

Oats tolerance to grass selective herbicides

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Summary Three field trials under weed free conditions were conducted during 2006, 2007 and 2015 at Katanning to determine the tolerance of new oat varieties to a range of grass selective herbicides. Trifluralin at 960 and 1920 g ha⁻¹, and chlorsulfuron at 15 g ha⁻¹ were included in all the trials, whereas pendimethalin at 594 and 1188 g ha⁻¹, s-metolachlor + prosulfocarb at 300 g + 2000 g and 600 g + 4000 g ha⁻¹ and diuron 1000 g ha⁻¹ were included in the trials during 2006 and 2007 only. Metolachlor at 1440 g and 2880 g ha⁻¹, and diuron + metolachlor at 1000 g + 1440 g ha⁻¹ were tested during 2006, whereas s-metolachlor at 960 and 1920 g, and diuron + s-metolachlor at 500 g + 960 g ha⁻¹ were tested during 2007. Terbutylazine at 1050 g and 2100 g ha⁻¹, terbutylazine + trifluralin at 1050 g + 960 g and 2100 g + 1920 g ha⁻¹ and diuron

+ s-metolachlor at 500 g + 480 g and 1000 g + 960 g were tested during 2015. The trials were laid out in criss-cross design having 3–5 oat varieties with three replications. Grain yield was recorded across all the trials, but hay yield was recorded during 2015 only.

All the pre-emergent treatments yielded at par with untreated control plots across all the oat varieties except s-metolachlor + prosulfocarb at 600 g + 4000 g ha⁻¹ reduced grain yield of Mitika during 2007. Terbutylazine 2100 g + trifluralin 1920 g ha⁻¹ reduced hay yield only of Kojanup significantly. Chlorsulfuron 15 g ha⁻¹ applied at Z12–Z13 reduced grain yield of four out of five oat varieties during 2015.

Keywords Oat, herbicides, grass weeds, grain yield, hay yield.