

# FEEDING MANAGEMENT OF DRY COWS/CLOSE UP (Level 1)

Topic	Training & information Content
3.1	Estimating feeding value of fodder & feed on dairy farms
3.2	Sampling feeds & forages/analysis interpretation
3.3	Estimating Dry Matter intake for various breeds/age categories of dairy cattle in the tropics
3.4	Reviewing feed intake, rumen fill, Body Condition Scoring (BCS)
3.5	Life weight estimation of cows
3.6	Rumen fermentation
3.7	Mineral & vitamin requirement, guidelines
3.8	Manure scoring and evaluation
3.9	Guidelines for ration calculations for various breeds, heifers, lactation stage (Rumen8)
3.10	Use of Rumen8 software for ration calculation
3.11	Optimization of ration with Rumen8
3.12	Feeding management guidelines
3.13	Feeding management of dry cows/close-up
3.14	Feeding systems
3.15	Metabolic disorders
3.16	Scoring locomotion and hoof condition
3.17	Mycotoxin in dairy cattle nutrition
3.18	Heat stress in dairy cattle nutrition
3.19	Monitoring feeding management, using KPIs (based on Rumen8)



## 1. You will learn about (learning objectives):

- The dry cow and importance of dry period.
- Taking care of a cow during dry period.
- Feeding guidelines of a dry cow: far-off and close-up periods.



## 2. Background

- Dry cow management is critical to a cow's performance and health in the next lactation.
- Adequate nutrition and appropriate disease prevention at this time is recommended.





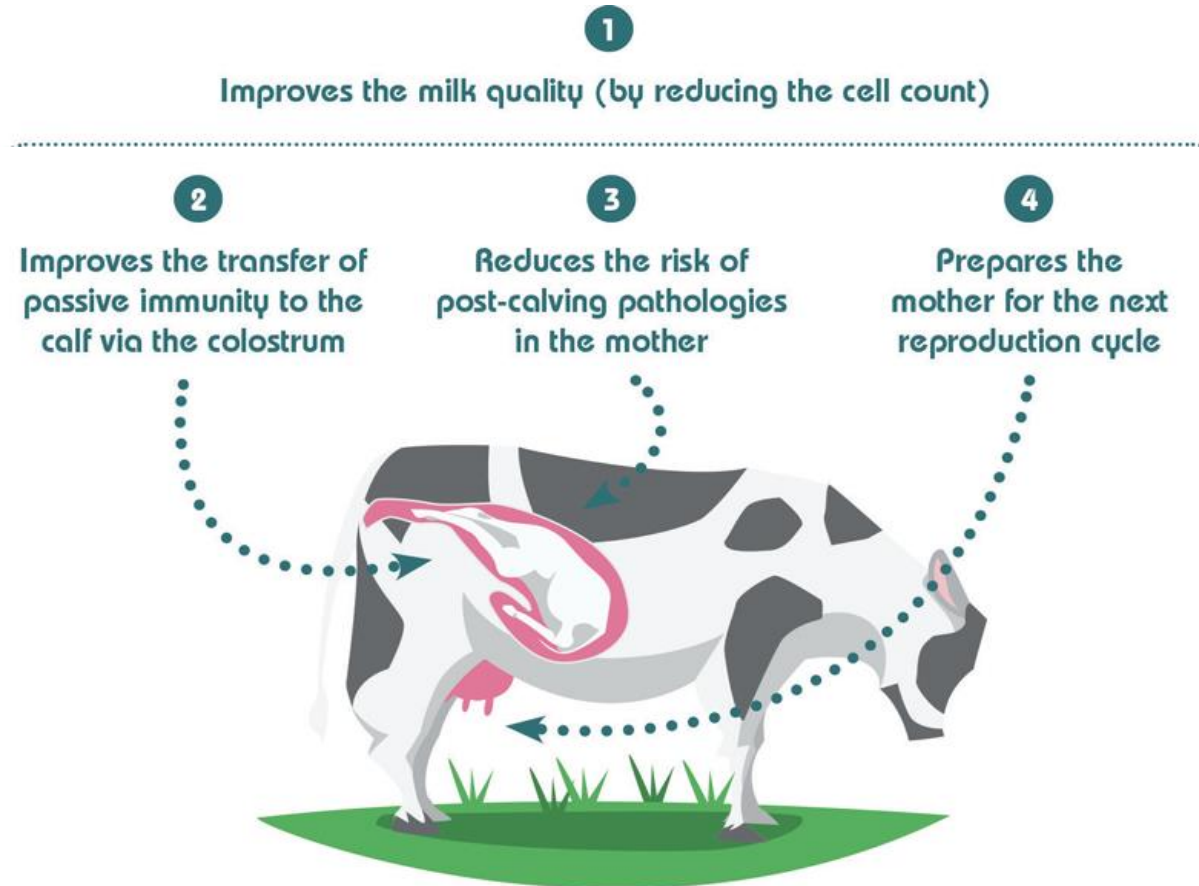
### 3. Dry cow

- A dry cow refers to one that is at the end of lactation but just before the next lactation.
- This dry period generally lasts for 40 to 65 days.
- (Gradually) stop milking the cow at 7 months of pregnancy and inducing the dry period for the remaining 2 months.
- Dry period is typically divided into two:
  - i. The far-off and
  - ii. Close-up period.



## 4. Importance of drying a cow

- i. Prepares mammary gland for the next lactation and prevent it's infection(s).
- ii. Helps the calf to gain weight through growth and development.
- iii. Reduces risks of post-calving infection to the mother cow (dam).
- iv. Prepares the dam for the next reproductive cycle.
- v. Prevents/reduces metabolic disorders during post-calving period.

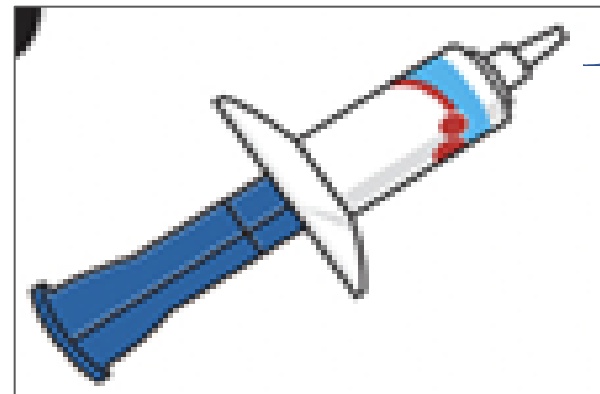


## 5. Methods of drying off

- Includes; (i) Abrupt dry-off and (ii) Gradual dry-off methods.

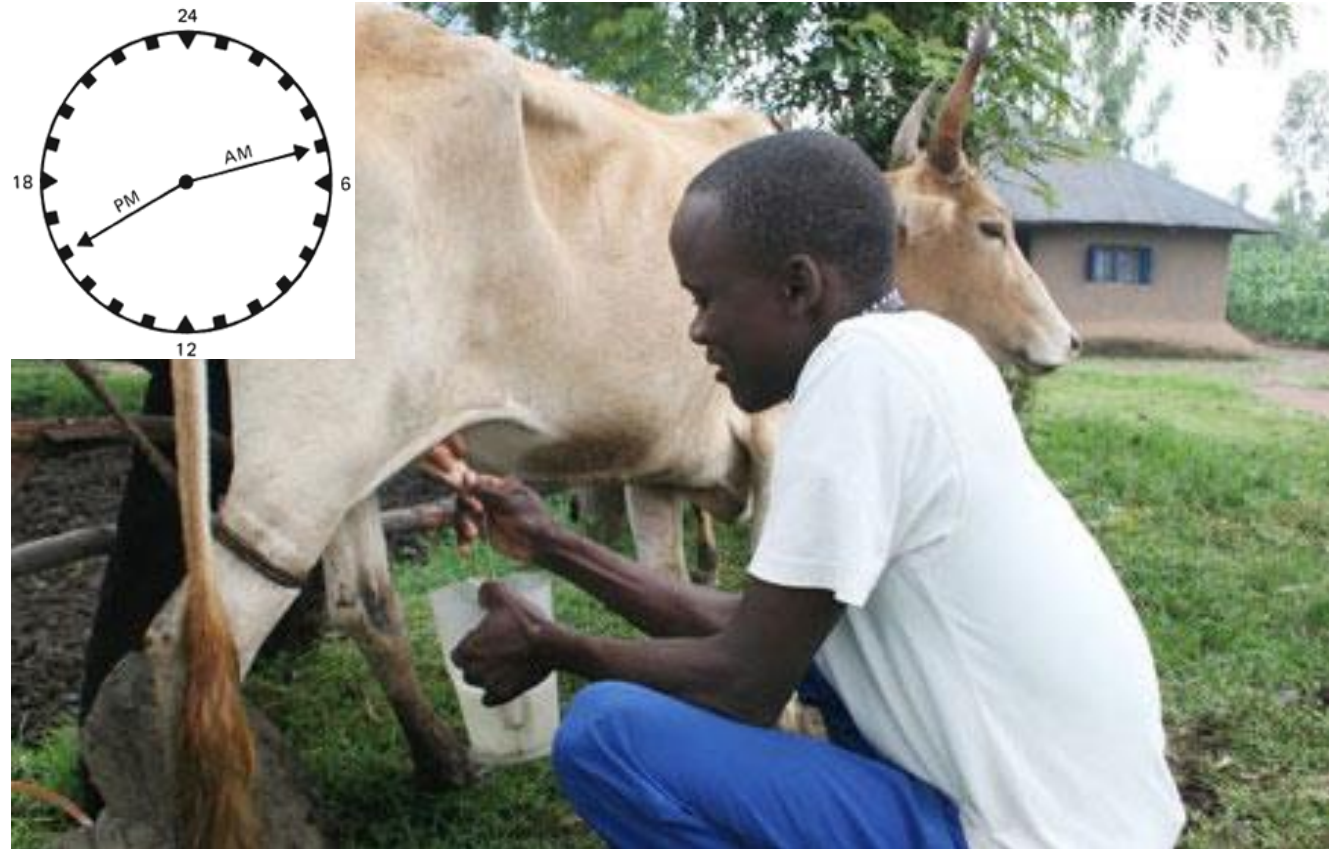
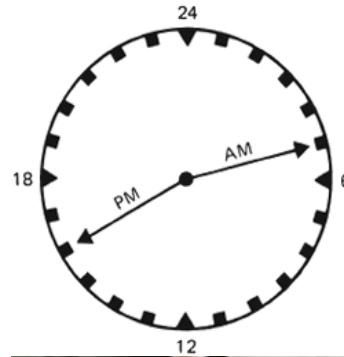
### Gradual dry-off

- Gradual dry off method helps the cow avoid losing milk from when they are not being milked.
- Is achieved by:
  - i. Reducing the number of milking to once a day.
  - ii. Gradually reducing the quality of ration.
  - iii. At the dry-off day you can inject dry-off injectors with an antibiotic solution/**intra-mammary tubes**.



## 5.1 Gradual dry-off: by Gradual milking

- Gradual milking is to reduce milk yield per day before dry-off by reducing milking frequency.





## 5.2 Gradual dry-off: by Gradual feeding

- Gradual feeding can be done in several ways;
  - Reducing concentrates from 14 days before dry-off,
  - Reducing energy density of the diet 7 days before dry-off. For example, feeding more straw/hay and less other better-quality forage before drying off.

Low/poor quality forage

Straw



Better quality forage

Baled silage



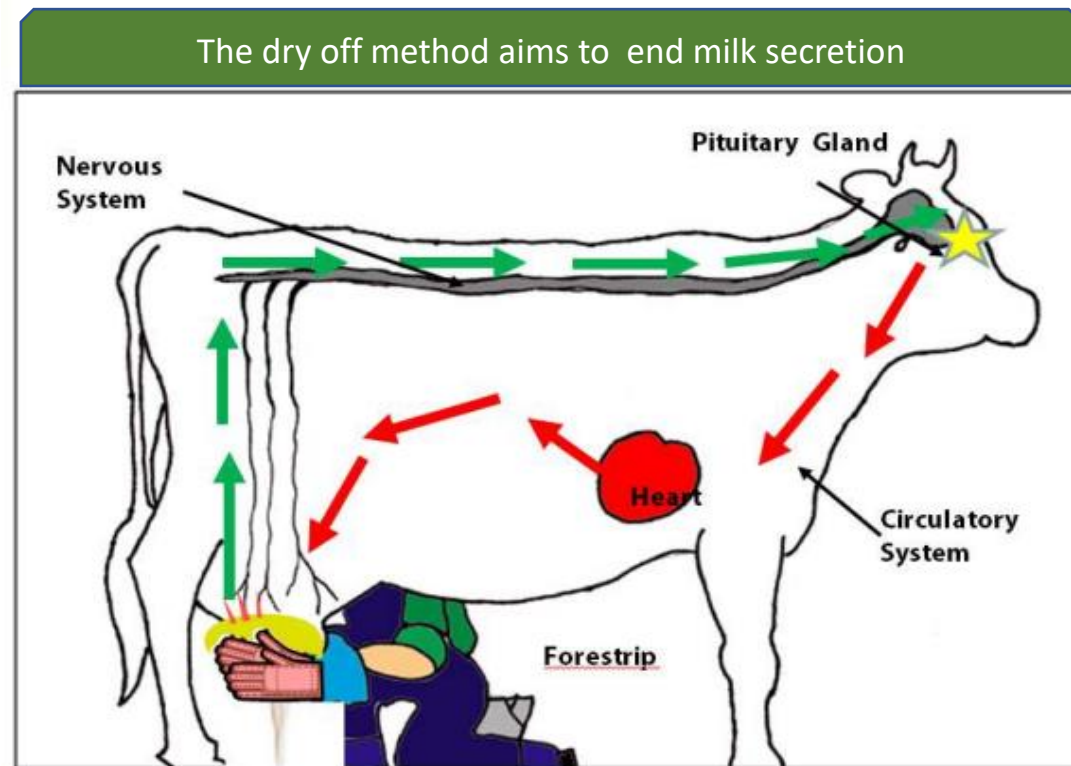
Fresh wilted grass





## 6. Methods of drying off: **Abrupt dry-off**

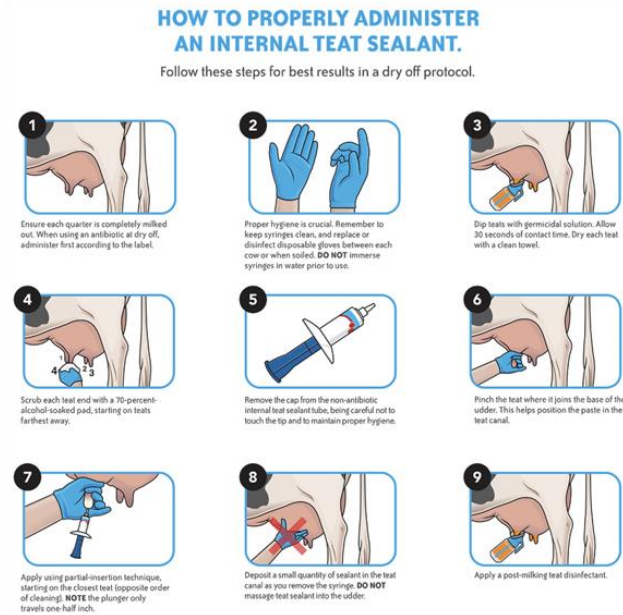
- The goal is to abruptly end milk secretion and to seal the teat canal as quickly as possible.
- It is advisable not milk cows at irregular intervals towards the end of lactation.




1. Stimulation
2. Signal through nerves
3. Oxytocin is released
4. Transport through blood
5. Milk letdown

## 6.1 Last milking at abrupt dry-off

- At the last day of milking, a dry cow therapy should be administered by a veterinarian.
- Teat sealant, may also be administered.
- Finally, an effective teat dip should be used, once per day up to 1-2 weeks after the dry off injector.



☰ YouTube<sup>KE</sup> Search



Dairy Know-How: Drying off - plan to do it properly

111,693 views · Oct 30, 2014

👍 471    🗑️ DISLIKE    ➦ SHARE    ≡+ SAVE    ...

Watch video:


<https://www.youtube.com/watch?v=-lb25i7TAqk>

## 7. Dry cow therapy

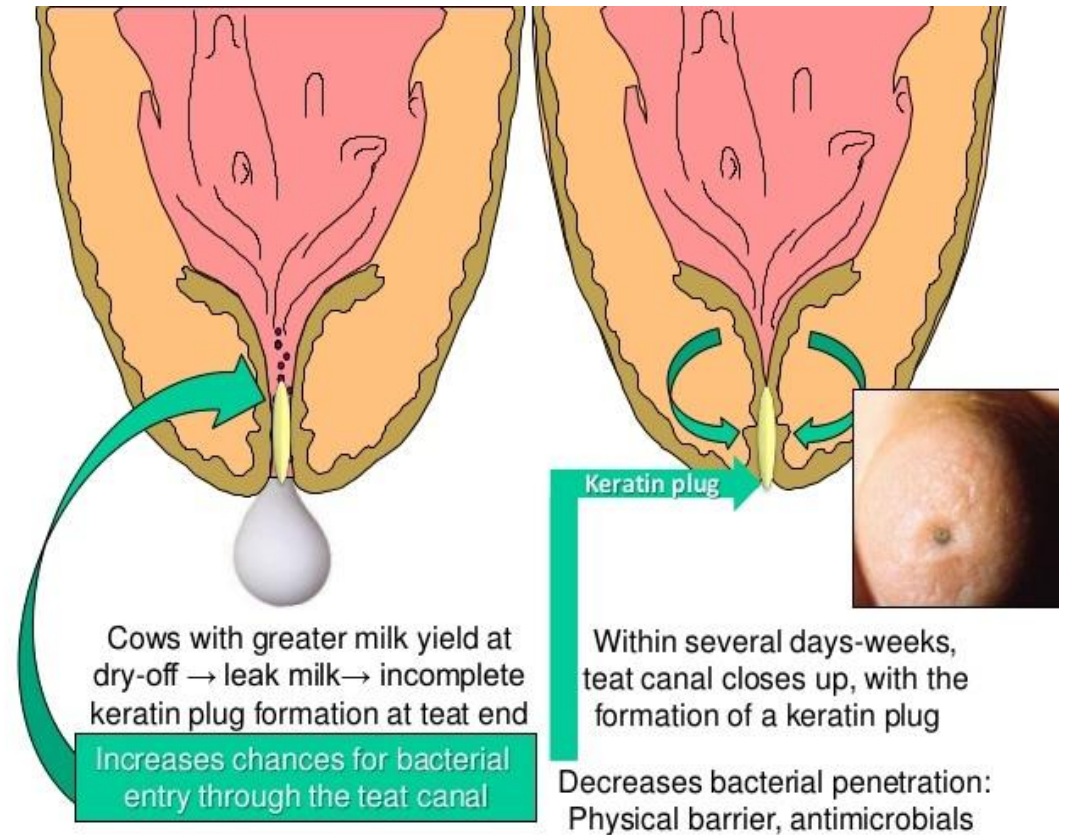
- Cows are very vulnerable to new infections during the first three weeks after drying off. All quarters may therefore be treated with a dry cow therapy.
- If a dry cow therapy is not available, continue using a teat dip once a day on all the teats.

Watch video:

<https://www.youtube.com/watch?v=VK5JXHrn7WQ>



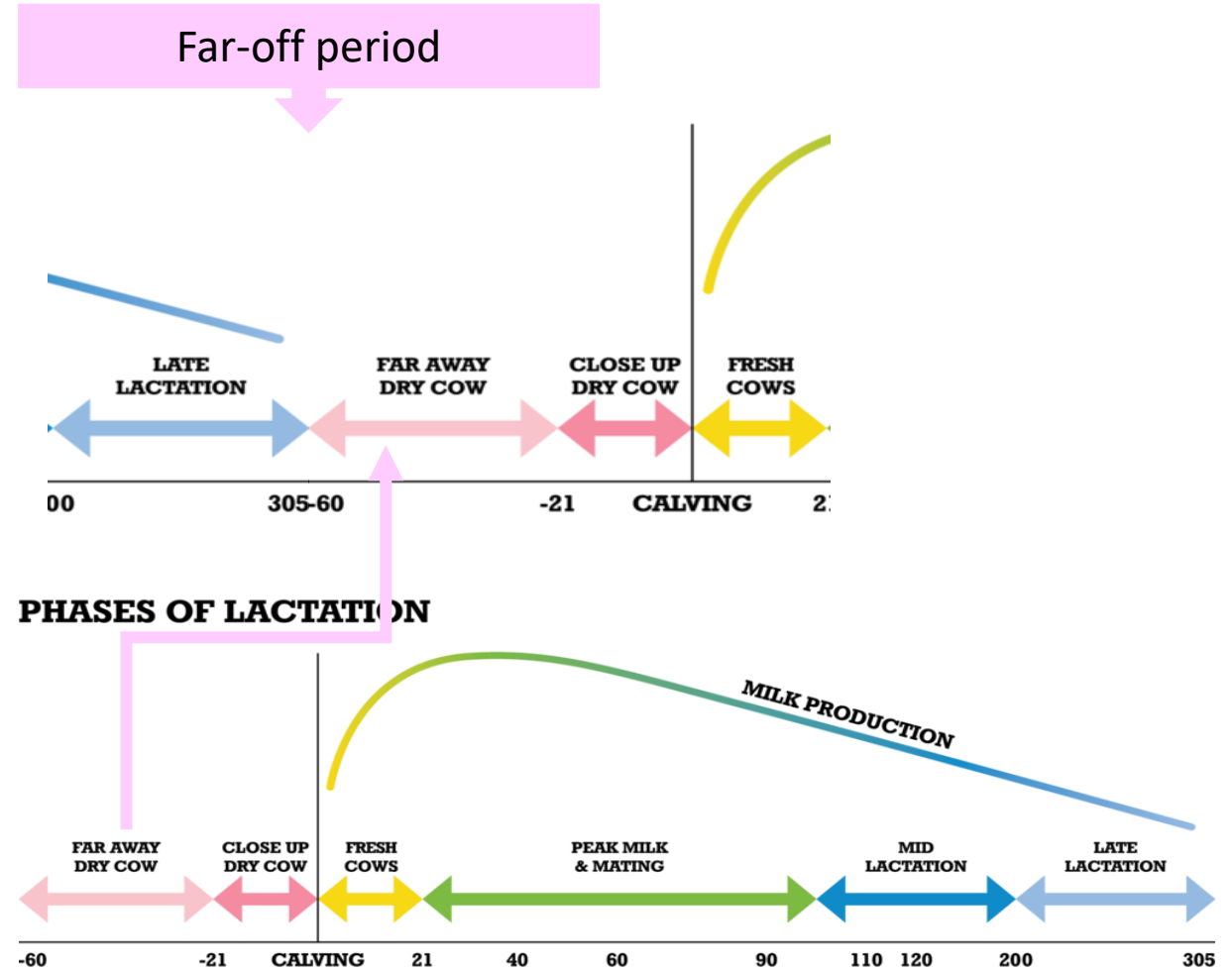
The screenshot shows a YouTube video player interface. At the top, there is a search bar and the YouTube logo. The main video area displays a diagram of a cow's teat, with a pink teat cap and a yellow teat. A text overlay reads: "When using dry cow tubes hygiene is very important so that no bacteria get into the teat." Below the video, the title "07: Dry cow therapy" is visible, along with view counts and interaction buttons like "Like", "Dislike", "Share", and "Save". At the bottom, there is a logo for "Interactive Content - The University of Edinburgh" and a "SUBSCRIBE" button.





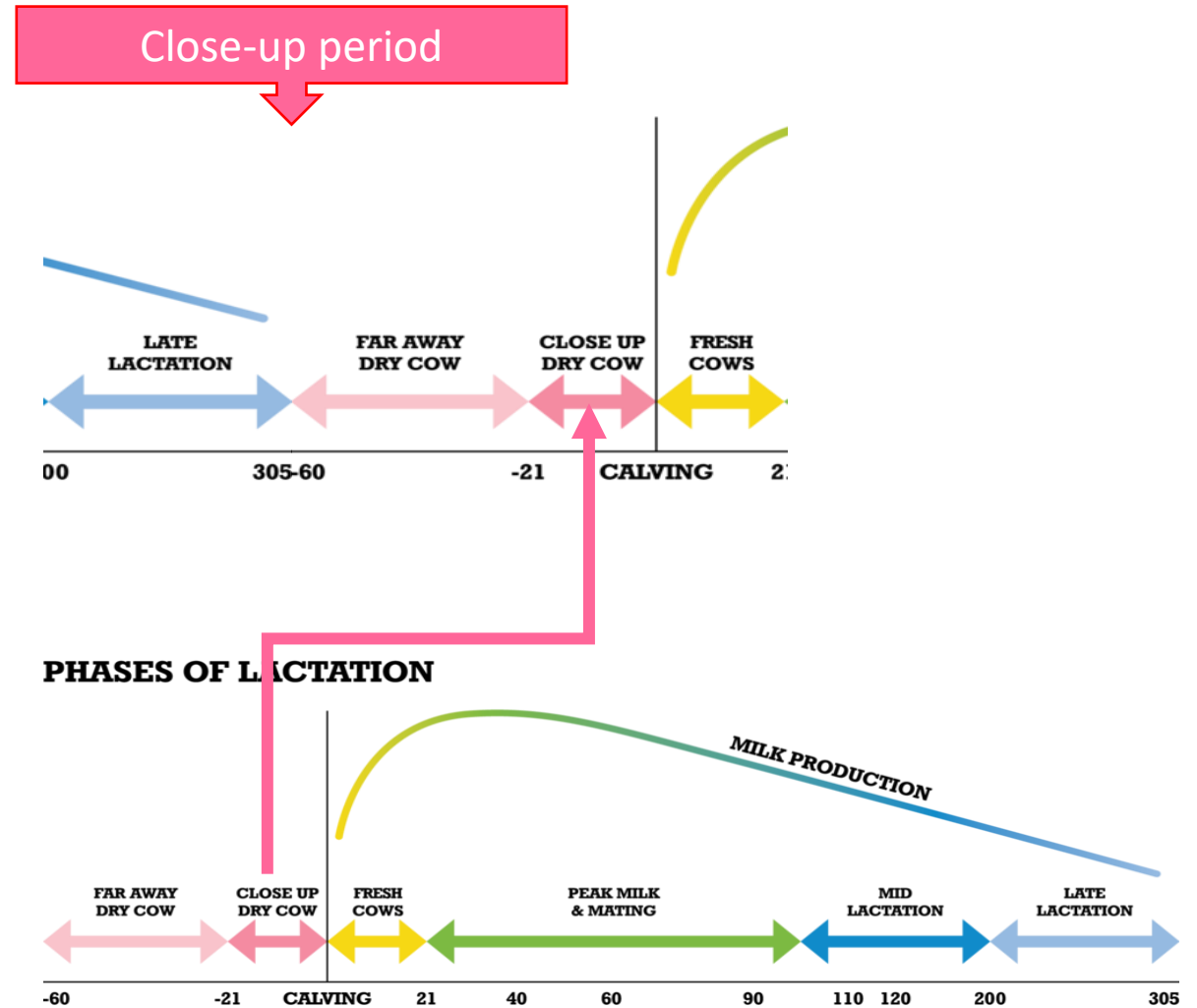
## 8. Far-off nutrition of dry cows

- Far-off period starts 40-65 days before calving.
- Reduce feed intake by 50-70% for 2-3 days.
- Rations of far-off cows should contain less energy and adequate amounts of fiber.



## 9. Close-up nutrition of dry cows

- Close-up dry off period is the last 3 weeks before calving. Also known as steaming up period.
- Rations should contain more metabolizable protein and energy.
- Rations can also contain forages lower in potassium, such as maize silage.



## 10. Metabolic disorders: Milk fever/hypocalcaemia

- Milk fever is a metabolic disorder caused by insufficient calcium.
- Commonly occurs after calving.
- This means the cow has lower levels of calcium in the blood.
- Traditional prevention has been to limit calcium intake in dry period.
- Occurrences can be reduced by using low potassium forages and adding anionic salts appropriately to the close-up ration.

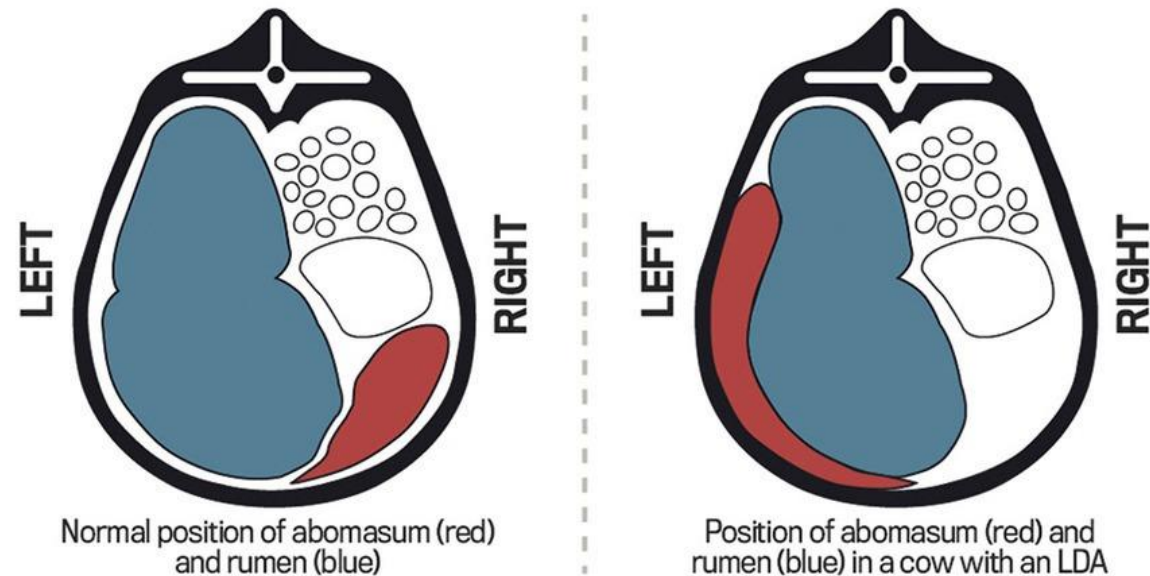
Further reading: Module metabolic disorders.





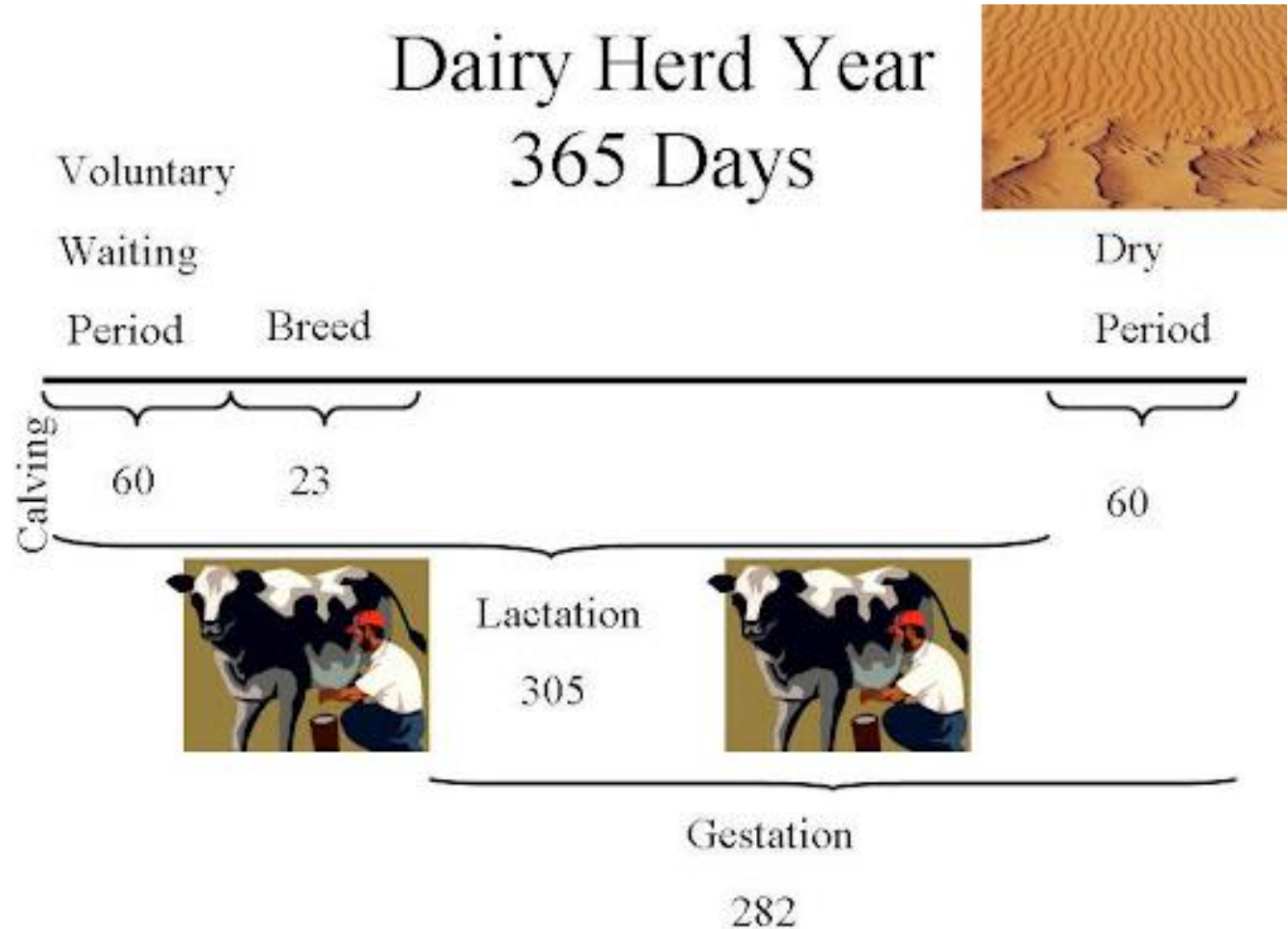
## 11. Displaced abomasum and Acidosis

- Displaced abomasum and acidosis can be prevented by implementing a good management strategy during the cow's close-up period.
- For example, feeding long fiber to stimulate cud chewing/rumination and properly balanced diets.
- Sub-clinical milk fever (hypocalcemia) can cause an increased incidence of displaced abomasum.



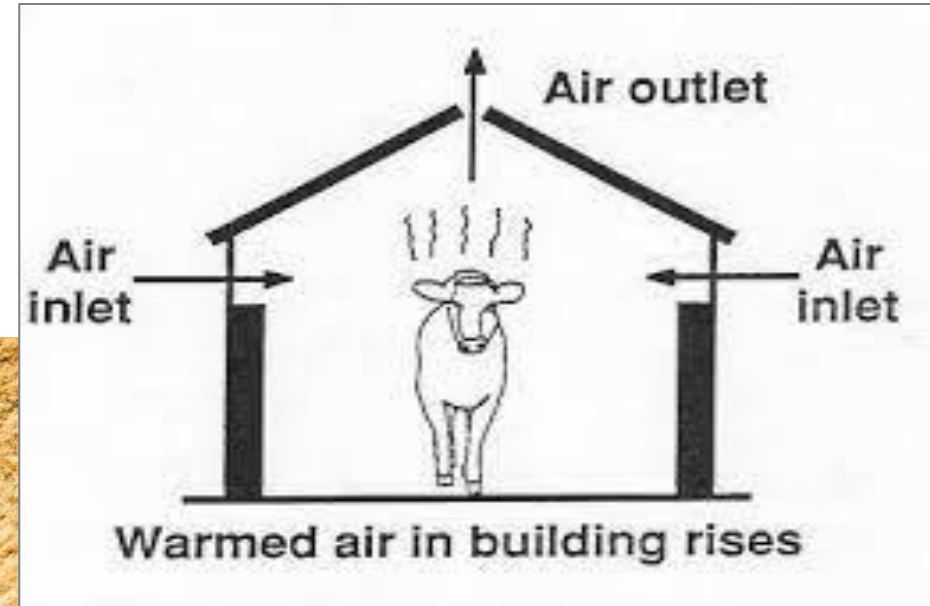
## 12. Length of dry period

- Dry periods typically last 60 days and involve both a far-off and a close-up period.
- Research reveals if no dry period is provided for a cow, she will produce 25 to 30% less milk the next lactation.



## 13. Minimizing heat stress in dry cows

- Dry cows are highly prone to heat stress.
- Ways of preventing heat stress should be provided; e.g. cooling under shades, ventilations and where possible fans.





## 14. Minimizing social, environmental and metabolic stress for close-up cow

- Stress can affect feed intake, immune function, and overall health and productivity of cows around calving time.
- Social stress can be minimized by having as few as possible, moves of pens or regrouping of cows.
- Adding multiple cows to a group at once is also preferable to adding individual cows.













Add multiple cows to a group at once



Individual cows added, suggesting stress

## 15. Body condition score (BCS) of a dry cow

- Dry cows off in good condition score of 3.0 to 3.5 is important to maintain until calving.
- Fattening cows in the dry period can lead to health problems.
- If cows are already over conditioned at drying off, they should be subjected not lose weight.

Body Condition Score	Vertebrae at the middle of the back	Rear view (cross-section) of the hook bones	Side view of the line between the hook and pinbones	Cavity between tailhead and pinbone	
				Rear view	Angled view
3 Frame and covering well balanced					
4 Frame not as visible as covering					

## 16. Recommended feeds in the dry cow ration

- Dry cow ration should be based on forages, including good quality long-stemmed hay.
- Ensure the diet is balanced. Keep an eye on excess protein (high nitrogen forages), calcium (lucerne) and potassium (molasses) in the dry cow diet.
- Minimize concentrate level in the total ration.
- Do not feed rumen buffers e.g. sodium bicarbonate.

