



Grow better **CALVES**



AgriVantage
PROVEN ANIMAL NUTRITION
A division of Chemiplas (NZ) Ltd

The first 8 weeks will make all the difference

Growth in the first 8 weeks (pre-weaning) is essential for making the most of a calf's full genetic potential.

We've developed this guide around the needs of your newborn calves:

- ✓ Helping you to choose the right CMR to:
 - optimise growth
 - ensure animals are good milk producers in the future
- ✓ Boosting their digestive system during periods of stress to prevent disease
- ✓ Preventing the growth of bacteria in housing to prevent disease

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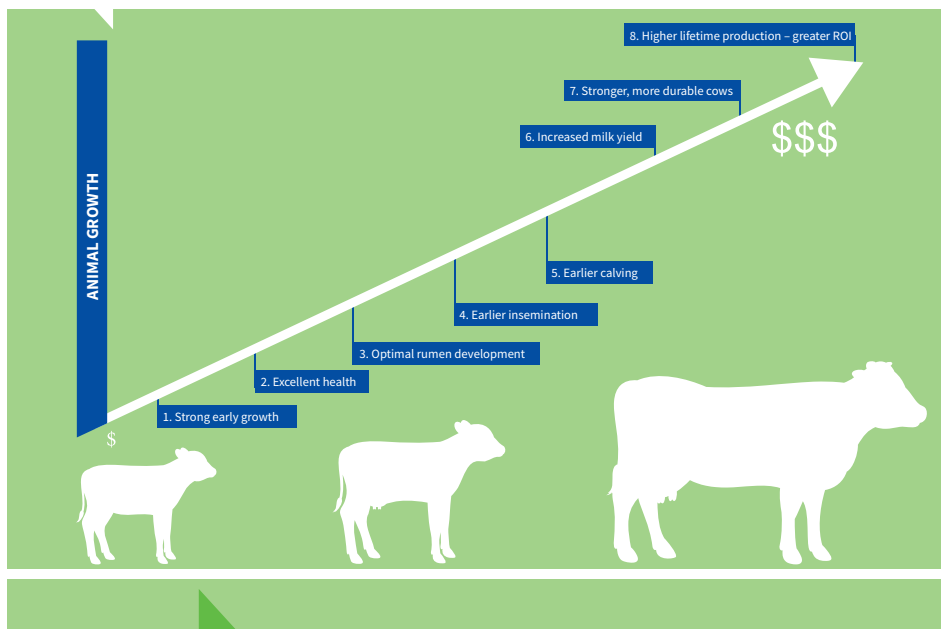
Nutrition in the first 8 weeks

Not only are there benefits to having a heavier calf at weaning; growth in the milk feeding phase is what determines development of the udder cells which are in turn responsible for milk production.

After these 8 weeks, we can no longer activate the cells and other physical characteristics which influence future milk production, making this a once in a lifetime opportunity. So, getting our calves off to the best start is an investment in the future.

That investment starts with selecting a good calf milk replacer (CMR).

Growth leads to performance



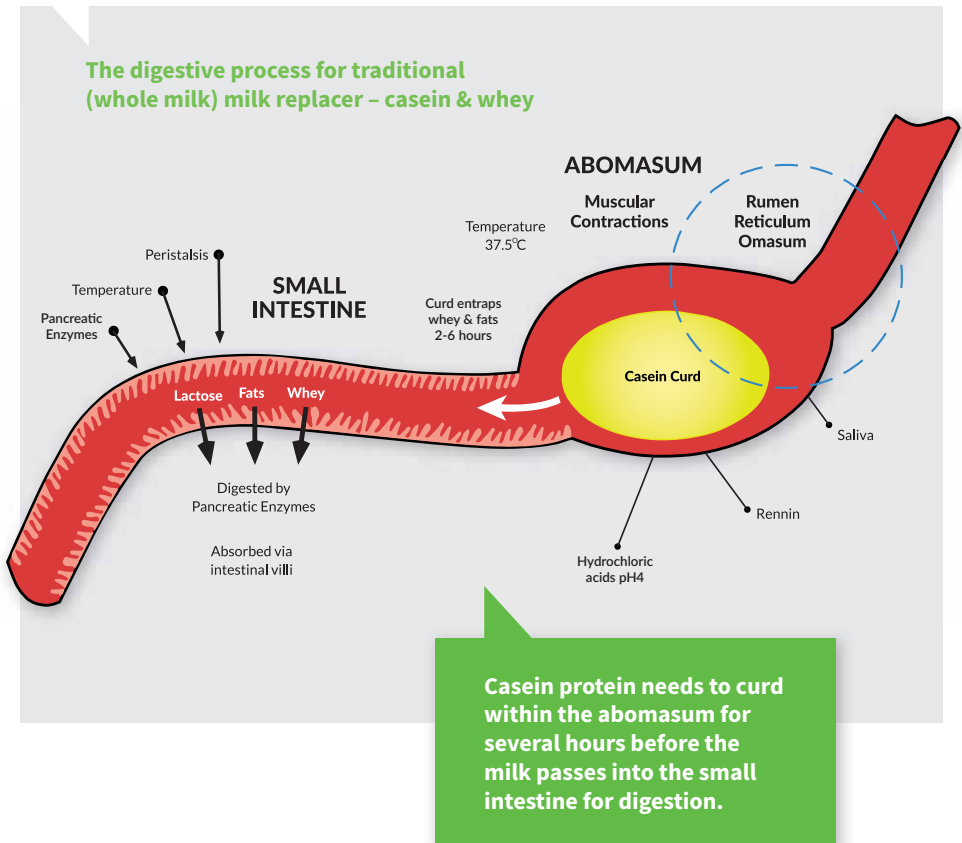
Getting animals off to the best start is an investment in the future.

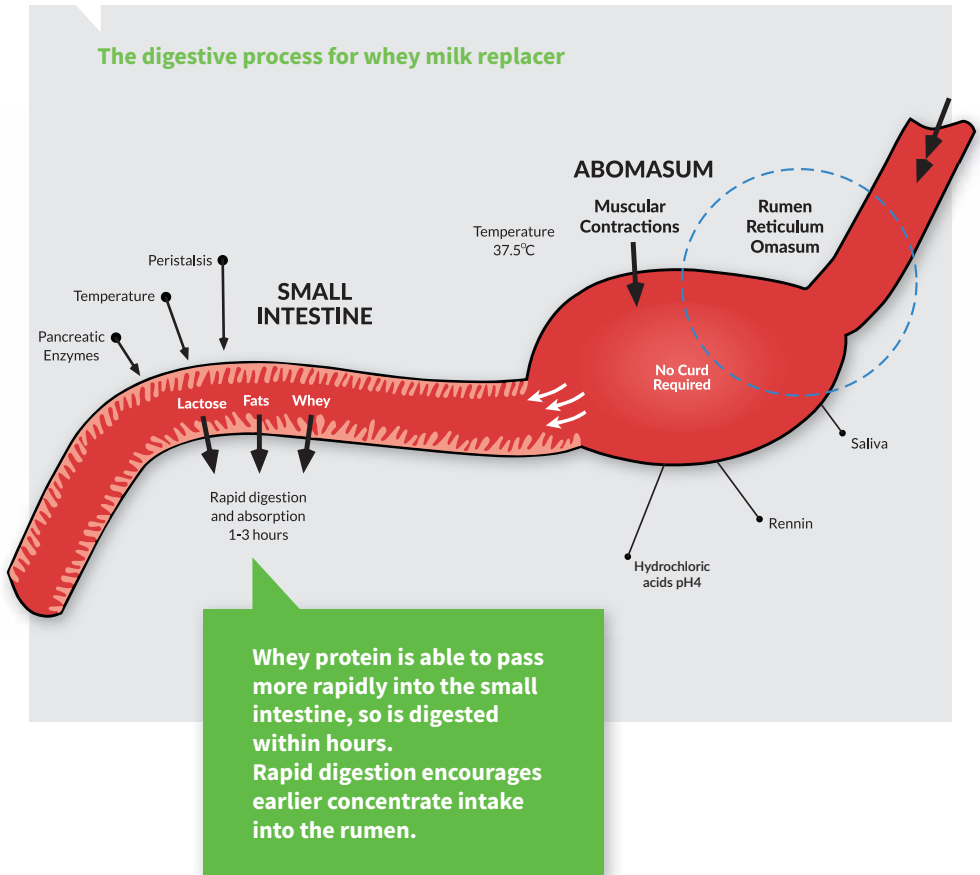
Why Whey?

Whey-based milk replacer will meet the energy requirements of growing calves, effectively boosting growth rates.

1. Whey is easy to digest

Quality whey based formulas are easily digested in the gut, moving through a calf in only 2-3 hours, compared to 5-8 hours for traditional curdling (casein) formulas.





2. Whey is cost-effective

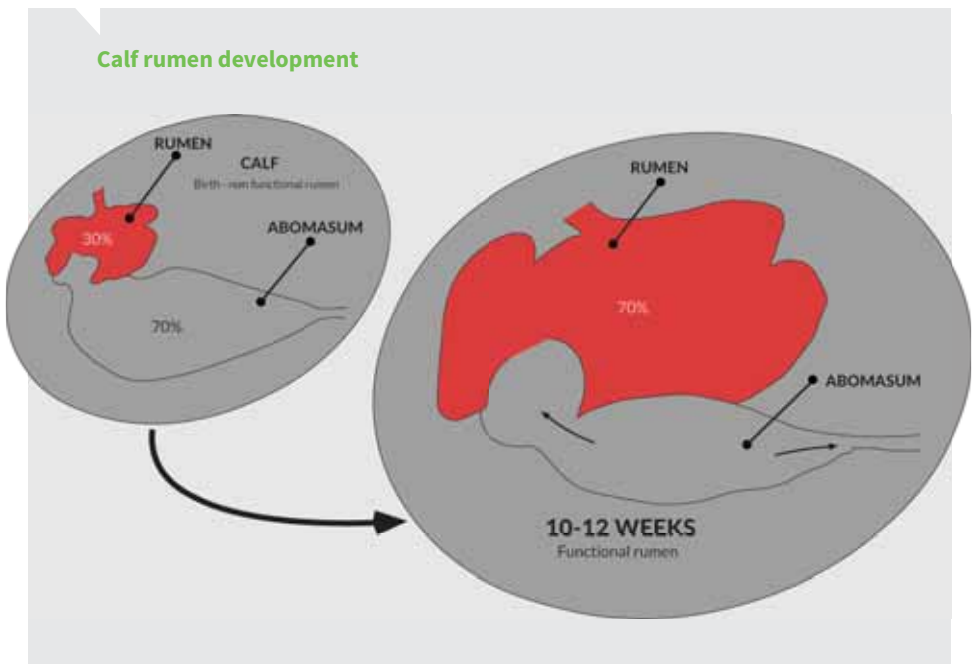
With whey powders moving through an animal's system in 2-3 hours, they will seek out concentrates (meal) sooner, without growth rates being compromised.

- ✓ Concentrates are obviously a more preferable, lower cost feed source for calf rearers.
- ✓ Whey powders can also be mixed with whole milk (commonly known as fortifying), increasing its flexibility as a replacer.

3. Whey helps the weaning process

Animals reared on whey-based powders develop their rumen quicker, handling the transition through weaning with a reduced risk of the growth check common in stock reared on curdling powder.

- ✓ Early rumen development is essential for profitable animal rearing.
- ✓ Rearers report less stress and continued strong growth rates, making for healthier, bigger, well-conditioned young stock.



4. Whey is safe to use

Good quality whey-based products can help reduce the incidence of nutritional scours.

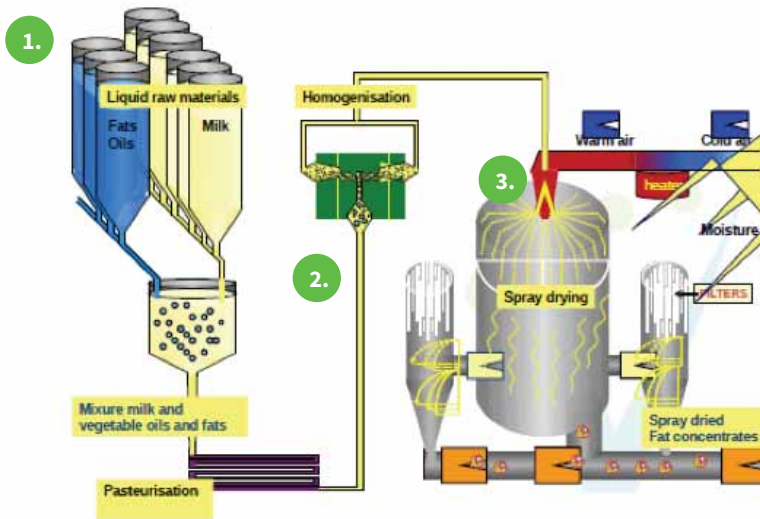
How is Sprayfo different to other milk replacers?

The differences in milk replacers are mainly a reflection of the raw materials used and method of production.

Sprayfo products are a vegetable-based fat blend combined with dairy ingredients, using a unique proprietary production process – the Sloten Spray Dry System.

The Sloten Spray Dry System makes Sprayfo a unique and consistently high quality, optimally digestible milk replacer.

The Sloten Spray Dry System



1. The process begins with mixing fresh dairy products with vegetable oils and fats.
2. The mix is pasteurised and then high-pressure homogenised. Pasteurising sterilises the product, while homogenisation reduces fat particles to 1/1000 of their original size.

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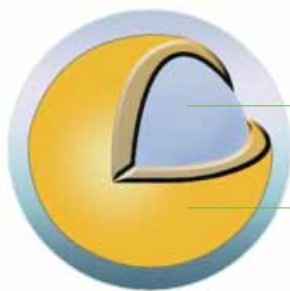
The Homogenisation Effect



Through homogenisation, fat particles are reduced to 1/1000 of their original size, similar to the smaller fat molecules in cow's milk. (homogenised fat \Rightarrow 95% of the fat particles $< 2\mu\text{m}$)

3. The product is subsequently dried through a high tech spray drying process to form small particles.

The particles have the valuable protein on the outside, with fat contained inside – the most important ingredient for your animals' growth is available first and absorbed faster.



Micronised fat globule

Encapsulated with dairy products

This fat processing method ensures optimal digestibility, and is unique to Sprayfo.

What are the key factors in selecting a milk replacer?

Different brands of milk replacer are not simply exchangeable. There are essential differences in solubility, ease of mixing, digestibility (making use of nutrients) and consistency of quality. The differences have a major impact on the health and growth of young calves.

“Successful calf rearing depends on many factors including good nutrition – one should choose a milk replacer based on quality, not price” says Dr Bas Schouten, one of New Zealand’s renowned experts on animal rearing.

“A good quality whey based milk replacer is a solid starting point for the young calf because it is easily digested, causes less nutritional scours, is easily mixed, is consistently good quality from batch to batch. And, critically, meets the energy requirements of the calf.

“Simply put, whey based milk replacers are technically sound and ensure good digestion, resulting in excellent growth rates.”

Sprayfo CMR has been designed to meet the nutritional needs of growing calves.

- ✓ It's whey-based, enhancing digestibility and rumen development.
- ✓ It contains all the essential components - protein, fats, probiotics and prebiotics, vitamins, minerals and trace elements - necessary for young calves directly after their colostrum period in a balanced, consistent and appetising composition.
- ✓ The Sloten Spray Dry production process ensures that solubility is optimal at 40°C. It mixes without forming any small lumps.

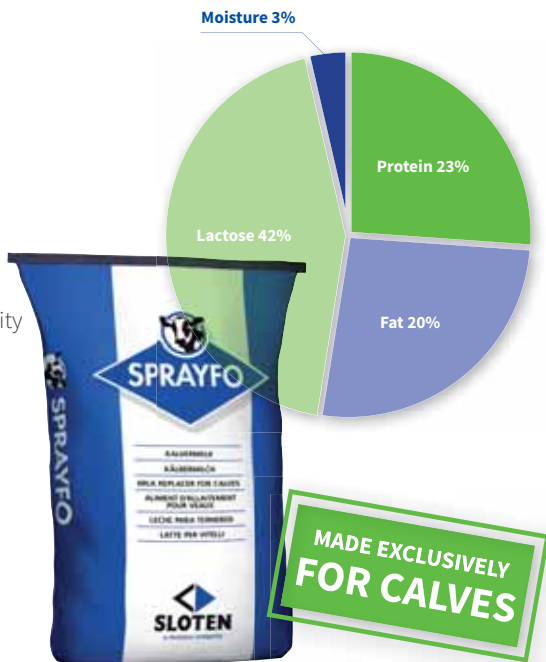


FOR FUTURE PRODUCTIVITY

ANIMAL NUTRITION

Sprayfo Blue Premium CMR

- ✓ Premium quality Calf Milk Replacer
- ✓ Can be fed to calves from 4 days' old
- ✓ Whey protein for faster digestion
- ✓ Hydrolysed wheat protein aids digestibility (no soya)
- ✓ Dissolves easily, even in cold water
- ✓ Superior suspension – won't drop out of solution
- ✓ Can be mixed with liquid whole milk
- ✓ For optimal, safe calf rearing
- ✓ Available in 20kg bags



Recommended feeding schedules for young calves

Always ensure each animal has adequate intake of colostrum in first 12 hours post birth (approx. 10% of its body weight).

Also, feed a minimum of 500g dry matter per calf per day.

You may choose to feed calves once daily or twice daily, depending on your operation and objectives.

We recommend twice daily feeding for getting calves off to the best start – higher initial average daily gain (ADG) and a routine that's closer to how a calf would naturally feed. There are pros and cons to both feeding schedules.

Mixing instructions

- ✓ Always follow feeding instructions
- ✓ Heat all required water to 40-42°C
- ✓ Start stirring water, then slowly add milk replacer powder, mixing for 2 to 4 minutes*
- ✓ Best drinking temperature 38-39°C

** Mix to make up a litre, NOT on top of a litre, eg. add 150g milk powder to 850mL water to make 1L milk replacer. This is an approximation.*

Advantages of twice daily feeding

- ✓ Easier to feed larger total volume over two feeds
- ✓ Can achieve higher initial average daily growth (ADG) rates due to the ability to feed larger total volume and grams/calf/day
- ✓ More natural; closer to how a calf would feed from its mother

Advantages of once daily feeding

- ✓ Faster rumen development
- ✓ Less labour intensive
- ✓ Nullify weaning 'check'

Twice daily feeding schedule with Sprayfo Blue

Age	Quantity	Mixing rate	Total CMR/day
0 - 4 days	2 x 2L Colostrum		
5 - 21 days	2 x 2L	125-150g/L	500-600g
22 days - weaning	2 x 2.5L	125-150g/L	625-750g

Once daily feeding schedule with Sprayfo Blue

Age	Quantity	Mixing rate	Total CMR/day
0 - 4 days	2 x 2L Colostrum		
5 - 14 days	2 x 2L	125-150g/L	500-600g
15 days - weaning	1 x 3L	200-250g/L	600-750g

Weaning instructions

Weaning can start when animals are a minimum of 65kg, or are 25kg above birthweight **AND consuming 1kg concentrates per animal per day:**

- ✓ Slowly reduce concentration of milk replacer of overall volume consumed over 1-2 week period
- ✓ Continue feeding concentrates at 1 - 2kg per day for at least a month.

Sprayfo Red CMR

- ✓ Good quality Calf Milk Replacer, for economical rearing
- ✓ Can be fed to calves from 14 days' old
- ✓ Whey protein for faster digestion
- ✓ Hydrolysed wheat protein aids digestibility
- ✓ Contains soya protein (lower cost)
- ✓ Dissolves easily, even in cold water
- ✓ Superior suspension – won't drop out of solution
- ✓ Available in 20kg bags



Recommended feeding schedules

Twice daily feeding schedule

Age	Quantity	Mixing rate	Total CMR/day
0 - 4 days	2 x 2L Colostrum		
5 - 14 days*	2 x 2L	125-150g/L	500-600g Sprayfo Blue*
15 days - weaning	2 x 2.5L	125 - 150g/L	625-750g Sprayfo Red

Once daily feeding schedule

Age	Quantity	Mixing rate	Total CMR/day
0 - 4 days	2 x 2L Colostrum		
5 - 14 days*	2 x 2L	125-150g/L	500-600g Sprayfo Blue*
15 days - weaning	1 x 3L	200-250g/L	600-750g Sprayfo Red

***SPRAYFO RED IS RECOMMENDED FOR CALVES FROM 14 DAYS OLD ONLY**

Beware of scours

The most common disease of baby calves is scours. It's good practice to monitor them daily for signs of disease.

Watch for subtle signs such as:

- ✓ change in activity level
- ✓ decrease in appetite
- ✓ dullness in their eyes
- ✓ diarrhoea
- ✓ snotty nose
- ✓ coughing
- ✓ lameness

They are also most susceptible to disease during or after periods of risk or stress, for example:

- ✓ transportation and new environment
- ✓ change in diet
- ✓ adverse weather conditions
- ✓ dirty housing

Early intervention, such as feeding electrolytes, is definitely advantageous, reducing the cost of treatment and recovery time.



DISEASE MANAGEMENT

Boost calves with Biopect

Biopect is an all-natural anti-scour* product containing pectins, electrolytes and dextrose.

Feeding Biopect to young animals will help to ensure good gut health – promoting a healthy digestive tract and a healthy immune system. It also provides them with an energy boost.

Biopect can be fed in milk, CMR or water. It does not contain antibiotics, but is not recognised as an organic product either.

How does it work?

Biopect contains electrolytes, energy and pectins:

- ✓ Pectins and other fibres from dried fruit and pulp form a protective gel-like layer in the intestines
- ✓ Electrolytes replenish essential mineral salts
- ✓ Glucose provides energy and aids in the absorption of electrolytes

Biopect



- ✓ For maintaining gut health in calves, lambs, kids, foals and piglets
- ✓ Contains plant fibres, glucose and electrolytes
- ✓ Non-medicated
- ✓ No need to remove milk or milk replacer from diet during treatment
- ✓ Available in 2.5kg, 5kg and 25kg

Biopect treatment schedule for calves

Rate/L milk*	Rate/L water*	Feeds/day
25g		2
	50g	ad-lib

* Please contact your veterinarian for advice if calves have infectious scours (eg. temperature over 39.5°C), or if scours are severe and/or diarrhoea persists.

Bacteria control in housing

Growing healthy animals – boosting their wellbeing and preventing disease to optimise their nutritional uptake – will depend heavily on having good housing hygiene.

The Stalosan range

The Stalosan range does not contain chemicals and will remain active for several days as a drying agent. Stalosan can be used to treat existing bacterial problems; however, real cost benefit comes from using it as a preventative.

Stalosan® F

In the case of high bacteria risk, use Stalosan F - a drying agent with disinfectant properties.

Because Stalosan F can be added while animals are present, you'll have consistent disease control. Also, it is a powerful drying agent; binding ammonia in the air and reducing ammonia emissions.

What's in Stalosan F?

Stalosan F has no 'active' (chemical) ingredient. It does not invade or destroy cells, rather it works as an absorbent, attaching organisms to its surface.

How does Stalosan F compare to liquid disinfectants?

Liquid disinfectants kill pathogens as they come into contact with them but can be quickly deactivated by organic matter in animal houses. They have no effect on the diseases entering animal houses with newly introduced animals.

Stalosan F is active against:

Bacteria	Viruses	Fungi	Parasites
Clostridium	Rotavirus	100% effective against all types	Coccidiosis
E. Coli	No viral resistance		Fly larvae
Pasturella			Roundworms
Pseudomonas			
Salmonella			
Staphylococcus			
Streptococcus			
No bacterial resistance			

DISEASE MANAGEMENT



Stalosan® F

- ✓ For controlling bacteria, viruses, fungi, parasites, fly larvae, ammonia and moisture to improve bedding quality in animal housing
- ✓ Remains active for several days, even in the presence of manure and bedding
- ✓ Powerful drying agent
- ✓ Can be used with most animals, including cattle, pigs, goats, sheep and horses
- ✓ Available in 15kg

Application rate

Apply 50g Stalosan F per square metre.



Stalosan® Basic

- ✓ Powerful drying agent, which lowers the pH of the environment and binds ammonia to make animal bedding comfortable
- ✓ Can be used with most animals, including cattle, pigs, goats, sheep, poultry and horses
- ✓ Use in conjunction with Stalosan F where a more broad-spectrum effect is required
- ✓ Available in 15kg

The combination of low pH value and strong drying properties makes Stalosan Basic highly efficient in reducing the development of harmful substances within animal housing.

Stalosan Basic is a low-cost hygiene agent, it is not a disinfectant and should only be used in areas where bacteria risk is not high.

Application rate

Apply 50g Stalosan Basic per square metre.

Halamid®

Halamid® disinfectant is a highly effective and versatile biosecurity disinfectant with a large activity spectrum.

- ✓ Once mixed, it will remain stable for several weeks*.
- ✓ It's also non-corrosive on metal and very safe to use.

Halamid is effective against many known pathogens related to intensive farming applications.

A few of these are indicated below, but the complete activity spectrum of Halamid is much wider.

**Halamid (1-10%) solution will remain stable for weeks if kept out of direct sunlight. Stability is also dependent on pH, which should remain above 7 to guarantee stability. A 1% solution of Halamid in demineralised water normally has a pH of 9.*

Halamid is active against:

Bacteria	Viruses	Fungi
Salmonella sp	Avian Influenza virus	Aspergillus brasiliensis/niger
Campylobacter sp	Adeno virus (egg drop syndrome)	Aspergillus fumigatus
E-coli	Newcastle disease	
Listeria	Gumboro disease (IBD)	
Pseudomonas aeruginosa	Infectious bronchitis virus (IBV)	
Staphylococcus aureus	Avian reovirus (viral arthritis)	
Mycoplasma		



Halamid®

- ✓ Highly effective and versatile biosecurity disinfectant with large activity spectrum
- ✓ Kills pathogens in 5-10 minutes
- ✓ Non-corrosive in solution, safe for milking equipment
- ✓ Good for all-shed situations and rearing pens
- ✓ Footdip disinfectant
- ✓ Stable formulation, readily biodegradable and safe to use
- ✓ Nil risk of resistance
- ✓ Use in combination with Stalosan® F for a total hygiene solution
- ✓ Available in 100g, 2kg and 5kg

DISEASE MANAGEMENT

Application

Halamid is always applied as an aqueous solution: simply dissolve the Halamid in clean water at the required concentration.

NOTE: Use biocides safely. Always read the label and product information before use.


	Concentration of Halamid (to clean water)	Comment
Disinfection of rearing and housing barns	100g/10L	Apply 0.3L per square metre (or 1L per 3m ²)
Teat disinfection	30g/10L	
Milking equipment disinfection	50g/10L	Rinse with clean water
Footdip	200g/10L	Renew as often as needed



Housing - dry and draft-free

There should be enough barn space to house at least 50% of calves born on farm. Best practice is to have multiple barns, so that young calves can be isolated from older or sick calves.

- ✓ Barns should be open on one side and divided into group pens, holding no more than 20 calves (10 is ideal).
- ✓ Calves should be placed in their allocated pens and stay there for the entire indoor rearing period.
- ✓ Each calf should be placed in a clean group pen that has not been previously used by other calves.
- ✓ Locate calf barns well away from the cow shed and feeding pads (to prevent the spread of disease).
- ✓ Disinfect the barn, feeding utensils and trailer with a good quality, safe virucidal product (see Halamid) twice a week.
- ✓ Control rodents, birds and dogs.

A photograph of two calves in a barn. The calf on the left is black with a white face and legs. The calf on the right is brown with white patches on its face and legs. They are standing in front of a wooden wall. The floor is covered with straw bedding.

Bedding should be soft (shavings, straw) and at least 100mm deep. Replace bedding daily or disinfect with Stalosan.

Grow better animals with AgriVantage

AgriVantage is the animal nutrition division of Chemiplas Limited. We provide New Zealand calf rearers and dairy farmers with quality, cost-effective milk replacers plus innovative rearing solutions that will help young animals to get the best start in life.

We stand by our brands 100%. Sprayfo milk replacers, Biopect, Stalosan and Halamid are top quality products, used by rearers worldwide. Using them will add value to your operation; pushing your livestock towards their true genetic potential.

On farm advice

When you purchase any of AgriVantage's brands, you also have access to the very best advice on how to get the most out of our products.

With the backing of Dr Bas Schouten, one of New Zealand's most renowned experts on calf rearing, and Sloten B.V. (manufacturers of Sprayfo), we'll advise you on best practice and help to monitor the growth of your animals.

We work with you to maximise the development and subsequent production capacity of your livestock.

Get in touch

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