

Effect of terra-sorb on seed losses due to ants

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Seed-harvesting ants can take large quantities of surface-sown pasture seed thereby reducing establishment (1,2,3). The most successful way to restrict losses of seeds due to ants has been to coat the seed with either of the insecticides bendiocarb or permethrin before sowing (4). Because claims have been made (5,6) that ants will not carry away seed coated with Terra-Sorb 1005 (a non-toxic blend of starch and acrylic polymers), a trial was carried out to compare its effectiveness with that of permethrin in reducing loss of surface-sown seeds due to ants.

Methods

Coated and uncoated seeds (Table 1) of *Phalaris aquatica* were placed c. 10cm from nests of the seed-harvesting ant *Pheidole* spp. and the number taken in eight days in April 1984 recorded. Initially 200 seeds were placed near each nest. When the majority of these seeds were taken by the ants further lots of 200 seeds were added. If the ants took only a few seeds no further seeds were supplied. Three replications of each treatment were at Bathurst N.S.W. and two at Orange, N.S.W. Terra-Sorb 1005 and permethrin (wetttable powder, 25% a.i.) were applied to the seed by shaking seed and coating together in a plastic bag.

Results and Discussion

It was postulated that ants would not take seeds coated in Terra-Sorb because they disliked the graphite carrier included in the product (5,6). However in the trials reported here Terra-Sorb had no effect in reducing seed losses due to ants (Table 1). Observation of ant behaviour yielded no evidence that the physical nature of Terra-Sorb made collection of coated seeds difficult or distasteful. Although the dusty coating on lime-pelleted seed was assigned as the reason for a significant reduction in removal of pasture seed by ants (mainly *Monomorium* spp., *Meranoplus* spp., *Melophorus* spp.) in Queensland (7), no similar reduction due to lime coating was recorded with *Pheidole* spp. in New South Wales (1,8). Thus the species of ant involved in the Terra-Sorb investigations (not recorded 5,6) must have been repelled by its physical effects. However, as *Pheidole* ants are by far the most numerous seed harvesters in New South Wales, Terra-Sorb offers no protection for surface-sown seed in this state. The effectiveness of permethrin (Table 1), verified earlier results (2,4).

Table I. Effect of seed coating on the total number of seeds taken by ants in 8 days.

<u>Seed coating</u>	<u>Coating:Seed</u>	<u>Seeds taken nest⁻¹</u>
Nil	-	758 a [†]
Terra-Sorb	2:100	669 a
Permethrin	0.5:100	48 b
Permethrin + Terra-Sorb	0.5 + 2:100	30 b

[†] Values not followed by a common letter differ (P<0.05).

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