

**EVALUATION OF POST-EMERGENCE HERBICIDES FOR WEED CONTROL
IN SEEDLING PHALARIS PASTURES**

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Introduction

There is a limited number of cost-effective herbicides registered for annual weed control in seedling pastures. Bromoxynil and 2,4-DB are the most commonly used products. Their use is limited by the high cost, \$18-25/ha, which represents 20-30% of the cost associated with establishing a pasture. These products also have a lower efficacy on a number of important broad-leaved weeds and are effective only on a limited range of weed species.

The phenoxy group of herbicides such as 2,4-D, MCPA and dicamba, alone, or in mixture with other herbicides, may offer a wider and more cost-effective option than 2,4-DB or bromoxynil for broad-leaved weed control in phalaris pasture. This study evaluated the sensitivity of seedling phalaris pastures containing sown legumes to phenoxy and other herbicides having potential for early post-emergence weed control.

Method

The herbicides, 2,4-DB; 2,4-D amine; MCPA amine; MCPA/diuron; dicamba/MCPA and Metsulfuron, were applied to the seedling pasture when the phalaris had 2-5 leaves, lucerne 4-5 trifoliolate leaves and subterranean clover 3-4 trifoliolate leaves. Plants were observed for damage 21 days after application and again prior to measuring the yield at 64 days after application.

Results and Discussion

Although significant damage was observed on phalaris seedlings by 2,4-D amine and MCPA amine at 1.5 and 3.0 l/ha, dicamba/MCPA mix at 2 l/ha and Metsulfuron at 21 days after application, there was little visual difference in the phalaris plants or dry matter yield between the herbicide treatments after 64 days, except for Metsulfuron which caused almost complete plant death.

Lucerne seedlings were highly sensitive to all herbicide treatments except 2,4-DB. Damage ranged from severe stunting to plant mortality with significant reductions in lucerne dry matter yield on all treatments except 2,4-DB (Table 1). Thus the number of herbicides that may be used for broad-leaved weed control in lucerne/phalaris pasture is limited. Bromoxynil, prometryn and 2,4-DB are registered in NSW. These are expensive but the contribution of lucerne to pasture productivity and quality justify their use.

Subterranean clover showed a moderate to high tolerance to many of the phenoxy herbicide treatments. All herbicides except Metsulfuron significantly reduced the weeds.

We conclude that MCPA at 0.75 l/ha, dicamba/MCPA at 1.0 l/ha and MCPA + diuron at 0.5 + 0.5 l/ha are relatively safe, effective and inexpensive alternatives to 2,4-DB or bromoxynil on phalaris pastures containing legumes. Where lucerne is included in the pasture mix only 2,4-DB or bromoxynil should be used. Be sure that a permit is available to cover the use of dicamba/MCPA and diuron on legumes.