

Field Evaluation of Aviguard on a UK Commercial Broiler Site with Endemic Salmonella Infection

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Objectives of the Study

- Intestinal carriage of salmonella in healthy poultry occurs regularly and consumption of contaminated poultry meat can cause human food poisoning.
- It is known that the normal avian gut flora may reduce intestinal colonisation of salmonella spp. by competitive exclusion.
- A UK broiler farm with a history of various serovars of salmonella (group D, S. enteritidis, S. senftenberg, S. mbandaka, S. risen and S. Montevideo) was selected to evaluate whether the competitive exclusion product Aviguard was capable of decreasing the horizontal transmission of salmonella.
- Another CE product (Product B) was also used in 4 out of 8 houses for 3 crop cycles during the trial and the results compared to those obtained using Aviguard.

Method

- 8 commercial broiler houses on a farm, each stocked with approximately 11,000 day old broiler chicks, were used for the evaluation.
- Aviguard or Product B were applied by coarse spray in the hatchery at day old as per manufacturers recommendations
- Environmental swabs were taken from the sheds and surroundings after cleanout, and prior to placement, each crop, and cultured for salmonella spp.
- Composite litter samples were taken from each house at around 28 days of age and cultured for salmonella spp.

- Cloacal swabs were taken when birds were over 3 weeks of age and cultured for salmonella spp.
- The evaluation was carried out over 3 consecutive crops comparing the two CE products and for a further 3 crops using only Aviguard . The site was split in half for the first 3 crops with 4 houses given Aviguard and 4 houses given product B

Results and Discussion

- In crop 1 only 25% of litter samples taken from the Aviguard houses were positive for salmonella (group d) compared to 50% of the samples taken from the Product B houses (group d). All cloacal swabs taken from the Aviguard houses were negative but 25% were positive for the Product B houses (group d).
- In crop 2 all samples from the Aviguard houses were negative but 50% of litter samples and 50% of cloacal swabs were positive for S. wangata in the Product B houses.
- In crop 3 and thereafter all samples from the Aviguard houses were negative but 25% of litter samples remained positive for the product B houses (S. wangata).
- All environmental samples were negative throughout the study.
- Aviguard was successful in decreasing horizontal spread of salmonella infection on a commercial broiler site and performed better than Product B.

Crop Number	% positive samples salmonella spp.					
	Litter Samples		Cloacal Swabs		Environmental Samples	
	Aviguard	Product B	Aviguard	Product B	Aviguard	Product B
Crop 1	25%	50%	0%	25%	0%	0%
Crop 2	0%	50%	0%	50%	0%	0%
Crop 3	0%	25%	0%	0%	0%	0%
Crop 4	0%	Not used	0%	Not used	0%	0%
Crop 5	0%	Not used	0%	Not used	0%	0%
Crop 6	0%	Not used	0%	Not used	0%	0%

