



WELL-PROVEN GUT FLORA STABILIZER

MAXLAC products are composed of probiotic feed additives from the lactic acid bacteria (LAB) group. The strains are healthy and natural, tested for safety and efficacy, GMO free and certified for organic farming in the EU. They support high zootechnical performance in livestock nutrition and show several nutritional advantages in the diets of monogastric animals.

PROBIOTICS FOR PRODUCTIVITY

Dietary probiotic supplementation has become increasingly important in recent years due to a steady reduction in antibiotic usage. The major commercially available probiotic products for animal nutrition include lactic acid bacteria, spore-forming organisms and yeast strains. A healthy intestinal tract is crucial for superior performance in today's monogastrics and ruminants because their productivity demands require high levels of feed intake and feed efficiency.

Probiotic bacterial cultures are key elements of feeding concepts in livestock and poultry production as they have a regulatory and stabilizing function in the intestines. Their main effect is to stimulate desirable bacteria in the intestinal flora and to protect the intestine from unwanted microorganisms. Since it is commonly known that the microbiota is strongly related to the immune status of the gut, it may be concluded that probiotics give rise to a healthy immune system and optimum animal performance.

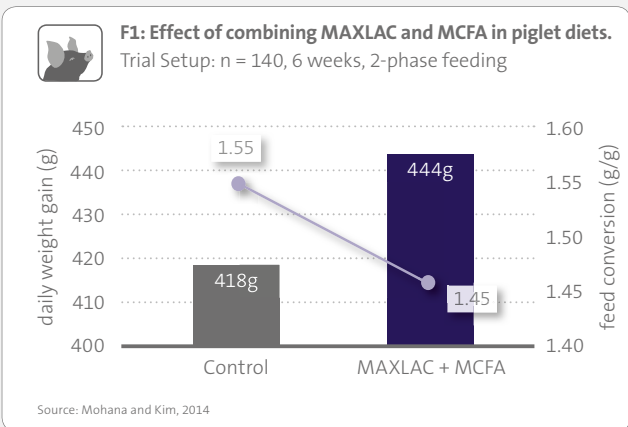


- Forms a biological protective lining in the digestive tract
- Supports healthy formation of gut flora
- Inhibits unwanted microorganisms
- Improves performance measures

A MULTI-PRONGED STRATEGY

Supplementing with lactic acid bacteria helps deliver improved animal performance, and there are synergistic effects when **MAXLAC** products are combined with other products from our portfolio. For example, combining probiotics and acids has been shown to provide benefits in broiler chicken and pig nutrition. Figure 1 shows improvement in feed conversion and daily gain of weanling piglets when their diets were supplemented with **MAXLAC** and medium-chain fatty acids (MCFA) from the MAXACID product range.

In conclusion, dietary MCFA and probiotic supplementation in weanling pigs are efficacious alternatives to antibiotics to improve health status and performance.



PERFECT COMPONENTS. MAXIMUM RESULTS.

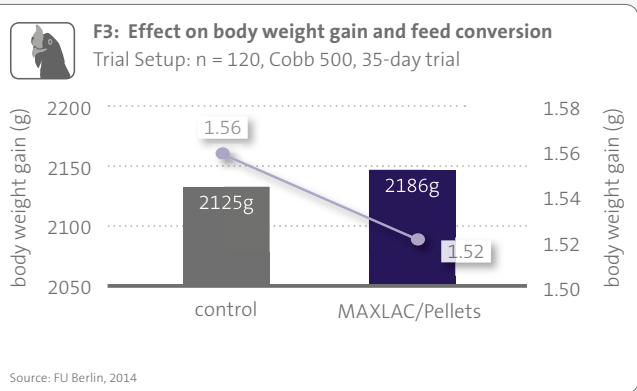
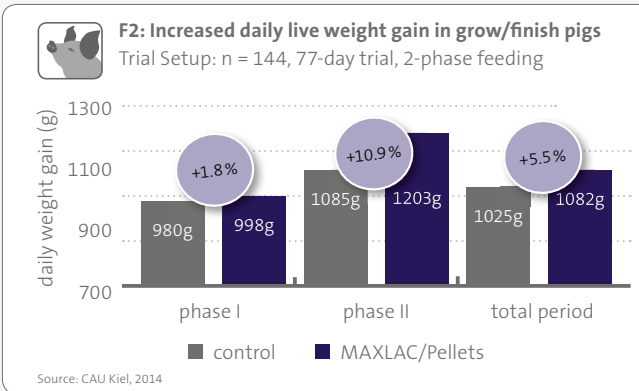
THE PROBIOTIC SOLUTION

MICRO-ENCAPSULATED AND PROVEN

MAXLAC/PELLETS is used in sow and piglet feeding, and pig and poultry finishing. Many trials and research studies demonstrate the positive effects of this probiotic feed additive, including improved piglet livability and increased pre-starter intake per piglet, and improved body condition in sows.

In addition, supplementing **MAXLAC/PELLETS** increases daily weight gains in piglets and improves their vitality. In poultry, it has been shown to provide a significant increase in live weight gain.

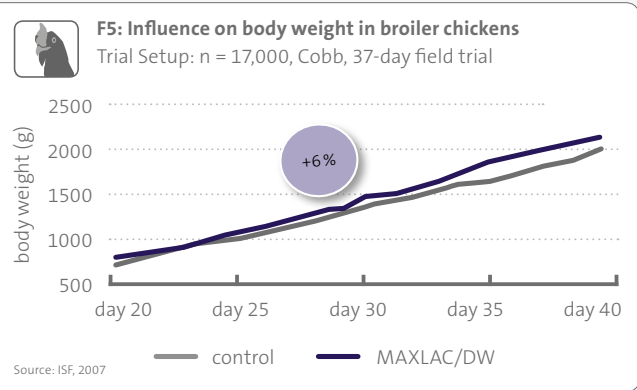
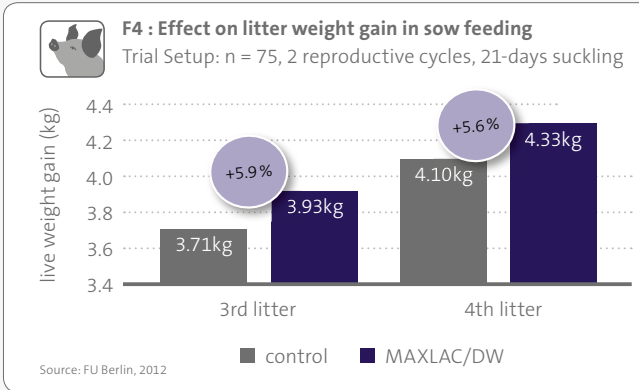
- LAB: *Enterococcus faecium* (DSM 7134)
- Activity: at least 1×10^{10} CFU/g additive
- Micro-encapsulated for increased heat stability
- For premixes and compound feed



MAXLAC/DW THE PROBIOTIC FOR DRINKING WATER

MAXLAC/DW is a highly soluble powder that can be administered via drinking water, and it is primarily used for poultry and pigs. It contains the highly effective lactic acid bacteria strain *Enterococcus faecium* (DSM 7134), which stabilizes the intestinal flora and improves the performance of the host animals. In pig and poultry feeding it has been shown to significantly increase daily weight gains.

- Highly soluble powder, specifically designed for application via drinking water
- LAB: *Enterococcus faecium* (DSM 7134)
- Activity: at least 1×10^{10} CFU/g additive





THE PROBIOTIC SOLUTION FOR CALVES

MAXLAC/DFM is a probiotic combination of four lactic acid bacteria (LAB) strains specifically designed for milk replacers. **MAXLAC/DFM** inhibits pathogenic germs and strengthens the desired microflora in the intestinal tract of young calves. It encourages increased feed intake and helps the newborn calf to grow healthy.

PROBIOTICS FOR PRODUCTIVITY

Due to a decreased usage of antibiotics, probiotic supplementation in livestock diets has increasingly developed over the last years. To meet desired productivity demands such as high daily live weight gains for calves, a healthy intestinal tract is crucial in order to achieve high levels of feed intake and feed efficiency. Probiotic bacterial cultures are key elements of feeding concepts in livestock production as they have a regulatory and stabilizing function in the intestines. Their main effect is to stimulate desirable bacteria in the intestinal flora and to protect the intestine from unwanted microorganisms. Since it is commonly known that the microbiota is strongly related to the immune status of the gut, it may be concluded that probiotics give rise to a healthy immune system and optimum animal performance.



- Supports a healthy gut flora and inhibits unwanted *E. coli* bacteria
- Increases daily weight gain and optimizes feed conversion
- Strengthens the immune system and boosts vitality
- Reduces diarrhea and respiratory infections

MAXLAC/DFM – SPECIFICALLY DESIGNED FOR MILK REPLACERS

PROVITA SUPPLEMENTS developed **MAXLAC/DFM** as a microbial feed additive specifically for calves to strengthen their immune systems and boost vitality. This probiotic contains four active cultures: *Enterococcus faecium* (DSM 7134), *Enterococcus lactis* (DSM 20729), *Lactobacillus plantarum* (DSM 12836) and *Pediococcus pentosaceus* (DSM 12834) with a total activity of at least 1.0×10^{10} CFU/g. Despite their different origin and metabolism, these strains mutually promote each other's growth and complement each other positively in their metabolic processes.

MAXLAC/DFM is healthy and natural, tested for safety and efficacy, GMO free and certified for organic farming. The powder, which is highly stable in milk replacers, supports the desired microorganism population in the digestive tract, resulting in improved health status and better performance parameters. It stabilizes digestion and has been shown to significantly reduce diarrheal problems in young calves.

PERFECT COMPONENTS. MAXIMUM RESULTS.

STRENGTHENS THE IMMUNE SYSTEM AND BOOSTS VITALITY

MAXLAC/DFM – STRENGTHENS THE INTESTINAL FLORA

Using the combination of lactic acid bacteria strains during the colonization phase enables a high colonization rate, which rapidly spreads beneficial bacteria to the entire intestinal surface. As a result, pathogenic germs such as *Escherichia coli* and coliform bacteria are suppressed. Microbiological research in calves showed a significant increase in the initial population of *Enterococci* in the jejunum. This effect is also evident in the caecum and to a lower extent in the colon. Gram-positive anaerobes, such as bifidobacteria and eubacteria, also are increased manifold.

SPECIFICATIONS OF MAXLAC/DFM

- *Enterococcus faecium* (DSM 7134), *Enterococcus lactis* (DSM 20729), *Lactobacillus plantarum* (DSM 12836) and *Pediococcus pentosaceus* (DSM 12834)
- Total activity at least 1×10^{10} CFU/g
- Specifically designed for use in milk replacers and milk enhancers

MAXLAC/DFM – HIGHER PERFORMANCE AND BETTER VITALITY

Various research institutes have analyzed the effects of **MAXLAC/DFM** on daily weight gain. F1 shows that **MAXLAC/DFM** leads to a significant increase in daily live weight gain in calves, which is the result of an improved energy conversion and increased feed intake.

Further research studies at the University of Applied Sciences in Bingen aimed to analyze the effects of **MAXLAC/DFM** on respiratory infections and diarrhea of 80 Simmental calves that were divided into two groups. **MAXLAC/DFM** increased daily feed intake by 11.1% compared to the

untreated control group. Furthermore, **MAXLAC/DFM** had a positive effect on feed intake during the drinking phase, which still was noticeable in the phase after weaning. The daily dry matter intake after weaning was 5.8% higher for the treated calves compared to the control group. Results on immune status, illustrated in F2, show that **MAXLAC/DFM** significantly reduced the average number of days calves experienced diarrhea and respiratory infections compared to the control.

