

## SEROPREVALENCE OF PESTE DES PETITS RUMINANTS IN SHEEP AND GOATS IN AND AROUND HARYANA STATE

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### ABSTRACT

The study presents sero-prevalence of peste des petits ruminants (PPR) in sheep and goat populations in Haryana and Delhi states. A total of 696 blood samples (499 from Haryana and 197 from Delhi) collected from sheep and goats between January, 2002 and December, 2004, were examined by competitive-ELISA for PPR antibodies. A total of 312 (44.82%) samples had PPR antibodies of which 55 (27.91%) were from Delhi state and 257 (51.50%) from Haryana state. Higher positivity was recorded in western districts of Haryana. Overall per cent positivity was significantly higher in sheep (54.62%) than goats (34.51%). Per cent positivity in sheep was significantly higher in older animals ( $\geq 2$  years) while in goats, it was significantly higher in animals of 1-2 years age group (68.18%) as compared to other age groups. Since no vaccination at the time of collection of samples had been initiated in both the states, the sero-prevalence of 44.82% suggests that sheep and goat population in these states were exposed to circulating PPR virus.

**Key words:** Seroprevalence, PPR, sheep, goats

Peste des petits ruminants (PPR) is an acute, febrile, viral disease of small ruminants and is caused by RNA virus that belongs to the genus morbillivirus, family *Paramyxoviridae* and order *Mononegavirales* (Tober *et al.*, 1998). In India, the first outbreak of PPR was reported from Tamil Nadu in 1987 (Shaila *et al.*, 1989) and later on became endemic in other parts of the country (Joshi *et al.*, 1996, Nanda *et al.*, 1996, Nayak *et al.*, 1997, Aruni *et al.*, 1999, Dhand *et al.*, 2002). In order to know the circulation of virus in an area, sero-surveillance is required for which simple, rapid, specific and sensitive diagnostic methods should be employed. Monoclonal antibody based ELISA test is one of such methods. ELISA has been used by various workers for PPR studies in sheep and goats (Libeau *et al.*, 1992, Anderson and McKay, 1994, Singh *et al.*, 2004). Serological studies of PPR have been carried out in different countries viz: Kenya and Uganda (Wamwayi *et al.*, 1995), Oman (Taylor *et al.*, 1990), Jordan (Lefevre *et al.*, 1991) and Turkey (Ozkul *et al.*, 2002). This

paper describes seroprevalence studies carried out on sheep and goat population in Haryana and Delhi states.

### MATERIALS AND METHODS

**Collection of samples:** A total of 696 blood samples (499 from different districts of Haryana and 197 from Idgah Slaughter House, Delhi) from apparently healthy flocks of sheep and goats were collected during the period from January, 2003 to December, 2004 (Table 1). Serum was separated and stored at  $-20^{\circ}\text{C}$  till further use. From each place in Haryana state, about 10% of the total population of a flock at random was sampled. A proforma was designed to get the epidemiological information regarding total number of animals in the flock, age of animals and vaccination status of sheep and goats against PPR.

**Competitive ELISA:** The serum samples were examined for PPR antibodies by competitive ELISA (c-ELISA) kit generously provided by Indian Veterinary Research Institute, Mukteswar. The test was employed as per protocol of Singh *et al.* (2004) who

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