

Shoo, fly, don't bother me! Efficacy of traditional methods of protecting cattle from tsetse

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Abstract. In Zimbabwe, studies were made of the efficacy of using smoke and housing to protect cattle from tsetse (Diptera: Glossinidae). Smoke was assessed by its effect on the catch from Epsilon traps baited with a blend of acetone, 1-octen-3-ol, 4-methylphenol and 3-n-propylphenol. The performances of kraals were gauged from the catches of electrocuting targets ('E-targets'), baited with natural ox odour, placed within various designs of kraal. Smoke from burning wood (*Colophospermum mopane*) or dried cow dung reduced the catch from traps by ~50-90%. Kraals with a continuous wooden or netting wall, 1.5 m high, reduced catches of E-targets by ~75%. Arrangements of electric nets were used to assess the numbers of tsetse attacking live cattle within kraals and/or near sources of smoke. The results confirmed findings with traps and E-targets: kraals reduced the numbers of tsetse that fed by ~80% and smoke reduced the numbers attracted by ~70%; the use of both reduced overall attack rates by ~90%. 4-Methylguaiacol, a known repellent for tsetse and a natural component of wood smoke, halved the catches of traps and E-targets and the numbers of tsetse attacking cattle. The practical benefits and difficulties of using repellents and/or housing to manage trypanosomiasis are discussed.

Key words: Behaviour, control, *Glossina pallidipes*, *Glossina morsitans*, 4-methylguaiacol, repellents, smoke, stabling, trypanosomiasis.
