MCA Ag Research

Compatibility of residual herbicides with glufosinate. Tall fleabane

Trial ID: BB2518
Protocol ID: MCA2502 Location: St Ruth Trial Year: 2025

Study Directors: Lawrie Price, Brendan Burton

Objectives:

To assess whether the addition of common fallow herbicides will aid or antagonise knockdown control of Biffo (glufosinate)

Materials and Methods:

A trial was sited in a fallow paddock infested with tall fleabane in a field near St Ruth. Queensland. Treatments were applied on June 6th 2025 to rosettes of 4 - 12 leaves and 4 to 10cm diameter. The initial population averaged about 60 weeds/m^2. Excellent growing conditions prevailed during the trial.

A Biffo rate of 3.75L/ha was used as the comparison rate in this trial. Tall fleabane is not a weed listed on the Biffo label. Biffo at this rate was used either alone or tank-mixed with residual herbicides at their common use rates.

Application was at 100 L/ha using a 4 metre boom mounted on a Polaris Ace. The boom was equipped with eight AIXR110015 nozzles at 50 cm spacings, mounted 50 cm above the target. Operating pressure was 300Kpa.

Seedlings on the day of application showing the size of the weeds

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Results:

Assessment Date		13/6/2025	6/7/2025	8/7/2025	8/9/2025
Assessment Type		% Burndown	% Control	Surviving plants/m^2	Regrowing plants/m^2
Pest Name		Tall fleabane	Tall fleabane	Tall fleabane	Tall fleabane
Days After Application		7	30	32	94
ARM Action Codes					
No.	Treatment				
1	Biffo 3.75L	48 -	83 -	48 -	106 ab
2	Biffo 5L	50 -	88 -	18 -	67 bc
3	Biffo 3.75L + Palmero 100g	50 -	83 -	52 -	22 d
4	Biffo 3.75L + Dual Gold 1L	48 -	83 -	51 -	98 ab
5	Biffo 3.75L + Terbyne Xtreme 1.2kg	50 -	83 -	48 -	80 bc
6	Biffo 3.75L + Valor EZE 0.29L	50 -	88 -	29 -	80 bc
7	Biffo 3.75L + Rifle 3.3L	47 -	80 -	45 -	123 a
8	Biffo 3.75L + Voraxor 0.28L	47 -	87 -	24 -	12 d
9	Biffo 3.75L + Fallowboss Tordon 1L	53 -	93 -	27 -	15 d
10	Biffo 3.75L + Tordon 75-D 1L	52 -	92 -	18 -	15 d
11	Biffo 3.75L + Picoflex 0.315L	48 -	89 -	26 -	14 d
12	Biffo 3.75L + Grindstone 32mL	48 -	87 -	37 -	46 cd
13	Biffo 3.75L + Palmero 100g + Terbyne X 0.86kg	53 -	89 -	18 -	8 d
14	Biffo 3.75L + Dual Gold 1L + Terbyne X 0.86kg	48 -	83 -	54 -	95 ab
LSD P=.05		5.3	10.43	30.25	40.83
CV		6.41	7.2	50.91	43.54
Treatment Prob(F)		0.26	0.4206	0.0969	0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, LSD). Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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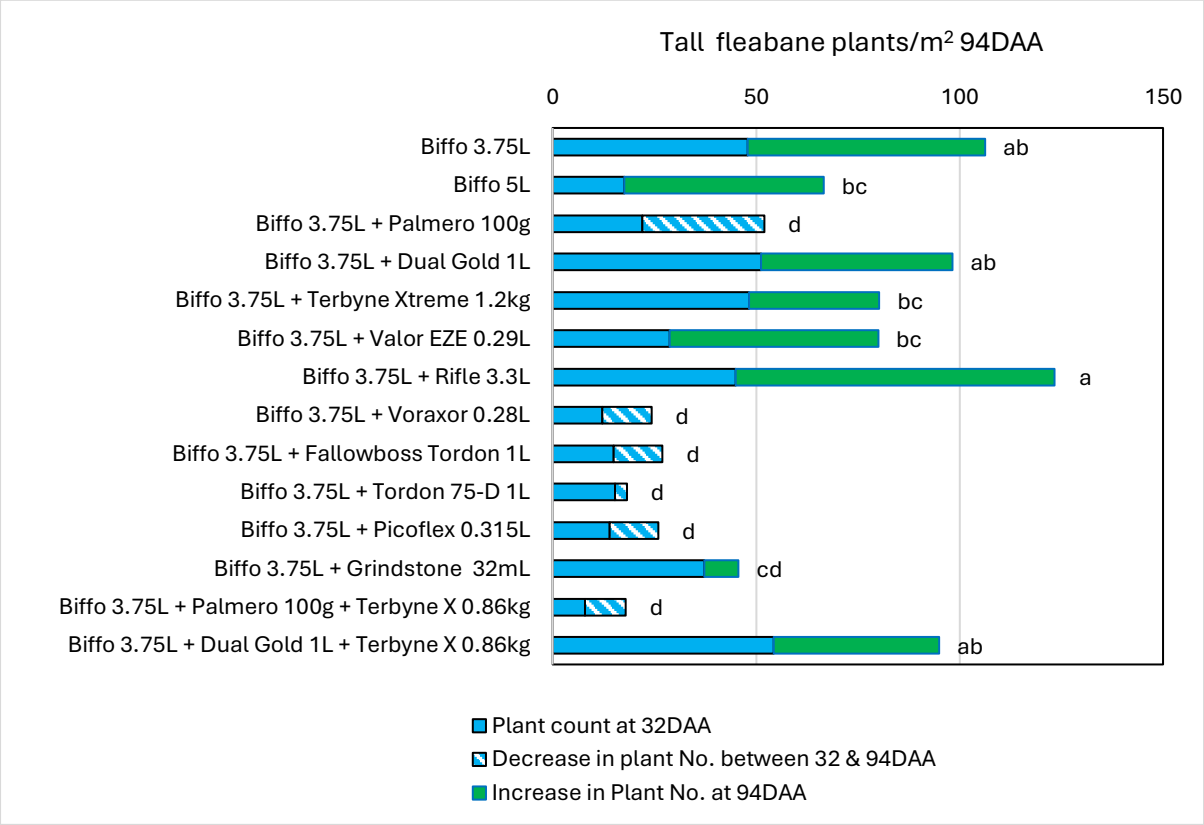

Discussion:

An assessment of % burndown was made at 7 days after application. No significant differences were observed with all treatments rated as giving between 47 and 53% burndown.

An estimate of % control was made for each plot at 30 days after application. The weeds were significantly burnt back but had a green center. It was suspected that many of the weeds would regrow. There was no significant difference between treatments. All treatments were rated as between 83 and 93% control.

Counts of surviving weeds were made at 32 days after application. It was very hard to decide whether individual weeds would regrow or die. Differences were not statistically significant at the 95% probability level but there was a trend to count fewer weeds where Biffo had been applied at 5L/ha or at 3.75L/ha with Tordon 75-D or with the combination of Biffo, Palmero and Terbyne Xtreme.

A second count of growing weeds was made at 94 days after application. The site had received 40mm of rain in late July and weeds were regrowing, However, a second germination of tall fleabane had apparently occurred with over 100 weeds/m^2 found in some of the treatments.

Judging by the increase in weed numbers in Biffo alone plots, it appears that this second germination was of between 40 and 60 seedlings/m^2. Treatments of Biffo alone or with Dual Gold, Terbyne Xtreme, Valor EZE and Rifle exhibited an increase in weed number suggesting these treatments did not provide residual control of tall fleabane. It is not known whether these residual herbicides would have prevented tall fleabane germinations if not tank mixed with Biffo.

Other treatments resulted in fewer surviving weeds compared to the previous count, suggesting that some of the weeds counted at 32DAA had not survived. Also many of the treatments appeared to have had no new germinations. Palmero, Voraxor, Fallowboss Tordon, Tordon 75-D, and Picoflex appeared to have prevented new germinations of Tall fleabane.

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Conclusion:

None of the residual herbicides tested in this trial appeared to antagonise knockdown control of tall fleabane by Biffo. Knockdown tended to be increased by tank-mixes of Biffo with Tordon 75-D or the three way combination of Biffo, Palmero and Terbyne Xtreme.

Appendices:

Crop Description

Crop 1:C YBRAC Fallow

Pest Description

Pest 1 Type: W Code: ERISU Erigeron sumatrensis
Common Name: Tall Fleabane **Stage Scale:** BBCH

Site and Design

Treated Plot Width:	**4**	**m**		**Site Type:**	**FALLOW**	**fallow**
Treated Plot Length:	**12**	**m**		**Experimental Unit:**	**1 PLOT**	**plot**
Treated Plot Area:	**48.0**	**m2**		**Tillage Type:**	**NOTILL**	**no-till**
Replications:	**3**	**Treatments: 14**	**Plots: 42**	**Study Design:**	**RACOBL**	**Randomized Complete Block (RCB)**

Distance between Blocks: 1 m
Distance between 'Plot' Experimental Units: 0 m

Previous crop: Wheat 2024

Weather Conditions

Weather Station Name: Silo weather **Distance:**0.5 km

Date	Moisture Total	Unit
9-Jun-2025	0.2	mm
22-Jun-2025	0.2	mm
25-Jun-2025	1.5	mm
29-Jun-2025	0.7	mm
30-Jun-2025	4.2	mm
1-Jul-2025	4.1	mm
7-Jul-2025	0.7	mm
17-Jul-2025	0.4	mm
18-Jul-2025	4.5	mm
19-Jul-2025	2	mm
23-Jul-2025	0.4	mm
24-Jul-2025	13.7	mm
27-Jul-2025	17.6	mm
28-Jul-2025	8.7	mm
30-Jul-2025	0.2	mm
3-Aug-2025	4.3	mm
4-Aug-2025	0.2	mm
14-Aug-2025	0.5	mm
20-Aug-2025	6.7	mm
21-Aug-2025	6.8	mm
22-Aug-2025	0.5	mm
9-Jun-2025	0.2	mm

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Application Description

	A
Date	6-Jun-2025
Start Time	9:15 AM
Stop Time	10:30 AM
Method	SPRAY
Timing	EARLY POSTEM
Placement	Foliar
Mixed/Prepared By	Brendan Burton
Applied By	Brendan Burton
Air Temperature Start, Stop	16.6, 21.0 C
% Relative Humidity Start, Stop	60.3, 44.5
Wind Velocity+Dir. Start	0 KPH,
Wind Velocity+Dir. Stop	1.4 KPH, SW
% Cloud Cover	40
Problems with Application?	N, no

Pest Stage At Application

	A
Pest 1 Code, Type, Scale	ERISU, W, BBCH
Stage Majority, Percent	19, 90
Stage Minimum, Percent	14, 10
Stage Maximum, Percent	19, -
Diameter Average	10 cm
Diameter Minimum, Maximum	4, 312
Height Average	2 cm
Height Minimum, Maximum	1, 4
Density Average	60 /m2

Application Equipment

	A		A
Equipment Name	Polaris	**Spray Swath**	8
Equipment Type	BOOM	**Boom Height**	4.0 m
Operation Pressure	300 kPa	**Boom Flow Rate**	50.0 cm
Nozzle Model	110015	**Ground Speed**	7.0 KPH
Nozzle Type	AIXR	**Application Amount**	100 L/ha
Nozzle Spacing	50 cm	**Mix Size**	5.0 L