

# Husbandry Purchased Calves

Manufactured by



LOCAL DISTRIBUTOR



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**VITALAC®**  
Milk Replacer



**AGRITECH**



# The art of rearing



Nukamel's range of whey-based milk replacers (CMR) is recommended for the stable and efficient rearing of dairy calves. The acidified milk replacers offer a well balanced level of highly digestible fat and protein, provided via carefully selected, high quality raw materials. The milk replacers are highly soluble and suitable for both bucket and/or automatic feeding systems.

## Healthy Calves – Optimum growth

*Nukamel's products:*

- Help exploit full genetic potential
- Maximize growth without fattening
- Minimize health problems
- Stimulate roughage intake
- Facilitate early first calving (24 months)



Nukamel are launching the concept of seasonally distinct calf milk replacers to maximize growth rates the whole year round. Nukamel milk replacers are supplemented with **Emulsizym<sup>®</sup>4seasons**, the composition of which depends on the season. In wintertime, the **HEALTH** and **SAFETY** aspects are emphasized, while in summer, when environmental conditions are better and animals are more resilient, the focus is on **EXTRA GROWTH** and **PERFORMANCE**.

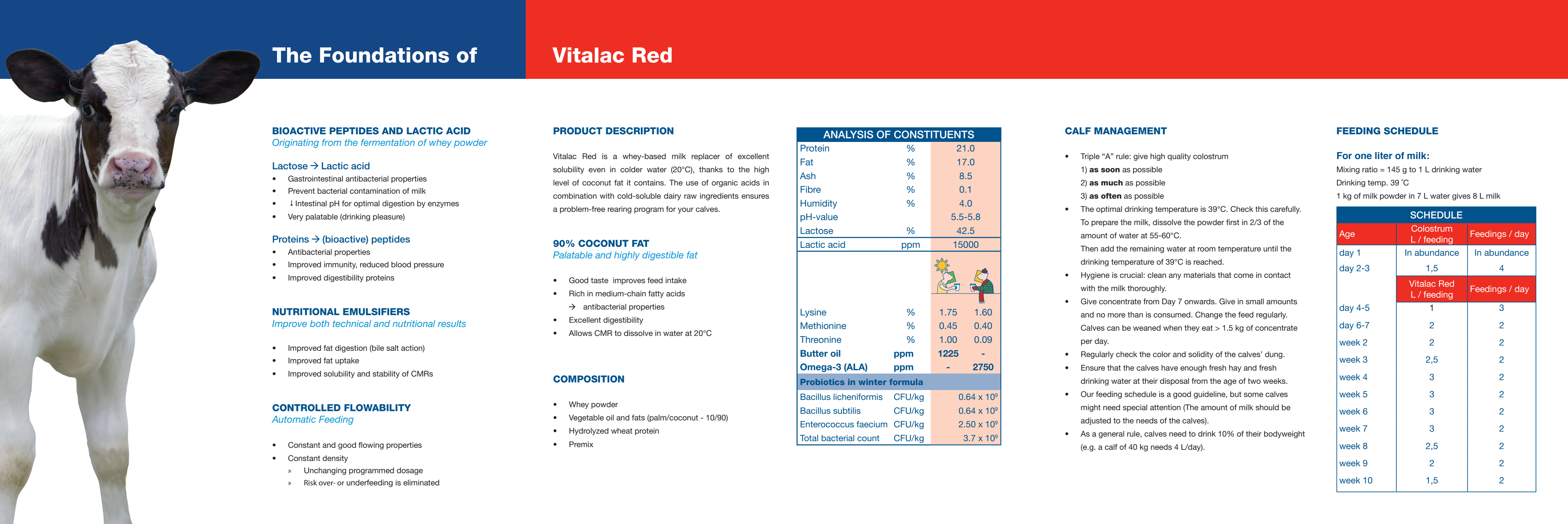
# Recommended husbandry for purchased calves

- Buy healthy calves - Clean tail.
  - Healthy coat.
  - Bright eyes.
- Introduce calves to Vitalac gradually over 3-4 feeds taking due allowance for calf's age and weight.
- Feed 1 : 75% electrolyte 25% Vitalac.
- Feed 2 : 50% electrolyte 50% Vitalac.
- Feed 3 : 25% electrolyte 75% Vitalac.
- Feed 4 : Full Vitalac concentration.
- Give multivitamin injection.
- Vaccinate for pneumonia – Intranasal.
- Place calves in a dry well bedded pen that is draught free and yet adequately ventilated.
- Keep clean fresh water available at calf's head height.
- Place fresh palatable concentrate with calves. A high flaked maize level (20%) is a recommended ingredient.
- Keep a good 'stockmans' eye on purchased calves particularly for the first ten days.
- Deal with any signs of sickness promptly.

# Feeding Facts Check List

<b>Feed Ingredients</b> Use high quality ingredients which are palatable and of suitable texture and particle size to stimulate rumen function.	
<b>Quantity</b>	Offer calf starter feed from 3-5 days to 4 months. Target of 1kg head/day pre weaning. Change to growing ration post weaning to achieve daily intakes of 2.5-3.0 kgs head/day.
<b>Equipment</b>	All feed equipment must be clean to avoid unnecessary cross contamination of unwanted pathogens.
<b>Feeding Schedule</b>	Feed at routine regular intervals to avoid gorging and upsetting digestion of the feed.
<b>Water</b>	Clean fresh water should be available at all times. Insufficient water slows rumen development and reduces feed conversion rates. Dry feed intake is stimulated by water intake.
<b>Stress</b>	Good management and environmental conditions avoids unnecessary stress. Avoid sudden changes to feed and group calves to size ensuring all have adequate feeding space.





# The Foundations of Vitalac Red

## BIOACTIVE PEPTIDES AND LACTIC ACID

*Originating from the fermentation of whey powder*

### Lactose → Lactic acid

- Gastrointestinal antibacterial properties
- Prevent bacterial contamination of milk
- ↓ Intestinal pH for optimal digestion by enzymes
- Very palatable (drinking pleasure)

### Proteins → (bioactive) peptides

- Antibacterial properties
- Improved immunity, reduced blood pressure
- Improved digestibility proteins

## NUTRITIONAL EMULSIFIERS

*Improve both technical and nutritional results*

- Improved fat digestion (bile salt action)
- Improved fat uptake
- Improved solubility and stability of CMRs

## CONTROLLED FLOWABILITY

*Automatic Feeding*

- Constant and good flowing properties
- Constant density
  - » Unchanging programmed dosage
  - » Risk over- or underfeeding is eliminated

## PRODUCT DESCRIPTION

Vitalac Red is a whey-based milk replacer of excellent solubility even in colder water (20°C), thanks to the high level of coconut fat it contains. The use of organic acids in combination with cold-soluble dairy raw ingredients ensures a problem-free rearing program for your calves.

## 90% COCONUT FAT

*Palatable and highly digestible fat*

- Good taste improves feed intake
- Rich in medium-chain fatty acids
  - antibacterial properties
- Excellent digestibility
- Allows CMR to dissolve in water at 20°C

## COMPOSITION

- Whey powder
- Vegetable oil and fats (palm/coconut - 10/90)
- Hydrolyzed wheat protein
- Premix

ANALYSIS OF CONSTITUENTS			
Protein	%	21.0	
Fat	%	17.0	
Ash	%	8.5	
Fibre	%	0.1	
Humidity	%	4.0	
pH-value		5.5-5.8	
Lactose	%	42.5	
Lactic acid	ppm	15000	
Lysine	%	1.75	1.60
Methionine	%	0.45	0.40
Threonine	%	1.00	0.09
Butter oil	ppm	1225	-
Omega-3 (ALA)	ppm	-	2750
Probiotics in winter formula			
Bacillus licheniformis	CFU/kg	0.64 x 10 <sup>9</sup>	
Bacillus subtilis	CFU/kg	0.64 x 10 <sup>9</sup>	
Enterococcus faecium	CFU/kg	2.50 x 10 <sup>9</sup>	
Total bacterial count	CFU/kg	3.7 x 10 <sup>9</sup>	

## CALF MANAGEMENT

- Triple “A” rule: give high quality colostrum
  - 1) **as soon** as possible
  - 2) **as much** as possible
  - 3) **as often** as possible
- The optimal drinking temperature is 39°C. Check this carefully. To prepare the milk, dissolve the powder first in 2/3 of the amount of water at 55-60°C. Then add the remaining water at room temperature until the drinking temperature of 39°C is reached.
- Hygiene is crucial: clean any materials that come in contact with the milk thoroughly.
- Give concentrate from Day 7 onwards. Give in small amounts and no more than is consumed. Change the feed regularly. Calves can be weaned when they eat > 1.5 kg of concentrate per day.
- Regularly check the color and solidity of the calves’ dung.
- Ensure that the calves have enough fresh hay and fresh drinking water at their disposal from the age of two weeks.
- Our feeding schedule is a good guideline, but some calves might need special attention (The amount of milk should be adjusted to the needs of the calves).
- As a general rule, calves need to drink 10% of their bodyweight (e.g. a calf of 40 kg needs 4 L/day).

## FEEDING SCHEDULE

### For one liter of milk:

Mixing ratio = 145 g to 1 L drinking water

Drinking temp. 39 °C

1 kg of milk powder in 7 L water gives 8 L milk

SCHEDULE		
Age	Colostrum L / feeding	Feedings / day
day 1	In abundance	In abundance
day 2-3	1,5	4
	Vitalac Red L / feeding	Feedings / day
day 4-5	1	3
day 6-7	2	2
week 2	2	2
week 3	2,5	2
week 4	3	2
week 5	3	2
week 6	3	2
week 7	3	2
week 8	2,5	2
week 9	2	2
week 10	1,5	2



# Vitalac Red

## KEY BENEFITS

- ✓ Soluble in cold water
- ✓ Stable over long time (24h) – stock feeding
- ✓ High in coconut fat 90%
- ✓ Dairy content 80%



## Emulsizym 4 seasons

### HEALTH and DIGESTION - The whole year round

- Short- and medium-chain fatty acids (butter and coconut oil) → antibacterial properties
- Bioactive peptides derived from fermentation → antibacterial properties
- Nutritional emulsifiers → increase solubility and digestibility of fats

#### Summer – GROWTH

##### - *Additional building blocks*

- ✓ Surplus of Lys, Met, Thr, Trypt
- ✓ Excellent protein-to-energy ratio
- ✓ Guaranteed level of butter oil to increase appetite

*Optimal performance*

#### Winter – SAFETY

##### - *Supplemented with digestive oils rich in omega-3 fatty acids*

##### - *Beneficial microbial strains*

- ✓ Regulate the microbial balance
- ✓ Reduce incidence of diarrhea
- ✓ Restore the microbial flora after antibiotics

*Optimal growth and health*





# Vitalac Blue



## Vitalac Blue

### PRODUCT DESCRIPTION

Vitalac Blue is a whey-based, water-soluble milk replacer containing 15% skim milk powder. The high protein content, consisting of a combination of whey and casein, is excellent for optimizing calf growth. Moreover, Vitalac Blue is fortified with immunoglobulins, to boost the calves' immune response systems.

ANALYSIS OF CONSTITUENTS			
Protein	%	24.0	
Fat	%	20.0	
Ash	%	8.0	
Fibre	%	0.1	
Humidity	%	4.0	
pH-value		5.8-6.3	
Lactose	%	42.5	
Immunoglobulins	ppm	1500	
Lactic acid	ppm	8000	
		SUMMER GROWTH	WINTER SAFTEY
Lysine	%	2.0	1.75
Methionine	%	0.5	0.44
Threonine	%	1.2	1.00
Butter oil	ppm	1225	-
Omega-3 (ALA)	ppm	-	2750
Probiotics in winter formula			
Bacillus licheniformis	CFU/kg	0.64 x 10 <sup>9</sup>	
Bacillus subtilis	CFU/kg	0.64 x 10 <sup>9</sup>	
Enterococcus faecium	CFU/kg	2.50 x 10 <sup>9</sup>	
Total bacterial count	CFU/kg	3.7 x 10 <sup>9</sup>	

### COMPOSITION

- Whey powder
- Vegetable oil and fats
- Ultrafiltered whey protein
- Milk powder
- Hydrolyzed wheat protein
- Premix
- Dairy Products - 85%

### CALF MANAGEMENT

- Triple "A" rule: give high quality colostrum
  - as soon** as possible
  - as much** as possible
  - as often** as possible
- The optimal drinking temperature is 39°C. Check this carefully. To prepare the milk, dissolve the powder first in about 2/3 of the amount of water at 55-60°C. Then add the remaining water at room temperature until the drinking temperature of 39°C is reached.
- Hygiene is crucial: clean any materials that come in contact with the milk thoroughly.
- Give concentrate from Day 7 onwards. Give in small amounts and no more than is consumed. Change the feed daily. Calves can be weaned when they eat > 1.5 kg of concentrate per day.
- Regularly check the colour and solidity of the calves' dung.
- Ensure that the calves have enough fresh roughage and fresh drinking water at their disposal from the age of two weeks.
- Our feeding schedule is a good guideline, but some calves might need special attention (The amount of milk should be adjusted to the needs of the calves)
- As a general rule, calves need to drink 10% of their body-weight (e.g. a calf of 40 kg needs 4 L/day).

### RICH IN IMMUNOGLOBULINS

*The first line in immune defence!*

- Protection against enteric pathogens
- Identification and neutralization of bacteria and viruses
- Source: ultrafiltered whey protein
- Guaranteed level of IgG

FEEDING SCHEDULE FOR ONCE A DAY FEEDING*				
	Quantities (litres) per animal per day		No. of feedings per day	Concen- tration
Age	Heifer	Bull	Min 4	
Day 1-2	In abundance colostrums 6L			
Day 3-7	2.5 litre	2.5 litre	3	150gr/l
week 2	2.5 L	3.0 L	2	200gr/l
week 3	2.5 L	3.0 L	1	250gr/l
week 4	2.5 L	3.0 L	1	250gr/l
week 5	3.0 L	3.5 L	1	250gr/l
week 6	3.0 L	3.5 L	1	250gr/l
week 7	3.0 L	3.5 L	1	250gr/l
week 8	3.0 L	2.5 L	1	250gr/l
week 9	2.5 L	2.0 L	1	250gr/l

\*Use this feeding schedule as a guideline

### FEEDING SCHEDULE

#### For one liter of milk:

Mixing ratio = 145 g to 1 L drinking water

Drinking temp. 39 °C

1 kg of milk powder in 7 L water gives 8 L milk

SCHEDULE		
Age	Colostrum L / feeding	Feedings / day
day 1	In abundance	In abundance
day 2-3	1,5	4
	Vitalac Blue L / feeding	Feedings / day
day 4-5	1	3
day 6-7	2	2
week 2	2	2
week 3	2,5	2
week 4	3	2
week 5	3	2
week 6	3	2
week 7	3	2
week 8	2,5	2
week 9	2	2
week 10	1,5	2

# Vitalac Blue

## KEY BENEFITS

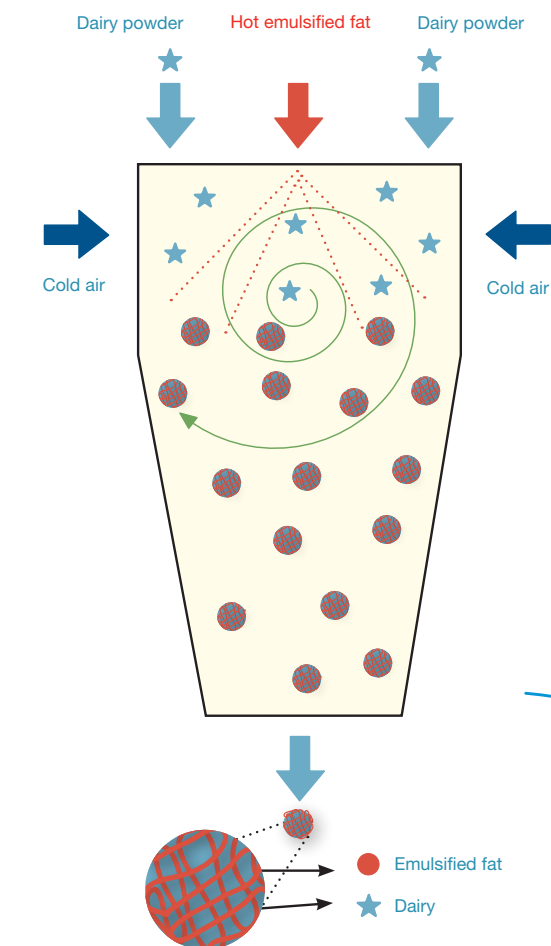
- ✓ Skimmed milk powder: great taste → improves milk intake
- ✓ Whey protein: fast digestion → stimulation of roughage intake
- ✓ 85% dairy content
- ✓ Excellent protein-fat ratio (24/20)
- ✓ Immunoglobulins included to boost calf health



# Vitalac Red

## Nukamel Technology

### SPRAY COOLING TECHNOLOGY



*Emulsified fat is spray-cooled in a whirlwind of dairy powder.*

### FEED SAFETY FOR ANIMAL HEALTH

*Clean feed reduces gastrointestinal problems*

Enterobacteria	max. 1000/g
E. coli	absent in 0.1 g
Salmonella	absent in 25 g
S. aureus	absent in 1 g
Yeasts and moulds	max. 1000/g

### HIGH QUALITY STANDARDS

- Organoleptic (color-smell-taste)
- Solubility and stability in solution
- Free flowing properties
- Chemical analysis:
  - » NIR screening
  - » Fat, protein, ash and lactose

### *Benefits:*

- ✓ Improved dispersion / solubility of the milk powder in water
- ✓ Improved intake of concentrate and roughage
- ✓ Improved solubility and digestibility of fat
- ✓ Anti-caking → free flowing properties
- ✓ Maze structure → simultaneous availability of fat and protein