Winning on three fronts with a mix of organic acids

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In poultry production, good health, especially for breeders and hens, is very important for good mineral assimilation, especially that of trace minerals.

Controlling Salmonella spp infection is another important issue if we are to avoid human infection and also if we are to adhere to European Regulations.

Eurofeed decided to undertake field trials to evaluate the effectiveness of their product Shortacid at preventing intestinal infection with pathogenic bacteria in layers and breeding hens.

In layer breeders there are three emerging problems:

1Enteric problems linked to dysbacteriosis and Clostridium spp. infection, especially in the first 8-10 weeks of hens' lives.

1Foodborne disease problems, such as Salmonella spp. contamination, that even if not severe in animals, have to be prevented due to the risk to human health.

1Inferior egg quality, as a consequence of poor assimilation of trace minerals from the gut.

Acidifiers, together with butyric acid monoglycerides, have been shown to be effective against these problems.

Trial number one

In the first trial containing 40,000 Hy-Line brown breeder hens, two groups of 10,000 animals each were taken.

One group of day old hen chicks was used as the control group, the other was the treated group.

This second group were treated with 3kg/1,000 litres of water with the product to be tested from the first day up to eight weeks of age.

Table 1. Results at the end of trial number one.

Group	Av. weight	Feed hens	FCR	Uniformity (%)	Litter conditions
Control	1.32	5.080	3.85	82	Sufficient
Shortacid	1.36	5.060	3.72	85	Good

The two groups were fed with the same feed formulation:

1Chicks fed from 0-4 weeks.

1Growing hens from 5-8 weeks.

1Hens from 9-16 weeks.

The hens were floor reared with wood shavings as their litter

The average daily gain, feed conversion ratio, group uniformity and litter conditions were all recorded.

The treated group had a better digestion and better nutrient absorption, so it performed better than the control group in terms of average weight and bird uniformity.

Trial number two

In the second study two groups of 20 growing hens each were taken from each group of trial number one, and were individually infected on day ten with 10^3 Salmonella typhimurium organisms. Hens were then sacrificed at day 40 and each bird was checked for Salmonella typhimurium in their faeces and caeca.

The trial showed that the tested product is very good for salmonella infection prevention in layers and breeder hens.

Trial number three

In a third trial, layers from four different sheds on the same breeding farm yielded the same exotic salmonella species.

The animals were treated as follows:

1Layers from three sheds were treated with Shortacid at the dosage of 5kg/1,000 litres of water.

1Layers from one shed were not treated (control group).

After three weeks no Salmonella spp could be detected in the three treated sheds, while the control shed remained salmonella positive.

The control shed was then also treated with the Shortacid product and after a further three weeks, Salmonella spp could not be detected in this shed.

Group	S. typhimurium faeces	S. typhimurium caeca
Control	10/10	8/10
Shortacid	0/10	1/10

Table 2. Trial two results for S. typhimurium.

Taking all trial results into consideration, it was decided that salmonella positive poultry could be treated with the product at the dosage of 3kg/1,000 litres of water every five weeks (no treatment for four weeks and one treatment for one week).

When this was done, faeces were found to always be negative for Salmonella spp. right up to the end of the laying cycle.

In conclusion, the tested product from Eurofeed was shown to be very good, both for gut health and at controlling Salmonella spp infection in poultry. ■