TASSELLS Farm Limited
Re-Defining Agri-Living

A STRATEGIC INVESTMENT IN PRECISION NUTRITION, COST EFFICIENCY, AND SUSTAINABLE DAIRY PRODUCTION.

FEEDING THE FUTURE:

TFL INTEGRATED FEED & MINERAL SUPLEMENTS

Prepared for: The Board of Directors, Tassells Farm Limited

Authored by Tassells Farm Limited (TFL) Research Division

Feeding the Future:
TFL Integrated Feed & Mineral Supplements

A Strategic Investment in Precision Nutrition, Cost Efficiency, and Sustainable Dairy Production.

Prepared for: The Board of Directors, Tassells Farm Limited

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The TFL Feed Processing Plant is not just an auxiliary project — it is the cornerstone of our agro-industrial dairy complex. By reducing feed costs, enhancing herd health, and supplying high-quality feeds to local farmers, we build resilience, profitability, and leadership in Kenya's dairy value chain.

Think Dairy...Think TFL!

Tassells Farm Limited (TFL)

Research & Management Division

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Dairy agri-inovation.

INVESTMENT PLAN (NO 3)

Kenya agro industrial Dairy Complex

Integrated Animal Feed & Mineral Supplements

Prepared for: The Board of Directors, Tassells Farm Limited

Prepared by: Muturi Njoroge

Date: August 2, 2025

1.0 Executive Summary

To Tassells Farm Limited (TFL)

The primary objective is to achieve nutritional self-sufficiency, significantly reduce feed costs—the largest expense in dairy farming—and ensure the highest standards of herd health and productivity.

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2.0 Introduction: The Role of Precision Nutrition in Modern Dairy Farming

Modern high-yielding dairy animals are akin to elite athletes. Their nutritional needs are precise and must be met with scientific accuracy to support maintenance, growth, reproduction, and milk production. A one-size-fits-all approach to feeding results in wasted resources, poor health, and suboptimal yields.

The TFL feed mill is designed to be the nucleus of our nutritional strategy. It moves beyond simply providing "feed" to providing "precisely formulated nutrient solutions." This involves:

- **Life-Stage Specific Formulations:** Creating different rations for calves, heifers, dry cows, and lactating cows at various production levels.
- **Quality Assurance:** Controlling every ingredient that enters the feed, ensuring safety and nutritional value.
- **Cost Optimization:** Reducing reliance on expensive commercial feeds and utilizing locally available raw materials and by-products from our own operations.
- **Knowledge Transfer:** Supplying our out-growers and neighboring farmers with quality feeds, thereby improving the overall milk quality collected by TFL.

3.0 Business Description

3.1 Mission Statement: To produce and supply the most scientifically advanced, cost-effective, and high-quality animal feeds and mineral supplements, ensuring the optimal health, productivity, and profitability of the TFL herd and the wider farming community.

3.2 The Product Lines:

1. **Calf Milk Replacer (CMR) Formula:** A milk-based powder for early calf nutrition.
2. **Starter Concentrate:** For weaned calves.

3. **Heifer Grower Concentrate:** For weaners and bulling heifers.
4. **Lactating Dairy Meal:** High-energy and protein concentrate for milking cows.
5. **Dry Cow Concentrate:** Specially formulated for incalf and dry cows.
6. **Dairy Mineral Salts:** A premix of essential vitamins and minerals to be mixed with home-grown forage.

4.0 Nutritional Requirements & Feed Formulations

Note: These are representative formulations. A qualified animal nutritionist must fine-tune these based on a precise analysis of local raw materials.

4.1 Calf Milk Replacer (CMR) (Fed 0-8 weeks)

- **Nutritional Requirement:** Highly digestible protein and energy to mimic whole milk; antibodies for immunity.
- **How & When to Feed:** Mix powder with warm water (e.g., 125g per liter) and feed from a bucket or bottle twice daily. Wean off gradually after 6-8 weeks.
- **Sample Formula:**
  - Skim Milk Powder (50%)
  - Whey Powder (25%)
  - Vegetable Fat (15%)
  - Lecithin (3%)
  - Vitamins, Minerals, Prebiotics (7%)

4.2 Calf Starter Concentrate (Fed from 1 week to 6 months)

- **Nutritional Requirement:** High protein (18-20%) for rumen development; highly palatable.
- **How & When to Feed:** Offer small amounts from 1 week old alongside milk. Increase as solid intake grows.
- **Sample Formula:**
  - Maize Germ (40%)

- Soybean Meal (30%)
- Wheat Bran (15%)
- Molasses (10% - for palatability)
- Limestone (1.5%)
- Dairy Mineral Premix (2.5%)
- Salt (1%)

4.3 Heifer Grower Concentrate (Weaners & Bulling Heifers, 6-15 months)

- **Nutritional Requirement:** Balanced protein (16-18%) and energy for steady frame growth without becoming fat.
- **How & When to Feed:** Feed 2-3 kg per head per day alongside good quality forage.
- **Sample Formula:**

- Crushed Maize (50%)
- Wheat Bran (20%)
- Sunflower Cake (15%)
- Cotton Seed Cake (10%)
- Mineral Salt Premix (3%)
- Salt (2%)

4.4 Lactating Dairy Meal (For Milking Cows)

- **Nutritional Requirement:** High energy and protein (16-18%) to support peak milk production.
- **How & When to Feed:** Feed according to milk yield (e.g., 1 kg of concentrate for every 2-3 kg of milk produced), split and offered during milking times.
- **Sample Formula:**

- Maize Grain (35%)
- Wheat Pollard (20%)
- Soybean Meal (15%)

- Maize Germ (10%)
- Brewers' Waste (10%)
- Molasses (5%)
- Di-Calcium Phosphate (2%)
- Lime (1.5%)
- Mineral & Vitamin Premix (1.5%)

4.5 Dry Cow Concentrate (Incalf & Dry Cows)

- **Nutritional Requirement:** Lower energy than lactating ration; correctly balanced minerals (especially Calcium and Phosphorus) to prevent metabolic disorders like milk fever.
- **How & When to Feed:** Feed 2-3 kg per head per day during the dry period (last 2 months of pregnancy).
- **Sample Formula:**

- Wheat Bran (40%)
- Maize Germ (25%)
- Cotton Seed Cake (20%)
- Molasses (10%)
- Special Dry Cow Mineral Premix (5%) - *formulated with lower Calcium.*

4.6 Dairy Mineral Salts

- **Nutritional Requirement:** A concentrated source of macro and trace minerals (Ca, P, Mg, Zn, Cu, Se, I, Co) and vitamins (A, D, E) to supplement deficiencies in forages and concentrates.
- **How & When to Feed:** Always offered ad-lib in a separate weather-proof feeder for free access. Can also be mixed into the total mixed ration (TMR).
- **Sample Premix Formula (To be mixed at 2-3% in concentrate):**

- Dicalcium Phosphate (50%)
- Salt (30%)

- Lime (10%)
- Magnesium Oxide (3%)
- Trace Mineral & Vitamin Premix (7%)

5.0 Manufacturing Process: How Dairy Meal is Made

1. **Sourcing & Receiving Raw Materials:** Ingredients are sourced from trusted suppliers and from TFL's own farm (e.g., maize). Each delivery is tested for moisture, purity, and nutritional content.
2. **Grinding:** Ingredients like whole maize and oats are passed through a **hammer mill** to reduce particle size. This ensures a uniform mix and improves digestibility.
3. **Batching & Weighing:** Based on the formulated recipe, each ingredient is precisely weighed using automated digital scales.
4. **Mixing:** The weighed ingredients are discharged into a massive **vertical or horizontal mixer**.
5. **Pelleting (Optional but Recommended):** The mixed mash is conditioned with steam and forced through a **pellet mill die**. The heat and pressure create durable pellets, which improve palatability, reduce waste, and kill harmful bacteria.
6. **Cooling & Packaging:** The hot pellets are cooled in a **cooler** to remove moisture and stabilize them. The finished feed is then automatically weighed and packed into branded bags.
7. **Quality Control:** Samples are taken at every stage for lab analysis to ensure the final product meets the specified nutritional standards.

6.0 Operational & Distribution Chain

The operation will be seamlessly integrated into the TFL ecosystem:

- **Raw Material Collection:** A dedicated team manages the sourcing, receiving, and storage of raw materials. Trucks bring in ingredients like sunflower cake, while others collect maize and brewers' waste from our own farm and local sources.

- **Processing Unit:** The feed mill operates on a 2-shift system, with teams for grinding, mixing, pelleting, and packaging. Quality control lab technicians are on-site 24/7.
- **Distribution:**
  - **Internal Use:** The bulk of production is automatically allocated to feed the TFL herd, delivered directly to the feeding barns via conveyor systems or internal trucks.
  - **External Sales:** Finished bags are transported via TFL trucks to our **network of milk cooling plants**. These plants act as strategic **retail hubs**. Farmers delivering milk can purchase TFL-branded feeds and minerals on the spot, creating a powerful closed-loop system. Sales agents will also supply larger regional agro-vets and directly to large-scale farms.

7.0 Management & Administration

The plant will require a structured management team:

- **Plant Manager**
- **Production Supervisor**
- **Head Animal Nutritionist** (Critical for formulation)
- **Quality Control Lab Manager**
- **Procurement & Logistics Officer**
- **Sales & Marketing Team**
- **Shift Foremen and Operators (~1,900 personnel)**

8.0 Conclusion

The TFL Feed Processing Plant is not an auxiliary project; it is a fundamental pillar for the entire agro-industrial complex's success. It directly addresses the biggest cost center in dairy farming while simultaneously creating a formidable profit center.

This venture guarantees:

- **Superior Herd Health and Productivity:** Through precise, stage-specific nutrition.
- **Significant Cost Reduction:** By cutting out middlemen and utilizing integrated resources.
- **Enhanced Biosecurity:** By controlling all inputs into our animals' diets.
- **Community Leadership:** By providing local farmers with access to affordable, high-quality feeds, thereby strengthening the entire dairy value chain in Kitui County.

This proposal outlines a viable, integrated, and highly profitable model. We are confident that by approving this plan, the board will be making a strategic investment that will secure the long-term productivity, sustainability, and profitability of Tassells Farm Limited.

THINK DAIRY..... THINK TFL!!!

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