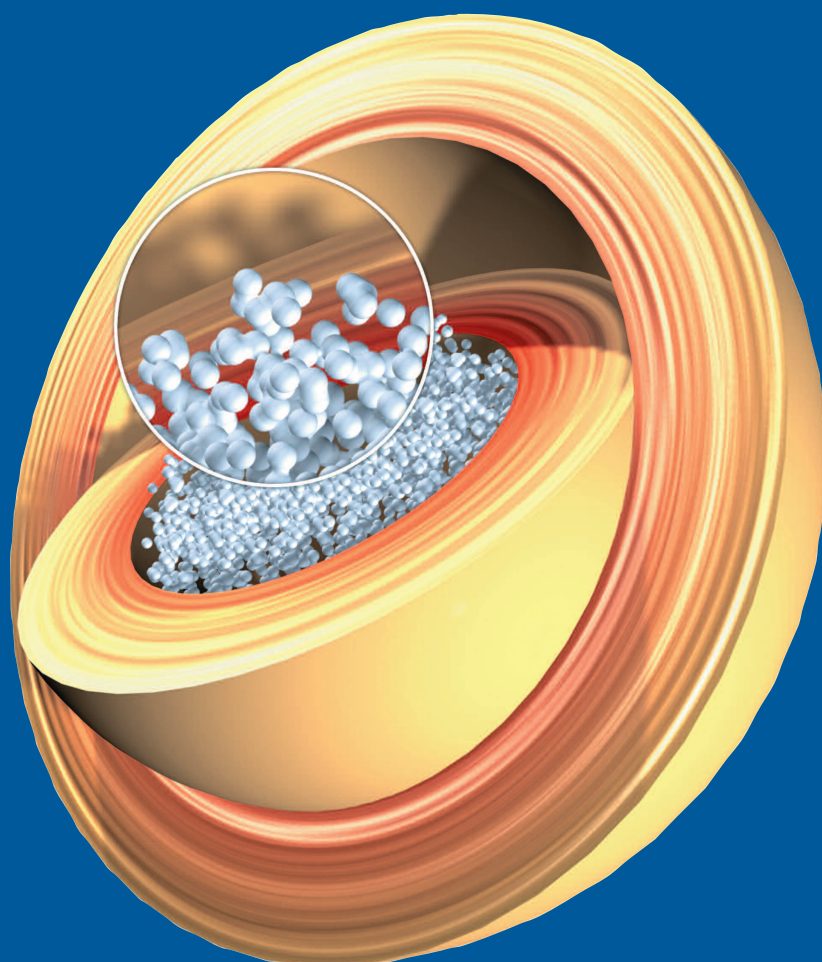


CYLACTIN®

The probiotic of choice

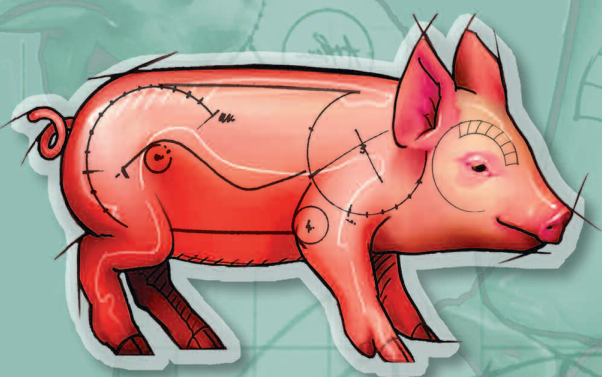
a **DSM** Product



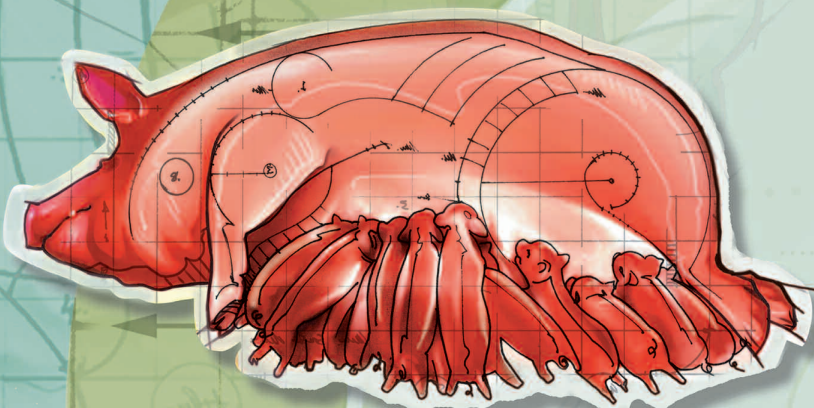
DSM Nutritional Products

Unlimited. **DSM**

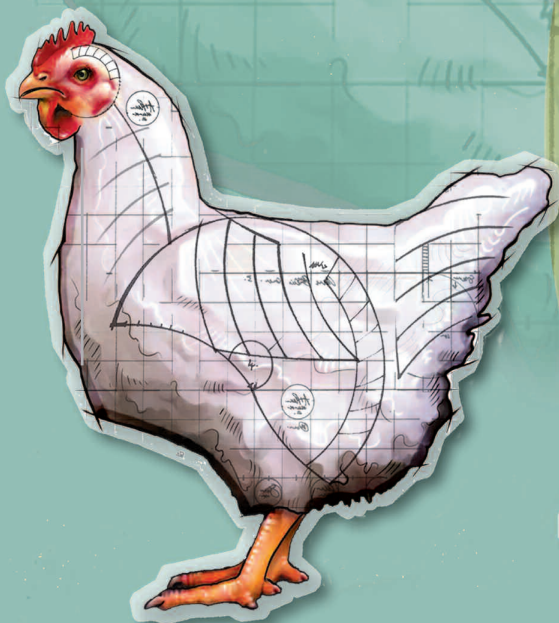
CYLACTIN®



- CYLACTIN® is a probiotic containing living bacteria of the strain *Enterococcus faecium* NCIMB 10415 (SF68)



- CYLACTIN® stabilizes the gut flora and improves animal health and welfare



- CYLACTIN® improves overall performance in broilers, pigs and calves

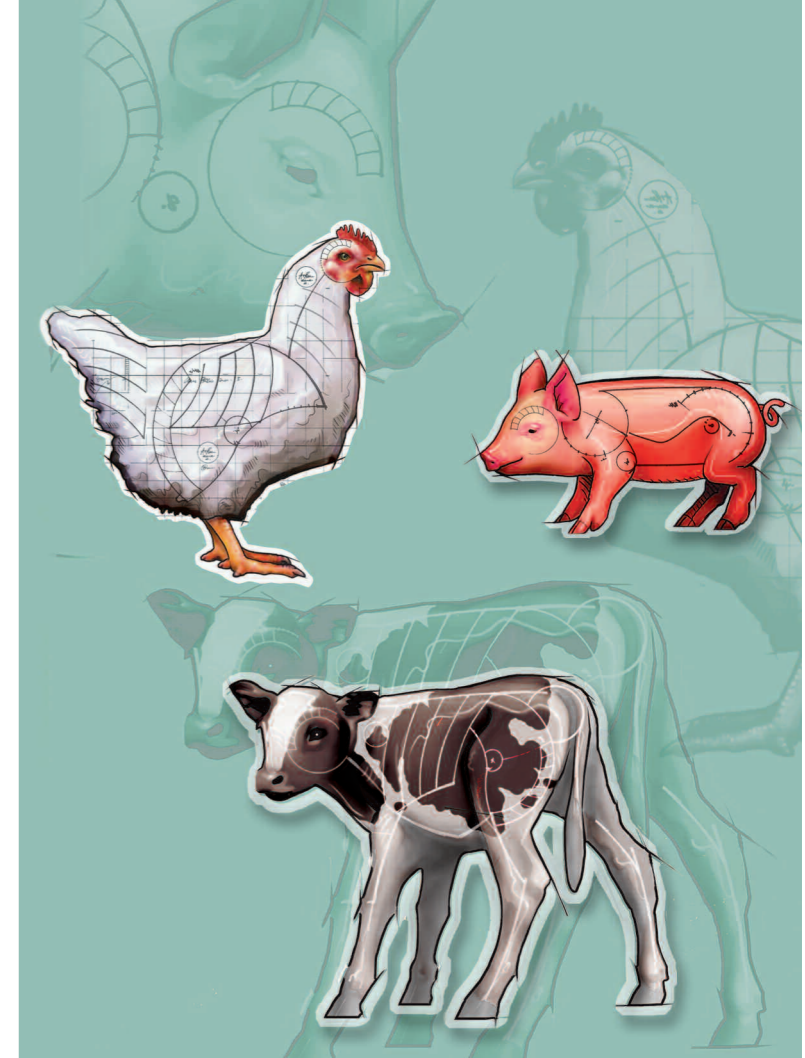


Challenges

- Imbalanced gut flora
- Diarrhoea in animals
- Mastitis-metritis-agalactia (MMA) syndrome
- Poor health and performance
- Increased mortality
- Application and feed processing stability
- Replacement of antibiotic growth promoters

Product Benefits

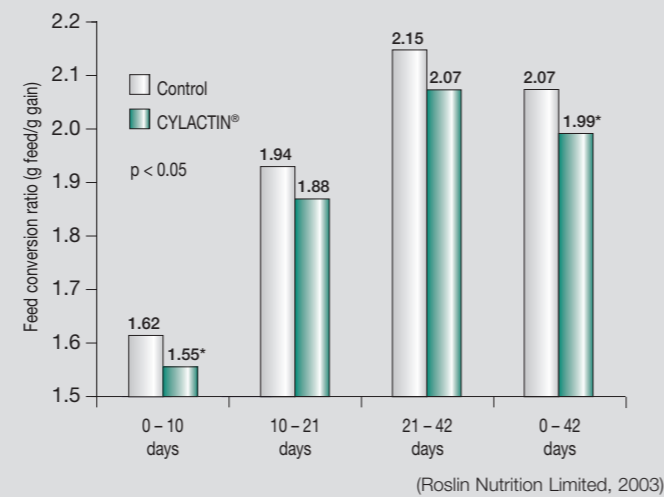
- Stabilizes the gut flora
- Reduces diarrhoea incidence
- Less incidence of MMA-syndrome
- Improves overall performance and welfare
- Decreases mortality
- Microencapsulated product form for pelleted feeds
- Easy soluble granulate for milk replacers



CYLACTIN® for better performance and animal welfare

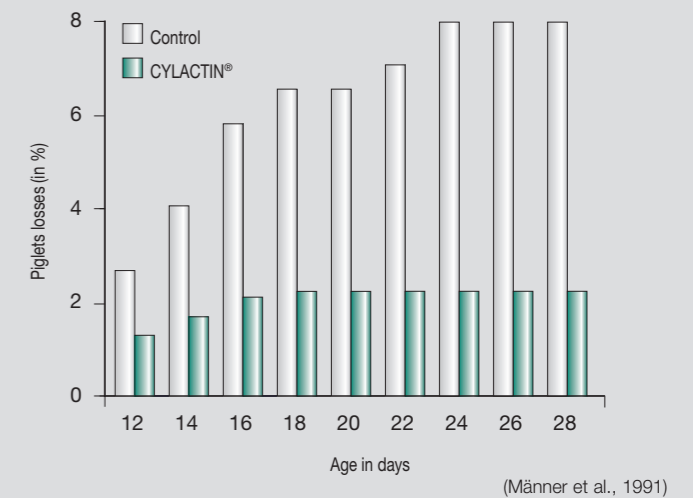
Effective in broilers

By adding CYLACTIN to broiler diets zootechnical performance is improved. In a recent study CYLACTIN® has shown a significant improvement in feed conversion ratio by 3.7% and an increase of average weight gain (+ 4.3%).



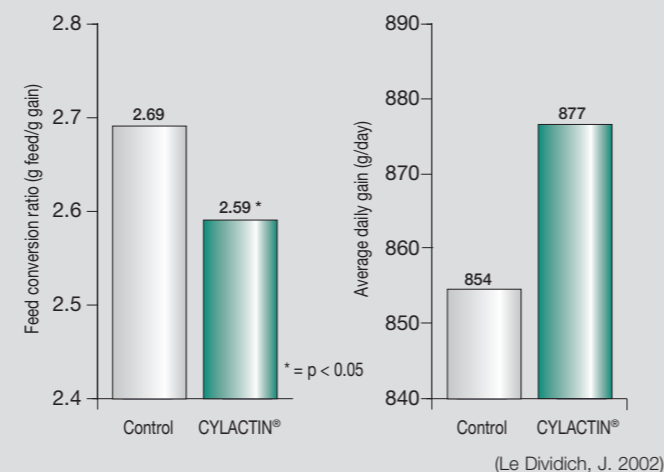
Effective in piglets

Studies demonstrate that supplementation of suckling piglets with CYLACTIN® results in reduced mortality (2% vs. 8%). The supplementation of piglet feed with CYLACTIN® resulted in higher feed consumption and an overall improvement in weight gain.



Effective in growing-fattening pigs

The colonization of the gut with lactic acid producing bacteria is the primary objective of CYLACTIN® supplementation. Studies with growing-fattening pigs demonstrated that the stabilization of microbial balance shows a positive impact on animal performance. This finally results in an overall economic benefit for the whole swine unit.



Effective in calves

Calves are at a monogastric status during the suckling period. Diarrhoea is a major problem during this phase and the primary cause of death before weaning. CYLACTIN® has been shown to have a positive effect on the gut microflora in calves, leading to improved welfare and economic advantages.

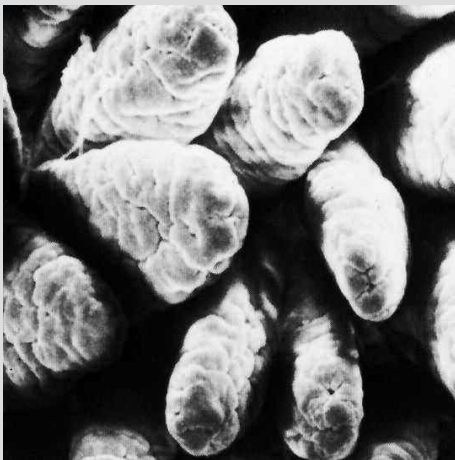
	Control	CYLACTIN®
No. animals	15	15
Initial weight (kg)	67.5	67.5
End weight (kg)	174.9	181.0*
Gain (g/day)	1340	1415
	100%	(+5.6%)
Feed intake (g/day)	2038	2048
Feed conversion	1.53	1.45
(feed intake/gain)	(100%)	(-5.2%)

* Means are significantly different from the control group P < 0.05

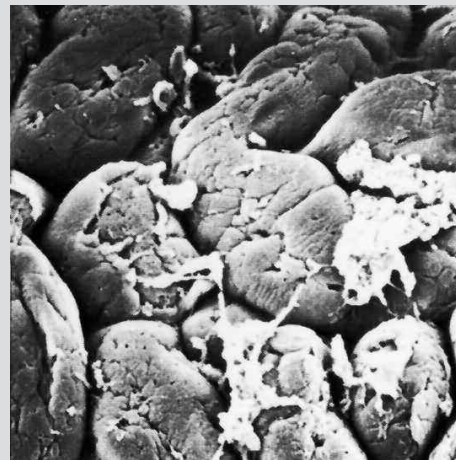
(Burgstaller et al., 1984)

CYLACTIN®-Mode of action

- Colonizes the gut and synthesizes protective substances such as L-lactic acid and short-chain fatty acids
- Improves the intestinal microbial balance by supporting the more acidic lacto-flora
- Stimulates the intestinal wall to increase the formation of the mucosal layer (protective function) and of antibodies (immuno-stimulation)
- Limits the growth of harmful bacteria (like *E.coli*, *Clostridia* and *Salmonella*) and prevents microvilli damage
- Reduces ammonia, toxic amines and bacterial toxins in the intestine
- Promotes restoration of gut flora after disturbance of intestinal equilibrium (e.g. due to presence of pathogens, stress or administration of anti-infectives)



Intact microvilli

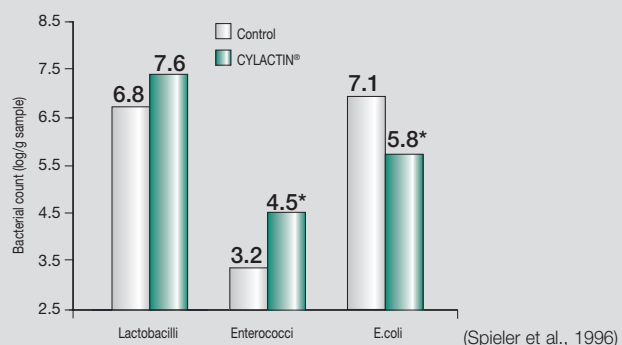


Damaged intestinal microvilli following *E. coli* or Rotavirus infection

Improved health and animal welfare

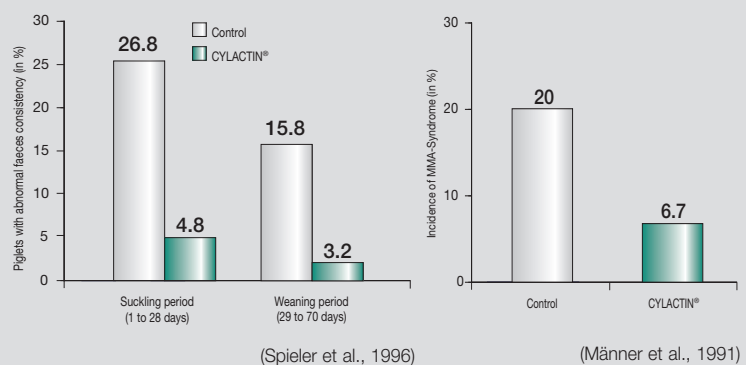
Gut flora stabilization

After ingestion, the CYLACTIN® strain becomes metabolically active very rapidly once the bacteria reach the small intestine. They multiply at high speed. CYLACTIN® develops the lacto-flora and stabilizes the equilibrium of the microflora in a more acidic and favourable state, limiting the development of harmful bacteria like *Escherichia coli*, *Clostridia* or *Salmonella*.



Improved health

The addition of CYLACTIN® in the first piglet feed leads to a significant decrease of diarrhoea during suckling and post weaning period and improves weight gain of the piglets. (left figure)

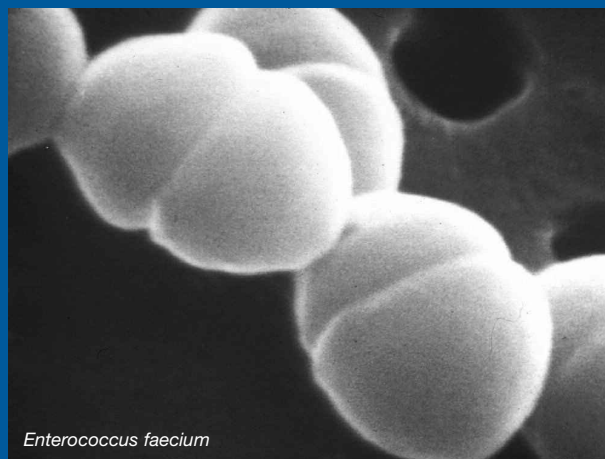


CYLACTIN® supplementation to sows before farrowing and during lactation results in a lower incidence of MMA after farrowing, and an increase in the average piglet weight at weaning by 340 g (+ 5.1 % vs. control) (right figure)

CYLACTIN®

The probiotic of choice

Product information



CYLACTIN® LBC (Lactic acid bacteria concentrate) is a microbial feed additive for the stabilization of the intestinal flora, containing a dehydrated culture of the lactic acid-producing strain *Enterococcus faecium* NCIMB 10415 (SF68).

CYLACTIN® is available as CYLACTIN® LBC ME10 (= 1.0×10^{10} CFU/g) a white to light yellow, flowable and micro-encapsulated product form for pelleted feeds and as CYLACTIN® LBC G35 (= 3.5×10^{10} CFU/g), a slightly yellow, fine granulate for milk replacers.

Safety and product stability

The species *Enterococcus faecium* is included on both the GRAS (Generally Recognized As Safe) and the AAFCO (Association of American Feed Control Officials) list.

Product form	Shelf life	Storage conditions
LBC ME10	24 months	dry at 2 – 8 °C
	5 months	at higher temperature
LBC G35	12 months	dry at 2 – 8 °C
In premix/feed	3 months	dry at room temperature

Due to micro-encapsulation CYLACTIN® LBC ME10 is stable in single pelleting processes up to maximum energy input of 35 kWh/t, or a max. temperature of pellets, before cooling, of 85 °C.

Recommended dosage*

The following dosage levels are generally recommended, on the basis of a cost-effective response:

	CYLACTIN® LBC ME10 (g/tonne feed)	CYLACTIN® LBC G35 (g/tonne feed)
Broilers	35	
Piglets	70	20
Fattening pigs	35	
Sows	70	
Calves	140	40

* Regulatory status and dosages for different species may vary between countries

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