Tarvine Management

Trial ID: **BD2018** **Location:** **Mullaley** **Trial Year:** **2021**
Investigator: **Branko Duric**

This trial was designed to evaluate herbicide strategies for the control of tarvine in fallow. Previous trial activity has generally shown inconsistent and poor efficacy from standalone treatments of knockdown herbicides. This trial evaluated the impact of residual herbicides, applied in the fallow. The intention was to evaluate the cumulative effect of residual herbicides together with commercial knockdown applications, however no knockdown fallow treatments were applied during the trial duration.

Objective:	**To evaluate residual herbicide activity on tarvine regrowing from root fragments**
Situation:	**Fallow consisting of 2020 durum stubble**
Weed:	**Tarvine**
Weed Stage at Application:	**Root fragments present in soil**
Residual Application:	**Application A: 11/02/2021 (0 DAA)**
Nozzles:	**AIXR110015**
Volume:	**100 L/ha**
Commercial Knockdown Application:	**1/02/2021 (-10 DAA) – Glyphosate 450 @ 3L/ha**
Trial Design:	**Randomised block of 12 treatments x 4 replicates**
Plot Size:	**4 m x 12 m**
Keywords:	**Tarvine, residual control, fallow**

NB: The residual products applied do NOT have registrations for tarvine control

Pest Scientific Name			***Boerhavia dominii***
Pest Name			**Tarvine**
Assessment Date			**5/04/2021**
Assessment Type			**COUNT**
Assessment Unit			**/m²**
Sample Area			**3m x 10m**
Treatment-Evaluation Interval			**53 DAA**
ARM Action Codes			**AA**
Trt No.	**Treatment**	**Product Rate**	
1	Untreated	-	0.18-
2	Impose	200ml/ha	0.07-
3	Balance	100g/ha	0.02-
4	Rifle 440	3400ml/ha	0.08-
5	Terbyne Xtreme	1200g/ha	0.10-
6	Valor	280g/ha	0.00-
7	Ally	7g/ha	0.02-
8	Tackle	20g/ha	0.01-
9	Intervix Hasten	750ml/ha 1% v/v	0.03-
10	Sentry Supercharge Elite	55g/ha 0.5% v/v	0.04-
11	Sempra Supercharge Elite	130g/ha 1% v/v	0.01-
12	Gesaprim	3300g/ha	0.03-
		LSD P=.05	nsd
		Treatment Prob.(F)=	0.5863

Means followed by same letter do not significantly differ (P=.05, LSD)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P (F) is significant at mean comparison OSL.
nsd = no significant difference

ARM Action Codes
AA = Automatic arcsine square root % transformation

DAA = Days after Application

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Conclusions:

This trial was designed to screen residual herbicides, alone or when followed by commercial knockdown fallow strategies, for activity against tarvine. The trial was located in a paddock with a history of tarvine infestation. Tarvine root fragments were present at application on the 11th of February 2021 (Application A) but no above ground growth was evident. Residual treatments were applied in a fallow situation following a durum wheat crop in 2020.

A fallow knockdown application of Roundup 450 3 L/ha was commercially applied over the trial site on the 1st of February 2021. This was 10 days prior to the residual herbicide application. There were no commercial fallow sprays after the residual treatments were applied.

Two to three days after application of residual herbicides (2-3 DAA) the site received ~43 mm of rain. A total of ~215 mm was received over the 8-week trial duration with ~160 mm received over a 15 day period in mid to late March.

Tarvine regrowth was very slow with the only count taken in early April (53 DAA). Tarvine counts were <0.2/m^2 in the untreated and patchy in distribution. There was no significant difference between treatments for tarvine counts. No further assessment of tarvine efficacy was possible due to the density of other weed species that emerged following the March rain events.

In this trial, no treatment provided significant levels of residual control of tarvine. There was no opportunity to evaluate the combination of residual herbicides with a commercial fallow knockdown program.

Application Description	
Application Date:	**11/02/2021**
Applicant Start Time:	**9:00 AM**
Applicant Stop Time:	**12:00 PM**
Application Method:	**SPRAY**
Application Timing:	**POST HARVEST**
Application Placement:	**SOIL**
Air Temperature, Unit:	**24 C**
% Relative Humidity:	**55**
Wind Velocity, Unit:	**6 km/h**
Wind Direction:	**W**
Dew Presence (Y/N):	**No**
% Cloud Cover:	**0**

Application Equipment	
Application Equipment:	**Polaris**
Equipment Type:	**BOOM**
Operation Pressure, Unit:	**300 kPa**
Nozzle Type:	**AIXR**
Nozzle Size:	**110015**
Nozzle Spacing, Unit:	**50 cm**
Boom Length, Unit:	**4 m**
Ground Speed, Unit:	**7.2 km/h**
Spray Volume, Unit:	**100 L/ha**

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Rainfall:

Closest Weather Station:	**Bando 55002**
Distance, Unit:	**~20km**

Date	Amount	Unit	
11/02/2021	-	mm	**Application A**
13/02/2021	11.4	mm	
14/02/2021	32.2	mm	
25/02/2021	1.2	mm	
26/02/2021	4.8	mm	
28/02/2021	3.2	mm	
9/03/2021	17.6	mm	
10/03/2021	8.2	mm	
11/03/2021	6.6	mm	
12/03/2021	11.2	mm	
15/03/2021	14.4	mm	
18/03/2021	7.4	mm	
22/03/2021	5.4	mm	
23/03/2021	74.4	mm	
24/03/2021	17.2	mm	
5/04/2021	-	mm	**Assessment**

Month	Total Rainfall (mm)
February	**53**
March	**162**