

CHARACTERIZATION AND IMMUNOGENIC RESPONSE OF NON-PATHOGENIC TURKEY ENTERIC NEWCASTLE DISEASE VIRUS IN 4-WEEK OLD BABCOCK CHICKS

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Turkey Enteric Newcastle Disease Virus (TENDV) was propagated, passaged and characterized in 9-day old embryonating eggs. The virus had mean death time of about 120 hours. The interacerebral pathogenicity index (ICPI) and intravenous pathogenicity index (IVPI) values were found to be 0.11 and 0.00 in day-old and 6-week old chicks, respectively. The embryo infectivity 50 per cent end point (EID₅₀) of the virus was found to be 10^{10.49} in 9-day old embryonating eggs.

One hundred day-old chicks were reared in an isolated room till their maternal antibodies against Newcastle disease (ND) became zero. At the age of four weeks, the chicks were divided into two groups A and B and put in separate rooms. Group 'A' was vaccinated orally with TENDV (EID₅₀ 10⁷) at the rate of 0.5 ml per chick while group 'B' was kept as unvaccinated control. The chicks of both the groups were marked and re-united (put in one room) 4 days post-vaccination. Haemagglutination inhibition (HI) antibody titre of each group against TENDV was determined.

The results indicated that chicks of group 'A' showed the highest Geometric Mean Titre (GMT) of 512, 18 days post vaccination. The chicks of 'B' group also developed significant HI GMT, 14 days post contact with vaccinates, which was found to be 137.2. The development of a significant titre in the contact birds suggests that the virus was extensively excreted from the vaccination chicks and taken up by the contact chicks, due to which they also developed significant level of HI antibodies. Use of this virus for vaccination purposes needs to be investigated.