



**AgGrow**  
AGRONOMY + RESEARCH



**THE EFFECTIVENESS OF TERBYNE®  
IN LONG FALLOWS**

**Demonstration - Griffith 2013**

# THE EFFECTIVENESS OF TERBYNE® IN LONG FALLOWS

## KEY POINTS

- \* Long fallows (18 month) make up about one third of the cropping area in the western region of southern NSW.
- \* Long fallow management must not impact on crop rotation flexibility, particularly if the opportunity arises to sow a crop.
- \* Costs of herbicide applications and number of herbicide passes can be reduced when using residual herbicides in long fallows. They can reduce the necessity of an expensive and time consuming double knock to control fleabane.
- \* In this trial Terbyne and mixtures of Terbyne and other products provided excellent control of weeds like fleabane and common heliotrope.
- \* This report only highlights the trial until December 2013. This trial will continue until sowing 2014.

## BACKGROUND

Long (18 month) fallows contribute up to 30% of the cropping area in the western region of southern NSW.

They minimise risk of crop failure by conserving soil moisture, minimising root diseases and allowing effective weed control.

With an increased presence of fleabane and sow thistle there is the need for some residual control of weeds at the commencement of the fallow. This residual control must not limit the rotation, especially if the season turns wet and the grower decides to sow the intended fallow into crop. It must also provide as close to 100% weed control, as any survivors grow prolifically in fallows and produce large numbers of viable seed (right).

The use of the herbicide Terbyne®, is thought to be well suited to this situation, as its safety on common crops that follow a fallow is acceptable.

## TRIAL DETAILS

A trial was established in July 2013 at David Heath's, Griffith, in conjunction with Sipcam. The soil type was a red sandy loam soil with a 0-10cm soil

pH of 5.5 CaCl<sub>2</sub>.

The aim of the trial was to evaluate the residual effectiveness of weed control of Terbyne®, at the commencement of a long fallow, compared to other industry standards with known residual benefits. This was also compared to the paddock surrounding the trial that was treated with various knockdown herbicides.







The trial consisted of eight treatments with no replication. Plots were 12m x 200m. Treatments included:

- 1) Terbyne® (1kg) + Glyphosate + Ammonium sulphate
- 2) Terbyne® (1.4kg) + Glyphosate + Ammonium sulphate
- 3) Diuron 900 (1kg) + Glyphosate + Ammonium sulphate
- 4) Lontrel™ 750 (120g) + Glyphosate
- 5) Flame® (150mL) + Glyphosate
- 6) Glyphosate + Ammonium sulphate
- 7) Terbyne® (1kg) + Balance® (80g) + Glyphosate + Ammonium sulphate
- 8) Terbyne® (1kg) + Flame® (150mL) + Glyphosate

+ Ammonium sulphate

The herbicides were boomsprayed on 6th July at 12pm with 80 L/ha water rate and with 11002 flat fan nozzles.

Environmental conditions at spraying were 18°C temperature, 75% humidity, 15 km/hr winds from the SW and 50% cloud cover.

IT IS IMPORTANT TO NOTE THAT FLAME IS NOT REGISTERED FOR USE IN FALLOWS IN SNSW, AND THIS TRIAL IS NOT PROVIDING ANY RECOMMENDATIONS FOR OFF LABEL PRACTICES.



## RESULTS AND DISCUSSION

Weed germination in plots was variable throughout each plot, but consistent across the trial. A scoring system was used instead of weed counts in order to quantify the level of control for each treatment. Fleabane did however range from less than 1 plant/m<sup>2</sup> to up to 15 plants/m<sup>2</sup>.

Table 1 shows the fallow weed control scores, which were taken on 26th November 2013.

This trial highlights the weed control value that residual herbicides can have in long fallows, and their potential economic benefit over knockdown strategies alone (table 2). They obviously also allow less passes over a paddock, which lightens labour requirements.

In this trial it was evident that there were standout herbicides that provided superior control of fallow weeds, particularly fleabane and common heliotrope. This is important, as a residual herbicide is not that useful if it only partially controls weeds. When partial control occurs it still warrants expensive knockdown spraying, and as such the residual spray had little or no economic benefit.

The standout treatment in this trial was a mixture of Terbyne and Flame. This treatment gave 100% weed control.

A close second was the Terbyne and Balance mixture. The only weeds growing through this treatment was the odd fleabane and heliotrope.

Next was Terbyne at 1.4kg/ha and 1kg/ha. It was evident that there was a definite advantage of applying the higher rate of Terbyne in this trial. Both rates provided adequate control of fleabane, however at the lighter rate weeds like heliotrope were getting through.

Next were the two separate treatments of Lontrel and Flame. Lontrel provided reasonable control of fleabane, however very little heliotrope control. There were however fleabane escapes in this treatment. Flame provided good control of heliotrope, but only marginal control of fleabane.

Diuron provided little or no control of fleabane in this trial. This is unexpected, and may be due to the product settling in the container during spraying, as one half of the plot was cleaner than the other. This highlights how diuron does not mix as well with water as other products, and requires constant agitation.

It should be noted that the inclusion of Flame in this trial is off label for NSW. By using Flame in this situation, the possibility to sow the paddock to crops other than imi tolerant crops is limited. Whilst Terbyne and Flame provided the best control, it must be noted the effect that Flame may have on these sandy soil types for following crops.

Table 1: Fallow weed control scores, taken 26th November 2013 (143 days after spraying).

TREATMENT	Weed Control Score 0 to 10 (10 = full weed control)
1. Terbyne® (1kg) + Glyphosate + Ammonium sulphate	8
2. Terbyne® (1.4kg) + Glyphosate + Ammonium sulphate	8.5
3. Diuron 900 (1kg) + Glyphosate + Ammonium sulphate	2.5
4. Lontrel™ 750 (120g) + Glyphosate	6
5. Flame® (150mL) + Glyphosate	6
6. Glyphosate + Ammonium sulphate	2.5
7. Terbyne® (1kg) + Balance® (80g) + Glyphosate + Ammonium sulphate	9
8. Terbyne® (1kg) + Flame® (150mL) + Glyphosate + Ammonium sulphate	10



Table 2: Fallow weed control costs for each strategy. Note the paddock strategy gave 100% control of weeds.

Herbicide Strategy	Cost including application (\$/ha)
Paddock strategy (three sprays following commencement of trial)	\$53.43
1 Terbyne (1kg) + Glyphosate + Ammonium sulphate	\$28.50
2 Terbyne (1.4kg) + Glyphosate + Ammonium sulphate	\$35.50
3 Diuron 900 (1kg) + Glyphosate + Ammonium sulphate	\$17.50
4 Lontrel 750 (120g) + Glyphosate	\$17.50
5 Flame (150mL) + Glyphosate	\$16.00
6 Glyphosate + Ammonium sulphate	\$18.50
7 Terbyne (1kg) + Balance (80g) + Glyphosate + Ammonium sulphate	\$57.50
8 Terbyne (1kg) + Flame (150mL) + Glyphosate + Ammonium sulphate	\$36.00
Prices were calculated with Glyphosate 450 @ \$4.50/L, Terbyne @ \$20/kg, Diuron 900 @ \$9/kg, Lontrel 750 @ \$67/kg, Flame @ \$50/L, Balance @ \$370/kg.	
Paddock was sprayed with Roundup, LV Ester and Lontrel on 10th June, Roundup and Amicide on 28th Nov, and Gramoxone 5th December.	
Application calculated at \$3.50/ha	

Figure 1: Terbyne 1.4kg (left) versus Diuron 1kg (right). Taken 26th Nov, 143 DAS.





Figure 2: Diuron 1kg (left) versus Lontrel 750 120g (right). Taken 26th Nov, 143 DAS.



Figure 3: Glyphosate (left) versus Terbyne 1kg + Balance 80g (right). Taken 26th Nov, 143 DAS.



Figure 4: Terbyne 1kg + Balance 80g (left) versus Terbyne 1kg + Flame 150mL (right) vs Nil (far right 1m strip). Taken 26th Nov, 143 DAS.



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