

## Serological responses in commercial chicken to a Newcastle Disease I<sub>2</sub> thermostable vaccine in Uganda.

*J. Illango; W. Olaho- Mukani; Mukiibi-Muka, G; Etoori, A.*

Livestock Health Research Institute, P.O. Box 96, Tororo, Uganda. Tel. 00256-45-45050, Fax 00256-45-45052

### Abstract

A locally- produced Newcastle Disease (NCD) I<sub>2</sub> thermostable vaccine of embryo – infective dose (EID<sub>50</sub>) of 10<sup>8.5</sup> per ml. was administered to 100 laboratory chicken in four groups, each of 25 birds, by eye drop method, I<sub>2</sub>E; in water previously boiled and cooled, WA; same water but freshly medicated with an adequate dose of Levamisole, LE; and using millet grains previously roasted and cooled as vaccine carrier, M1. A fifth group, LA, also consisting of 25 birds received heat- sensitive Lasota vaccine by eyedrop, as a control group. The immunological responses were monitored by Enzyme – linked immunosorbent assay (ELISA) Newcastle disease antibody (Ab) technique on sera samples from 18 randomly selected birds in each group at 3-week intervals for a 3 month period. The overall mean percentage positivities and antibody log<sub>10</sub> titres in each group respectively were: I<sub>2</sub>E, 85.75%, 3.10; WA, 70.2%, 2.91; LE 82.7%, 3.02; M1 87% , 3.17 and LA, 87.25%, 3.29. During the first 3 weeks, there was a significant difference in response between birds given the I<sub>2</sub> vaccine by eyedrop and using water alone as did that between birds vaccinated using millet grains and either water alone or medicated with Levamisole. Lasota vaccine produced a significantly higher response than that by the I<sub>2</sub> vaccine given either in water alone or medicated with Levamisole. At 3 months, the response to Lasota vaccine was significantly higher than that to the I<sub>2</sub> Vaccine given either by eyedrop or millet grains.

Throughout the study period, the I<sub>2</sub> vaccine did not produce significant differences in response between birds vaccinated using water alone and that medicated with Levamisole. It was concluded that there is a possibility of providing combined treatment in chicken against worms using oral levamisole and vaccination with the I<sub>2</sub> NCD thermostable vaccine in drinking water. Millet is potentially a good I<sub>2</sub> vaccine carrier. NCD I<sub>2</sub> vaccine given by eyedrop is more effective than by use of drinking water.

**Key words:** Serological responses, chicken, I<sub>2</sub> thermostable vaccine

