

# Unit C: Meeting Nutritional Needs of Animals

## Lesson 6: Feeding Practices

# Terms

- Dry matter intake
- Dry period
- Growth
- Overfeeding
- Underfeeding

# What is the feeding strategy for young stock?

- Generally, the pre-weaning period is very critical because of the high milk costs and high quality concentrates.
- Calves require a lot of attention.
- For a calf to produce to their highest potential, it must be fed and cared for correctly.
- Management can determine daily growth rates.

# What is the feeding strategy for young stock?

- Development of growth
  - **Growth**: the increase in size of vital parts of the body such as organs and bones and the development of the rumen. Slow growth cannot be reversed later in life and has a life-long negative effect.
  - Development growth is indicated by the size and shape of the body.

# What is the feeding strategy for young stock?

- Condition growth
  - This is necessary to give an animal sufficient body reserves, essential for attaining high production levels after calving.
  - Condition growth is indicated by the amount of fat, deposited in the body and measured by the body condition scoring method.

# What is the feeding strategy for young stock?

- Set back during their first year of life can be caused by poor feeding and management of calves after weaning.
- In the calf's second year, they may recover, but it is likely the calf will have lower production.

# What is the feeding strategy for cows?

- The calving interval is about one year, therefore the first three months after calving is the cow's peak production period.
- Then after 90 days, the cow should be pregnant and continue milk production until month 10 after calving.
- The next two months are a dry period before the next calving.
- A negative energy balance in the first stage of lactation causes the calving interval (and lactation period) to be slightly longer.

# What is the feeding strategy for cows?

- Dry period
  - ***Dry period***: time when the cow is without milk production.
  - Although the cow is not producing milk, it is imperative that she is still in good condition at the time of calving. This ensures maximum production during early lactation.
  - The recommendation is to restrict feeding (withhold concentrates) one day prior to drying-off. This will assist the lowering of milk production and decreases the risk of mastitis.



# What is the feeding strategy for cows?

- This period allows the cow to recover from the previous lactation period and to form sufficient body reserves for the next one. Level of nutrition during pre-calving depends on
  - Overall nutrition level related to production during lactation: the condition of the cow should be good at the moment of calving. A pregnant cow in poor condition at the end of lactation needs more feed during the dry period than cows already in good condition.
  - The length of the dry period: The recommendation is two months of dry period. A long dry period appears to have a negative effect in the next lactation.
  - Demands of the cow and calf just before calving: during the last two months of pregnancy, the uterus and calf develop rapidly. Feed requirements depend on the condition of the animal.

# What is the feeding strategy for cows?

- **Overfeeding** during the last month of pregnancy is costly in term of money, potential production performance, health and fertility during the first lactation and will therefore affect the total lactation performance. It is wise to save on concentrates during the dry period.
- **Underfeeding** during the dry period will result in low yield during the next lactation. This cannot be corrected during the lactation period. Underfeeding or unbalanced feeding can also disrupt the breeding cycle and influence the health of the animal.

# What is the feeding strategy for cows?

- Early lactation
  - The pattern of milk production corresponds to the pattern of milk requirements of the calf.
  - The physiological drive of a cow to produce milk is strongest in early lactation due to biological reasons. Feeding during this period is important.
  - Pre- and post-calving feeding affects the peak yield. Improved milk yield in the early lactation is associated with a proportionally greater partition of nutrients towards milk at the expense of body reserves.

# What is the feeding strategy for cows?

- The DMI (*Dry Matter Intake*) is usually very much reduced just before and immediately after calving and is perhaps only 45-50% of normal DMI. Appetite after calving recovers gradually, reaching full level at about 10-12 weeks after calving.
- Supplementation of concentrates with good quality roughage has the greatest effect on milk production when the cow is in early lactation.
- If a cow starts to gain considerable weight or condition during early lactation, it is likely that she is expressing her milk production potential.

# What is the feeding strategy for cows?

- Some important aspects of early lactation include
  - Peak yield: the level of possible production is decided by the level of peak yield, which depends on
    - Potential of the animal
    - Body condition at calving
    - Level of feeding during early lactation

# What is the feeding strategy for cows?

- Prediction of lactation yield: the pattern of lactation is being established during early lactation. The milk yield rises to a peak around week 5 of lactation, persists for 3-4 weeks, and then begins a slow decline.
- Fertility status: Fertility status is reduced during periods of weight loss. When the average body condition score drops, fewer cows will come into estrus and the conception rates is about 50%. Weight gain has a positive effect on estrus and conception.

# What is the feeding strategy for cows?

- Mid- and late lactation
  - In mid lactation, between 12-20 weeks after calving, the nutrient requirements for milk production are less pronounced. As a result, extra feed is partially converted into extra milk and partly for recovery of bodyweight.
  - It is not justified to increase the feeding level of an animal with a low or decreased peak yield in the hopes of increasing that yield.

# What is the feeding strategy for cows?

- In no way should feeding be based on calculated production requirements.
- During late lactation, the quantity and quality of supplementary feeding may be adjusted again. Although advanced production systems will allow the animal to regain more bodyweight, until reaching an acceptable body condition score.



# Review/Summary

- What is the feeding strategy for young stock?
- What is the feeding strategy for cows?