Ten Red Maasai sheep were fed rations containing 2, 4, 8, 16 or 32% of ground dried *P. fischeri* leaves for 15 weeks. A decrease in red blood cell counts, haemoglobin concentration, packed cell volume and lymphocyte and eosinophil counts was observed. Serum glutamate oxaloacetate transaminase (aspartate aminotransferase), sorbitol dehydrogenase and γ-glutamyltransferase levels were elevated. There were no significant changes in mean corpuscular value, mean corpuscular haemoglobin, mean corpuscular haemoglobin concentration, white blood cell, neutrophil, monocyte and basophil counts or total protein, bilirubin, creatinine and phosphorus levels. It is suggested that *P. fischeri* was poisonous to the sheep.