

BRON-NEWCAVAC™ -SE:

Excellent Serological Response

INTRODUCTION

Vaccination against *Salmonella enteritidis* (SE) using a high-quality inactivated vaccine is an essential component of a full *Salmonella* control program. The full program includes frequent monitoring, biosecurity, feed additives and competitive exclusion products in addition to vaccination. Vaccination is an extremely important component of the control program because high serum antibody levels reduce the colonization of the reproductive tract and internal organs by SE phage types 4, 8 and 13a.

Inactivated SE vaccines commonly produce only moderate serological titers that rapidly decline as the flock ages, and the uniformity of the titers within a flock is often poor (high % CV – coefficient of variability). (Chuck Hofacre, DVM, PhD, Personal Communication, 2014). As we try to balance antigenicity against reactivity, many inactivated SE vaccines have reduced their volume to 0.3 ml or less, reducing the reactive adjuvant to minimize tissue damage. (Chuck Hofacre, DVM, PhD, Personal Communication, 2014). But this reduction in adjuvant volume may also reduce the longevity of serological titers over the long life of a flock.

Bron-Newcavac-SE is a highly antigenic infectious bronchitis (IB), Newcastle Disease (ND), and SE inactivated vaccine. The vaccine uses a unique water-in-oil GNE adjuvant that induces strong immune response with very mild tissue reaction. The mild reaction allows Bron-Newcavac-SE to retain a 0.5ml volume for maximum titer durability. A re-engineered antigen-capture ELISA potency test procedure was developed to optimize the SE fraction with improved specificity, accuracy and reliability, ensuring an effective antigen volume.

SUMMARY

- When Bron-Newcavac-SE was compared with a competitor IB-ND-SE inactivated vaccine at the same complex, titers to Bron-Newcavac-SE remained above 9500 through 48 weeks of age, with good uniformity (0 – 22% CV), while the competitor titer fell below 4500 at 36 weeks and below 2000 at 48 weeks, each with poor uniformity (53% CV).
- Bron-Newcavac-SE serological response to the BioCheck *Salmonella* Groups B and D ELISA test was consistently high, reaching titers above 10,000 at peak, and maintaining titer above 6000 after 45 weeks of age.
- The high titer was achieved without excessive tissue reaction or poor flock performance.
- Bron-Newcavac-SE is the vaccine of choice to minimize colonization of the reproductive tract and internal organs by SE phase types 4, 8 and 13a based upon superior serological response.

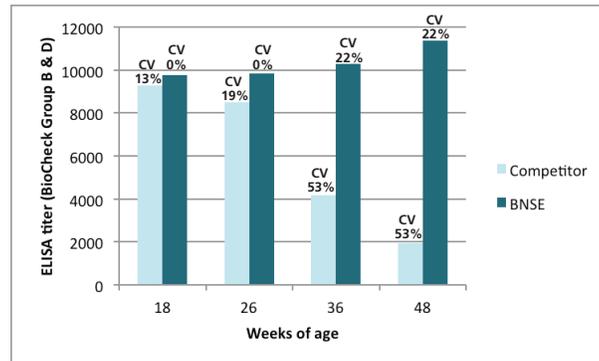


SEROLOGICAL RESULTS

Case 1

Commercial pullets in North Carolina were vaccinated with Bron-Newcavac-SE or a competitor IB-ND-SE vaccine at 11 weeks of age. Serological titers were checked at 18, 26, 36 and 48 weeks of age from each group using the BioCheck Salmonella Group B and D ELISA test (Figure 1).

Figure 1: Salmonella ELISA Titers (BioCheck Salmonella Groups B and D) of Bron-Newcavac-SE vs. Competitor

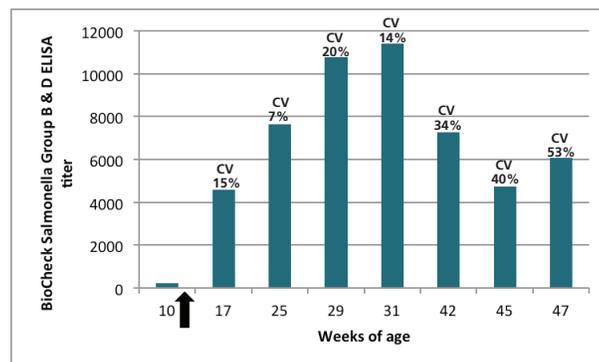


- Bron-Newcavac-SE induced high and consistent titers with low CV through 48 weeks of age, while the titer of the competitor inactivated vaccine declined over time.

Case 2

Commercial Hyline W36 pullets in Texas were vaccinated with Bron-Newcavac-SE at 12 weeks of age. Serum samples were collected at several intervals from week 17 through week 47 and Salmonella titers were measured using the BioCheck Salmonella Group B and D ELISA test (Figure 2).

Figure 2: Salmonella ELISA Titers (BioCheck Salmonella Groups B and D) of Bron-Newcavac-SE



- Bron-Newcavac-SE induced ELISA titers that peaked above 10,000. Titers remained above 4,500 through 47 weeks of age.

Merck Animal Health
Summit, New Jersey 07901
merck-animal-health.com/species/poultry

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