

Inhibition of bloodmeal digestion in tsetse fly *Glossina morsitans centralis* fed on rabbits immunized with tsetse midgut proteins:

Abstract:

The efficacy of bloodmeal digestion in teneral *Glossina morsitans centralis* fed on rabbits immunized with tsetse fly midgut extracts was progressively monitored over a period of 96 hours. Flies fed on immunized rabbits showed reduced rate of bloodmeal digestion as compared to the controls. Although there was insignificant difference in the rate of bloodmeal digestion upto 24 hours post-feeding in later stages of digestion there was quite a significant difference. Polyacrylamide gel electrophoretic patterns of bloodmeal drawn from the posterior sections of the midgut demonstrated that, bloodmeal is completely degraded in the midgut after 96 hours in the control flies, while substantial amount is still undigested in the experimental flies. However, not much difference in the rates of digestion was observed with bloodmeal drawn from the anterior section of the midgut. These results suggests that when flies are fed on rabbits immunized with tsetse fly midgut extract, there is an impairment on the efficiency of digestion. The anti-midgut antibodies could be interfering with either the induction or proteolytic activity of the midgut enzymes.