

## Popular Article

### Care and Management of Calf

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Normally cow will lick and dry the calf immediately after parturition which may stimulate circulation and respiration. If the cow fails to do, it can be stimulated to lick by sprinkling handful of bran or salt over the body of the calf. Sometime primiparous cows may be nervous and inexperienced or cow may exhaust after a prolonged labor. Under such circumstances, the mucus (phlegm) from the nostrils of the newborn calf should be wiped and cleaned with a dry towel. The calf should be massaged vigorously for some times with a handful of straw rolled into a ball. Sometimes respiratory passage may be block with mucus and interfere with calf's respiration. Under such condition the calf should be lifted by holding the hock in such a way that the head is down, so that the phlegm may flow off. Care should be taken while lifting the calf, it may slip off. A hand full of straw can be used to have a grip while lifting. The calf can also made to sneeze by tickling a twig of hay or grass inside the nostrils. If the above methods are failing, little time is left to lose. The attending person should apply his mouth to the nostrils of the animal and suck out the mucus. After that, he should blow in his expired air through the calf's nostrils closing its mouth. Carbon dioxide in the expired air, which has been blown-in the lungs of the calf, will act as respiratory stimulant to initiate respiration. This should be followed with intermittent pressing and releasing of pressure on the chest wall of the calf to give artificial respiration.

#### Attending naval:

Naval or umbilical cord should be ligatured with a sterile thread one inch from the body (under field condition, the thread can be soaked with tincture iodine) severed 1 to 2 cm distal to the ligature and tincture iodine or povidone iodine should be painted liberally. This is very important because infection can gain easily through naval and cause serious illness like naval ill, naval abscess and joint ill. Neonatal ascariasis is common in buffalo calves and deworming should be made as early as possible, preferably in the first week of life. A single oral dose of 10 g piperazine adipate is recommended for the calves. Newborn calf should void meconium in 4 to 6 hours of first colostrum feeding and first faces is tarry in colour and consistency.

## **Colostrum Feeding:**

Colostrum is the first milk secreted after parturition. It contains large amount of gamma globulins, which are nothing, but antibodies produced by the cow against antigens encounter during her life including those against may disease-producing organisms. Absorption of these antibodies provide the calf with an umbrella of passive immunity.

Colostrum is highly fortified source of nutrient having 7 times the protein and twice the total solids of normal milk, thus it gives an early boost in portion and solid intake. It contains higher amount of minerals and vitamin A, which are essential to combat disease. Ingestion of these through colostrum substantially increase the calf's survivability. Colostrum gives a laxative effect, which is helpful in expulsion of meconium (first faeces). The cows should be vaccinated against contagious and infectious diseases, which help to increase the quantity and quality of gamma globulins in colostrum. Similarly, colostrum of mature cow possesses large quantities of gamma globulins because they have greater chance of exposure to infection. The gamma globulins must be absorbed as such across the intestinal wall into blood stream without being broken down into the constituent peptides or amino acids. If it broken down before entering blood stream it will act as ordinary protein. The intestinal wall of the calf will allow the globulin to pass from inside the intestine to the blood stream for only a short period after the calf is born. This permeability is rapidly lost after the first few hours of life. Many studies have shown that these globulins pass across the gut wall at the most rapid rates during the first 1-2 hours of life. Taking this into view. It will be highly useful to feed colostrum in the first 15-30 minutes followed by a second dose in approximately 10-12 hours. The absorptive cell lining the small intestine are immature at birth. In this stage, they indiscriminately take up large molecules like immunoglobins.

As the calf grows older hour by hour, there is a transition of epithelia cells of small intestine from immature type to mature type, which cannot allow large protein molecules. As the more and more cells mature, the capacity of the calf to absorb immunoglobins diminishes proportionately until 'closure' when no more absorption can take place. This phenomenon is called '**gut closure**'. Concentration of antibodies at 'closure' is directly related to the disease resistance of the calf. If at closure the calf had absorbed only a small amount of immunoglobins from colostrum, the diminishing concentration soon puts the calf into a critical immune position. This increases morbidity and often leads to mortality of the calves.

***Quantity of colostrum to be fed is 1/10th of body weight.***

- 15-30 minutes of life - 5-8 % of body weight
- 10-12 hours of life - 5-8 % of body weight
- 2nd day - 10% of body weight
- 3rd day - 10% of body weight

Excess colostrum can be milked out daily otherwise the calves can drink in excess and results in calf scour. The excess colostrum can be stored by refrigeration and can be used to other calves or orphan calves. Colostrum can also freeze and stored indefinitely. Colostrum can also be fermented naturally and stored for 5-7 days and can be used.

**Colostrum substitute:**

In case of non-availability of colostrum due to accidental death of mother or agalactia colostrum substitute can be used. It can be prepared by mixing 2 whole eggs in one litre of milk and 30 ml of castor oil. It should be fed three times in a day.

**Weaning:**

Making the calf independent of its mother is known as weaning. Under early weaning system, the cow is not allowed to suckle its calf. Instead, the cow is completely milked out and required quantity of whole milk or skim milk are fed to the calf.

**Disadvantages of Weaning:**

1. Weaning is a problematic in *Bos indicus* and buffaloes due to strong maternal instinct.
2. 0-day weaning can cause reduced milk yield in such animals, and cause early drying and temperamental problems.

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