PROGRAMME AND ABSTRACTS

47TH ANNUAL SCIENTIFIC CONFERENCE
(Wednesday 24th to Friday 26th April 2013)

THEME: "ONE HEALTH APPROACH IN VETERINARY TRAINING AND PRACTICE"
WHITESANDS HOTEL, MOMBSA
&

13TH WORLD VETERINARY DAY CELEBRATIONS
(Saturday 27th April 2013)

THEME: VACCINATIONS
MARIKANI, KALOLENI

THE KENYA VETERINARY ASSOCIATION

CDC
Norbrook
DVS
Metrovet
PATTEN
EAGLE
Newcastle disease control in free range chicken using i-2 vaccine in selected districts in Kenya

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The need for a new vaccine appropriate for indigenous chicken production systems, rather than trying to utilize existing commercial vaccines with their deficiencies was the subject of the current study. A live thermostable avirulent i-2 ND vaccine was developed in Australia to overcome some of the challenges in developing countries. In this study, i-2 ND vaccine was adopted, produced and validated under field conditions in free ranging indigenous chicken in Busia, Naivasha, Nyandarua, Mwea and Mwingi districts.

Results obtained show that less than 5% of the indigenous chicken in these districts had protective antibodies against ND virus prior to vaccination. This shows that chicken in the study districts are highly susceptible to virulent ND virus. Twenty-one days post vaccination with a single dose of i-2 ND vaccine the protection level increased to 62%. This response following vaccination clearly shows that the administration of the i-2 ND vaccine through the intra-ocular route is an effective way of controlling Newcastle disease in free ranging indigenous chicken. Recommendations from the study are that the vaccine is registered for commercialization. Economic analysis indicate that i-2 ND vaccination has the potential to save 20 million chicken valued at 5 billion Kenya shillings.

Effect of parasite control on Newcastle disease vaccination response in free-ranged family chicken in Eastern Province, Kenya


Knowing that stress is associated with immune-suppression, this study was carried out to check on the extent to which these parasites (ecto- and endo-) may suppress immune response to ND vaccination, through monitoring of antibody titers after selective parasite treatments followed by ND vaccination.

Sixty four chickens were bought from Machakos district and divided into 8 treatment groups of 8 birds each. Group 1 was overall control (consisted birds that were not treated and not vaccinated against ND), while groups 2, 3 and 4 were controls for respective treated groups (treated but not vaccinated): group 2 treated for ectoparasites only, group 3 treated for endoparasites only, group 3 treated for both ecto- and endoparasites. Groups 5, 6 and 7 were respectively treated, vaccinated for ND and monitored for resultant immune response: group 5 treated for endoparasites, group 6 treated for ectoparasites and group 7 treated for both endo- and ecto-parasites. Chicken in group 8 were sacrificed to check the current status of endo- and ecto-parasites in the birds. After setting-up the experimental groups, all the birds were monitored for six weeks and their antibody titers were determined on weekly basis using Hemagglutination Inhibition test. Serum collected from the birds prior to the experiment showed all the birds had antibodies against NDV with titers ranging from 1:16 to 1:256. Upon vaccination, the vaccinated groups 5, 6 and 7 showed a significant rise (P<0.05) in Newcastle disease antibody titer from the start to the end of the experiment compared to the baseline titer in the non vaccinated groups 1, 2, 3 and 4. Among the vaccinated groups, group 7 had a significantly higher level of antibody titer (P< 0.05) compared to the other 2 groups 5 and 6. This was recorded after the 3rd week post vaccination up to the end of the experiment.

In conclusion, treatment for parasites allowed a better response to vaccination against Newcastle disease and farmers should therefore be advised on the importance of parasite control before vaccination.