

Effect of Hoe 23408 on sirosa phalaris seedlings

G.P. Mahoney
Department of Agriculture, Benalla 3672, Victoria

SUMMARY

Hoe 23408 was applied to a newly sown pasture of sirosa phalaris (*Phalaris tuberosa* cv *sirosa*) which was infested with young plants and annual ryegrass (*Lolium rigidum*). The chemical significantly reduced both the phalaris and the ryegrass.

INTRODUCTION

Phalaris (*Phalaris tuberosa*) is one of the most widely sown perennial pasture grasses in south-eastern Australia (Moore, 1970).

In general, phalaris seedlings lack vigour and thus establishment is often slow (Trumble, 1933). Competition from winter growing plants such as annual ryegrass (*Lolium rigidum*) often results in failure of phalaris to establish in a pasture satisfactorily (Moore, 1970).

Annual ryegrass also causes serious yield reductions in wheat. When phalaris is sown under a cover crop of wheat the presence of annual ryegrass could result in failure of the phalaris to establish and also reduce the yield of the crop.

Effective control of annual ryegrass in wheat can be obtained by spraying with Hoe 23408 (Reeves and Brooke, 1977), however, the effect of this chemical on phalaris seedlings is unknown.

Sirosa phalaris is a recently released cultivar of phalaris. It has a more vigorous seedling and greater winter dry matter production than Australian phalaris (Mahoney, unpublished) which, until now, has been the most commonly sown cultivar of phalaris. Sirosa should replace Australian in the future.

MATERIALS AND METHODS

The sirosa phalaris was sown in early June 1977. Germination was good but the stand was contaminated by seedlings of annual ryegrass.

Hoe 23408 was applied in August 1977 when the sirosa phalaris was at the 4 to 6 leaf stage and the annual ryegrass had just commenced tillering.

The experiment was set out in a randomized block and consisted of four treatments (Hoe 23408 at 0, 0.5, 1 and 2 l/ha). Each chemical treatment was applied in 100 l of water per ha containing 100 ml of Agral 60. Each plot measured 2 m x 5 m and plant counts were made on each plot on 14 November 1977 to determine the effects of the treatments.

RESULTS AND DISCUSSION

Table 1. Effect of Hoe 23408 on sirosa phalaris seedlings

Rate of Hoe 23408 ℓ /ha	0	0.5	1	2
Plant Nos.(per m ²)	115	22	1	5
	L.S.D. P = 0.05			62

Table 2. Effect of Hoe 23408 on annual ryegrass seedlings

Rate of Hoe 23408 ℓ /ha	0	0.5	1	2
Plant Nos.(per m ²)	37	16	4	1
	L.S.D. P = 0.05			7

From Tables 1 and 2 it is apparent that in this experiment Hoe 23408 significantly reduced the establishment of sirosa phalaris and annual ryegrass seedlings.

In those situations where it is necessary to control annual ryegrass in a newly sown phalaris stand growing alone or under a cover crop of wheat then Hoe 23408 should not be used.

Further work is required to determine the effects of Hoe 23408 on other perennial grass seedlings and mature plants including phalaris.

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