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# INTEGRATED DINGO CONTROL IN PASTORAL SOUTH AUSTRALIA

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## ABSTRACT

*Frequent incursions by dingoes into the South Australian sheep zone prompted research into electric fencing and improved buffer zone baiting. Outcomes included an 8-wire electric fence design and a scheme to assist landholders to strategically bait all waters in a 35 km buffer zone outside the Dog Fence.*

## INTRODUCTION

Protection of sheep from dingoes in South Australia relies primarily on the 2225 km Dog Fence. Deterioration of the Dog Fence due to prohibitive replacement costs of wire netting prompted some fenceowners to erect electric fences. Though substantially cheaper, no real assessment of their effectiveness had been conducted. Regular 1080 baiting campaigns designed to provide additional protection against dingoes appeared ineffective in preventing frequent fence breaches and associated sheep losses. Preliminary research suggested that the current practice of baiting only along the Dog Fence did little to limit dingo buildup and that a broader buffer zone needed to be established. This study aimed to identify optimal electric fence designs and buffer zone baiting strategies to better protect the pastoral sheep industry (Bird 1994).

## METHODS

Seven trials in northern South Australia investigated the ability of experimental electric fences to deter wild dingoes. Outcomes of attempts by dingoes to negotiate fences erected around isolated waters were observed from nearby hides. Wire configurations and energiser characteristics were manipulated to achieve optimal combinations. Total observation time amounted to 545 hours.

Different baiting strategies were monitored in a further 6 trials at waters outside the Dog Fence. The trials compared bait take by dingoes and other animals of fresh meat, dried meat and manufactured 'D-K9' baits, either surface laid or buried. Behavioural reactions, bait visitation and population changes were assessed by direct observation, monitoring smoothed plots around bait stations and counting dingo tracks crossing graded perimeter paths around waters, respectively.

## RESULTS AND DISCUSSION

Simple 7-wire electric fences excluded all dingoes providing energiser output was adequate, no gaps were left beneath fences, dingoes approached fences cautiously and they were not previously trained to breach unpowered fences. Dingoes initially challenged mid-sections of fences at about muzzle height when standing. Persistent attempts normally resulted in shocks, though often not until dingoes forcefully contacted adjacent wires. Some dingoes then attempted to push underneath, but digging attempts were usually sporadic and unfocused. A barbed bottom wire did not provide any additional deterrent to those dingoes already 'trained' to dig under unpowered fences. Dingoes encouraged to run at fences by being trapped inside enclosures, forcibly breached even fences with close wire spacings. Dingoes did not automatically challenge fences during short-term power failures if previously educated to respect them, suggesting they were unable to detect warning cues such as electrostatic or electromagnetic fields. The reluctance of dingoes to jump meant there was little need to build fences higher than required for normal stock management.

The results suggested that existing designs were adequate but that refinements could be made for little additional cost. An 8-wire, 900 mm high design featuring 100 mm wire spacings in low and mid

parts of the fence is recommended. Costs are approximately one-quarter of that for wire netting. Simple electric fences are unlikely to be adequate for erodable substrates such as dunes or areas prone to washaways. In these situations netting and electric combination fences consisting of an upright electric fence with a netting apron are preferred.

Bait efficiency was low in all trials as a result of excessive take by scavenging birds and foxes, and multiple bait take by dingoes. The combination of these depredations meant that, in most trials, seemingly ample bait supplies were exhausted before all dingoes found one. The normal bait distribution technique of hastily and haphazardly scattering large numbers of fresh meat baits before they deteriorated, suffered severe losses from scavenging birds. Burial of baits was a simple, if time-consuming way of minimising take by birds and increasing baiting efficiency. Dingoes had no trouble finding buried baits. Indeed, individual dingoes found and ate up to 18 baits each.

The potential of a manufactured bait to replace fresh meat was investigated when it became clear that the additional time needed to bury baits over wide areas demanded a more durable bait. A conveniently-packaged shelf-stable bait would enable cattlegrowers, whose properties lay in the intended buffer zone, to regularly bait waters with small numbers of buried baits during normal water runs. Prototype versions of the D-K9 bait were convenient and easy to use, but were not as palatable to dingoes as either fresh or dried meat baits, especially when alternative food was abundant. This, together with the considerable extra expense of D-K9 baits, meant their use could not be justified. Landholders were encouraged to switch from fresh to dried meat baits, and drying racks were erected at central locations along the Dog Fence to accommodate this change.

In a joint arrangement between the Animal and Plant Control Commission, the Dog Fence Board and fenceowners, a community managed scheme to bait all waters in a 35 km buffer zone outside the Dog Fence was adopted. Six 'Buffer Zone Management Groups', each comprising several fenceowners and including a fenceowner manager, were created to oversee the baiting program.

Buffer zones are baited twice per year using conservative numbers of buried baits. Management plans drawn up for each zone identify target waters and optimal routes for servicing them. Bait numbers and laying techniques are recommended. To facilitate adoption and provide continued incentive, a subsidy scheme was introduced to fully recompense landholders for the additional baiting work.

The first two years of buffer zone baitings have been conducted with good participation from landholders, although hampered somewhat by turnover of experienced baiting personnel. Plans to set up Local Dog Fence Boards to employ full-time staff to oversee fence maintenance and buffer zone baitings should overcome this problem.

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