of calves.
- 5.4.5 At about 8 weeks of age the transition to weaning commences:
 - 5.4.5.1 Reduce the quantity of MR to 2/3 of the original amount (3MR to 2MR) for 4 days.
 - 5.4.5.2 Reduce the quantity of MR to ½ of the original amount (2MR to 1.5MR) for 4 days.
 - 5.4.5.3 The evening feeding is eliminated (MR in am only) for 4 days.
 - 5.4.5.4 The morning feeding is eliminated.
 - 5.4.5.5 The calf is weaned and no longer drinking milk.

5.5 GRAIN FEEDING:

- 5.5.1 A Feeding Card hanging above the manger indicates the quantity and type of grain/pellet to feed to each pen.

GRAIN FEEDING LEGEND:	
CS = CALF STARTER	Up to 1 scoop (refer to the Feeding Card for quantity)
P = CALF GROWER	Medicated with Deccox ®. Only fed to calves < 6 months of age. Up to 1 scoop Pellet/calf (refer to the Feeding Card for quantity)
CS+P	½ scoop Calf Starter + ½ scoop Pellets/calf (transition feeding)
If the quantity of grain to be fed per pen is not indicated on the chart, then feed 1 scoop per weaned calf.	

- 5.5.2 Fresh grain is fed to younger calves, (3 days to 6 months) daily.
- 5.5.3 Each morning, pick up and measure all leftovers from the day before. Sweep the manger before adding the fresh feed.
- 5.5.4 Leftovers are fed to the older calves.
- 5.5.5 Introduce Calf starter to heifer calves at 3 days of age.
- 5.5.6 Add approximately ¼-grain scoop of grain to a grain pail that is held by a strap on the inside of the calf pen.
- 5.5.7 Fill a grain bottle with Calf Grower (P) and place it in the grain bottle holder in the front of the pen, above the grain pail. Replenish the bottle as needed.
- 5.5.8 Enter the calf pen to hand feed the calf after she has finished drinking her milk.

- 5.5.9 Gradually increase the quantity of calf starter according to the calf's appetite, particularly during the weaning period
- 5.5.10 Sprinkle a handful of chopped straw (when available) on the calf starter when it is fed in the manger.
- 5.5.11 Update the Feeding Card hanging over the manger.
- 5.5.12 1-2 weeks after weaning when calves are consuming the equivalent of 2 scoops (~3 kg) per day of Calf Starter:
 - 5.5.12.1 Gradually introduce Calf Grower (P) into the diet by feeding ½ scoop calf starter + ½ scoop pellets (the equivalent of 3 kg/day).
 - 5.5.12.2 When available, sprinkle a handful of chopped straw per calf on the grain or pellets before feeding hay.
 - 5.5.12.3 Continue feeding the Starter/Grower mixture until the calf consumes the full amount for 2-3 consecutive days.
 - 5.5.12.4 Start feeding Calf Grower (P) exclusively. Refer to the Feeding Card for the quantity to feed.

5.6 HAY FEEDING (Second cut):

- 5.6.1 Refer to the Feeding Card hanging above the manger for instructions for hay-fed animals.

HAY FEEDING LEGEND		
HAY	Feed Hay ad libitum	Calves eating full portions of grain (a.m. or p.m.)
HANDFUL OF HAY	Sprinkle a small amount on top of the grain	Calves that are not eating full portions of grain

- 5.6.2 Feed a small amount of hay starting at about 4 weeks of age. Sprinkle a handful of hay on top of the calf starter to entice them to eat their grain.
- 5.6.3 Feed hay ad libitum ONLY when the calves are eating all of their grain.
- 5.6.4 Allow the calves to eat their full portion of grain (a.m. or p.m.) before feeding them hay. Grain is very important for the development of the rumen. It is very important that the calves eat their grain before filling up on hay.

Document Status and Revision History

DATE	STATUS
14-Nov-2018	Version 01: MAC Campus FACC approved
23-Aug-2023	Version 02: MAC Campus FACC approved