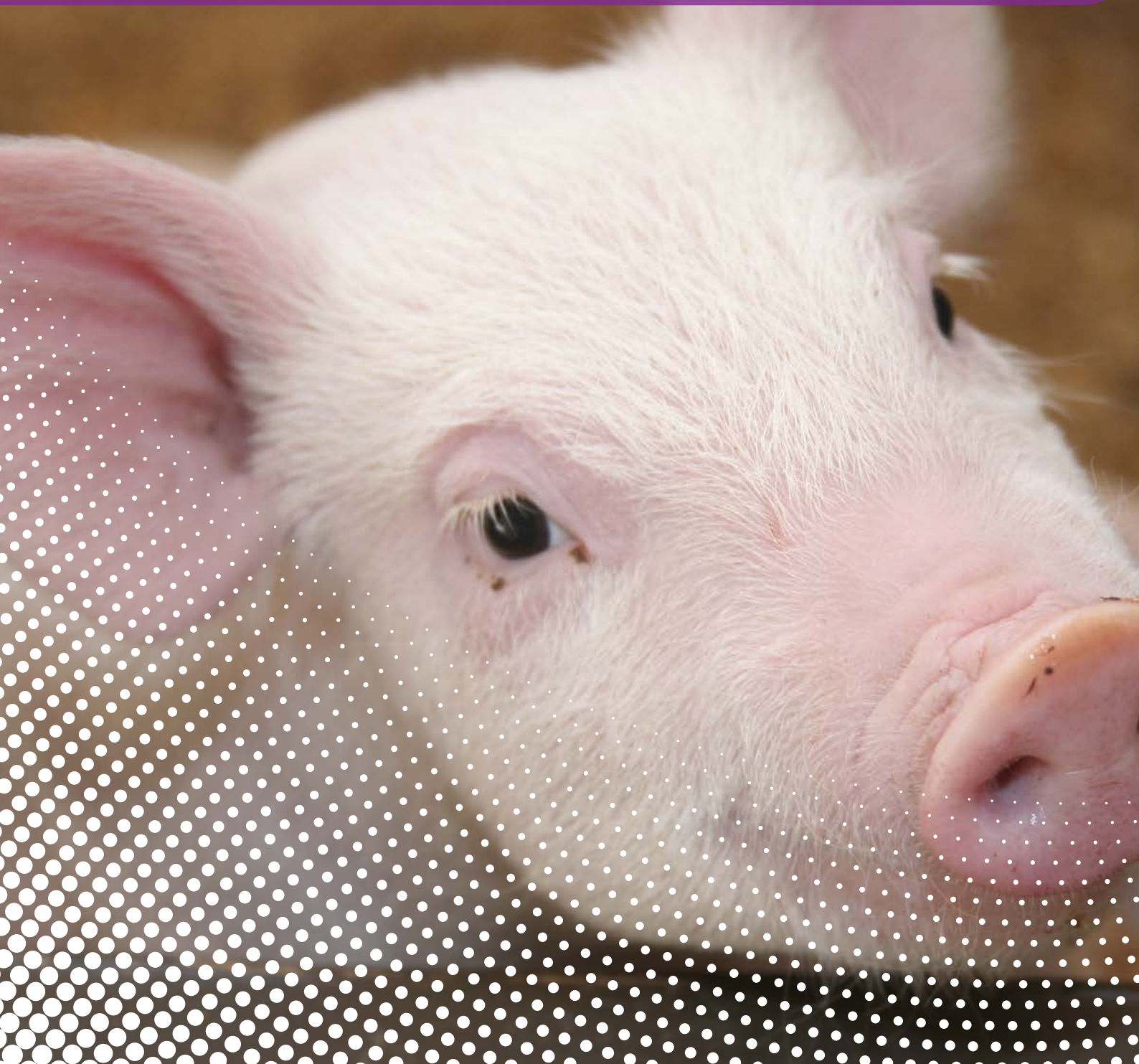


Animal health ingredients

ANIMAL HEALTH SOLUTIONS BY CORBION



Lactic Acid is a natural product derived from fermentation. It is naturally present in all living species. It is safe and natural and can be applied through feed. It is suitable for all animal species. Most applications of Lactic Acid are through feed, but also adding it to drinking water is an option.



Corbion factory in Thailand

Pigs

Health promotion and performance

Effective products are required by pig farmers to produce safe and healthy pork. Corbion's LAFEED® 80 (feed grade Lactic Acid) helps farmers meet ever increasing consumer demands. It is a safe and natural antimicrobial product suitable for piglets, fattening pigs and sows.

Improved feed intake

Weaning stress causes loss of appetite, reduction in bodyweight and, in severe cases, death. The agreeable taste of Corbion's products encourages piglets to eat and helps avoid some of the harsher effects of weaning, using LAFEED® and CALFEED® Hi Sol is similar to giving a sweet to a child in distress. In addition, feed intake is enhanced when LAFEED® is added because of its good taste. Increased feed intake reduces weight loss and vulnerability to infections.

Improved gut health

Acidification of the stomach by LAFEED® helps to prevent gastric ulcers. The agent that causes ulcers, *Helicobacter pylori*, is very sensitive to Lactic Acid. In addition, LAFEED® acidifies the stomach and delays gastric emptying.



Ruminants

Preventing hypocalcaemia

During the first two months of lactation, high yielding dairy cows often suffer from hypocalcaemia. CALFEED® is best applied in those periods when hypocalcaemia occurs. The most obvious way to prevent this is to ensure that adequate amounts of calcium are consumed each day, either in the diet, or as a supplement. The Calcium Lactate of CALFEED® is highly soluble, so calcium ions are directly available for uptake in the bloodstream.

Teat dip to prevent mastitis

Mastitis is a threat to all dairy cows. Topical disinfection (teat dip) is widely recommended to protect against the most harmful effects of this condition. Lactic Acid in combination with sodium chlorite, hydrogen peroxide, or glycerol monolaurate is effective as teat dip to control microbial growth and reduce the risk of mastitis. It also helps to prevent hyperkeratosis.



We offer:

- ▶ High quality
- ▶ Biobased products
- ▶ Secure supply chain
- ▶ High service support
- ▶ 80 years experience



Corbion factory in The Netherlands

Poultry

Improved digestion

Tests show, that Lactic acid positively influences performance of broilers. Lactic Acid in combination with phytase shows synergistic effects on nitrogen and phosphorus retention.

Drinking water

Lactic Acid DW is specially designed for addition in drinking water. This can protect against microbial contamination.

Increase food safety

High concentrations of pathogenic bacteria in the gut contaminate the carcass at slaughtering. To optimize antimicrobial control before slaughter, acidifying drinking water after feed withdrawal can be effective. Flushing the empty gut with drinking water with added Lactic Acid DW

protects against contamination of the carcass by preventing outgrowth of Salmonella and Campylobacter.

Increased performance

CALFEED® Calcium Lactate can help reduce the number of cracked and broken eggs. This is particularly important when extra calcium is needed, such as during and after molting. Calcium Lactate is also most beneficial for the production of high value eggs, such as those from dam broilers or dam layers.



Product line

Product name	Specification
CALFEED®	Lactate supplies energy to living cells. The lactate of Calcium Lactate is a nutrient for the gastro intestinal wall. The calcium is easily absorbed and available for the use in the body. Calcium Lactate easily dissociates, releasing free calcium ions for absorption in the gastro intestinal tract.
CALFEED® HiSol	CALFEED® HiSol is designed for incorporation in feed for young animals, especially piglets. It has a sweet and sour taste that young animals prefer. It enables increased feed intake. The high lactate content helps with acidification of the stomach and the highly soluble calcium enables direct uptake of the calcium in the blood. It is specially designed for improving gut health in young animals.
LAFEED® 80	LAFEED® is a relatively strong organic acid. It has a pleasant taste to most animals. The product easily dissociates to acidify the stomach. LAFEED® enhances the uptake of nutrients and inhibits the growth of Gram negative bacteria, such as Salmonella, Escherichia coli and Campylobacter.
LAFEED® Powder	LAFEED® Powder is a strong acid with soft appearance. The primary functions of the product are to preserve and acidulate. LAFEED® Powder enhances feed intake, especially in young animals. LAFEED® powder easily dissociates, mildly acidifying the stomach. It enhances the uptake of nutrients and reduces the shedding of Gram negative bacteria, such as Salmonella, Escherichia coli and Campylobacter.
PURAC® 80-DW	PURAC® 80-DW is a short chained, organic acid; and a relatively strong one. Most animals like an acidic taste. PURAC® 80-DW easily dissociates, acidifying the crop. PURAC® 80-DW enhances the uptake of nutrients and often reduces the shedding of Gram negative bacteria, like Salmonella, Escherichia coli and Campylobacter.
ALOAPUR®	ALOAPUR® is Corbion's latest innovation for animal health. ALOAPUR® offers the first application of lactylates in animal nutrition. Lactylates are produced by reacting fatty acids and lactic acid. The resulting product has gut microflora modulating properties that enable poultry to deal with challenging conditions and keep up performance.

Let us know how we can help you

● Corbion Headquarters ● Corbion Production Location ● Corbion Sales Office ● Corbion Innovation Center



Corbion in Animal Health

corbion.com/contact

For the animal health industry, Corbion offers Lactic Acid and Lactic Acid derivatives. Our ingredients are produced from renewable agricultural products and are used in a broad range of animal feed products. Lactic Acid is effective, safe and is well tolerated, it is naturally present in all living species.

About Corbion

Corbion is the global market leader in lactic acid, lactic acid derivatives, and a leading company in emulsifiers, functional enzyme blends, minerals, vitamins and algae ingredients. We develop sustainable ingredient solutions to improve the quality of life for people today and for future generations. For over 100 years, we have been uncompromising in our commitment to safety, quality, innovation and performance. Drawing on our deep application and product knowledge, we work side-by-side with customers to make our cutting edge technologies work for them. Our solutions help differentiate products in markets such as food, home & personal care, animal nutrition, pharmaceuticals, medical devices, and bioplastics. In 2016, Corbion generated annual sales of € 911.3 million and had a workforce of 1,684 FTE. Corbion is listed on Euronext Amsterdam.

Interested in solutions for Animal Health? Go to corbion.com/AnimalHealth



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