Pre-emergent herbicide DECISION GUIDE

for loam soils

(knife-point press wheel system)

Selecting a pre-emergent herbicide can be challenging, particularly when seasonal rainfall is uncertain

This decision guide will help you quickly identify which herbicides are suitable based on your current conditions and their risk factors across different rainfall outcomes

Australian Government
Department of Agriculture, Fisheries and Forestry

Future Drought Fund

SA DROUGHT HUB

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IMPORTANT NOTES:

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WHEAT Herbicide option	Application conditions (Incorporated by sowing)					Herbicide mobility	Herbicide notes
	*DRY	Follow up rainfall event (within 7- 10 days)					
		0 mm	7 mm	15 mm	25 mm		
Trifluralin						NM	Significant herbicide losses can occur if used when dry sowing and herbicide is not incorporated within 4 to 24 hours. Care needs to be taken at sowing time to avoid moving treated soil into adjacent furrows, or furrow collapse. It is not suitable for low disturbance disc seeding systems. Herbicide resistance to trifluralin is very common and it should be used in combination with other modes of action.
Prosulfocarb **(Arcade)**						S	Very short persistence means extended periods of no rainfall when applied to dry soil may result in lower efficacy. Weed control efficacy is reduced in wet seasons due to later emerging grass weeds. Suitable for disc seeding systems.
Pyroxasulfone						M	Low solubility, so light or patchy rainfall after application may result in lower efficacy. Damage can occur on high pH soils, which can persist for some time. Suitable for disc seeding systems.
Saflufenacil + Trifludimoxazin **(Voraxor)**						M	Avoid moving treated soil into adjacent furrows or furrow collapse. Increase sowing depth if tank mixing with another pre-emergent grass herbicide. High rainfall after application can move herbicide out of the weed root zone, reducing control. Marginal suitability for disc seeding systems.
Aclonifen, Pyroxasulfone + Diflufenican **(Mateno Complete)**						NM	Similarly to pyroxasulfone, this herbicide has low solubility. Small and intermittent rainfall events after application may result in low efficacy. Suitable for early post emergent weed control and disc seeding systems.
Mesotrione **(Callisto)**						H	Ensure adequate sowing depth of crop as more damage can occur on lighter soils. Damage can be persistent. Not suitable for disc seeding systems.
Tri-allate **(Avadex Xtra)**						S	Some losses can occur if used in dry sowing. Incorporation should occur within 6 hours. Increased levels of damage can occur on high clay content soils. Best used in mixtures. Not suitable for low disturbance disc seeding systems.
Prosulfocarb + S-metolachlor **(Boxer Gold)**						S-M	Increased damage is likely on lighter soils when dry sowing compared to Arcade (straight prosulfocarb). This herbicide has very short persistence, so extended periods of no rainfall may result in lower efficacy. Efficacy is reduced in wet seasons. Marginal suitability for disc seeding systems.
Bixlozone **(Overwatch)**						M	Damage is more likely to occur with dry sowing. Ensure seeding depth of at least 3 cm. Take care with sowing to avoid moving soil into adjacent furrows, horizontal soil movement (eg wind) and furrow collapse. More damage is likely with higher rainfall, light soils, heavy stubble, alkaline soils, stony soils and soils with low organic matter.
Cinmethylin **(Luximax)**						M	Not suited to dry sowing and not very persistent. Works best when soil is wet prior to application and rainfall after application is moderate. Crop damage is likely with high rainfall after sowing. Ensure seeding depth is at least 3 cm. More damage is likely to be present on lighter soils.

*Herbicide movement will not occur under dry conditions. Crop safety and efficacy of pre-emergent herbicides applied in dry conditions is determined by the persistence (speed of degredation/breakdown) and solubility.
**Herbicide mobility is determined by solubility and binding. Immobile herbicides will bind to soils and organic matter tightly, where moderate herbicides are likley to move more freely with soil water.

Crop safety

- High risk
- Caution
- Low risk

Expected grass weed control

- Low
- Medium
- High

****Herbicide mobility**

NM	Not mobile
S	Slightly mobile
M	Moderate mobility
H	Highly mobile

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BARLEY Herbicide option	Application conditions (Incorporated by sowing) *DRY	Follow up rainfall event (within 7- 10 days) 0 mm	7 mm	15 mm	25 mm	Herbicide mobility	Herbicide notes
Tri-allate **(Avadex Xtra)**						S	Some losses can occur if used when dry sowing. Incorporation should occur within 6 hours of application. Best used in mixtures. Not suitable for low disturbance disc seeding systems.
Trifluralin						NM	Significant herbicide losses can occur if used when dry sowing and herbicide is not incorporated within 4 to 24 hours. Care needs to be taken at sowing time to avoid moving treated soil into adjacent furrows, or furrow collapse. It is not suitable for low disturbance disc seeding systems. Herbicide resistance to trifluralin is very common and it should be used in combination with other modes of action.
Saflufenacil + Trifludimoxazin **(Voraxor)**						M	Avoid moving treated soil into adjacent furrows or furrow collapse. Increase sowing depth if tank mixing with another pre-emergent grass herbicide. High rainfall after application can move herbicide out of the weed root zone, reducing control. Marginal suitability for disc seeding systems.
Aclonifen, pyroxasulfone + diflufenican **(Mateno Complete)**						NM	Similarly to pyroxasulfone, this herbicide has low solubility. Small and intermittent rainfall events after application may result in low efficacy. Very high rainfall after sowing may result in more crop damage. Marginal safety, do not mix with other pre-emergent grass herbicides. Not suitable for disc seeding systems.
Prosulfocarb **(Arcade)**						S	Very short persistence means extended periods of no rainfall when applied to dry soil may result in lower efficacy. Weed control efficacy is reduced in wet seasons due to later emerging grass weeds. Suitable for disc seeding systems.
Mesotrione **(Callisto)**						H	Ensure adequate sowing depth of crop as more damage can occur on lighter soils. Damage can be persistent. Not suitable for disc seeding systems.
Prosulfocarb + S-metolachlor **(Boxer Gold)**						S-M	Increased damage is likely on lighter soils when dry sowing compared to Arcade (straight prosulfocarb). This herbicide has very short persistence, so extended periods of no rainfall may result in lower efficacy. Efficacy is reduced in wet seasons. Marginal suitability for disc seeding systems.
Bixlozone **(Overwatch)**						M	Not suitable when dry sowing barley, as high rainfall after sowing can result in crop damage. Ensure sowing depth is at least 3 cm. Take care at sowing to avoid moving soil into adjacent furrows, horizontal soil movement (eg wind) and furrow collapse. More damage likely with higher rainfall, light soils, heavy stubble, alkaline soils, stoney soils and soils with low organic matter.

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DISCLAIMER

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