Studies were conducted on male cow-calves of age six months and above, to understand the clinico- biochemical and pathological alterations especially with regard to rumen and liver dysfunctions. Therapeutic efficacy of certain combinations of drugs during induced lantana toxicosis was also investigated. Toxicosis was successfully induced by feeding a single dose of dried leaf powder of *Lantana comara var aculeata* having yellow red flowers, at the rate of 4g/kg. b. wt. with all important symptoms of reduced feed and water intake as early as six hours, followed by rumen stasis, constipation, profuse salivation by 24 h. The animals later became icteric and severely dehydrated between 48 h and 72 h and progressive weakness of hind legs characterized by in coordinated gait was served by 96 h of post lantana feeding and mortality rate was 100 percent.

Haematological studies revealed significant reduction in haemoglobin, total erythrocyte count and erythrocyte sedimentation rate with corresponding increase in haematocrit percentage by 96 h. of post lantana feeding- Leucocytosis with relative neutrophilia was observed from 48 h to 96 h and lymphopenia was observed in the terminal stages of toxicity.

Rumen function tests revealed increase in pH and protozoal death percentage from 12h onward while complete absence of protozoal motility and glucose fermentation was observed by
24 h of post lantana feeding. Similarly complete absence of sedimentation activity and significant fall of at least five folds was observed 96 h. of lantana feeding in total volatile fatty acid concentration. There was significant increase in plasma aspartate aminotransferase, total and direct bilirubin and blood urea nitrogen by 96 h. of post lantana feeding.

Histo-pathological changes consisted of thickening of ruminal epithelium with deepening of retepegs, at places ruminal epithelium appeared sloughed off. Marked proliferation of bile ducts along with disorganization and individualization of hepatocytes in liver and extensive tubular degenerations in kidney were observed. There was moderate degree of depletion of lymphocytes in spleenic corpusoles. Therapeutic studies indicated that treatment with activated charcoal together with 5% glucose saline, Avil, rumenotorics and liver extract proved highly effective by eliminating mortality all together.