

## POSTVACCINAL IMMUNE RESPONSE TO REGIMENS OF NEWCASTLE DISEASE VACCINATION BY FILTER PAPER SAMPLING TECHNIQUE

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### SUMMARY

*Seven hundred and ten blood samples were collected at random from commercial layers in Tamil Nadu on Whatman filter paper No. 1 instead of the conventional method of serum collection. The birds were subjected to different Newcastle disease (ND) vaccination schedules and samples were collected to study the vaccinal response to ND at field level. Eluates were obtained from sample areas of filter paper using Brij-35 solution [detergent] and subjected to the micro haemagglutination inhibition (HI) test for ND antibodies. The HI titre ranged from less than  $2^4$  to  $2^9$ . The possible causes of poor immune response to ND vaccinations are discussed.*

### INTRODUCTION

Newcastle disease (ND) is a major threat to the Indian rural economy causing high mortality or a drop in egg production. In spite of vaccinations, outbreaks of ND are common [Singh *et al.*, 1987; Rathore *et al.*, 1987; Roy and Balasubramaniam, 1992]. Seromonitoring following vaccinations is important in the control of ND, and the simplicity of the filter paper sampling technique in a seromonitoring programme has been reported by many workers [Beard and Brugh, 1977; Brugh and Beard, 1980; Giambrone, 1981; Roy *et al.*, 1992]. Even though filter paper sampling is a proven method, no attempts were made to adopt it in the field. In the present study an attempt was made to process filter paper blood samples sent to this laboratory by poultry farmers and field level workers and to study the post vaccinal immune response to ND vaccinations at field level.

### MATERIALS AND METHODS

#### Birds

Birds from different commercial farms located in Namakkal, India on different vaccination schedules were included in the study. The birds were reared in cages with commercial feed and water *ab libitum*. The birds were allocated to 6 groups A, B, C, D, E and F based on 6 different vaccination schedules being followed in the field (Table I).

#### Vaccines

Three live mesogenic vaccines namely RDVK (IVPM, India), R<sub>2</sub>B (Srini, India) and RB (Biomed, India) and 2 live lentogenic vaccines namely RDVF (IVPM, India) and LaSota (IVPM, India) were used following the manufacturers' directions.

#### Sample collection

Samples were collected at random and at different time intervals from layers of different age groups. Seven hundred and ten blood samples were collected on