

## Lecture 4

### Heifers and Breeding Cows

Depending on the breed, first service is usually between 15-24 months of age. Between 3-6 months of age all replacement heifers should be vaccinated against brucellosis or contagious abortion. Most heifers in the tropic are too small to be bred at 15-24 months and the size or the degree of body maturity is a better guide of fitness for breeding than actual age. Undersized heifers should not be mated until growth is up to average unless their ration is to be generously supplemented with concentrate. Even when supplementation occurs it is to be realized that those that have reached sexual but not physical maturity are less likely to withstand the stresses and strains of pregnancy and the subsequent lactation and maintenance of reasonable level of milk production. After the first conception, the heifer not only has to continue to grow but also to bear a viable calf and produce milk, so she needs to be well fed particularly during the pre-calving period. Very heavy feeding results in fat deposition and subsequent milk production is less than that of normally fed heifers. Underfed animals also produce less milk and make calving difficulties but achieve rapid growth during the first lactation and catch up with normally fed animals during 2<sup>nd</sup> and 3<sup>rd</sup> lactation. Underfeeding delays the onset of puberty but does not significantly affect conception rate. Housing of heifers need not be elaborate and varies with climate. Protection should, however, be given from rain and wind. Open sheds that allow 40-50sqft per heifers are considered adequate.

Gestation period varies between 275 and 287 days with an average of 281 days. Heat period occurs on the average at 21 days interval with a normal variation between 16 and 26 days. If calving is at 12 months intervals, the cow should be bred between 75 and 110 days after calving and cow should be milked for 10 months (305 days) and rested for 2 months. The dry period allows the mammary glands to rest and the cow to build up body reserve ready for the next lactation. Heifers and cows in poor condition should be allowed longer dry period i.e they should not be milked. The dry cow can be fed on pasture alone until just prior to the next lactation. After calving, the cow should be fed a little more concentrate than her milk production justifies during the first part of lactation. A lactation period is the period between parturition and final drying off or cessation of milking.

## **Pregnant and Lactating Herd**

During pregnancy, the cows will need to be monitored until they calved. They should be allowed to graze at least 6 hours during wet season and 9 - 10 hours during the dry season. The cow will need to graze, rest and graze the second time. Water will need to be given during the resting period. Each cow will need 28g of combined mineral containing calcium and phosphorus and trace elements plus 28g of saltlick/day. Cows should be served by bulls so that calf can be born in early wet season where there is adequate amount of grass at the time it is producing milk for the calf. If a cow or heifer is to be fit for heavy and sustained milk production, adequate nutrition (in quantity and quality) before calving is essential. This feeding will provide for the building up of the unborn calf and body reserves of the dam.

The growth and development of the udder tissue is also dependent on the adequate pre-calving feeding. To meet the objectives, a feeding practice known as “steaming up” is generally employed especially where high yield is the aim. Steaming up should begin 6-8weeks before calving. The heifer should be given a steaming up ration meant to further supplement her normal ration. The amount of such ration to be fed is determined by the condition of the cow or heifer and her probable milk producing capacity. Attempt to steam up cows or heifers on roughages or succulent feed (good quality hay, silage or dried grass) are much less effective than the use of concentrate. This is because the animal has not the appetite to consume enough of these feeds apart from the facts that the feeds themselves do not have the same body building power as concentrate. Steaming up, apart from building up the body condition of the cow or heifer, so that she is fit but not fat, also has the effect of stimulating the secretory activities of the udder.

## **Milking before Calving**

This practice is recommended in most cases because of the distension and congestion of the udder tissues just prior to calving. When the udder is fully distended and does not yield easily to pressure from the hand, pre-calving milking is practiced for 3 reasons.

- a. To prevent udder inflammation which increases the size but not the secretory capacity of the animal, thus, overloading and strain may lead to pendulous and badly shaped udders.

- b. To prevent development of the high internal udder pressure which if it leads to re-absorption of milk constituents into blood stream will tend to start 'drying off' process. This will limit the animal yield after calving.
- c. To relief udder congestion and the accompanying painful condition which often makes the milking of a newly calved heifer, a most difficult task. With careless handling, it may also lead to the development of bad milking habit in heifers and failure to let down their milk readily to the machine.