Herbicide resistance status of brome grass

Project title: Effective control of brome grass in the southern and western cropping zones

Project code: UOA2303-006RTX

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Herbicide resistance screening of brome grass

Treatment	Active ingredient (group)	MOA group	Trade name, manufacturer	Rate	Treatment date	Brome growth stage
1	Untreated control	-	N/A	-	-	-
2	Quizalofop 200 g/L	1	ELANTRA® Xtreme®, Sipcam	190 mL/ha	4 July	3-4 leaf
3	Clethodim 240 g/L	1	Grasidim®, Sipcam	500 mL/ha	4 July	3-4 leaf
4	Imazamox 33 g/L + imazapyr 15 g/L	2	Intercept®, NUFARM	600 mL/ha	4 July	3-4 leaf
5	Pyroxsulam 30 g/L	2	Crusader® GoDRI®, Corteva	70 g/ha	20 June	2-3 leaf
6	Glyphosate 600 g/L	9	Crucial®, Nufarm	750 mL/ha	4 July	3-4 leaf

Assessment date: 7 August (34 and 48 days after treatment)

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Herbicide resistance status of brome grass samples collected in 2024

SUMMARY

Detail	Pyroxsulam	Imazamox + Imazapyr	Glyphosate	Clethodim	Quizalofop
Samples tested	112	115	115	115	115
Developing resistance (n)	25	0	0	0	0
Developing resistance %	22.3	0	0	0	0
Resistant (n)	52	4	0	0	0
Resistant %	**46.4**	**3.5**	**0**	**0**	**0**
Susceptible (n)	35	111	115	115	115
Susceptible %	31.3	96.5	100.0	100.0	100.0

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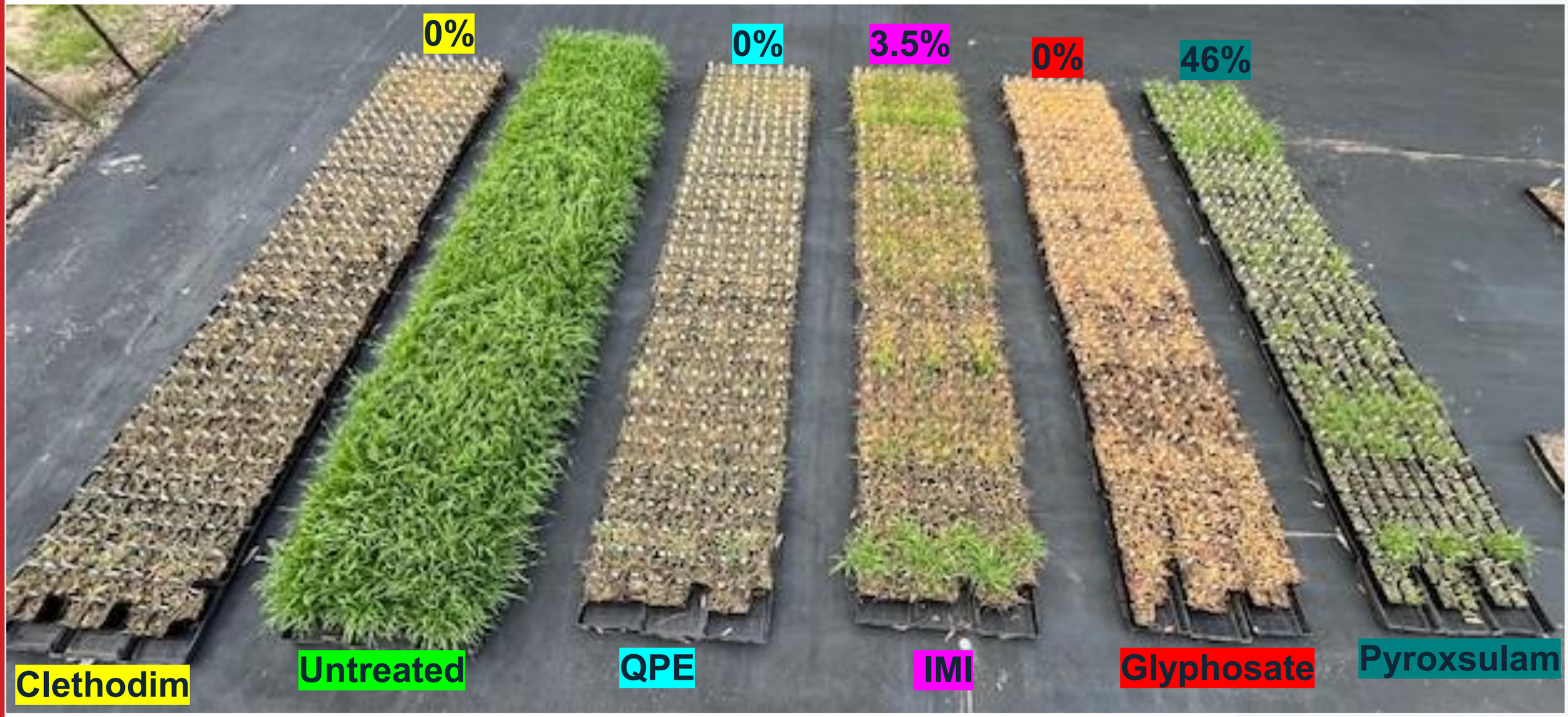

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Visual representation of 115 brome grass populations tested for herbicide resistance status in 2025.

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Pyroxsulam (Crusader® / Rexade®)

Pyroxsulam	WA	HART (SA- MN & YP)	AIR EP (SA - EP)	BCG (Vic - Mallee)	MSF (SA - Mallee)	TOTAL (WA, SA, Vic)
Samples tested	61	19	11	11	4	112
Developing resistance (n)	18	3	0	0	0	25
Developing resistance %	29.5	15.8	0	0	0	22.3
Resistant (n)	36	3	11	0	2	52
Resistant %	**59**	**15.8**	**100**	**0**	**50**	**46.4**
Susceptible (n)	7	13	0	11	2	35
Susceptible %	11.5	68.4	0	100	50	31.3

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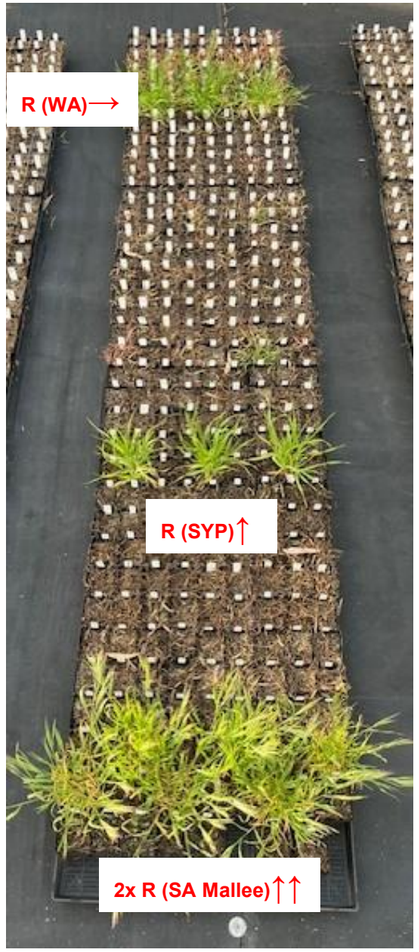
Imazamox + Imazapyr (Intercept® / Intervix®)

1 August

27 August



Imazamox + Imazapyr	WA	HART (SA- MN & YP)	AIR EP (SA - EP)	BCG (Vic - Mallee)	MSF (SA - Mallee)	TOTAL (WA, SA, Vic)
Samples tested	62	20	15	13	4	115
Developing resistance (n)	0	0	0	0	0	0
Developing resistance %	0	0	0	0	0	0
Resistant (n)	1	1	0	0	2	4
Resistant %	**1.6**	**5**	**0**	**0**	**50**	**3.5**
Susceptible (n)	61	19	15	13	2	111
Susceptible %	98.4	95	100	100	50	96.5

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Quizalofop (Elantra Xtreme® / Aggressor®)

Quizalofop	WA	HART (SA- MN & YP)	AIR EP (SA - EP)	BCG (Vic - Mallee)	MSF (SA - Mallee)	TOTAL (WA, SA, Vic)
Samples tested	62	20	15	13	4	115
Developing resistance (n)	0	0	0	0	0	0
Developing resistance %	0	0	0	0	0	0
Resistant (n)	0	0	0	0	0	0
Resistant %	**0**	**0**	**0**	**0**	**0**	**0**
Susceptible (n)	62	20	15	13	4	115
Susceptible %	100	100	100	100	100	100.0

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Clethodim (Select® / Platinum®)

Clethodim	WA	HART (SA- MN & YP)	AIR EP (SA - EP)	BCG (Vic - Mallee)	MSF (SA - Mallee)	TOTAL (WA, SA, Vic)
Samples tested	62	20	15	13	4	115
Developing resistance (n)	0	0	0	0	0	0
Developing resistance %	0	0	0	0	0	0
Resistant (n)	0	0	0	0	0	0
Resistant %	**0**	**0**	**0**	**0**	**0**	**0**
Susceptible (n)	62	20	15	13	4	115
Susceptible %	100	100	100	100	100	100.0

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Glyphosate (Crucial® / Roundup®)

Glyphosate	WA	HART (SA- MN & YP)	AIR EP (SA - EP)	BCG (Vic - Mallee)	MSF (SA - Mallee)	TOTAL (WA, SA, Vic)
Samples tested	62	20	15	13	4	115
Developing resistance (n)	0	0	0	0	0	0
Developing resistance %	0	0	0	0	0	0
Resistant (n)	0	0	0	0	0	0
Resistant %	**0**	**0**	**0**	**0**	**0**	**0**
Susceptible (n)	62	20	15	13	4	115
Susceptible %	100	100	100	100	100	100.0

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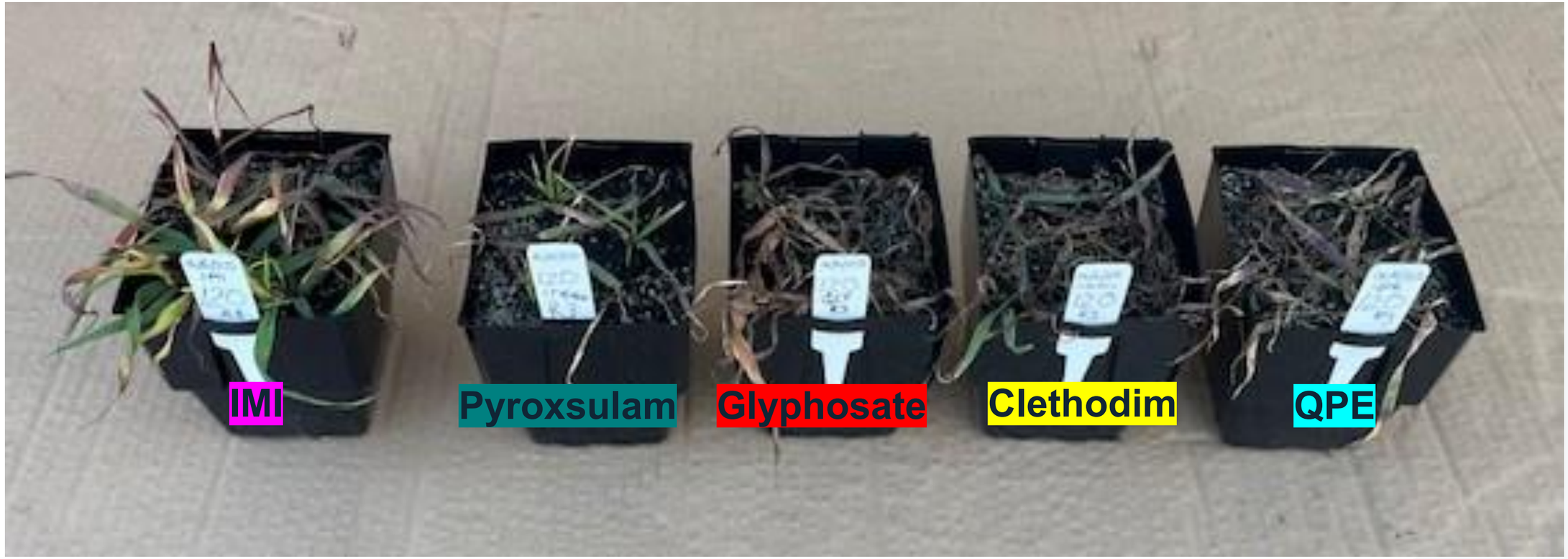
Herbicide resistance screening of brome grass



S - Population #120

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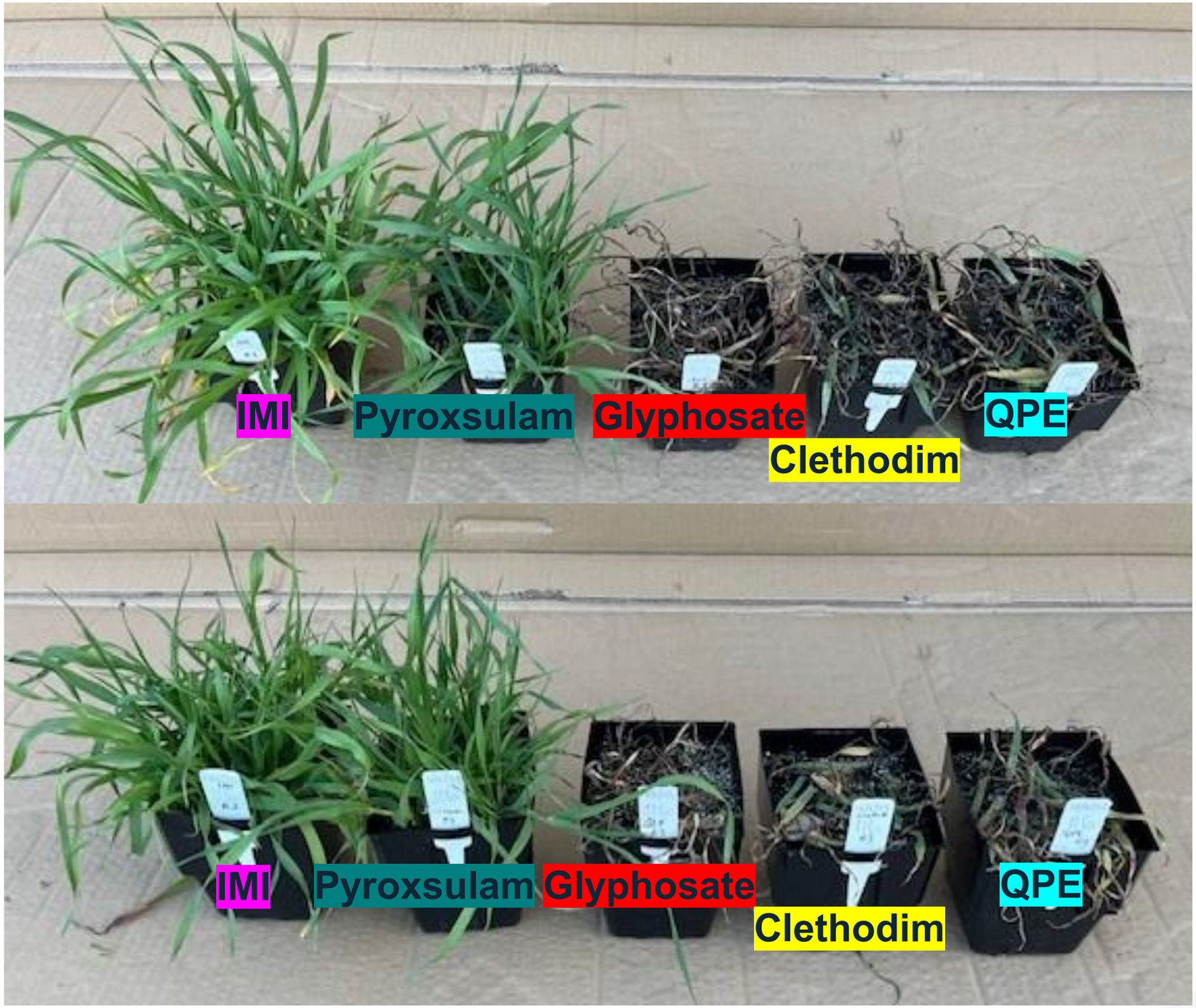
Brome grass



R - Population #117 SA Mallee

R - Population #116 SA Mallee

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R – Population Brome grass #86 SA (SYP)

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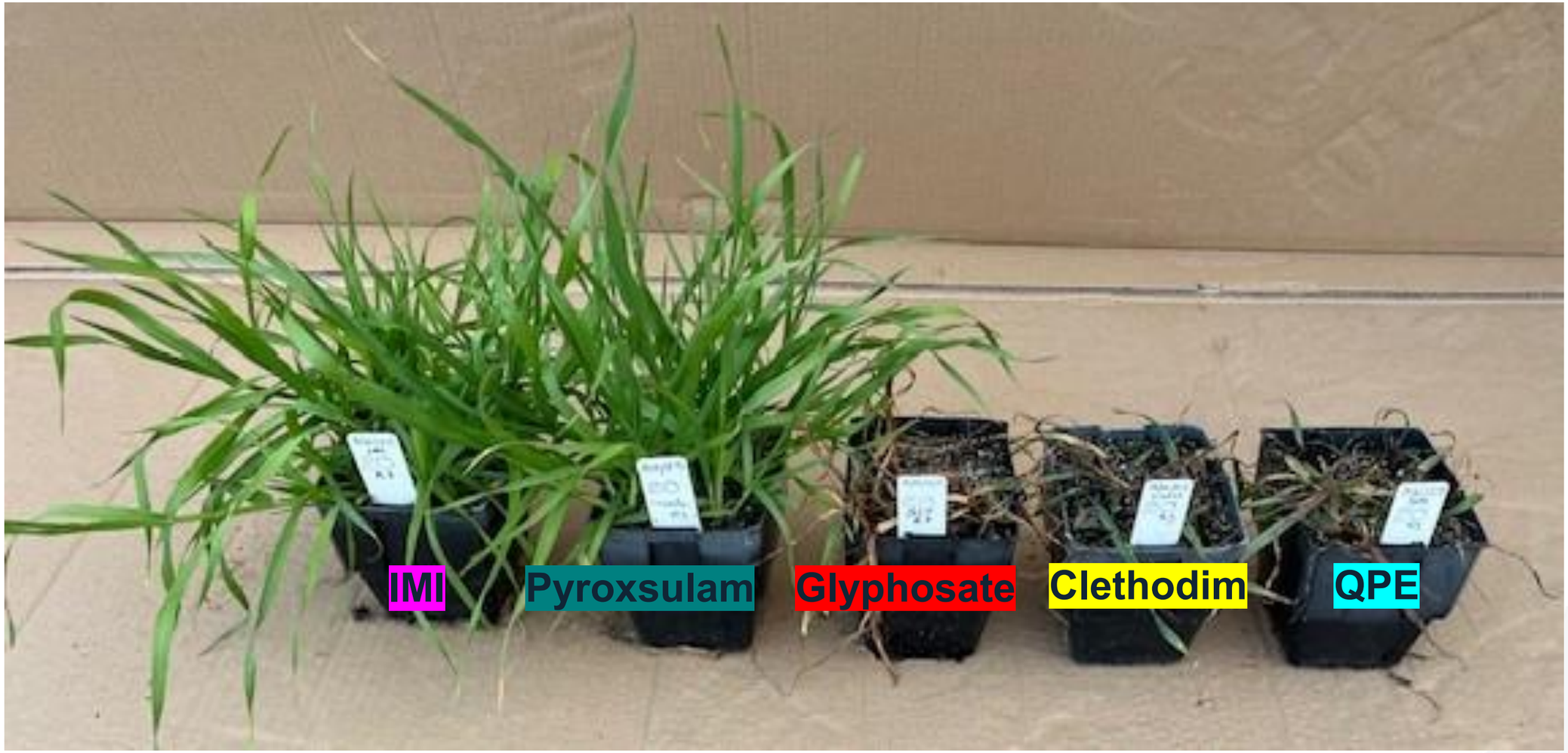

R – Population Brome grass #20 WA (Northern Wheat Belt)

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Key findings

- One hundred fifteen brome grass populations were tested for resistance to 5 different herbicides in July-August 2025.
- Over the whole sampling region (WA, SA and VIC), resistance to IMI herbicides was confirmed in 4 populations (3.5%).
- Resistance to pyroxsulam (Rexade / Crusader) was much higher in some regions than to IMI herbicides, but this herbicide may still provide adequate weed suppression to give a positive crop yield response.
- As expected, the overall frequency of resistance detected in brome grass in this region was much lower than that found in annual ryegrass.
- Even though previous research has confirmed glyphosate resistance in brome grass, resistance to this herbicide was not detected in the current study.
- Group 1 herbicides tested were highly effective on brome populations investigated, which should offer confidence to growers planning to control brome grass in pulses and canola as well as CoAXium barley crops.

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