

## Control of seed harvesting ants

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Seed harvesting ants, mainly Pheidole spp., can take large amounts of aerially sown pasture seed (Campbell 1966).

Experiments near Orange, New South Wales, in 1978 investigated the effect of treating seeds with insecticides on the rate of seed removal by ants. Untreated and treated seeds of Phalaris aquatica were placed 10 cm from the entrance to ant ' nests (150 seeds/nest, five replications) and the number taken noted daily until rain fell (Table I).

**TABLE I. Effect of permethrin and bendiocarb on rate of seed removal by ants.**

Insecticide and rate (kg a.i./100 kg seed)	Number of seeds taken/day			
	day 1	days 2-7	days 8-14	
Permethrin	.075	7 b	11 a	7 a
	.150	4 b	2 b	8 a
	.225	4 b	1 b	8 a
Bendiocarb	.075	3 b	2 b	12 a
	.150	5 b	3 b	8 a
	.225	4 b	2 b	6 a
Nil	-	150 a	†	†

† All untreated seed taken on day 1 and no further seed added.

Other experiments, not presented, confirmed the results shown in Table I.

Bendiocarb treatments reduced ant activity, presumably by affecting ants as they stored seeds in their nests. However, permethrin appeared to repel ants and thus had no effect on ant activity.

Neither bendiocarb nor permethrin (as wettable powder formulations) affected seed germination or viability of legume rhizobia. Both insecticides are much less toxic than dieldrin, the insecticide previously used to reduce seed losses due to ants.

Samples of P. aquatica grown from bendiocarb treated seeds were taken 3 and 4 months after sowing and are currently being analysed for bendiocarb residues. Preliminary results show no residues above the limit of determination (0.1 ppm).

Campbell, M.H. (1966). Aust. J. Exp. Agric. Anim. Husband. 6: 334.