

HOW TO FEED LACTATING COWS

The aim of proper feeding for lactating cows is to maximize milk yield by meeting the cow's nutritional requirements. Milk production follows a lactation curve, so the quantity of nutrients required will depend on where the cow is on the lactation curve.

During the dry period, the aim should be to feed a diet that provides for the fast-growing foetus, deposition of an energy reserve and regeneration of the mammary gland.

The lactation period (see Figure 1) is divided into four phases based on the cow's physiological cycle and nutrient requirements. Feeding should be based on these phases.

The lactation period

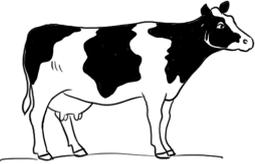
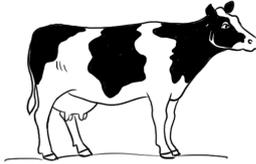
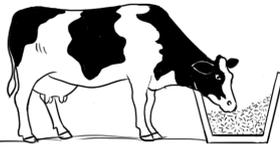
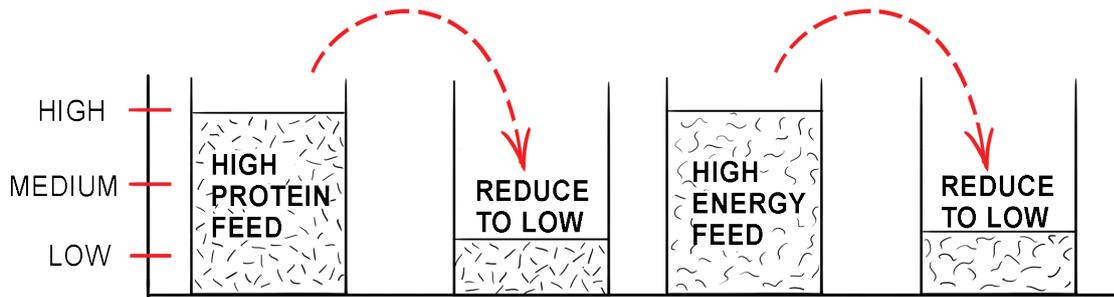
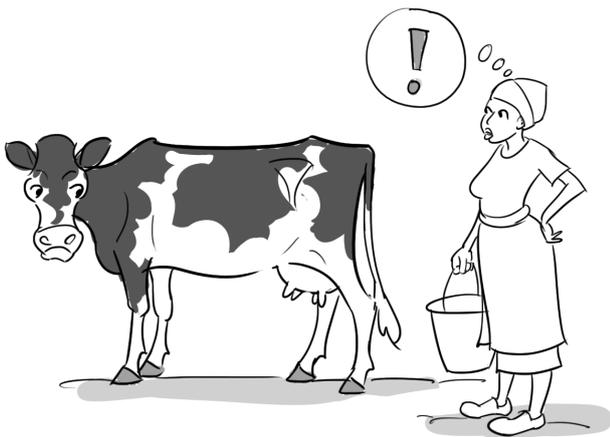
PHASE 1	PHASE 2	PHASE 3	PHASE 4
1—70 days	71—150 days	151—305 days	306—365 days
			
Calving to peak milk production	Peak lactation to mid-lactation	Mid-lactation to end-lactation	Dry period

Figure 1: The four phases of lactation.

How to dry a cow?



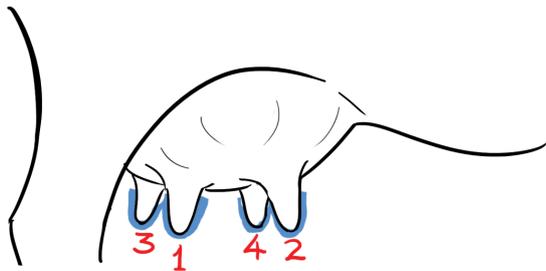
Reduce high protein and high energy feed intake to maintenance level (withdraw concentrates).



If the cow is a low yielder, just stop milking.



If the cow is a high yielder, milk it in the morning only, to reduce milk synthesis caused by pressure building up in the udder.



After milking is stopped, treat all the quarters with long-acting antibiotics to prevent mastitis from developing.

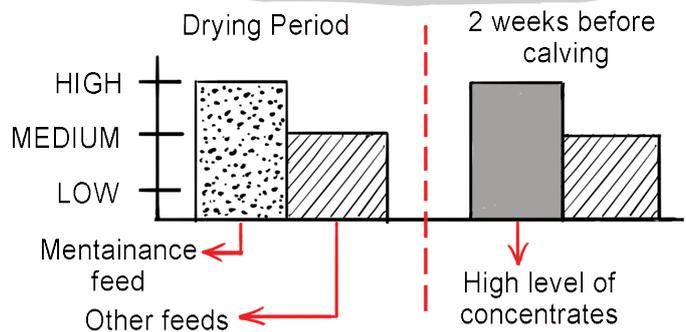


Figure 2: Drying a cow.

The aims of drying a cow are to:

- Build up body reserves in time for the next lactation period. If a cow is not dried in time, milk production will be reduced during the next lactation period.
- Allow the cow to regenerate alveolar tissue (milk-synthesizing tissue) that might have degenerated during the lactation period.
- Save nutrients for the fast-growing foetus. During the last phase of pregnancy, the calf grows rapidly and the cow's drying saves nutrients for the calf's growth.

How to steam a cow up?

- This extra concentrate (steaming) enables the cow to store reserves to be used in early lactation.
- To avoid over-conditioning, cows should not be fed large amounts of concentrate. If the diet is rich in energy, limit the intake of concentrates. Feeding bulky roughages can help increase rumen size to accommodate more feed at parturition (birth).
- Before calving, feed concentrate progressively to adapt the rumen microbial population. This will minimize digestive disturbances in early lactation when the diet changes to high concentrate.
- The amount of calcium fed during the dry period should be restricted to minimize incidents of milk fever in early lactation. A ration providing 15 g of calcium per day for the last 10 days of the dry period or an intake of 30–40 g/day over the whole dry period should reduce the number of incidents.
- During the 3 weeks immediately before and after calving, the cow should be given high-energy, highly palatable and digestible feed (e.g. commercial dairy meal and maize germ) or starchy feeds and molasses.