

Prophylaxis of MMA syndrome in breeding sows

The latest results of our investigations showed good efficacy in the prophylaxis of MMA syndrome (mastitis (inflammation of the udder), metritis (inflammation of the uterus), agalactia (interruption of milk flow)) in breeding sows. MMA syndrome is very common in agriculture on pig breeding farms. The disease can lead to high economic losses due to the death of piglets; it can also cause infertility in the sows.

The syndrome is triggered by multiple factors connected with feeding:

1. Constipation before the birth due to lack of fibre in the diet
2. The composition of the feed is too alkaline leading to a risk of urinary tract infections
3. Lack of water during and after the birth.

For prophylactic purposes it is important to prevent constipation: the best prophylaxis is to maintain normal digestion. Lack of defecation, or constipation, is frequently observed in the breeding sow before farrowing because of reduced peristalsis. This leads to decomposition processes which may result in intoxication. Toxins absorbed via the intestine are transported through the blood stream into the uterus and the udders, where they cause tissue damage and increased risk of infection with E. coli. The risk of infection is also increased by the rapid proliferation of E. Coli bacteria in the intestine during constipation. A further risk factor is the change of feed to challenge feeding/feeding to yield.

Our test results show that Eucarvet is highly suitable for the prophylaxis of MMA syndrome due to its multifactorial composition.

1. Eucarvet stimulates intestinal activity and protects from constipation due to its laxative effect (Senna/Rhei).
2. Eucarvet maintains physiological digestion thus inhibiting the growth of E. coli. The active substance Carbo ligni adsorbs gases and toxins formed in the intestine.
3. The active substance sulphur provides an additional bactericidal and laxative effect.

Test results:

Pig breeding farm in Upper Austria:

Composition of the farm

This is purely a pig breeding farm (rearing only for own use) with 100 breeding sows, some 1/3 (approximately 30 animals) were heavily pregnant or lactating. The farm produces approximately 2500 piglets per year.

Experience with *Eucarvet*®:

- **Can be mixed with conventional feed.** *Eucarvet*® can be mixed without problems into the farm's own feed mixture using a feed mixer. *Eucarvet*® demonstrates good miscibility.
- **Feed uptake (acceptance):** The feed uptake was described by the farmers as excellent. The good smell and taste was accepted very well by the sows, unlike the Glauber's salt usually used, which sows hardly eat at all.
- **Weight increases/weight distribution:** in a litter: the litters showed uniform weight distribution.
- **Proportion of runts:** < 1%
- **Functional losses:** Few
- **Frequency of disease/diarrhoea/respiratory diseases:** Here too the results were good. There were few diseases. The use of *Eucarvet*® was discontinued in the piglets as it induced diarrhoea. The reason for this poor result was a dosage error. The same amount of *Eucarvet*® was added to the piglets' feed and the desired softening of faeces in the breeding sows caused diarrhoea in the piglets. For piglets the dose should be at least halved. More tests on this must be carried out.
- **Problems during weaning:** Since *Eucarvet*® has been added to the feed no problems with milk fever (MMA) have occurred. This of course also affects piglet production as there are no more problems with the piglets having too little or no milk because the mother animals are ill.
- **Problems during changes in feed:** changes in feed could not be tested.
- **Problems during birth/breeding sows** – none
- **Frequency of MMA syndrome** before and after *Eucarvet*®: The farm had no great problems with severe cases of MMA, but mild to moderately severe cases occurred occasionally. These were manifested in intestinal inertia, hard stools and infrequent defecation. Glauber's salt was used, but did not produce the desired response since the animals do not like to eat it and prefer *Eucarvet*®. *Eucarvet*® is therefore an effective alternative.

Karger Söding pig breeding farm (Steiermark):

In this breeding farm Eucarvet was used for prophylactic treatment of MMA and milk fever. The farm experienced a slight improvement. Unfortunately acceptance was good in only one third of the breeding animals after separate administration, a further third took the feed unwillingly and the final third refused to take the Eucarvet at all. In the animals which accepted the Eucarvet their general health status improved. The problem with acceptance is possibly caused by the smell due to the fennel and mint oil that it contains. Acceptance also did not improve after usual mixing into the prepared feed. Further acceptance testing will need to be carried out.