Enterisol Salmonella T/C® vaccine reduces *Salmonella* shedding at slaughter and lymph node colonization in pigs

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Salmonella is a significant pathogen that infects pigs and causes salmonellosis. It is also a major concern for the pork industry, as it contributes to foodborne illnesses in humans. Vaccination is a key strategy to protect animals and biosecurity measures are essential to control *Salmonella* from the farm to the slaughterhouse. Pigs can harbor *Salmonella* and stress can trigger its spread, contaminating the environment. This study evaluated the effect of Enterisol Salmonella T/C® by reducing fecal shedding at slaughter and ileocecal lymph node colonization in vaccinated pigs.

A total of 2,110 pigs from a sow farm (Brazil), were divided into two treatments: T1 – vaccinated with Enterisol Salmonella T/C®, a live attenuated oral vaccine, and T2 – unvaccinated against *Salmonella*, receiving a saline solution orally as placebo. These animals were kept together and monitored until slaughter. To analyze zootechnical parameters, they were weighed individually at three time points. Fecal samples from 40 pigs by treatment were collected at different moments to analyze the presence of *Salmonella* and assess the increase in shedding after stressful events, including slaughter. Ileocecal lymph nodes and gut fragments were collected from the same 80 pigs after slaughter to detect the presence of *Salmonella* and compare the percentage of positive animals before transport and after lairage.

The results showed that T1 treatment were 1.2 kg heavier than T2 at the end of the finishing phase (132.9 kg vs. 131.7 kg, p = 0.076). *Salmonella* positivity in T2 feces increased significantly after slaughter (20.0% vs. 42.5%, p = 0.0027), while T1 showed no significant difference (22.5% vs. 27.5%, p = 0.527). T1 had fewer pigs with *Salmonella* in lymph nodes than T2 (2.5% vs. 17.5%, p = 0.0253).

Enterisol Salmonella T/C® effectively reduced Salmonella excretion pre-slaughter and colonization in ileocecal lymph nodes, demonstrating its value as a preventive measure.

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