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Screening of Ciprofloxacin, Enrofloxacin & Tylosin residue in poultry feeds collected from different commercial farms

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Abstract
In commercial poultry production systems, the regular addition of antibiotics to feed has become a standard practice to encourage growth and to prevent the spread of infectious diseases. The study was designed to determine the presence of non-regulated antibiotics namely ciprofloxacin, enrofloxacin, and tylosin inclusion into different types of poultry feed. A total of 112 feed samples were collected from the districts of Comilla, Naogaon, Natore, and Rangpur. These feeds were formulated for broiler, layer, and Sonali birds, including both homemade and commercial feed with the self-life of one year. The samples were screened by the thin- layer chromatography (TLC). All the samples from four districts were tested positive for ciprofloxacin and enrofloxacin. However, in the case of tylosin, only 24 samples (21%) were positive, of which 50% were broiler feed. Maximum residues were found in broiler grower feeds (n=11), followed by starter (n=6). About one fourth of the positive samples belonged to Sonali feed. It was also noted that the antibiotic residues lasted up to a year without considering time and temperature. This study indicates extensive antibiotic use and their prolonged persistence. This emphasizes the need for proper monitoring of antibiotic use and analyzing different types of feed samples to determine the concentration of antibiotic residues and identify the drug- resistant bacterial load in poultry.

Keywords: Antibiotic residues, Poultry feed, Ciprofloxacin, Enrofloxacin, Tylosin

Epidemiological insights and diagnostic approaches to *Neospora caninum* infection in ruminants: A comprehensive review

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Abstract
Neospora caninum is an obligate intracellular protozoan parasite and a major cause of abortion and reproductive failure in cattle, sheep, and goats worldwide. Dogs act as the definitive hosts, excreting oocysts that contaminate feed and water sources, leading to infection in ruminants. The disease results in severe economic losses due to abortion, decreased milk production, and premature culling. Despite its significance, data on prevalence and diagnostic practices in South Asian livestock, particularly in Bangladesh, remain scarce. This study reviews the epidemiology, diagnostic strategies, and control measures of *N. caninum* infection in ruminants. A systematic literature review was conducted using peer-reviewed studies published between 1990 and 2025 from databases including PubMed, ScienceDirect, and Scopus. Data on prevalence, risk factors, diagnostic tools, and preventive measures were compiled and analyzed. Diagnostic methods such as enzyme-linked immunosorbent assay (ELISA), indirect fluorescent antibody test (IFAT), polymerase chain reaction (PCR), and histopathology were compared in terms of accuracy, feasibility, and field applicability. Global seroprevalence of N. caninum in dairy cattle ranges from 5% to 40%, with higher rates in South America and Asia. In Bangladesh, the prevalence was reported at 16% in cattle, 14.8% in sheep, and 11.8% in goats. ELISA proved most effective for herd-level screening, while PCR confirmed infection in abortion cases. Major risk factors included the presence of farm dogs, free-range rearing, and poor sanitation. Infected cows showed a 5–15% decline in milk yield and a 3–7-fold higher abortion risk compared to uninfected herdmates. *Neospora caninum* infection poses a substantial threat to ruminant productivity and farm economics. Regular serological surveillance, improved biosecurity, controlled dog access, proper disposal of placental tissues, and farmer awareness are vital to reducing transmission and reproductive losses.

Keywords: *Neospora caninum*, Ruminants, Abortion, Epidemiology, Diagnosis