Cross-protection of live vaccine with serovar *Salmonella* Typhimurium in broilers challenged by *Salmonella* Minnesota.

Josias Rodrigo Vogt[1], EDUARDO CORREA MUNIZ[1], Gleidson Biasi Carvalho Salles[1], Dircelio Vandre Nascimento Junior[1], ANTONIO JOSE DE LIMA NETO[1], Rafaela Berto[2], Marcelo Frigato Monteiro[2]

[1]Zoetis, [2]Mercolab Laboratórios Ltda

e-mail: josias.vogt@zoetis.com

Salmonellosis are among the biggest concerns in the poultry industry because they cause risks related to public health. The use of live vaccines is an important tool for the control of *Salmonella*. Among the main advantages are colonization of binding sites in the intestinal tract early, activation of cellular immunity in the intestinal mucosa (IgA) and reduction in pathogen count in viscera such as liver and spleen. Live vaccines have proven efficacy in protecting against homologous and heterologous challenges. The objective of this work was to evaluate the efficacy of a live vaccine produced with sorovar *Salmonella*Typhimurium (ST) in broilers, experimentally challenged with a heterologous strain of *Salmonella* Minnesota (SM). Ninety 01-day-old chickens from Ross breeders were used. On arrival of the chickens, the cash fund was collected to evaluate the presence/absence of *Salmonella* spp. The chickens were divided into 3 isolated rooms with 30 chickens each. T1: unvaccinated and challenged; T2: vaccinated according to the recommendation of bull (1st day vaccine via spray and 14th day via gavage) and challenged with SM strain and T3: vaccinated according to the recommendation of bull (1st day vaccine via spray and 14th day via drinking water) and challenged with SM strain. The chickens of the T2 and T3 group received the Poulvac®ST vaccine, which is composed of a live non-virulent strain of genetically modified ST. The challenge was carried out with a strain of SM isolated from the field of the Paraná region, a volume of 1mL/bird was administered orally at a dose of $1.0x10^6$ CFU/mL at the 21st day of life. At 28 days of age, the liver of each of the 30 chickens was collected individually, macerated, and refrigerated for *Salmonella* presence/absence analysis. At 28 days for the variable presence/absence of SM in the liver, it was observed that the T2 and T3 groups were statistically different (Chi-square method) and presented a lower number of positive chickens (0% and 10% of positive chickens, respectively) when compared to the T1 group (30% of positive chickens). The results of this study demonstrated that the evaluated vaccine is efficient in reducing the presence of SM in the liver of experimentally challenged chickens.