



Comparison of early post-emergent options for control of phalaris in wheat

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Objectives of the trial

- Compare alternate early post-emergent (EPE) 'ryegrass' herbicides to existing known standards on phalaris
- Determine the resistance status and performance of historical post-emergent standards on a suspected resistant population

Weed target: Dominant phalaris population (15-20 /m²). Some ryegrass

Crop growth stage: GS 22

100L/ha

Rainwater (AMS added to all treatments)

110015 AIXR @ 2 Bar 6km/hr

4 Reps

Date	Weed growth stage	Time	Temp	RH%	Delta T
20/6/2025	1-2 leaf	12pm	19°C	49%	6.2

Rainfall post application: No significant rainfall for 28 days after application. Then approximately 90mm over 10 days (Moree weather station).

Treatment list		
Mateno® Complete	400 g/L aclonifen + 100 g/L pyroxasulfone + 66 g/L diflufenican	1 L/ha
Boxer® Gold	800 g/L prosulfocarb + 120g/L s-metolachlor	3 L/ha
Arcade®	800 g/L prosulfocarb	3 L/ha
Experimental		1.7 L/ha
Axial® Xtra	50 g/L pinoxaden + 12.5 g/L cloquintocet-methyl	500 mL/ha
Atlantis® OD + Hasten®	30 g/L mesosulfuron-methyl + 90 g/L mefenpyr-diethyl	330 mL/ha + 1%
Hussar® OD + BS1000®	100 g/L iodosulfuron-methyl-sodium + 300 g/L mefenpyr-diethyl	100 mL/ha + 0.25%
Rexade® + BS1000®	150g/L pyroxsulam + 50g/L halauxifen-methyl + 318.6 g/L cloquintocet	100 g/ha + 0.25%
Untreated		

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Note: Boxer Gold and Arcade are only labelled for suppression of annual ryegrass at this application timing. Mateno Complete is labelled for control of a range of weeds at this application timing, but not phalaris. However Mateno Complete is labelled for control of phalaris when applied IBS.

Results

Existing standards (Axial, Atlantis, Hussar, Rexade) are predominantly taken up through the leaves of weeds. In this trial, under high phalaris pressure, they performed as expected – typically delivering 60-80% final control. This suggests that the population is not resistant to either Group 1 or Group 2 modes of action (or if resistance is present, then it is of low frequency).

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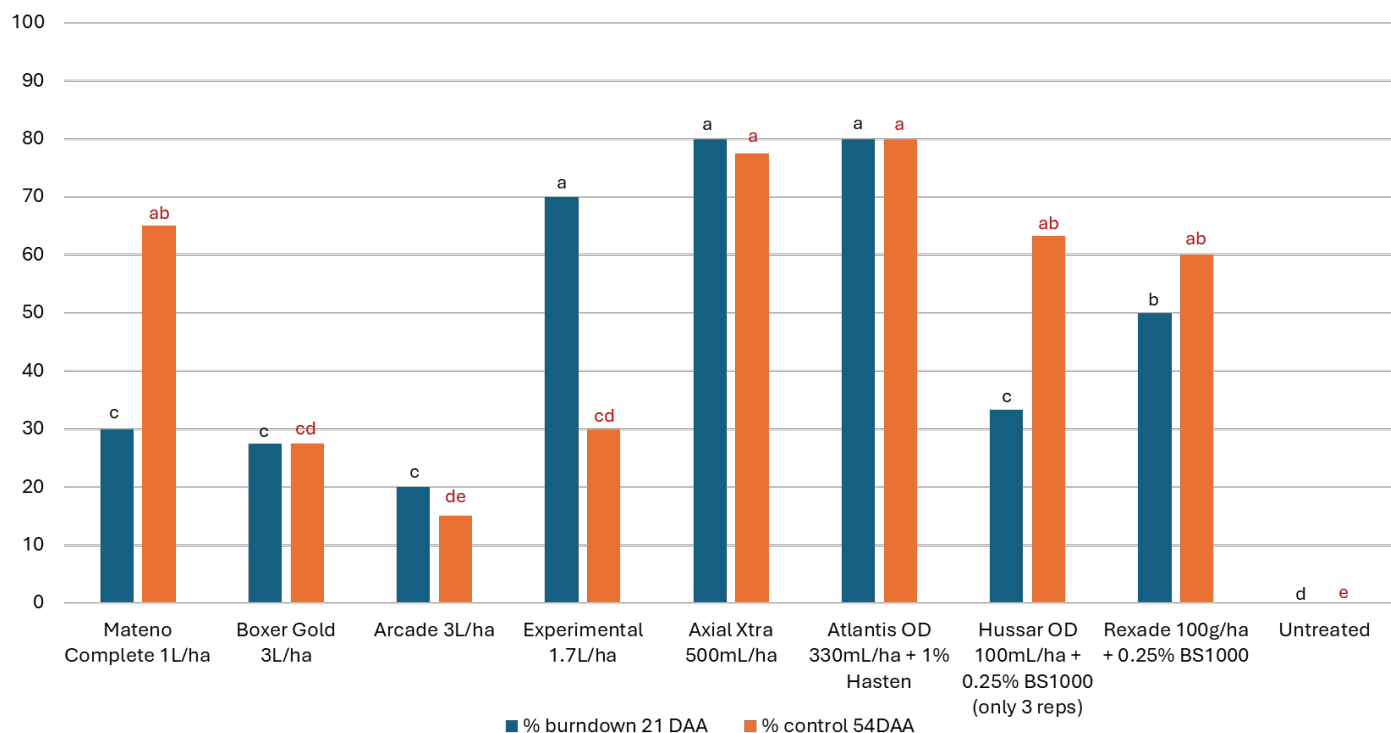


Figure 1. % burndown (21 DAA – blue) & % control (54 DAA - orange) of herbicides on phalaris. Treatments in the same assessment time with the same letter are not significantly different (P 0.05)

The alternate herbicides evaluated in this trial (Mateno Complete, Boxer Gold, Arcade, Experimental) are labelled for control or suppression of annual ryegrass at the early post-emergent (EPE) application timing (noting phalaris is not on the label for this EPE use pattern of Boxer Gold or Mateno Complete, while Arcade has no claim for phalaris control at any timing). Early post emergent control of grass weeds from these alternate herbicides is mostly achieved via root uptake. Weed control is optimised when both the weed size is less than 2-leaf at application **AND** significant rainfall occurs soon after application to wash the herbicide into the root zone of the emerging weed.

In this trial, weeds were at an appropriate growth stage at application. However, there was no significant rainfall for 28 days following the herbicide application. This may have contributed to the relatively poor comparative results from these alternate herbicides.

To achieve useful levels of early post-emergent control of ryegrass in northern farming systems with these newer EPE herbicide options, applications must be targeted to very small weeds (or preferably applied post-emergent to the crop but before weeds have emerged) **AND** in front of a significant rainfall event. In many years, this requirement for application timing and rainfall will be difficult to ensure in northern farming systems if applications are targeted to already emerged weeds.

Heavy rainfall in late July appears to have assisted Mateno Complete in providing some level of phalaris control but it may have come too late for the other alternative herbicide options. Further, the delay in achieving adequate weed suppression is likely to have led to increased crop competition (this trial was not taken through to yield).

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In unpredictable rainfall environments, it is likely that more consistent weed control might have been achieved with Mateno Complete or Boxer Gold if they were applied at-planting, with rainfall following to ensure adequate incorporation into the root zone of the germinating weeds. However, potential for crop injury must be managed via correct seeder set-up to ensure adequate crop seed and herbicide separation.



Mateno Complete

Burndown 21DAA. No significant rainfall after application



Boxer Gold



Arcade



Experimental



Axial Xtra



Atlantis



Hussar



Rexade

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Control 54 DAA. Approximately 90mm rainfall day 28-38



Mateno Complete



Boxer Gold



Arcade



Experimental



Axial Xtra



Atlantis



Hussar



Rexade

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Disclaimer: This document is based on the results from individual trials. Variability in product performance is expected across trials and environments. Different outcomes are possible under different trial situations; brand of herbicide applied; environmental conditions before, at and following application; sprayer setup; adjuvant choice; water quality and spray volume; weed size and weed stress; and herbicide resistance status of the population. Trials seek to build on current knowledge – therefore this summary may contain experimental use patterns that are currently not specifically labelled for all of the weed(s) targeted in the trial, or treatments applied at a weed growth stage or application timing that may differ to the product label. In some circumstances, inclusion of a particular treatment is included to demonstrate why this product should not be used in that particular situation. Any research with unregistered agricultural chemicals or of unregistered products, rates or use patterns reported in this document does not constitute a recommendation for that particular use by the authors or the authors' organisations. All agricultural chemical applications must accord with the currently registered label for that particular agricultural chemical, crop and region.

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