Nurturing your future

ProviMilk
Milk Replacer Portfolio

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Liquid feeding programmes

PRE-WEANING: NUTRITION, HEALTH AND MANAGEMENT

• **Supply** calf and lamb with energy and protein:
  - Maintenance
  - Growth
  - Health

• **Efficient** phase for daily live weight gain

• **Stimulate** optimal rumen development

• **Critical** window of opportunity
Milk Replacer Ingredient Groups

DAIRY PROTEIN

• Skim based e.g. skim milk, butter milk, casein, fat filled skim milk powder
• Whey based e.g. whey, whey protein concentrate, delactosed whey

NON-DAIRY PROTEIN

• Soya based e.g. soya protein concentrate, soya protein isolate, soy flour
• Animal based e.g. animal plasma, egg protein
• Others e.g. hydrolysed wheat gluten, potato protein, pea protein

FATS

• Animal fats e.g. lard, tallow, choice white grease
• Oils e.g. coconut, palm, fish oil
• Emulsifiers e.g. Lecithin

ADDITIVES

Vitamins and Minerals
Probiotics and Prebiotics
Functional proteins, Medicinal additives and Acidifiers
Skim vs. Whey Milk Replacers: What happens in the abomasum?
Casein in the abomasum
(good coagulation)
Casein in the abomasum (bad coagulation)
Whey in the abomasum (no coagulation)
Milk Replacer Ingredient Selection

NUTRITIONAL QUALITY

• Digestibility (protein, carbohydrate)
• Amino acid profile (influences digestibility)
• Mineral content (Na, K, Ca, P, Cl, S)
• Anti-nutritional factors
• Immunoglobulin’s
• Animal performance

PHYSICAL CHARACTERISTICS

• Mix quality
• Sedimentation
• Flowability

OTHER FACTORS

• Palatability
• Consistency
• Performance
• Cost
Product Overview

ProviMilk Milk Replacers

FEATURES

- High quality milk protein
- Spray dried fat (Palm/Coco)
- Balanced blend of vegetable fats and oils homogenised and emulsified
- Carefully selected vegetable proteins
- Excellent physical characteristics
- Balanced amino acid profile
- Mildly acidified
- Gut health package (NuStart)
- Fortified with vitamins, minerals and trace elements

BENEFITS

- Excellent digestibility
- High nutritional value
- Easy mixing and improved nutrient intake
- Optimal solubility and digestibility
- Consistent liquid milk quality
- Improves feed utilisation
- Maintains milk freshness
- Improves gut health and performance
- Optimises growth and development
## ProviMilk
### Calf Offering

<table>
<thead>
<tr>
<th>Product</th>
<th>Fastgro</th>
<th>Daisy</th>
<th>Total</th>
<th>Professional</th>
<th>Prestige</th>
<th>Premium</th>
<th>Elevator</th>
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<td>Protein (%)</td>
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<td>Oil (%)</td>
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<td>18</td>
<td>17</td>
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<tr>
<td>Base</td>
<td>Whey/Veg</td>
<td>Whey/Veg</td>
<td>Whey</td>
<td>Skim/Veg</td>
<td>Skim</td>
<td>Skim/Veg</td>
<td>Whey/Veg</td>
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<td>Vitamin A (iu/kg)</td>
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<td>25 000</td>
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<tr>
<td>Vitamin D3 (iu/kg)</td>
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<td>6 000</td>
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<tr>
<td>Vitamin E</td>
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<td>Proviox™ 50 (iu/kg)</td>
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<td>100</td>
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<tr>
<td>NuStart included</td>
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<td>Yes</td>
<td>Yes</td>
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</tbody>
</table>

*Machine Special Version available for Britmix Feeder*
Whole milk or milk replacer?

OPTIMISING PERFORMANCE: PROS AND CONS …

• Health

• Performance

• Convenience

• Economics
Competitor Differentiation: 

*NuStart – gut health package*
What is NuStart?

*Effective combination of additives working in synergy*

**FEATURES**
- Antioxidant (Proviox™ 50)
- Etheric oils
- Probiotic (CMR)
- Prebiotic (CMR and Feed)
- Functional fibre (Feed)
- Vitamins and minerals

**BENEFITS**
- Antibacterial
- Intestinal development
- Stimulates feed intake
- Boosts immunity
- Synergistic benefits
- Increase growth rate
Antioxidant (Proviox™ 50)

Unique antioxidant blend and partial Vitamin E replacer

1. Large capacity to give away unpaired electrons = large antioxidant capacity

2. Regeneration of vitamin E
## Essential oils

*Blend of oils encouraging feed intake and stimulating health*

<table>
<thead>
<tr>
<th>Source</th>
<th>Active compound(s)</th>
<th>Properties</th>
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<tbody>
<tr>
<td>Cinnamon</td>
<td>Cinnamaldehyde</td>
<td>Appetite and digestion stimulant, antiseptic</td>
</tr>
<tr>
<td>Rosemary</td>
<td>Cineole</td>
<td>Digestion stimulant, antiseptic, antioxidant</td>
</tr>
<tr>
<td>Oregano</td>
<td>Carvacrol</td>
<td>Appetite stimulant, antiseptic</td>
</tr>
<tr>
<td>Coriander</td>
<td>Linalol</td>
<td>Digestion stimulant</td>
</tr>
<tr>
<td>Thyme</td>
<td>Thymol</td>
<td>Appetite stimulant, antiseptic, antioxidant</td>
</tr>
<tr>
<td>Aniseed</td>
<td>Anethole</td>
<td>Digestion stimulant</td>
</tr>
<tr>
<td>Garlic</td>
<td>Allicin</td>
<td>Digestion stimulant, antiseptic</td>
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Probiotic and Prebiotic

Promoting and supporting intestinal development

PROBIOTIC (CMR)

*SPORE FORMING BACTERIA*

- Introduction of positive strain competes with negative strains

PREBIOTIC (CMR AND FEED)

*FRUCTO-OLIGOSACCHARIDES*

- Provides nutrients for beneficial bacteria
- Production of volatile fatty acids
- Competitive exclusion
Dietary fibre

Stimulating rumen development

FUNCTIONAL FIBRE (FEED)

• Provides fibre specifically fermented to butyrate
• Encourages early rumen development

Results in:

• Higher fermentation activity
• Improved absorption
• Enhanced dry feed intake
### Vitamins and Minerals

**Supporting requirements of the rapidly developing young ruminant**

<table>
<thead>
<tr>
<th>VITAMINS</th>
<th>MINERALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A</td>
<td>• Ca</td>
</tr>
<tr>
<td>• D3</td>
<td>• P</td>
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<tr>
<td>• E</td>
<td>• Mg</td>
</tr>
<tr>
<td>• B range</td>
<td>• Na</td>
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<td></td>
<td>• K</td>
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<td>• Cl</td>
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<td>• Fe</td>
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<td></td>
<td>• Cu</td>
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<td></td>
<td>• Zn</td>
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<td>• Mn</td>
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</tbody>
</table>
Effect of NuStart on ADG

Calf Milk Replacer

OVERALL EFFECT OVER STUDIES

- 14.6% increase in ADG when NuStart was included in CMR
Effect of NuStart on ADG
*Calf Starter*

**OVERALL EFFECT OVER STUDIES**

- 10.6% increase in ADG when NuStart was included in Starter
Effect of NuStart on ADG
*Calf Milk Replacer and Calf Starter*

**OVERALL EFFECT OVER STUDIES**

- 17.4% increase in ADG when NuStart was included in CMR and Starter

![Graph showing the effect of NuStart on ADG](image-url)
Effect of NuStart on ADG
*Calf Grower*

**OVERALL EFFECT OVER STUDIES**

- 8.6% increase in ADG when NuStart was included in Grower
Effect of NuStart on solid feed intake

NUSTART INCREASED SOLID FEED INTAKE BY 12% OVERALL
Effect of NuStart on Feed Efficiency

NUSTART INCREASES GAIN : FEED RATIO

![Bar chart showing the effect of NuStart on gain:feed ratio in different stages of growth.](chart.png)

- **Gain : Feed Ratio**
  - **Control**
  - **NuStart**

- **Stages:**
  - NuStart in Starter (n=4)
  - NuStart in MR+Starter (n=5)
  - NuStart in Grown (n=3)

- **Values:**
  - NuStart in MR (n=6): 0.045
  - NuStart in Starter: 0.024
  - NuStart in MR+Starter: 0.043
  - NuStart in Grown: 0.018

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Effect of NuStart on ADG

Lamb Milk Replacer and Starter

**Graph**

- **Title:** Effect of NuStart on ADG
- **Subtitle:** Lamb Milk Replacer and Starter

**Axes**
- **Y-axis:** Growth rate (g/day)
- **X-axis:** Weeks

**Legend**
- **Control**
- **NuStart**

**Data Points**

- **Week 2:**
  - Control: 120
  - NuStart: 180

- **Week 4:**
  - Control: 200
  - NuStart: 280

- **Week 6:**
  - Control: 250
  - NuStart: 350

- **Week 8:**
  - Control: 180
  - NuStart: 290

- **Week 11:**
  - Control: 220
  - NuStart: 300
Effect of NuStart on solid feed intake

Over 1 kg advantage in body weight after only 2 weeks on trial.

Reduced production costs.

No post weaning check.

2 weeks earlier to finish.

<table>
<thead>
<tr>
<th>Weeks on trial</th>
<th>Control</th>
<th>Nustart</th>
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<tbody>
<tr>
<td>2</td>
<td>100</td>
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</tr>
<tr>
<td>4</td>
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<td>8</td>
<td>400</td>
<td>800</td>
</tr>
<tr>
<td>11</td>
<td>500</td>
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NuStart

- Immune system
- Antioxidant
- Oronasal Sensing

- Digestive Function
- Competitive exclusion
- Antimicrobial
- Prevent adhesion of pathogenic bacteria
PUBLISHED RESEARCH


