

BIOGROW

The Natural Feed Additive



Calves

Biogrow for Calves

Biogrow is a microbial feed additive developed for use in calf milk replacers and also for inclusion in coarse and pelleted feed.

The active ingredients in Biogrow are the bacterial strains *Bacillus subtilis* and *Bacillus licheniformis* which produce digestive enzymes as they progress along the intestinal tract. These enzymes assist in the breakdown of feed, resulting in efficient feed conversion rates and improved live weight gains. This is shown in the following trial data.

Field Trial One

Biogrow in milk replacer

The rumen of young calves can take between 6-8 weeks to develop fully. Therefore during this period the most important energy source for pre-weaned calves is milk fat. The digestive enzyme lipase, produced by the Biogrow bacteria, accelerates the break down of milk fats, to fatty acids and glycerol which are then easily absorbed by the calf. Lipase as well as breaking down the fats also releases fat-soluble products like vitamins A, D, E and K helping prevent deficiencies in these essential nutrients. The benefit gained is an efficient utilisation of the energy available and results in improved performance from calf herds at this critical time in their development.

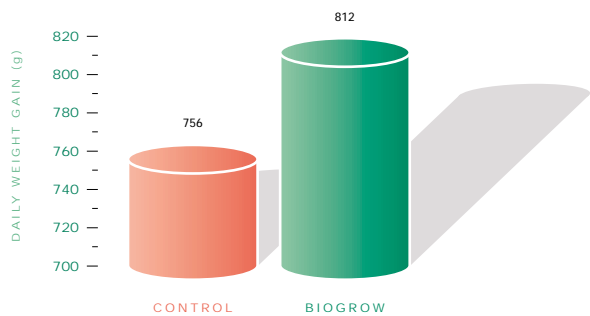
Biogrow was added to the milk replacer in a trial carried out on 34 calves from 55-100 kg.

The results showed that the Biogrow fed calves had an increased daily weight gain of 7.4% over the control calves and an improved feed conversion of 4.0%.

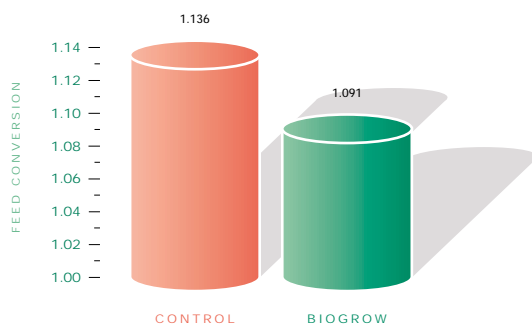
7.4%

increased daily live weight gain

"Increases in daily live weight gain"



"Improved feed conversion"



Field Trial Two

Biogrow in coarse rations

As calves develop, energy from fats becomes less important as rumen function begins. The main source of energy switches to carbohydrates. Another enzyme produced by the Biogrow bacteria 'amalyse' breaks down starch to sugar. By supplementing the animal's digestive enzymes the use of Biogrow will ensure a more efficient conversion of the feed and result in improved body condition and increases in daily live weight gain.

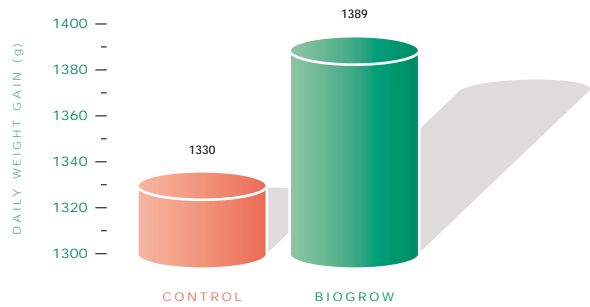
To demonstrate the beneficial effects of this process in coarse rations an ad-lib feeding trial was carried out on 40 calves from 120-287 kg, over 140 day period.

The calves receiving Biogrow achieved a 4.4% increase in daily weight gain when compared with the control calves. This resulted in an improvement of feed conversion of 3.4%.

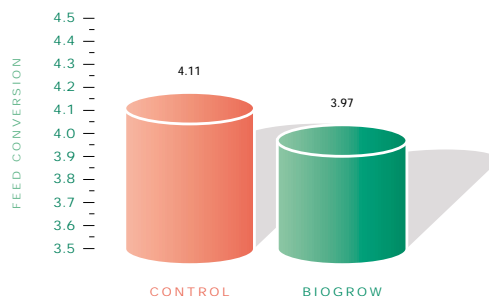
4.4%

increase in daily weight gain

"Increases in daily live weight gain"



"Improved feed conversion"



Field Trial Three

Biogrow in pelleted feeds

The *Bacillus* bacteria in Biogrow have the ability to form spores under adverse conditions. These spores are able to withstand high temperatures and pressure making them suitable for use in processed and pelleted feed.

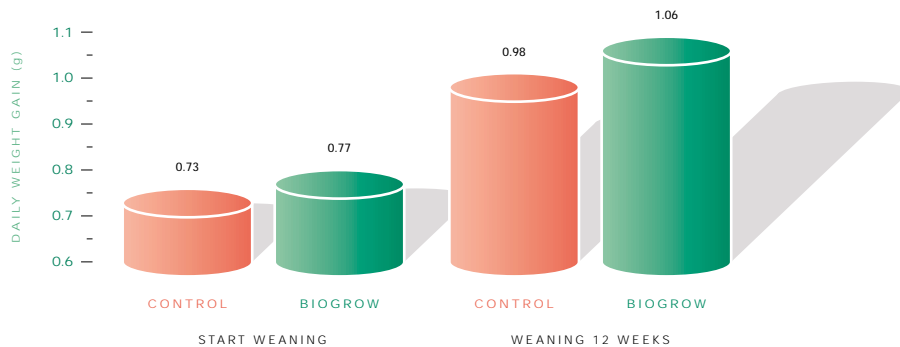
When conditions again become favourable for growth such as in an animal's digestive tract the spores transform into active cells producing enzymes and other desirable metabolites.

"Increases in daily live weight gain"

To show the benefits of the *Bacillus* strains Biogrow was mixed with calf feed and the feed was then pelleted. The trial was carried out on 52 calves from 55-125 kg.

The trial showed an overall improvement of 7% in live daily weight gain over control when Biogrow was used. The calves fed on Biogrow had greater feed intakes than the control calves but still demonstrated an improvement in total feed conversion.

7.0%
increase in daily weight gain



Summary

These trials were conducted under differing management systems on calves ranging in age from 3-32 weeks. Some of the trials were conducted on younger calves with the Biogrow in the milk replacer while the older calves received the Biogrow in coarse rations or pelleted feed. In all instances Biogrow improved productivity. In conclusion the trials show an average daily live weight gain in calves of 6.3% and an overall improved feed conversion of 2.8%.

Product Description - Biogrow is a free flowing powder in which the active ingredients are equal amounts of the freeze-dried spore-forming bacteria *Bacillus subtilis* and *Bacillus licheniformis* at a minimum concentration of 3.2×10^7 viable spores/g.

Recommendations for use

- Feed additive for calves.
- Can be blended into ready-to-use rations. In feed pelleted at 75°-95°C approximately 85% of spores will be recovered.

Application rates

Calves: 0.4-0.6 kg per tonne feed, equivalent to a concentration of 1.28-1.92 million spores per gram feed.

Storage and handling - Store in a dry area at temperatures not exceeding 37°C to maintain optimal activity.

Stability - Minimum 24 months from the production date when stored as specified above.

Pack Size - Biogrow is packed in 20 kg bags and 1 kg tubs.

Withdrawal - Nil

