

## EFFECT OF *LANTANA CAMARA* AS A PHOTOSENSITIZING AGENT IN CROSSBRED FRIESIAN CATTLE

V. WIJewardana\*, T.N. Gajanayake\*\* AND T.S.P. Jayaweera\*

\*Department of Livestock Production, Faculty of Agricultural Sciences, University of Sabaragamuwa, \*\*Department of Basic Veterinary Sciences, Faculty of Veterinary Medicine and Animal Science, University of Peradeniya

Lantana is commonly found along roadsides, fence-rows, and in fields in Sri Lanka and during the scarcity of natural forages grazing animals tend to consume Lantana in considerable amounts. Lantana poisoning in grazing animals has been documented elsewhere. The major clinical effect of *Lantana* toxicity is photosensitization. As a consequent raw photosensitized surface areas are susceptible to invasion by maggots and bacteria. This causes severe economic loss in terms of reduced milk yield in cows and poor growth and occasional mortality among calves.

Experiments were carried out at Boralanda area in the up country dry zone (average temperature 27° C, average relative humidity 65%, average rainfall 1500 – 2000 mm) during month July/August 2002. Crossbred Friesian cattle (300 kg live weight in average were used for the experiments. Animals were located in a type of housing system where they are exposed to sunlight throughout the day.

The experiment was designed with 3 animals per group. Animals received a ration of *Panicum maximum* and *Gliricidia sepium* and one of three levels of fresh leaves of *Lantana camara* (Control group: 0 g/d; Treatment 1: 1 kg /d; Treatment 2:2 kg /d Treatment 3:3 Kg /d). *Lantana camara* was offered at the morning meal before the feeding of forages. Clean and fresh water was available *ad libitum* during the whole experiment. Concentrates and mineral mixture were offered to all animals at the rate of 1 kg/d and 100 g/d respectively. Animals were fed twice daily at 8:00 am and 2:00 pm. Test feed was fed 5 days.

Blood samples were taken two days before the start of the experiment, through out the test feeding period and 2 days following the completion of the test feed. Animals were observed clinically and the blood samples obtained were analysed for haematology and serum enzymes.

The Group 3, which was fed with 3 kg/d of *Lantana camara*, started to show signs of photosensitization after 3 days following commencement of feeding. Photosensitization was most prominent on areas of the body with least protection from sunlight. Further, affected animals had pyrexia, intense pruritis and irritation. Haematology revealed neutrophilia and eosinophilia. The alanine aminotransferase (ALT) and aspartate aminotransferase (AST) levels also increased significantly. Group 1 and Group 2 did not show any signs of photosensitization and other parameters were within the normal range.

This experiment shows that feeding of *Lantana camara* above the dose of 1% of the body weights creates photosensitization in crossbred Frisian cattle. Elevated levels of ALT and AST occurred as a result of compromised liver functions, which reduce the excretion of plant pigment metabolites from the body. Subsequently these photodynamic agents produced the effect when exposed to ultraviolet light.