

**Successful calf rearing requires an understanding of the basic principles, as well as experience and good observation skills. Profitable calf rearing needs to be centred on providing the right environment and nutrition for animals to reach set growth and development targets, ultimately with heifer replacements calving down at 24months. For the beef herd the aim is to maximise Live Weight Gain so as to shorten the fattening period.**

**From the earliest stage, rumen development of the calf is a fundamental part of the long term production and profitability of that animal within the herd. It is essential that the calf is provided with the right balance of nutrients for growth and development while also supporting a strong immune system.**

**At Agritech we understand the challenges of the newborn calf and work with leaders in calf nutrition to bring an excellent range of calf milk replacers for the stable and efficient rearing of calves. The Vitalac range from Nukamel offers a well-balanced level of highly digestible fat and protein via carefully selected, high quality ingredients. These quality ingredients are further enhanced through the use of advanced techniques and technology such as Emulsizym and Spray Cooling Technology.**

**We pride ourselves in the range of quality products we bring to farmers through our wide network of representatives. For further information on any of the products featured in this brochure, do not hesitate to contact your local representative or contact us directly at our manufacturing site in Nenagh, Co. Tipperary.**



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# CALF MANAGEMENT

## Healthy Calves - Optimum Growth

Calf management starts at the very earliest stage as development of a healthy rumen is fundamental to the future performance of the animal. Feeding colostrum is the first crucial step in calf development as the antibodies present are more likely to fight health threats. When it comes to feeding always adhere to the Triple "A" rule for giving high quality colostrum:

- 1) As soon as possible
- 2) As much as possible
- 3) As often as possible



## MILK REPLACER FEEDING

Milk Replacer is a consistent, quality feed to meet growth and development targets of the young calf. The optimal drinking temperature of the calf milk replacer is 39°C. To prepare the milk, dissolve the powder in two-thirds of the amount of water at 55-60°C. Then add the remaining water at room temperature until the optimum drinking temperature is reached. There are many other factors to consider when feeding Milk Replacer and it is important to pay attention to the following calf management practises:

### Feed Ingredients

Use high quality ingredients which are palatable and of suitable texture and particle size to stimulate rumen function.

### Concentrates

Introduce from Day 3 onwards. Give in small amounts and no more than is consumed in a 12 hour period and change the feed regularly. Target 1kg/head/day pre weaning with calves ready to be weaned when they eat >1.5 kg of concentrate per day.

Offer calf starter feed from 3-5 days to 4 months and change to a growing ration post weaning to achieve daily intakes of 2.5-3.0 kg head/day.

### Equipment

All feed equipment must be clean to avoid unnecessary cross contamination of unwanted pathogens.

### Water

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 adequate water intake.

### Hygiene

Clean all materials that come in contact with the milk thoroughly.

### Stress

Good management and environmental conditions avoids unnecessary stress. Avoid sudden changes to feed and group calves to size ensuring all have adequate feeding space.

### Observe

Regularly check the colour and solidity of the calves' dung.

### Adequate Roughage and Water

Ensure that the calves have enough fresh roughage, preferably top quality straw, from the age of 2 weeks. Ensure that fresh drinking water is at their disposal at all times.



*The optimal drinking temperature of the calf milk replacer is 39°C.*



## VITALAC MILK REPLACER BUCKET FEEDING

### Twice a day feeding

AGE	CONCENTRATION g/L	L/FEEDING	FEEDINGS/DAY
Day 0-3	Colostrum In abundance		
Day 4-7	100	2.0	2
Day 8-14	125	2.0	2
Day 15-21	125	2.5	2
Day 22-49	125	3.0	2
Day 50-56	125	2.5	2
Day 57-63	125	2.0	2
Day 64-70	125	1.5	2



**FULL  
FEEDING  
SCHEDULE**

## VITALAC MILK REPLACER AUTOMATIC FEEDING

PERIOD - AGE	NO. OF DAYS	CONCENTRATION g/L	START PERIOD (L/DAY)	END PERIOD (L/DAY)
Day 0-3	3	Colostrum In abundance		
Day 4-22	17	125	3.0	6.0
Day 22-49	28	125	6.0	6.0
Day 49-63	14	125	6.0	2.0
Day 63-70	7	125	2.0	0

Our feeding schedule is a good guideline, but it is important to note that some calves might need special attention. The amount of milk should be adjusted to the needs of the calf.

Feed at routine regular intervals to avoid gorging and upsetting digestion of the feed. As a general rule, calves need to drink 10% of their bodyweight, e.g. a calf of 40kg needs 4L per day.

### For one litre of milk

Mixing ratio = 145g to 1L drinking water

Drinking temperature = 39 °C

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

# TECHNOLOGICALLY ADVANCED INGREDIENTS

## Agritech Selected Milk Replacers

Agritech are committed to the Vitalac range of Milk Replacers developed by Nukamel. This range of whey and skim based milk replacers (CMR) is recommended for the stable and efficient rearing of 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.

**VITALAC BLUE**

**VITALAC RED**

## HEALTH AND DIGESTION - THE WHOLE YEAR ROUND



Nukamel's Emulsizym® technology has been developed as an answer to the restrictions of the use of antimicrobial growth promoters (AGP). Emulsizym® replaces AGP in a natural way. It means that Nukamel's calf milk replacers are fully optimized with respect to health and digestion. Seasonally distinct calf milk replacers maximize growth rates the whole year round. Agritech milk replacers are supplemented with Emulsizym®4seasons, the composition of which depends on the season. In wintertime, the HEALTH and SAFETY aspects are emphasized. This is achieved by the incorporation of:

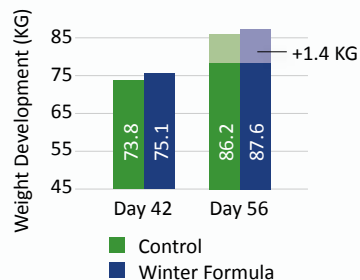
- Short- and medium-chain fatty acids (butter and coconut oil)
- Bioactive peptides derived from fermentation
- Our nutritional emulsifier provides increased solubility and digestability of fats

### Winter (SAFETY)

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

- Beneficial microbial strains
- Regulate the microbial balance
- Reduce incidence of diarrhoea
- Restore the microbial flora after antibiotics

### R&D - CALF TRIALS - WINTER FORMULA (TRIAL 1 - 2011) WEIGHT DEVELOPMENT (KG)



# TECHNOLOGICALLY ADVANCED PRODUCTION

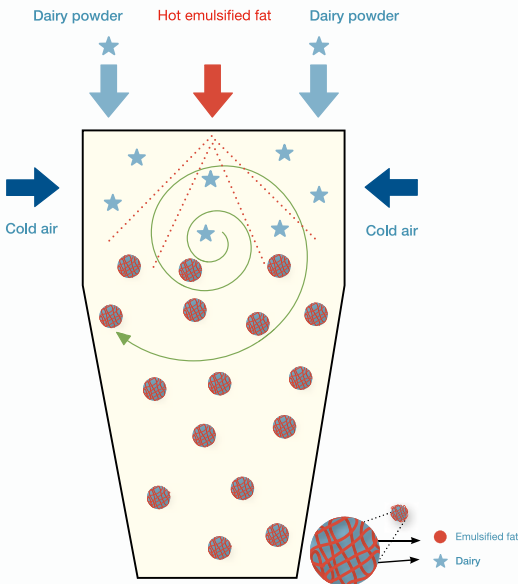
## Agritech Milk Replacer products:

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



## SPRAY COOLING TECHNOLOGY

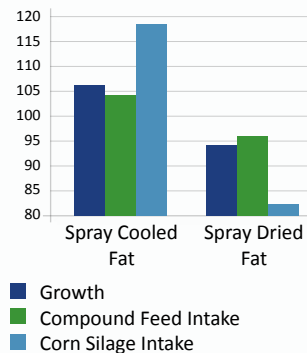
The use of spray cooling technology in the production of Vitalac Milk Replacers has a direct influence on the performance of the subsequent products. In recent trials versus typical spray drying techniques, a significantly higher end weight, average daily gain and concentrate feed intake were obtained over a period of 56 days. CMR produced with spray cooling technology also resulted in a higher gain to feed ratio. Due to the simultaneous availability of energy (emulsified fat) and protein the CMR based on the spray cooling technique has resulted in improved digestibility and thus is of higher nutritional value. Through a faster availability and uptake of the fats and oils, the period of saturation is shortened. Therefore, the intake of concentrate feed is higher and starts earlier in rearing. This results in a positive effect on rumen development.



### 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
- Product consistency

### Calf Trial CMR 0 - 12 Weeks



# VITALAC BLUE

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%
Fat		20%
Ash		8%
Fibre		0.1%
Humidity		4%
pH-value		5.8-6.3pH
Lactose		42.5%
Immunoglobulins	ppm	1500
Lactic acid	ppm	8000

### GROWTH

Lysine		1.75%
Methionine		0.44%
Threonine		1%
Butter oil	ppm	-
Omega-3 (ALA)	ppm	2750

### PROBIOTICS IN WINTER FORMULA

Bacillus licheniformis	CFU/kg	$0.64 \times 10^9$
Bacillus subtilis	CFU/kg	$0.64 \times 10^9$
Enterococcus faecium	CFU/kg	$2.50 \times 10^9$
Total bacterial count	CFU/kg	$3.7 \times 10^9$

## RICH IN IMMUNOGLOBULINS

### The first line in immune defence!

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

## COMPOSITION

- Dairy Products - 85%
- 15% skim powder
- Whey powder
- Vegetable oil and fats
- Ultrafiltered whey protein
- Milk powder
- Hydrolyzed wheat protein
- Premix





## KEY BENEFITS

### SUITABLE FOR ONCE AND TWICE A DAY FEEDING

- **Ideal for replacement heifers for achieving optimum growth and reproductive targets**
- **85% dairy content**
- **Excellent protein:fat ratio (24:20)**
- **Skimmed milk powder:**  
Great taste = improved milk intake
- **A must for Once a Day feeding**
- **Whey protein:**  
fast digestion = stimulation of concentrate intake
- **Immunoglobulins included to boost calf health**
- **Increased concentrate intakes**
- **Earlier weaning**



## VITALAC BLUE BUCKET FEEDING ONCE A DAY FEEDING

VITALAC BLUE IS IDEALLY SUITED TO ONCE-A-DAY FEEDING, DUE TO THE HIGHER LEVEL OF CONCENTRATES, HOWEVER VITALAC BLUE CAN ALSO BE USED FOR TWICE-A-DAY FEEDING. PLEASE SEE GUIDELINES BELOW WHEN FEEDING VITALAC IN A ONCE-A-DAY SYSTEM.

AGE	CONCENTRATION g/L	L/FEEDING	FEEDINGS/DAY
Day 0-3	Colostrum In abundance		
Day 4-7	100	2.0	2
Day 8-14	125	2.0	2
Day 15-28	125	2.5	2
Day 29-49	200	3.0	1
Day 50-70	200	1.5	1

\*Use this feeding schedule as a guideline

# VITALAC RED

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.



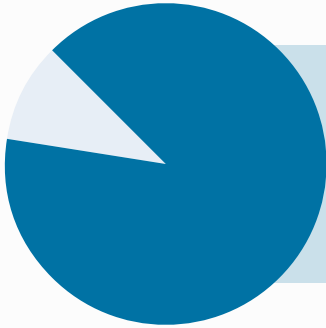
## KEY BENEFITS

- High in coconut fat 90%
- Dairy content 80%
- Excellent protein:fat ratio
- Improved digestibility
- Increased concentrate intake
- Earlier weaning
- Stable over long time (24h) – stock feeding
- Soluble in cold water

## ANALYSIS OF CONSTITUENTS

Protein		21%
Fat		17%
Ash		8.5%
Fibre		0.1%
Humidity		4%
pH-value		5.8-5.8pH
Lactose		42.5%
Lactic acid	ppm	15000

GROWTH		
Lysine		1.6%
Methionine		0.4%
Threonine		0.09%
Butter oil	ppm	-
Omega-3 (ALA)	ppm	2750



**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



**FULL  
FEEDING  
SCHEDULE**

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### 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

- Dairy content 80%
- Whey powder
- Vegetable oil and fats  
coconut:palm = (90:10)
- Hydrolyzed wheat protein
- Premix

# CALF SUPPLEMENTS

## THRIVOMIN CALF SUPPLEMENT

**Thrivomin Calf Supplement has been developed to provide the young calf with a balanced blend of trace elements and vitamins. It is a unique liquid supplement added to milk.**

- Thrivomin Calf Supplement provides the required level of trace elements for the calf in the first 6-8 weeks of life.
- It has a high concentration of vitamins including **B vitamins B1, B2, B6, B12** and others. **B vitamins** play a key role in the health and vitality of the young pre ruminant calf.
- Contains salmon oil.
- High levels of **vitamin E**.



## THRIVOVIT MILK ACIDIFIER

**Thrivovit milk acidifier is a whole milk supplement specially formulated with organic acids and concentrated levels of vitamins. Designed for use as an acidified nutritional supplement for calves fed on whole milk.**

- Lowers the pH in whole milk.
- Organic acids allow better digestion and utilisation of milk proteins and fats.
- The lower pH factor maintains a digestive acidity level that is not conducive to pathogenic bacteria growth.
- Calves realise early growth potential with better digestion of nutrients.
- Fortification with vitamins supports healthy bodily functions.

## VITASTART ELECTROLYTE GEL

**Vitastart electrolyte gel is designed for use as a source of electrolyte salts and energy, maintain water balance and to provide a readily available glucose supply.**

- Ideal to replenish fluids as a treatment for neo natal calf scours.
- Excellent supplement to boost purchased calves on arrival or in any stress situation.
- Contains **sodium bicarbonate** to counter the acidic digestive effects of calf scour.
- Contains **vitamin A, D3** and **E** for quicker recovery.
- Vitastart is not a veterinary medicine.

# VITALAC CALF MILK REPLACER VS COW MILK

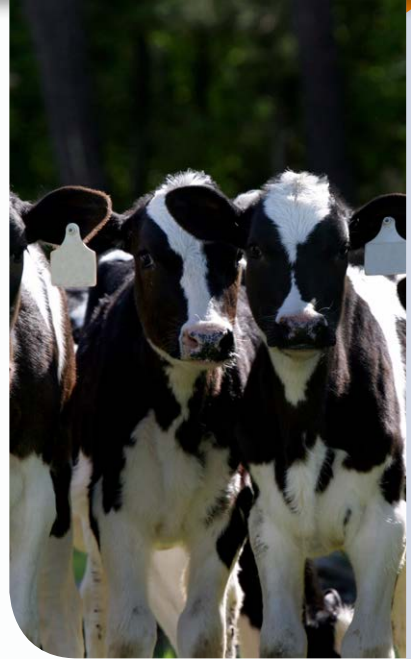
## BENEFITS TO CALF HEALTH

### ANTIBIOTIC/MASTITIS MILK

- BACTERIAL RESISTANCE

### FIGHTS DISEASE TRANSMISSION

- Para-Tuberculosis (Johne's)
- Salmonella
- Mycoplasma Bovis



## NUTRITIONAL COMPOSITION CALF MILK REPLACER VS COW MILK (AS % DM)

	VITALAC	COW MILK
DM %	12.5	13.0
Protein %	21.0	27.0
Fat %	17.0	34.0
Lactose %	42.5	37.5
Casein %	-	20.0
Iron (ppm)	150	3.7
Vit A (IU/KG)	50000	8000
Vit D3 (IU/KG)	4500	192
Vit E (IU/KG)	300	7.0

FAT/PROTEIN TO ENERGY RATIO

COAGULATION MILK  
SLOW APPETITE



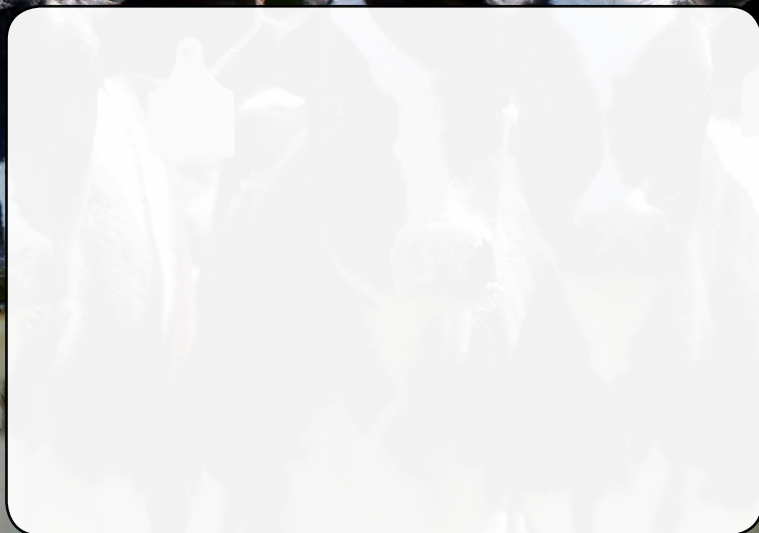
# RECOMMENDED HUSBANDRY FOR PURCHASED CALVES

## HEALTHY CALF CHECKLIST

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



**Contact your local  
Agritech distributor**



10575 agritech.ie



[www.agritech.ie](http://www.agritech.ie)

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