

A COMPARISON OF GRASS-SPECIFIC HERBICIDES FOR POST-EMERGENCE CONTROL OF SIX
TEMPERATE ANNUAL GRASS WEEDS

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Abstract. Annual grasses are the most important group of weeds in Australian winter crops. Several herbicides are currently being developed for post-emergence control of these weeds. These herbicides are often referred to as graminicides, however, this implies that they control all (most) grasses. While most control a wide spectrum, there are still differences in the ranges of species controlled by the various herbicides, and in their relative activities. This paper reports the results of a pot experiment conducted to compare the relative susceptibility of wild oats, *Avena fatua* (WO), annual ryegrass, *Lolium rigidum* (RG), paradoxa grass, *Phalaris paradoxa* (PG), great brome, *Bromus diandrus* (GB), barley grass, *Hordeum leporinum* (BG), and silver grass, *Vulpia myuros/bromoides* (SG), to six herbicides (cloproxydim, fenoxaprop, fluazifop-P, haloxyfop, sethoxydim, and quizalofop).

Six rates of each herbicide (0, 10, 20, 40, 60, and 100 g a.i./ha) were applied with a pot sprayer using an 8001E TeeJet^R flat fan nozzle tip delivering 125 L/ha. A non-ionic surfactant (Agral^R 60) was added at 0.25% (v/v) to all herbicides except cloproxydim and sethoxydim to which 1% (v/v) mineral oil (D-C-Tron^R) was added. All grasses were at the early tillering stage of growth (ZGS 14/22) when the herbicides were applied. A completely randomised design was used with five replicates. The plants were grown from May to June in a rain-out shelter where the daily average temperatures ranged from 10-16°C. Six weeks after spraying plants were harvested and dried at 80°C for 48 h, and shoot dry weight was recorded.

The following is a summary of the results:

- Cloproxydim. Effective on RG and PG, much less so on WO, GB, BG, and SG.
- Fenoxaprop. Effective on WO and PG, less so on RG, and no effect on GB, BG, or SG.
- Fluazifop-P. Effective on all species except SG.
- Haloxyfop. Very active on WO, RG, GB, and BG, slightly less effective on PG, and no effect on SG.
- Sethoxydim. Effective on RG and PG, less effective on WO, and no effect on GB, BG, or SG.
- Quizalofop. Very active on WO, RG, GB, and BG, less effective on PG, and no effect on SG.

These results will be discussed in greater detail at the Conference.

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