

## EPIDEMIOLOGY AND CONTROL OF ANIMAL DISEASES

Animal diseases still continue to be the major factor limiting livestock productivity in development countries. Every year these diseases take a very heavy toll of livestock both in the form of mortality and morbidity. Survivors of these diseases generally do not attain their optimum productive level throughout their remaining life. Information on their etiology, distribution pattern and seasonal trends greatly helps in understanding these diseases and thereby devising proper control strategies. Early diagnosis and effective vaccines are tools which can be used for effective disease control.

- Technology for the live *Haemorrhagic septicaemia* (Gulghotoo) aerosol vaccine was developed and field trials are underway in Karachi, Okara and Islamabad to study its safety and efficacy in cattle and buffaloes.



A buffalo calf suffering from Haemorrhagic septicaemia  
(Swelling on the neck region)

- The biology and mapping of warble fly showed the higher prevalence of disease in the hilly, semi-hilly and desert areas (Nara in district Sanghar and Fort Abbas area of Cholistan). In hotter areas, the disease appears in late October while in colder regions in mid-November. Complete mapping of warble fly infestation in the country is underway.



A bull infested with warble fly (Nodules on its back)

- Three local strains of *Peste des petits ruminants* (PPR) virus (associated with heavy mortality in goats) have been isolated for characterization and vaccine development.



A goat infected with *peste des petits ruminants*  
(Occulo-nasal discharges)

- PARC continues to be at the forefront of control of avian influenza (bird flu) in Pakistan. It operates a national reference laboratory and helps 11 peripheral labs (all over Pakistan) for early diagnosis and outbreak control.



A dead bird due to avian influenza