

Evaluation of immunogenicity and protective efficacy of newly developed inactivated vaccine against *Pasteurella multocida* in turkeys

Zohra Bamouh¹, Noha Semmate¹, Ismail KERBAL¹, Ahmed ACHHAL², Khalid Omari Tadlaoui¹

¹ Department of Research and Development, MCI Santé Animale, Lot. 157, ZI Sud-Ouest P.O. Box 278, Mohammedia 28810, Morocco

² Cabinet Vétérinaire Dr Ahmed ACHHAL 17 lotiss. Zine Essalam étage magasin Tit Mellil , Morocco

z.bamouh@mci-santeanimale.com; n.semmate@mci-santeanimale.com; i.kerbal@mci-santeanimale.com; achhal.crvc@gmail.com; k.tadlaoui@mci-santeanimale.com

Abstract

Fowl cholera is a serious highly contagious disease, caused by bacteria *Pasteurella multocida* and cause major economic losses to the poultry industry through death, weight loss, and condemnations. It's enzootic disease and can spread easily within species. All birds species are affected with FC globally. Many outbreaks of FC are reported throughout the world.

Table 2: Efficacy test study design at 15 weeks of age

Therefore, vaccination is the most powerful preventive method for the control of the disease. Several inactivated vaccines with different strains are available for protection against the disease.

The study was conducted to determine safety, efficacy and duration of immunity of Avipast inactivated vaccine by testing two vaccination program in vaccinated turkeys according to the double vaccinations schedule (4 and 8 weeks of age) versus three vaccinations (4, 8 and 12 weeks of age) at laboratory level. Vaccine efficacy was assessed by comparing the challenge results of turkeys vaccinated with the two-vaccination program.

The vaccine was evaluated also under field conditions in turkeys meat production for safety and serological monitoring up to 7 weeks post vaccination using ELISA test.

Following challenge test at 15 weeks of age, 80% of protection was obtained with two-vaccine administration, with better protection with three vaccinations at 4, 8 and 12 weeks of age (100% of protection).

Concerning the field study, all vaccinated turkeys remained in good health with no mortality or any local reactions. All monitored turkeys were seropositive after a second vaccination.

Under the conditions of the study, the Avipast inactivated vaccine induced a good level of protection with the vaccine program. Considering these results, it can therefore be concluded that two vaccinations with Avipast vaccine is recommended. A third vaccination is preferable for turkeys with a long rearing period.