The cow should be allowed to lick the calf after delivery. In cold weather or if the cow does not lick the calf, the calf should be dried with clean cloths. This practice not only dries the calf but stimulates the calf's blood circulation.

Colostrum is secreted by the mammary gland shortly before and after calving. True colostrum is obtained only from the first milking. After the first milking and for the next two and a half days, the cow's milk is called transition milk.

Colostrum provides a calf with its primary source of nutrients. True colostrum contains twice as much dry matter and total solids, two to three times as many minerals, and five times as much protein as whole milk. Colostrum also contains various hormones and growth factors that are necessary for growth and development of the digestive tract. Colostrum is lower in lactose, thus decreasing the incidence of diarrhea.

Table 1. Typical composition of colostrum (first milking after calving), transition milk (second and third milking after calving), and whole milk

Component	Milking after calving			Whole milk
	Colostrum	Transition Milk		
	1st	2nd	3rd	
Total solids (%)	23.9	14.1	13.6	12.9
Fat (%)	6.7	3.9	4.4	4.0
Protein (%)	14.0	5.1	4.1	3.1
Lactose (%)	2.7	4.4	4.7	5.0
Calcium (%)	0.26	0.15	0.15	0.13
Immunoglo-bulins (%)	6.0	2.4	1.0	0.1

Calves are born with little defense or immunity against disease. They acquire resistance to disease from their dam through *timely* and *adequate* intake of *high-quality* colostrum, their mother's first milk. Calves that do not receive adequate amounts of quality colostrum early in life are more susceptible to disease. Calves should be hand-fed good quality colostrum within an hour of birth and again within 12 hours or the next regular feeding. The amount of antibodies absorbed is related to the timing of colostrum feeding after birth. Within six hours after birth, the ability of the gut to absorb antibodies decreases by one-third. By 24 hours, the gut can absorb only 11% of what it originally could have absorbed at birth. Also, at 24 hours of age, digestive enzymes break down and digest all of the antibodies.

Calf Scours

Calf scours or diarrhea can be caused by overfeeding milk or by bacterial, viral, or protozoal infections. Farmers should work with their local veterinarians to identify the cause and develop a preventative program. Diarrhea in calves results in losses of water and electrolytes, such as sodium, bicarbonate, chlorine, and potassium. Scouring calves can lose 10 to 12% of their body weight in water losses . These imbalances must be corrected quickly or death can result. Depending on the severity of the diarrhea and dehydration, calves may need to receive oral electrolyte solution once daily or as many as four times a day. Calves that cannot suckle should be fed electrolytes with an esophageal feeder. Calves should be fed their regular allocation of milk when receiving oral electrolytes. The milk supplies the calf with energy and other nutrients needed for survival. Oral electrolyte products are available commercially.

Calf Starter and Water Important for Rumen Development

For the first part of life, the calf functions as a simple-stomached or monogastric animal. At birth, the first three components of the stomach-the rumen, reticulum, and omasum-are undeveloped and do not aid in digesting feeds for the very young calf. When the calf starts to eat calf starter (mixture of grains, protein source, minerals, and vitamins) and to drink water, the rumen starts to develop. The calf starter along with water helps the rumen of the calf develop. For the first two weeks of life, calves will just nibble calf starter. Intakes of the starter increase the third to fourth weeks of life.

Management Practices

At birth, calves should be identified with an ear tag or tattoo and/or a sketch or photograph. Records should be kept to identify the birth date and at least the sire and dam of each heifer.

When the horn button is visible, the calf can be dehorned easily with a gouge or electric dehorner. If caustic paste is used, take special caution to avoid getting paste on other parts of the body. Dehorning until calves are weaned and/or they are eight weeks of age. Deworming of calves is to be carried out within 15 days of birth. Calves should be maintained in a clean dry place and protected from wind and cold weather.

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Care of New Born Calf and Post-Partum Cows

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Careofnewborncalfandpost-partumcows

Introduction

Dairy farming is an important occupation of farming community as well as landless poor. Profitability of dairy farming depends upon many factors like milk yield of the animal, production length, regularity in calf production, cost of feed, labor cost and management etc. Reproduction plays a vital role in production performance.

For regular reproduction and production nutrition and health care is very important. Sound feeding and management programs for young calves start with the dam two months prior to calving. The majority of the growth of calf occurs within the last two months of gestation. The management program of the dam affects the quality and amount of antibodies found in her colostrum, which directly impacts the health of the calf.

Dry Cow Nutrition Program

Balanced feeding with adequate minerals and vitamins are important to the dry cow and the calf developing inside her. They are also necessary for the dam to minimize health problems around freshening time, such as preventing retained placentas, and to improve the immune system so that the cow can fight off a disease challenge, such as mastitis infection, just before or after calving.

Care & Management of Cow before, during and after calving.

Even though the parturition is normal physiological process, it requires to take due care at all stages of parturition.

Before Parturition:

1. **Turning cow into a separate room:** The cow in advanced stage of pregnancy should be separated from other cows. The room in which the pregnant cow is to be maintained must be clean, properly disinfected, bedded with clean soft absorbent litter.
2. **Guarding Against Milk fever:** In advanced pregnancy stage high yielding & first calvers are susceptible to Milk fever. To avoid it, provide enough minerals especially calcium by bone meal in daily diet. Give large doses of Vit. D about a week perior to calving.
3. **Dry period:** 45 to 60 days of drying off milking is essential for good health of pregnant cow, normal development of foetus and for optimal milk production in the subsequent lactation period.
4. **Watch for Parturition signs:** Signs to know primary stage of parturition which are udder becomes large, distended, hard, depressed or hollow appearance on either side of tail head, vulva enlarged in size, thick mucus discharge from vulva, and uneasiness of the animal.

During Parturition:

1. **Dilation Phase:** Consists of the acts lie down & get ups, uneasiness due to labour pain, observe these acts from safe distance without making disturbances to animal.
2. **Parturition period:** In normal case the period is of 2-3 hrs while in first calving 4-5 hrs or more.
3. **Watch for presentation of Calf:** The phase of expulsion of foetus, observe the appearance of water bag & its gradual emergence, bursting of it and appearance of fore feet with hoof & mouth.
4. **Normal presentation:** Any deviation from normal presentation of calf occurs; the immediate help of veterinarian should be taken being care of Dystokia.

After Parturition :

1. **Expulsion of palacenta / after birth:** The placenta is discharged within 5-6 hrs. after calving in normal case while if not discharged within 8- 12 hrs. get the help of veterinarian and treat as per requirement.
2. Supply Luke-warm drinking water to cow.
3. When placenta expelled, prevent cow from eating.
4. The placenta should be properly disposed off by burying in ground.
5. Clean cow's body with clean & warm water with antiseptic.
6. Supply moistened bran with crude sugar or molasses.

Care with regard to milking of cow

1. After Parturition when first milking, ensure that all blockages from teats removed.
2. Cow may be milked three times a day until the inflammation disappears from the udder.
3. Provide enough minerals i.e. calcium & phosphorus through diet & do not milk fully at a time to avoid milk fever in high yielding cows.

Care with regards to feeding:

1. Types of feeds provided – laxative, palatable & nutritious.
2. Suitable feeds – Wheat bran, oats, and linseed oil seeds.
3. DCP & TDN of ration must be 16-18% & 70% respectively.
4. 40-60 gms. Sterilized bone meal & 40 gm common salt may be added to grains.
5. Succulent green, palatable fodders containing 50-60% legumes are suitable while amount concentrates should be increased gradually in three weeks.

POST PARTURIENT DISORDERS AND THEIR INFLUENCE ON FERTILITY

Retention of fetal membranes

One of the most common postpartum disorders encountered is the retention of foetal membranes (RFM). It has been defined as a condition where there is retention of foetal membranes beyond 8-12 hours post parturition. This condition is considered pathologic and has been associated with incidence of metritis, reduced subsequent fertility, increased culling.

Retention of placenta

Uterine prolapse

Although it is most common in sows and dairy cows, uterine prolapse may occur in any species. Occurrence is sporadic and the cause is unclear, however, trauma, dystocia and hypocalcaemia have been proposed as contributory factors. Prolapsed uterus is normally reduced and repositioned adopting standard procedure.

Uterine prolapse

Uterine infections

Following calving, the uterus of over 90 per cent of dairy cows becomes contaminated with bacteria. Some of these bacteria are harmful. When harmful bacteria are present, the uterus may become infected and these infections cause changes in the superficial layers of the uterus and this condition is called metritis.

Metritis: often involves the accumulation of fluid within the uterus and suppression of the estrous cycle. While few animals die from uterine infections, there is often a negative effect on fertility, milk production and overall health of the cow.

Clinical signs of uterine infections

During the first 14 days after calving, there may be an appreciable amount of brown-red or even white discharge called lochia. Metritis discharges must be distinguished from normal lochia. Lochia is the result of a normal healing process and unlike metritis, it will not have an offensive odor. On palpated per rectum, in cows with metritis, the uterus will lack tone, may feel thin walled, and cannot be completely palpated. In more severe cases of metritis where toxins have been absorbed from the infected uterus, other sign such as high fever, depression, lack of appetite and lameness due to laminitis may be seen. Under these conditions, fluid therapy to combat shock and dehydration; anti-inflammatory drugs to reduce pain and encourage eating; and broad-spectrum antibiotics may be necessary.

CARE OF THE CALF AT BIRTH

Immediately after birth do not pound on the calf's chest or lift it by the rear legs since this can do more harm than good. Shortly after birth, the navel cord should be dipped (not sprayed) with a 7% tincture of iodine solution. (Do not use teat dip or weaker iodine solution.)