AviPro®

Megan® Vac 1

Developing a vaccine program that includes the administration of AviPro® Megan® Vac 1 can help to reduce colonization of *Salmonella* Typhimurium, *S.* Enteritidis and *S.* Heidelberg. AviPro Megan Vac 1 is a live vaccine that can serve as an integral part of a comprehensive *Salmonella* control program.

Convincing Advantages:

- **Aids in protection against *Salmonella* Typhimurium, *S.* Enteritidis and *S.* Heidelberg infections**
- **Easy administration with drinking water and coarse spray application**
- **Proven to induce strong protection to market-age**

Safe, low-cost, low-labor *Salmonella* control

AviPro Megan Vac 1 is a live *Salmonella* Typhimurium vaccine that is applied en masse by spray application at 1 day of age and again in the drinking water at 14 days of age. The vaccine is used successfully to aid in the reduction of *Salmonella* Typhimurium (ST), *S.* Enteritidis (SE) and *S.* Heidelberg (SH) in broiler chickens in the U.S. Vaccine efficacy in birds was demonstrated in controlled studies by comparing reduced infections in vaccinated and non-vaccinated birds after an oral challenge infection with wild-type strains of ST, SE or SH at 6 weeks of age.[1] The results show that the use of AviPro Megan Vac 1 significantly reduces *Salmonella* infections in young chickens.[1]

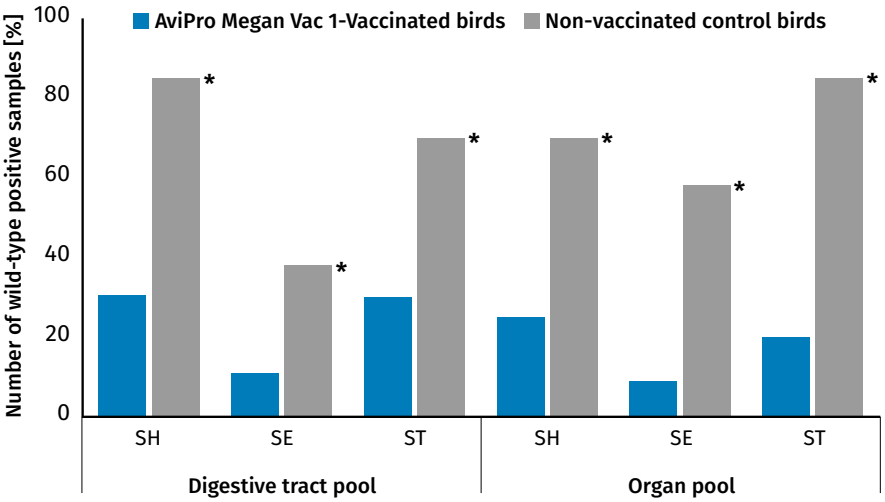
- **Easy administration**
- **Stimulates natural defense**
- **Reduces colonization by ST, SE and SH**

Study[1]

The results presented here support the use of AviPro Megan Vac 1 for reduction of *Salmonella* infections in young chickens. Vaccine efficacy in broiler-age birds was demonstrated in controlled studies by comparing reduced infections of vaccinated and non-vaccinated 6-week-old birds after an oral challenge infection with wild-type strains of ST, SE or SH.[1]

Experimental procedure: Fifty-five SPF chicks were randomly placed into 3 groups. In the first group, 30 chicks received AviPro Megan Vac 1 at hatch by coarse spray and again at 2 weeks of age in drinking water. The second group was comprised of 20 non-vaccinated chicks. Both of these groups were orally challenged with one of three wild-type *Salmonella* at 6 weeks of age. The third group contained 5 chicks that were not vaccinated or challenged. For each of the 50 birds challenged with either wild-type ST, SE or SH, a pooled digestive tract sample (duodenum, ilea and large intestine) and a pooled organ sample (kidney, liver and spleen) were prepared from each bird and cultured for the wild-type *Salmonella* challenge strain 5 or 7 days after infection.

Results: Significantly fewer numbers of vaccinated birds were positive in digestive and organ pools for the ST, SE and SH wild-type *Salmonella* strains compared to the non-vaccinated birds. Vaccination with AviPro Megan Vac 1 reduced salmonellae infections in young chickens.



*Significantly different by X^2 test ($P<0.05$)

AviPro Megan Vac 1

Recommended as an aid in the reduction of *Salmonella* Typhimurium, *Salmonella* Enteritidis and *Salmonella* Heidelberg colonization of the internal organs of young growing chickens and as an aid in the reduction of *Salmonella* Enteritidis colonization of the crop and digestive tract, including the ceca. This vaccine is recommended for use at 1 day of age by coarse spray. A second dose should be given at 14 days of age in the drinking water.

Safety of AviPro Megan Vac 1 in broilers under field conditions

AviPro Megan Vac 1 was shown to be safe in U.S. commercial broiler flocks when tested under field conditions.[2]

The safety of AviPro Megan Vac 1 was evaluated in over 57,500 birds in paired-house trials by 3 large U.S. broiler integrators, A, B and C, by monitoring spread of the vaccine in the litter, livability of birds during grow-out and average weight.

Trial design: One of two houses for each broiler integrator was administered AviPro Megan Vac 1 by spray application at the hatchery and again by drinking water at 2-weeks of age. The normal commercial vaccination, feeding and watering regimens of each farm were followed. Chick box papers and swabs, feed and water samples were cultured to identify base-line *Salmonella* sp. on the grow-out premises. Drag swabs of house litter were cultured for base-line *Salmonella* sp. and vaccine.

Results: Analyses of base-line *Salmonella* sp. identification from feed, water, chick papers, chick box swabs and house litter drag swabs showed feed from the control house for integrator A was positive for *S.* Mbandaka and chicks from two of three breeder flocks were positive for *S.* Heidelberg. No vaccine organism was cultured from integrator A's vaccine-treated house during the 6-week grow-out period. No *Salmonella* sp. or vaccine organisms were cultured from feed, water or drag swabs of the litter from the vaccine-treated houses of integrator B or integrator C prior to or after vaccination.

Table 1 shows the percent livability from mortality counts collected weekly for the flocks on three farms. The livability percentiles for control and treated birds from these trials were within the range of livability data derived from previous grow-out cycles.

Table 1: Total percent livability during the grow-out period for broiler integrators A, B and C

Integrator	Control house	Treated house
A	97.2% 596/21,286[a]	97.2% 583/20,821[a]
B	96.3% 751/20,297[a]	95.7% 880/20,465[b]
C	93.2% 1080/15,882[a]	92.7% 1174/16,082[b]

[a,b]Letters that are different within a row are significantly different ($P < 0.05$).

Table 2 shows the average carcass weight at processing for each integrator was within the weight range data derived from previous grow-out cycles. Although integrator C did not provide data for each house, the combined data for both treated and control flocks showed an increase in carcass weight over the weight range calculated from previous grow-out cycles.

Table 2: Carcass weight (lbs) at processing

Integrator	Control house	Treated house	Average bird weight
A	4.84	4.85	4.36 to 4.79 (last 8 cycles)
B	3.70	3.47	3.35 to 3.93 (last 9 cycles)
C	Combined data for treated and control birds 7.33		6.67 to 7.20 (last 3 cycles)

AviPro Megan Vac 1 was found to be safe for use in commercial broiler chickens. The birds maintained a level of health and performance expected by the producers after two administrations of the vaccine. The immediate test environments in the houses were found to be free of the vaccine organism. Vaccination with AviPro Megan Vac 1 did not adversely affect livability of broiler flocks or average bird weight at processing.

Conclusion: The safety of AviPro Megan Vac 1 that was observed in controlled laboratory studies during the development of the vaccine was also observed under field conditions.

The label contains complete use information, including cautions and warnings. Always read, understand and follow the label and use directions.

This vaccine is recommended for young growing chickens as an aid in the reduction of *Salmonella* Typhimurium, *Salmonella* Enteritidis and *Salmonella* Heidelberg colonization of the internal organs and as an aid in the reduction of *S.* Enteritidis colonization of the crop and digestive tract, including the ceca. Administration: This vaccine is recommended for use at day of age by spray. A second dose should be given at 14 days of age in the drinking water.

[1] ST-L-4-96 and ST-L-3-01 "Safety and efficacy of a modified live *Salmonella typhimurium* vaccine against *Salmonella* infection in young chickens." Data on file. Elanco Animal Health.

[2] ST-L-4-96 "Safety and efficacy of a modified live *Salmonella typhimurium* vaccine against *Salmonella* in young chickens-Commercial field tests." Product Code 19C1.01. Data on file. Elanco Animal Health.

USPBUMV100006

Elanco™

1-800-428-4441
www.elanco.us