

Colostrum should be fed to the new born calf as early as possible within 2 hours of birth. Quality of colostrum should be fed. In case of absence of colostrum, the alternative or colostrum from other cow should be fed. Substitute of colostrum may be prepared from following items: Raw egg-1, Castor oil- 3ml, Vitamin A- 10000IU, Aureomycine- 80mg. The all items should be dissolved in small quantity of water and finally volume should be made of one litre. The solution first warm up to 40°C and fed to a calf up to 3 to 5 days.

Udder may serve as the first source of external and pathogenic bacteria, therefore, during natural suckling, farmer should give due consideration on the hygiene of the udder. Farmers should check the udder condition for any infection and presence of blood in colostrum before allowing to a calf to suckle the teats. Before allowing calf to suckle, the teat of cow should be clean and free from any infection.

Under a pail feeding system withholds feed to calf for two to four hours and let it work



up an appetite. Dip finger in the colostrum and let the calf suckle from it. Slowly lower finger to the pail containing colostrum pushing the calf head down if necessary. By repeating the process the calf will learn to drink from the pail. Colostrum can also feed with help of Nipple bottle to weaned calves. Feeding cold colostrum is harmful hence, colostrum should be fed at body temperature (39°C). Feeding cold colostrum may create hypothermia and digestive disorders in calf. It may also lower down the absorption of immunoglobulin. Hence, temperature of colostrum is also taken into consideration and cold colostrum should be warmed in a 40°C water bath before feeding.

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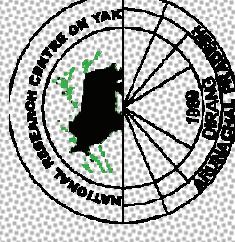
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COLOSTRUM

BOON FOR NEW BORN CALF



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Productivity of the herd is major contribute to the profitability of dairy farming. Calve is future stock of dairy farm therefore, future productivity can be ensured by raising good and healthy calve. Hence, it is called as raising good calve are more reliable than purchase. In rural areas, calve rearing is not given due importance. Calf mortality varied from 20 to 30 percent is much higher than the permissible limit. Although mortality of calf is huge loss of farmers in term of calf value, milk value and labour & feed cost incurred during dry period of cow but for a farmer it is not concern. Mortality of one of five calve reduced half of the total profitability of dairy farming. Therefore, reducing calf mortality means reducing the economic losses. There are several causes of calf mortality, among them deprivation of colostrum after birth of calf is one and most important. Colostrum is called 'liquid gold' due to its important in calf life. Calf born without immunity against diseases because, maternal placenta is impermeable to the transport of immunoglobulin to the fetus' body, resulted high rate of morbidity and mortality. Colostrum is the first source to availing immunity against diseases and infections. Misconception regarding colostrums feeding among the farmers further intensified the problem. Farmers believe that colostrums are more viscous, indigestible and makes sluggish & diarrhea in newly born calves. Therefore, there is an urgent need to aware the rural dairy farmers about the wrong misconception and benefit of colostrums feeding to save the valuable calves. Hence, importance of colostrum feeding is being described to benefit farmer's community.

What is colostrum?

Colostrum is a natural and first feed to the calf available freely just after birth from the calf's mother. In assamese language it called *Phelhu*. Colostrum contains higher amounts of vitamin A, maternal antibodies, protein and minerals that protect to the calf from disease and help to build calf body at a faster pace.

Myths of colostrum feeding

Colostrum is indigestible to the calf

Colostrum is more viscous than milk, but not indigestible. Colostrum contains higher nutrients than normal milk which is mainly constituted by immunoglobulin protein. Immunoglobulin is nothing but a group of antibody which engulfs the disease causing agent present in the body. The concentration of immunoglobulin is found highest at the day of calving and gradually reduce as day passes. Thus, colostrum feeding up to the recommended level is not disturbing the digestive systems, but it is easily digestible and highly observable through the intestinal walls of newly born calves. Hence, it should not be deprived, but should necessarily be feed to a newborn calf as early after parturition.

Colostrum feeding is delayed the placenta expulsion

Expulsion of placenta is a normal process it may take place around 3 to 8 hours after parturition. Suckling of calf just after birth or removal of small quantities of colostrum only for the calf would not be affecting the expulsion of placenta. Hence, whole colostrum from udder should not be removed at a time, but colostrum should be milked only for calf at first

milking and should increase the quantity gradually as day passes.

Colostrum feeding caused diarrhea

First feces of calf is called muonium. Retention of muonium is very harmful. Colostrum possesses laxative properties and as and when colostrum fed to the newly born calf, it initiates a mild oxicotic action on the intestinal walls, thus, it helps to defecate the harmful waste product 'muonium' present inside the intestine. Due to lack of knowledge, this important property of colostrum considered as colostrum feeding causes diarrhea in calf. Therefore, it is advised to the farmers, feed colostrum as per recommendation and after colostrum feeding two to three times defecation should not be considered as diarrhea, but it is a laxative action of colostrum that clear out the harmful waste products from the intestine.

Table1. Composition and characteristics of buffalo colostrum and normal whole milk

Items	Days				Milk
	1	2	3	4	
Total Solid (%)	28.52	18.87	18.57	18.27	16.82
Fat (%)	8.3	7.8	6.7	6	7.71
Protein (%)	17.36	15.63	11.56	6.65	4.52
Lactose (%)	3.26	3.57	3.86	4.08	4.42
Ash (%)	1.56	1.03	0.9	0.85	0.80
SNF (%)	17.88	13.87	11.93	10.34	10.11

Colostrum feeding makes calf's sluggish

Colostrum is a first food for the newly born calf after birth. After feeding the colostrum and absorption of sufficient amount of nutrients from the colostrum to blood, calf feels satiety. The change in diet and absorption of several vital nutrients changed the body physiology of a new born calf. Hence, newborn calf may feel a little drowsy. This drowsiness is not harmful, but helps to the calf to survive with the change in diet and environment.

Benefits of Colostrum feeding:

Colostrum has an antimicrobial property, New born calf are acquired these immune factors from the mother helps to fight against viruses, bacteria, yeast and fungus. Thus, colostrum provides adequate transfer of passive immunity against diarrhea and other diseases.

Colostrum helps to grow faster and mature early. Calves supplemented with colostrum grow faster, mature earlier and produce milk higher. Therefore, colostrum feeding is helpful to improve the productivity of a calf. Colostrum has a much higher amount of energy, vitamins and minerals than those found in whole milk. Therefore, it has been suggested that these increased amounts of nutrients may be a way to ensure to receive adequate amounts of these vitamins and minerals to initiate its metabolism and possibly to assist in the development of its digestive system of the calf.

Precautions in colostrum feeding:

Colostrum should be fed as per recommendation (1/10 of calf's body weight). A 20 kg calf should be fed 2 kg of colostrum in equal dose of two or three times. Over & under feeding both are harmful.