



Mastering the Transition Period for Peak Dairy Production

Description

The success of any profitable dairy enterprise hinges on how well a farmer manages the cow's transition period—the critical 60 days around calving. This period, encompassing the dry period and early lactation, is where the foundation for the cow's entire next production cycle is laid. A well-managed transition, drawing from best practices championed by experts in the East African dairy sector, ensures smooth calving, maximum milk yield, and timely re-conception.

This comprehensive guide details the crucial steps from stopping milking to achieving peak production and securing the next pregnancy.

Phase 1: Ending Lactation and The Dry Period

The golden standard in dairy farming is the 365-day calving interval, which necessitates a 305-day lactation period followed by a 60-day dry period. Adhering to this cycle is non-negotiable for sustainable high production.

1. Stopping to Milk Your Cow & The 305-Day Standard

The decision to stop milking—the Drying Off process—should be calculated to ensure the cow receives a full 60 days of rest before her expected calving date (estimated at around 7 months or 220 days of gestation).

The Dangers/Risks Associated with Milking a Cow More Than 305 Days After Calving

Extending lactation beyond the ideal 305-day window poses several significant risks that severely undermine farm profitability:

Over-conditioning (Fat Cow Syndrome): Cows in late lactation naturally partition nutrients away from milk production and towards body reserves. Milking past 305 days, especially when pregnant, increases the risk of the cow becoming over-conditioned (Body Condition Score, or BCS, > 3.5). This excess fat predisposes her to severe metabolic disorders like Ketosis and Milk Fever (hypocalcemia) after calving, drastically reducing early lactation performance and health.

Poor Feed Efficiency: Milk yield drops dramatically in late lactation. Every kilogram of feed consumed produces less milk, meaning the cow spends more time in an inefficient state, reducing overall profitability.

Reduced Lifetime Yield: A cow needs 60 days to rejuvenate her udder and prepare for the next lactation. Missing this window compromises the following lactation's peak and total yield.

Whether Shortening the Lactation Cycle is Good or Bad for the Farmer's Income

Shortening the lactation cycle (e.g., drying off at 280 days) is generally detrimental to the farmer's income. While it ensures a proper dry period, it sacrifices valuable milk that the cow could still produce efficiently, thus reducing the total annual milk income. The goal is to maximize milk in 305 days while guaranteeing the 60-day dry rest.

2. The Process of Drying Off

Drying off involves the deliberate, usually abrupt, cessation of milking. To minimize pressure and mastitis risk, the cow's milk yield should ideally be reduced to less than 12 kg per day in the week leading up to drying off.

Abrupt Cessation: The most common and recommended method is to abruptly stop milking once the target date is reached.

Immediate Treatment: On the day of drying off, the cow's udder must be thoroughly cleaned and treated. A Dry Cow Therapy (DCT) antibiotic infusion is inserted into all four quarters (to clear existing subclinical infections), followed by an Internal Teat Sealant (ITS), which forms a physical barrier against new infections during the dry period.

3. Changes in Feeding During Drying Off (The Far-Off Period)

Once dry, the cow enters the "Far-Off" period (Days 60 to 21 pre-calving). The feeding strategy is crucial for BCS management and preventing milk fever.

Lower Energy/Protein: The diet must be drastically reduced in energy and protein compared to lactation to prevent over-conditioning. Focus on quality, bulky roughage like good quality hay or dry straw.

Limit Calcium: This is counter-intuitive, but limiting calcium intake during the Far-Off and Close-Up periods primes the cow's system to efficiently mobilize her own calcium reserves after calving. This is the cornerstone strategy for Milk Fever Prevention.

4. The Mineral Licks to Use During the Dry Period

Mineral supplementation during the dry period must be specialized to prevent Milk Fever.

Low-Calcium Mineral Licks: These mineral mixes are formulated with low calcium and often include Anionic Salts (e.g., magnesium chloride, calcium sulfate). Anionic salts create a negative charge (lowering the dietary cation-anion difference, or DCAD) in the cow's blood, forcing her body to activate mechanisms to pull calcium from her bones. This activation prevents the sluggish response that causes Milk Fever post-calving.

Essential Trace Elements: Licks should still provide essential trace elements (like Selenium, Copper, Zinc, and Vitamin E) crucial for the cow's immune system and calf development.

Phase 2: Steaming Up and Udder Rejuvenation

The last three weeks (21 days) before calving constitute the Close-Up Period, also known as Steaming Up. This phase is the highest-impact nutritional strategy for high production.

5. What is Steaming Up?

Steaming Up is the practice of gradually introducing high-energy, high-protein concentrate feed to the cow's diet during the last 3 weeks of pregnancy.

The Goal: The primary aim is to prepare the rumen microbes for the high-concentrate diet of early lactation, increase the cow's nutrient intake to meet the demands of the rapidly growing foetus and udder, and prevent the severe Negative Energy Balance (NEB) that follows calving.

6. How to Do Steaming Up Properly

Steaming Up must be done gradually to avoid digestive upset (acidosis):

Start 21 Days Pre-Calving: Move the close-up cows into a separate, clean pen with access to fresh water.

Gradual Increase: Begin feeding the lactation concentrate (or a specialized dry-cow ration) in small quantities (e.g., 1 kg per day).

Ration Target: Gradually increase the concentrate to the level of 3 to 6 kg per day by the day of calving. The exact amount depends on the cow's expected peak yield and BCS, but must be introduced in small increments over the 3 weeks.

High-Quality Roughage: Ensure the cow still has access to highly palatable, quality roughage (hay or silage) to maintain rumen fill and health.

7. Udder Development and Rejuvenation Before and After Calving

The dry period is the only time the udder tissue can repair, develop, and rejuvenate new milk-producing cells.

- **Before Calving:** The dry period allows for the regeneration of mammary gland tissue, significantly increasing the capacity of the udder for the next lactation. The final stages of development occur during Steaming Up, as the concentrated nutrients fuel cell growth and the final surge of colostrum formation.
- **After Calving:** Within the first few hours, the cow must be properly milked out (especially the high-quality colostrum) to relieve pressure and initiate the full function of the mammary gland. Continued proper milking frequency and let-down (oxytocin release) are vital for the full rejuvenation of the cells and maximizing daily yield.

8. The Role of Supplementation using Tranzpro

Specialized supplementation is critical during the close-up period to bridge the nutrient gap and mitigate transition disorders. Tranzpro (a supplement providing protein, energy, trace elements, and a rumen feed stimulant) plays a vital role by initiating a 54-day nutritional program focused on protecting the cow's health and boosting performance:

Application Phase	Days	Role of Tranzpro®
Pre-calving	18 days before calving	Prepares the rumen microflora for the sudden increase in feed intake post-calving. Supplies bypass protein and readily available energy to meet the demands of the foetus and udder development, ensuring smooth calving and reducing the risk of stillbirths.
Post-calving	Continue for 36 more days after calving	Provides critical protein and energy precursors to support the rapidly increasing milk production while the cow's appetite is lagging (NEB period). The trace elements and rumen feed components help maximize dry matter intake and mineral status, reducing the incidence of Ketosis and Milk Fever, and accelerating the onset of heat.

Phase 3: Early Lactation and Peak Production

The period from calving up to 100 days is the most demanding and crucial for profitability. The goal is to maximize milk yield before the inevitable post-peak decline.

9. Early Lactation Strategies

The primary challenge in early lactation is the Negative Energy Balance (NEB), where the cow's energy output (milk) exceeds her energy input (feed).

- **Maximize Dry Matter Intake (DMI):** Cows cannot eat enough immediately after calving to meet their energy needs. The strategy is to feed a highly palatable, high-energy-density diet (concentrates/dairy meal) frequently throughout the day to encourage intake.
- **Forage Quality:** Provide the highest quality hay/silage available to ensure rumen health and nutrient density.
- **Water:** Ensure unlimited access to clean, fresh water, as milk is 87% water.

10. How to Attain Peak Milk Yield and How to Navigate Reduced Dry Matter Intake

Peak production is the point (usually 30-60 days post-calving) where a cow reaches her maximum daily milk yield potential. This peak yield largely determines her total lactation volume.

To maximize peak yield, especially while DMI is reduced:

- **High-Octane Ration:** Feed a high-density dairy meal (20-24% crude protein) formulated with readily available energy (starches and sugars).
- **Strategic Feeding:** The cow's DMI typically lags behind her milk production curve. To navigate this, feed smaller amounts of concentrate more frequently (e.g., 3-4 times daily) to keep the rumen stable and active.
- **Body Reserves:** Accept that the cow will lose some weight (up to 10% of body weight) in the first 60 days, as she mobilizes fat to fuel milk production. Effective Steaming Up (using supplements like Tranzpro) minimizes this loss.

11. How to Handle Illnesses During Early Lactation

The transition period accounts for nearly 75% of all disease incidents. Rapid and correct management is vital:

- **Milk Fever (Hypocalcemia):** Treat immediately with IV or subcutaneous calcium solution. Prevention (DCAD diet during the dry period) is the best cure.
- **Ketosis (Acetonemia):** Typically occurs 2-6 weeks post-calving due to excessive fat mobilization (severe NEB). Treat with glucose precursors (Propylene Glycol) and IV dextrose.
- **Mastitis:** Monitor udder health daily. Treat clinical mastitis with intra-mammary antibiotics and anti-inflammatories, following veterinary guidance.

12. How and When to Deworm Your Cows During Early Lactation

Deworming during early lactation is important to maximize nutrient absorption and minimize stress on the cow, but timing is crucial.

Timing: Consult your local veterinarian, but a common best practice is to deworm the cow 30 to 45 days after calving. This avoids compounding stress immediately post-calving and helps ensure the cow can fully utilize the high-nutrient feed being supplied to maximize peak yield. Use a broad-spectrum dewormer effective against both internal and external parasites.

13. How to Ensure That Your Cow Comes on Heat 45 to 60 Days After Calving

Achieving a timely pregnancy is the biggest determinant of a 365-day calving interval and, therefore, farm profitability. The goal is to breed the cow within the Voluntary Waiting Period (VWP), aiming for successful conception by 60-90 days post-calving.

Minimize Negative Energy Balance (NEB): This is the key. The cow will not release hormones (Luteinizing Hormone, or LH) needed for a proper heat cycle until her energy balance begins to stabilize. Steaming Up and maximizing DMI (with the help of supplements like Tranzpro) in early lactation shortens the NEB period.

Mineral and Vitamin Status: Ensure adequate intake of reproductive minerals like Phosphorus, Selenium, and Vitamin A/E.

Heat Detection: Maintain accurate records and use aids (tail paint, heat detection patches) to spot signs of oestrus early, as cows in NEB often exhibit weak heat signs.

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Date Created

2025/11/14

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