



**SmarterPasture<sup>®</sup>**  
by Bayer

**Bayer CropScience  
Pasture  
Trial results  
Compendium**

**Southern Region**



Bayer CropScience



Italian ryegrass trial after grazing, Warrnambool (2005) Untreated vs Gaucho



Closeup – Untreated vs treated (Warrnambool, 2005)



## Table of Contents

<b>Trial reference</b>	<b>Description</b>	<b>Page number</b>
<b>Gaicho</b>		
	Key messages regarding the Gaicho trials	3
SB022003	To demonstrate the benefits of Gaicho seed treatment on the establishment of various pasture varieties (Bairnsdale, Vic).	4
SB01 2003	To demonstrate the benefits of Gaicho seed treatment on the establishment of various pasture varieties (Warrnambool, Vic).	6
SB10 2004	To demonstrate the benefits of Gaicho seed treatment on the establishment of various pasture varieties (Naracoorte, SA).	8
SB12 2004	To demonstrate the benefits of Gaicho seed treatment on the establishment of various pasture varieties (Naracoorte, SA).	10
SB05 2004	To demonstrate the benefits of Gaicho seed treatment on the establishment of various pasture varieties (Bairnsdale, Vic).	12
SB05 2005	To demonstrate the benefits of Gaicho seed treatment on the establishment of ryegrass (Cape Clear, Vic).	14
SB15 2005	To demonstrate the benefits of Gaicho seed treatment on subterranean clover production (Naracoorte, SA).	16
SB10 2005	To demonstrate the benefits of Gaicho seed treatment on the establishment of various pasture varieties (Bordertown, SA).	18
SB11 2005	To demonstrate the benefits of Gaicho seed treatment on the establishment of various pasture varieties (Naracoorte, SA).	20
<b>Broadleaf herbicides</b>		
	Key messages from broadleaf pasture herbicide trials	23
SB202004	To demonstrate the tolerance of various pasture species to various selective herbicides (Naracoorte, SA)	24
DL01 2005	To demonstrate broadleaf weed control and crop safety of a variety of herbicides in shaftal clover pastures (Bamawm, Vic)	28
DL02 2005	To demonstrate broadleaf weed control and crop safety of a variety of herbicides in shaftal clover pastures (Tennyson, Vic)	30
SB04 2005	To assess the tolerance of various pastures to a selection of herbicides (Naracoorte, SA)	32
SB41 2005	To assess the control of established dock in perennial pastures with various herbicides (Lucindale, SA)	38
<b>Grass herbicides</b>		
	Key messages from grass herbicide trials in pasture	41
SB08 2005	To demonstrate the benefits of Correct for the control of barley grass in perennial pastures (Naracoorte, SA).	42
SB09 2005	To demonstrate the benefits of Correct for the control of barley grass in perennial pastures (Naracoorte, SA).	44
JW01 2005	To investigate Correct and its compatibility with broadleaf herbicide mixes in medic pastures and the subsequent effect on brome and barley grass control (Speed, Vic)	46

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Gaucha insecticidal seed treatment helps you optimise the productivity of your pasture – and your profits, convenience and peace of mind. From the moment of sowing and throughout germination and early growth, Gaucha protects each and every seed and seedling from redlegged earth mites and blue



oat mites. Gaucha reduces your need to spray, so the environment is protected and earthworms and other beneficial species can flourish. As part of the Seedtech System by Bayer, Gaucha is applied professionally and delivered on seed. Just order your Gaucha together with your pasture seed.



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**Bayer CropScience**

## **Key messages from the Gaucho pasture trial program.**

- ➔ Gaucho<sup>®</sup> seed treatment consistently improved seedling establishment of lucerne, clover and herb (plantain and chicory) pasture species.
- ➔ Gaucho seed treatment improved seedling establishment of Italian ryegrass pastures.
- ➔ Gaucho has improved the establishment of pasture species in the absence of insect pests like redlegged earth mites.
- ➔ Improved seedling establishment of broadleaf and grass pasture species, resulted in increases in yield prior to grazing.

**Trial Number:** SB022003  
**Title:** To demonstrate the benefits of Gaucho® seed treatment on the establishment of various pasture varieties.  
**Conducted By:** Kelly Burke  
**Agronomist:** Brian Fairhall, Landmark Bairnsdale

#### **SITE**

Locality:	Bairnsdale, Vic
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#### **PRODUCTS**

Product	Active Ingredient (g a.i.)
Gaucho	600 g/L imidacloprid

#### **TARGET**

	Common Name	Infestation Level
<i>Halotydeus destructor</i>	Redlegged earth mite	4000 – 6000 per m <sup>2</sup>
<i>Penthaleus major</i>	Blue oat mite	Not present

#### **CROP**

Crop	Variety	Sowing Rate
Arrowleaf clover	Common	18 kg/ha
Rape/Herb mix	Winfred/ Tonic/ Grouse	12 kg/ha
Balansa clover	Paradana	8 kg/ha

#### **TRIAL LAYOUT & APPLICATION**

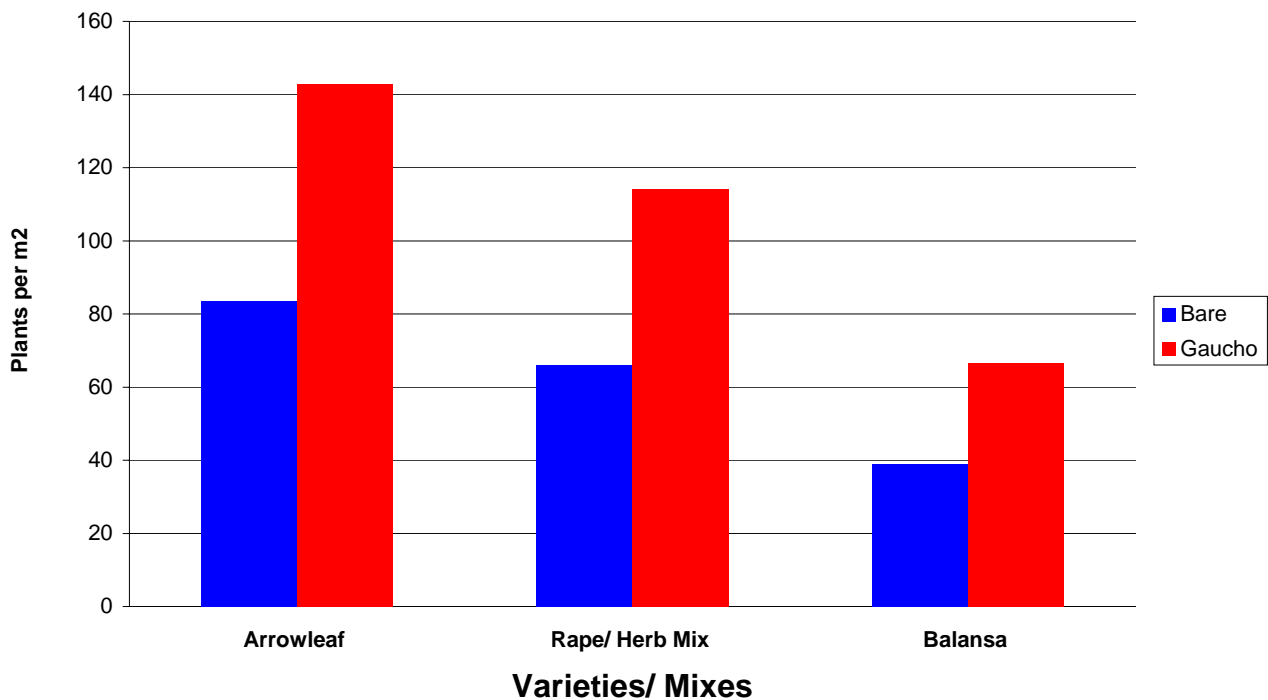
<b>Application Method</b>	Sowing	<b>No. of Replicates</b>	1
<b>Equipment</b>	Conventional drill	<b>Plot Size</b>	20 m x 40 m

#### **ASSESSMENTS**

Assessment Type	Assessment Method	Assessment Date
Plant establishment	Counts	28/04/03



### Gaucha Trial, Bairnsdale Vic.



#### **Extension Comment:**

This site didn't have a great season with a good early rain, but then small amounts for the rest of the season. It was interesting to see the benefits that Gaucha offered over and above the protection against RLEM. The difference between the bare seed and Gaucha treated in terms of plant numbers was very noticeable. It was interesting to see during flowering the treated areas showed many more flower heads as well as more plant growth.

This trial showed that there is more to Gaucha than just protection against RLEM when looking at pasture production such as the positive benefits of plant establishment when these pests are managed.

#### **Agronomist Comment:**

This trial was my first exposure to Gaucha seed treatment and it was of great interest to me as we have been fighting RLEM for many years with mixed results. It was also of interest as it is a new concept for the grazier for controlling RLEM.

The site was ideal as RLEM were present and in very large numbers and the differences between the bare seed and the Gaucha treated seed was very noticeable. There were RLEM present in the Gaucha treated plots, but the damage was very minimal and the actual plants were healthy and growing faster than the bare seed plots. In the rape & herb mix bare plot, there wasn't any chicory present and very low numbers of plantain.

The differences continued throughout the season, even though the season was difficult for pasture growth and it was more noticeable at the end of the season when the clover species were flowering.

I have since found out that RLEM are attracted to the herb varieties more so than clovers, this highlighted to me that it is very important to have herbs treated with Gaucha in the future.

**Trial Number:** SB012003  
**Title:** Demonstrate the benefits of Gaucho® seed treatment on establishment of pasture varieties.  
**Conducted By:** Kelly Burke

#### **SITE**

Locality:	Warrnambool, Vic.
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#### **PRODUCTS**

Product	Active Ingredient (g a.i.)
Gaucho	600 g/L imidacloprid

#### **TARGET**

	Common Name	Infestation Level
<i>Halotydeus destructor</i>	Redlegged earth mite	Not present
<i>Penthaleus major</i>	Blue oat mite	Not present

#### **CROP**

Crop	Varieties
Mixed pasture	Grazemore mix
Mixed pasture	Milkmaster mix
Mixed pasture	Pinnacle mix
Mixed pasture	Wintergrow mix

#### **TRIAL LAYOUT & APPLICATION**

<b>Application Method</b>	Disc drill	<b>No. of Replicates</b>	1
<b>Equipment</b>	Farmer equipment	<b>Plot Size</b>	20 m x 80 m

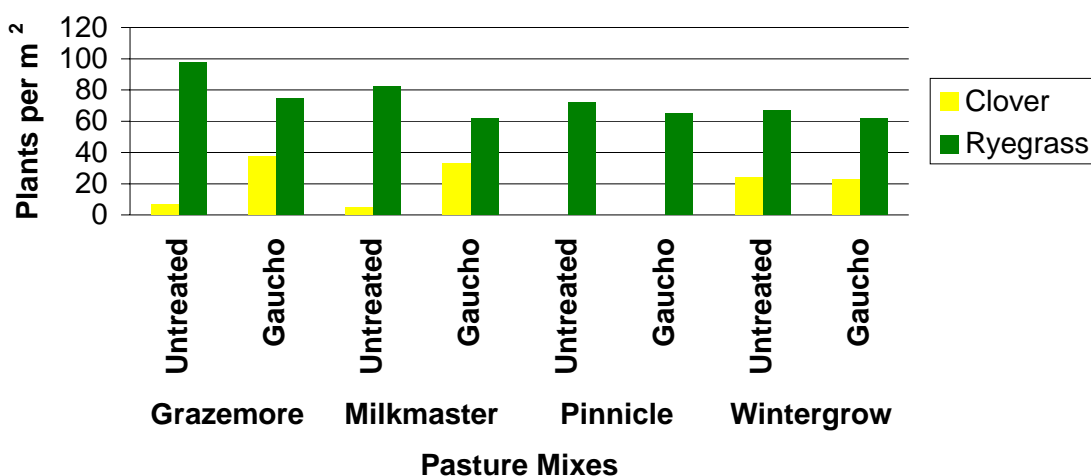
#### **ASSESSMENTS**

Assessment Type	Assessment Method	Assessment Date
Plant establishment	Pasture square	29/5/03
Dry matter	Pasture probe	8/7/03, 13/8/03, 8/9/03

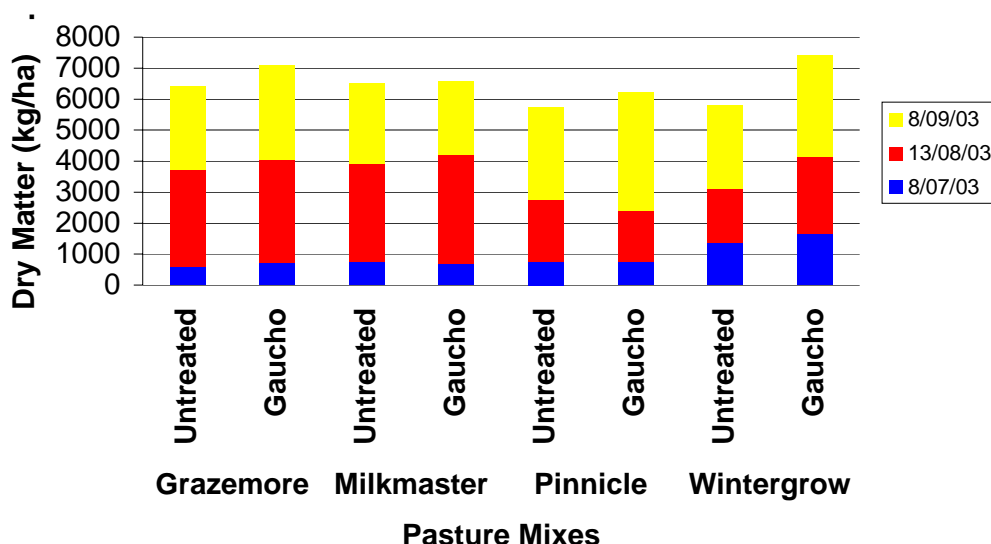


## Gaicho On Various Pasture Varieties Warrnambool, Vic.

**Clover & Ryegrass Composition**



**Dry Matter Yields**



### Extension Comment:

The site was on a dairy farm near Allansford and clearly showed the benefits of Gaicho, especially on the clover varieties. The results from dry matter measurements before each grazing also showed positive results.

The site was utilized as part of the rotation, so it was grazed using the milking herd and dry matter measurements were taken before each grazing period. This gave an accurate indication of not only the difference in dry matter yields, but also what was available for the cows at each grazing.

**Trial Number:** SB102004  
**Title:** To demonstrate the benefits of Gaucho® seed treatment on the establishment of various pasture varieties.  
**Conducted By:** Kelly Burke

#### SITE

Locality:	Naracoorte, SA
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#### PRODUCTS

Product	Active Ingredient (g a.i.)
Gaucho	600 g/L imidacloprid

#### TARGET

	Common Name	Infestation Level
<i>Halotydeus destructor</i>	Redlegged earth mite	100-200 m <sup>2</sup>
<i>Penthaleus major</i>	Blue oat mite	Not present

#### CROP

Crop	Variety	Sowing Rate
White clover	Prestige	5 kg/ha
Sub clover	Urana	10 kg/ha
Berseem clover		10 kg/ha
Shaftal clover		10 kg/ha
Tall fescue	Advance	30 kg/ha
Arrowleaf clover	Zulu	10 kg/ha
Sub clover	Riverina	10 kg/ha
Plantain	Tonic	10 kg/ha
Persian clover	Hard seeded	10 kg/ha
White clover	Hiafa	5 kg/ha
Sub clover	Leura	10 kg/ha
Chicory	Grouse	5 kg/ha
Red clover	Colenso	10 kg/ha
Balansa clover	Paradana	10 kg/ha

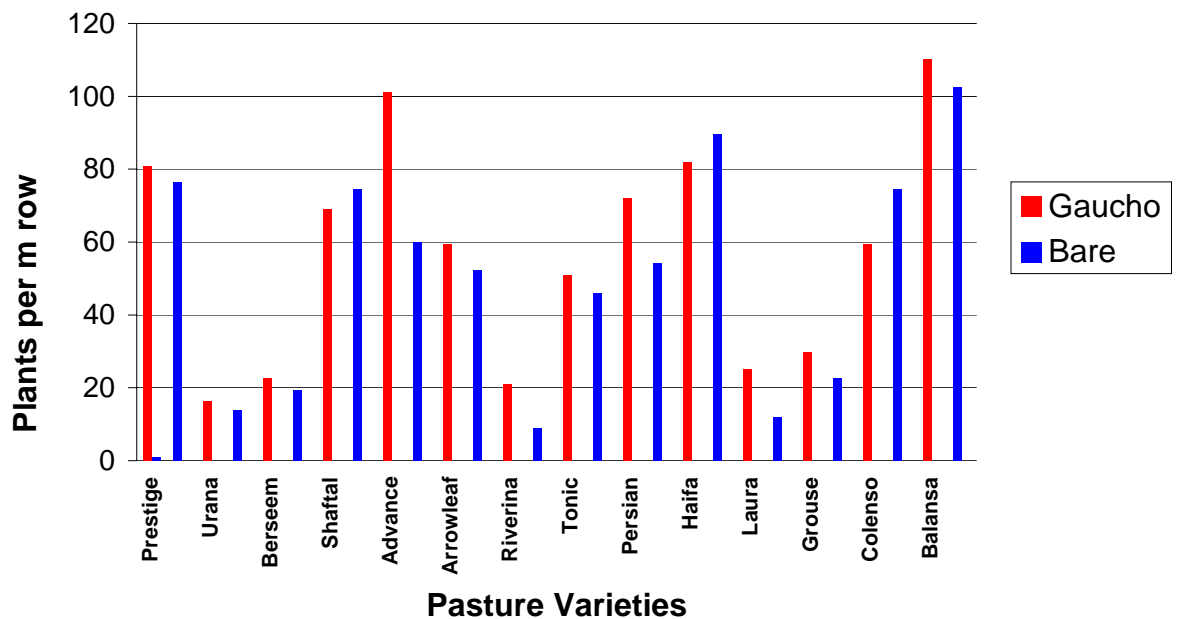
#### TRIAL LAYOUT & APPLICATION

<b>Application Method</b>	Traditional preparation before sowing	<b>No. of replicates</b>	1
<b>Equipment</b>	Seed spider & ATV	<b>Plot Size</b>	1.6 m x 50 m

#### ASSESSMENTS

Assessment Type	Assessment Method	Assessment Date
Plant establishment	counts	21/7/2004

## Gaicho demo trial, Naracoorte SA



### Extension Comment:

This trial was sown later than would be considered ideal, but it still indicates that for most varieties the Gaicho treatment was beneficial. Dry matter yields were not collected because the weed population was high. RLEM populations didn't reach damaging levels until 11 weeks after sowing and by this time the Gaicho benefit would be minimal and no effect on RLEM would be expected. This shows Gaicho having a positive effect on plant establishment, by controlling establishment pests.



The above picture is demonstrating the difference between the root systems of a bare seed vs a Gaicho treated seed.



**Trial Number:** SB122004  
**Title:** To demonstrate the benefits of Gaucho® seed treatment on the establishment of various pasture varieties.  
**Conducted By:** Kelly Burke  
**Agronomist:**

#### SITE

Locality:	Naracoorte, SA
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#### PRODUCTS

Product	Active Ingredient (g a.i.)
Gaucho	600 g/L imidacloprid

#### TARGET

	Common Name	Infestation Level
<i>Halotydeus destructor</i>	Redlegged earth mite	50 – 150 m <sup>2</sup>
<i>Penthaleus major</i>	Blue oat mite	Not present

#### CROP

Crop	Variety	Sowing Rate
Plantain	Tonic	10 kg/ha
Chicory	Choice	5 kg/ha
Chicory	Chico	5 kg/ha
Chicory	Puna	5 kg/ha
Lucerne	Genesis	15 kg/ha
Lucerne	Flairdale	15 kg/ha
Lucerne	Stamina GT	15 kg/ha

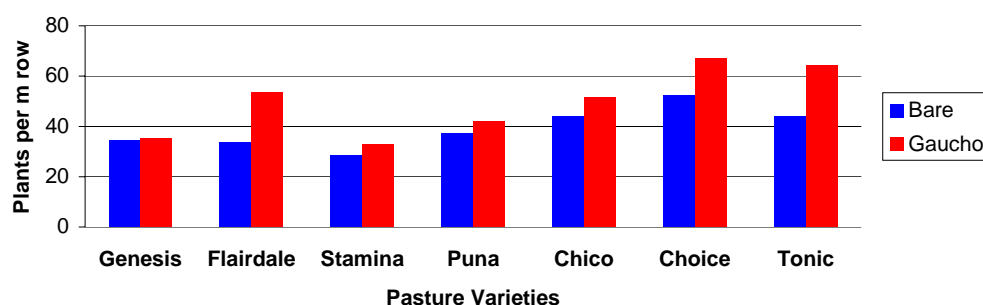
#### TRIAL LAYOUT & APPLICATION

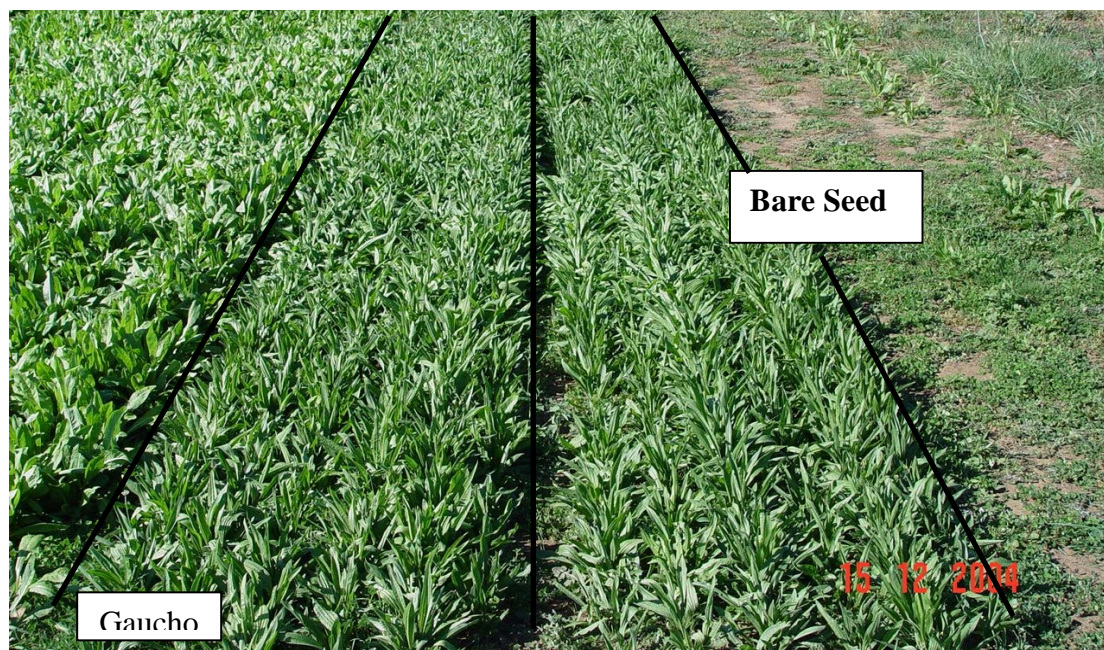
<b>Application Method</b>	Traditional preparation before sowing	<b>No. of Replicates</b>	1
<b>Equipment</b>	Seed spider & ATV	<b>Plot Size</b>	0.8 m x 20 m

#### ASSESSMENTS

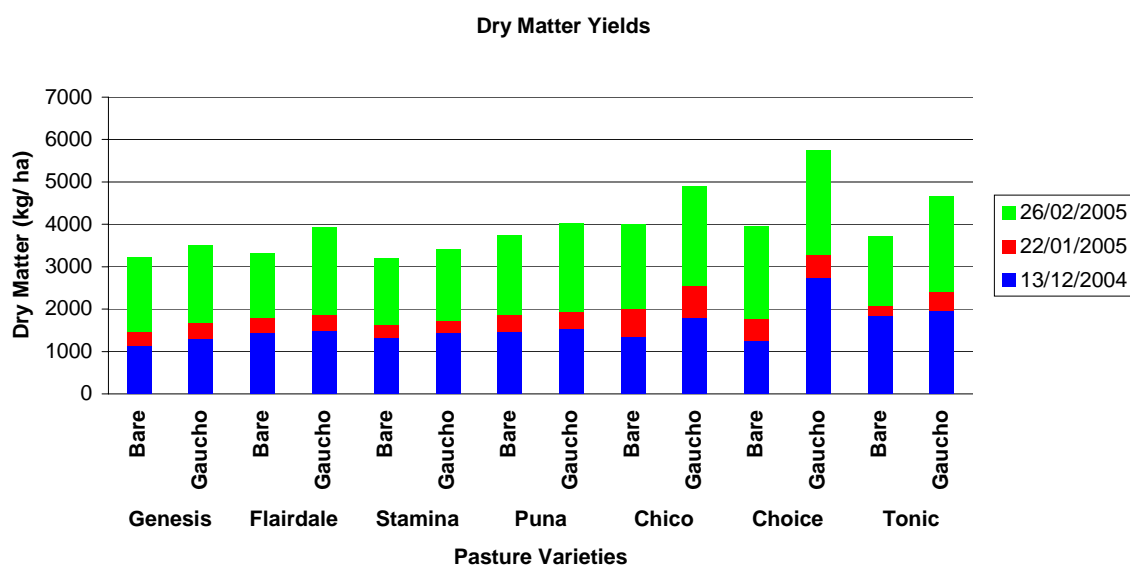
Assessment Type	Assessment Method	Assessment Date
Plant establishment	Pasture square	4/11/2004
Dry matter yields	Pasture probe	13/12/04, 22/1/05, 26/2/05

Gaucho demo trial, Naracoorte SA





This photo shows Tonic plantain prior to grazing.



### Extension Comment:

This trial highlights the benefits of treating herbs with Gaucho even with low RLEM numbers. The dry matter yields show major differences between Gaucho and the untreated which to a grazer ultimately means more money.

The second yield was very poor due to low rainfall and warm conditions and no irrigation was applied for the period of the dry matter yielding. Irrigation was applied 2 days after sowing due to extreme temperatures and wind. The third yield was a direct result of 33 mm of rain over a 3-week period.

**Trial Number:** SB052004  
**Title:** To demonstrate the benefits of Gaucho® seed treatment on establishment of various pasture varieties.

**Conducted By:** Kelly Burke  
**Agronomist:** Simon Hunt, Stephen Pasture Seeds

#### **SITE**

Locality:	Bairnsdale, Vic.
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#### **PRODUCTS**

Product	Active Ingredient (g a.i.)
Gaucho	600 g/L imidacloprid

#### **TARGET**

	Common Name	Infestation Level
<i>Halotydeus destructor</i>	Redlegged earth mite	500 – 1000 per m <sup>2</sup>
<i>Penthaleus major</i>	Blue oat mite	Not Present

#### **CROP**

Crop	Variety	Sowing Rate
Hay Maker 700	Various clovers & grasses	20 kg/ha
Hay Maker 400	Various clovers & grasses	20 kg/ha
Persian clover	Hard seeded	10 kg/ha

#### **TRIAL LAYOUT & APPLICATION**

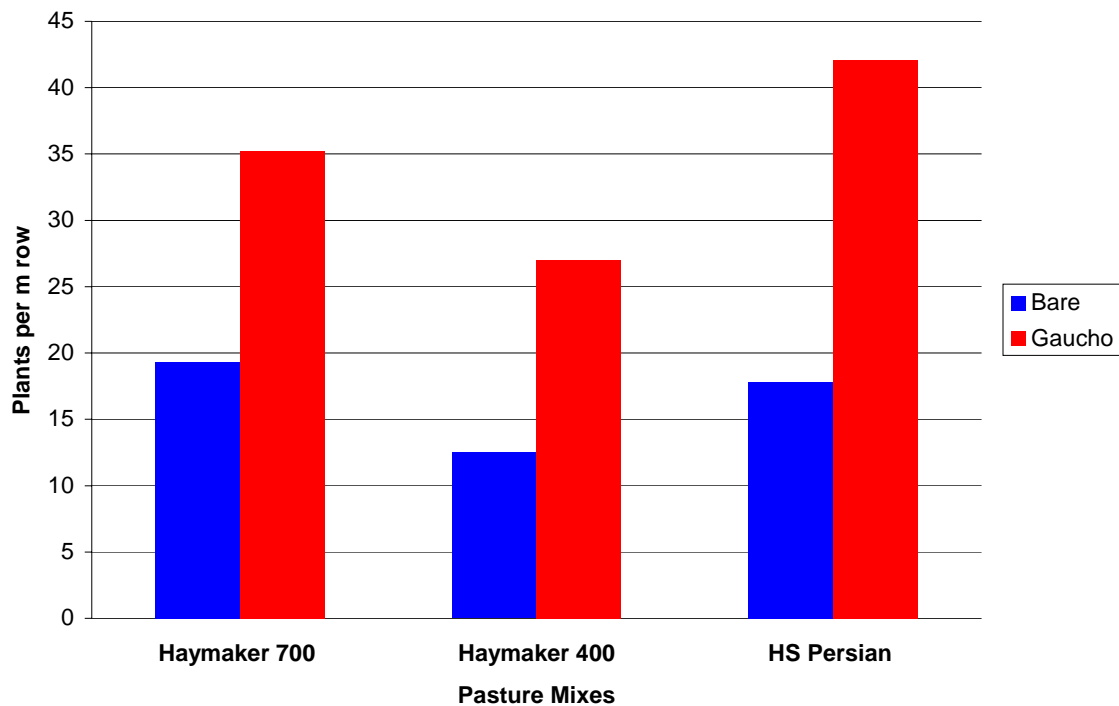
<b>Application Method</b>	Sowing	<b>No. of Replicates</b>	1
<b>Equipment</b>	14 row drill	<b>Plot Size</b>	10 m x 50 m

#### **ASSESSMENTS**

Assessment Type	Assessment Method	Assessment Date
Plant establishment	Counts	21/07/04



### Gaucha demo trial, Bairnsdale Vic.



#### Extension Comment:

This trial showed clearly why Gaucha should be applied to pasture varieties that are susceptible to RLEM damage. The population of RLEM at this site was low but still resulted in seedling damage and reduced plant numbers in the bare seed plots. This site didn't receive an application of an insecticide, which in a commercial situation would have been required.

All plots showed the differences of clover content throughout the season.

#### Agronomist Comment:

The clover in the bare seed plots showed a duller green colour early in the season, but once the RLEM numbers diminished during the colder period, these plants picked up and looked good coming into the spring.

The Gaucha treated clover always was a greener colour and at the earlier growth stages, seemed to be more advanced. RLEM numbers were not over the top, but enough to do some damage and in hindsight, an insecticide should have been applied.

This trial was good to show growers why they should be having Gaucha applied to their pasture seed, especially the clover portion of the mix.

**Trial Number:** SB052005  
**Title:** To demonstrate the benefit of Gaucho® seed treatment on the establishment of pasture ryegrass.  
**Conducted By:** Kelly Burke, Bayer CropScience  
**Agronomist:** Karl Drever (Stevens Pasture Seed)

#### SITE

Locality: Cape Clear, Vic.

#### PRODUCTS

Product	Active Ingredient (g a.i)
Gaucho	600 g/L imidacloprid

#### TARGET

Latin name	Common Name	Infestation Level
<i>Halotydeus destructor</i>	Redlegged earth mite	20 – 50 per m <sup>2</sup>

#### CROP

Crop	Variety	Sowing Date
Italian ryegrass	Crusader	Sown 9/9/05 @ 25 kg/ha

#### TRIAL LAYOUT & APPLICATION

Application Method	Seed treatment	No. of Replicates	1
Equipment	ATV and seed spider	Plot Size	150 x 60 m

#### ASSESSMENTS

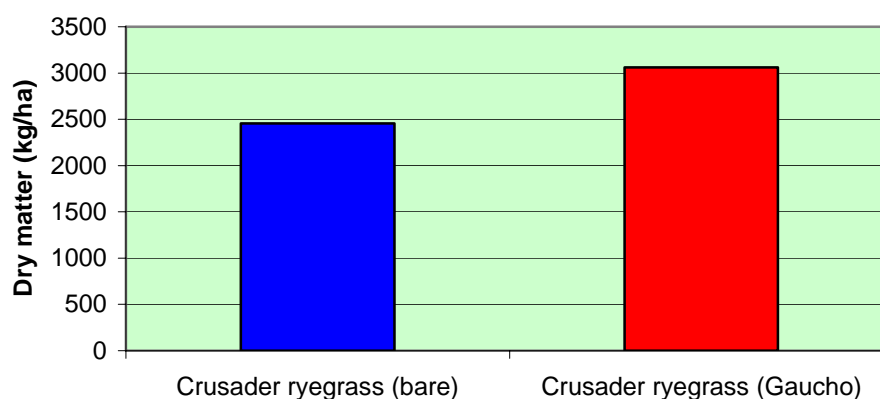
Assessment Type	Assessment Method	Assessment Date
Emergence	Counts per metre row	27 DAS (days after sowing)
Dry Matter	Pasture probe prior to grazing or cutting	74 DAS
Pest count	Counts per m <sup>2</sup>	27 DAS

#### Results:

<b>Results:</b>	<b>Emergence</b>	<b>Pest Counts</b>	<b>Dry Matter</b>
<b>Date:</b>	6/10/05	6/10/05	23/11/05
<b>Days after seeding:</b>	27 DAS	27 DAS	74DAS
<b>Assessment Method:</b>	Count per m row	(Av of 15 counts)	kg/ha
<b>Treatment: (rate/ha)</b>	(Av of 15)		(Av of 50 samples)
1 Crusader ryegrass (Gaucho)	74	16	3062
2 Crusader ryegrass (bare)	67.6	4	2454

Note: RLEM attacked from the edge of the Gaucho treated ryegrass, thus resulting in a higher average compared to the untreated control.

## Dry matter production: untreated vs treated

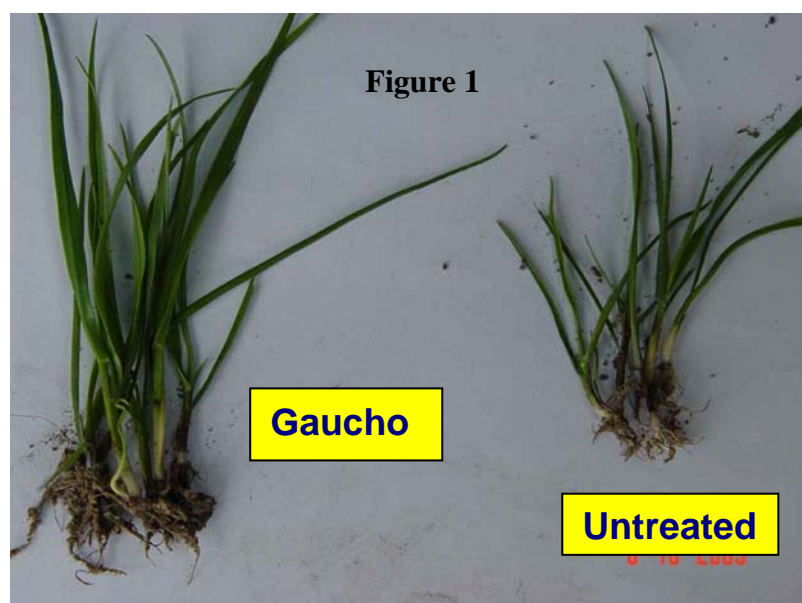


### Comments:

The ryegrasses germinated and established well with both plots having excellent vigour and very low levels of insect damage which all contribute to the high level of crop establishment.

The plant numbers between the untreated and the Gaucho treated were in favour of the Gaucho treatment, but the difference wouldn't be considered significant. However, there did seem to be a slight difference in growth stage between the untreated and the Gaucho treated. The Gaucho treated ryegrass was on average one growth stage ahead of the untreated (See figure 1).

The growth stage differences can be seen in Figure 1. The other noticeable difference between the plants is the root system. The Gaucho treated ryegrass on the left clearly has a greater root mass than the untreated ryegrass on the right, demonstrating the benefit of good establishment.



The dry matter yields were taken 74 days after sowing and just before grazing the trial area. Gaucho treated ryegrass recorded 3062 kg/ha of dry matter while the untreated ryegrass plot recorded 2454 kg/ha of dry matter. This correlates to a 25% increase compared to the untreated, which is a considerable difference in dry matter.

The reason for the difference between the two treatments is due to the improvement in plant numbers, the difference

in growth stage and the improved root mass in the Gaucho treatment. The Gaucho treated ryegrass had greater bulk and was taller compared to the untreated ryegrass. This is shown in the Figure 1 which was taken 26 days after the stock initially grazed the trial area.

**Agronomist comment:** Karl Drever: "Not only was there better vigour at establishment with the Gaucho treated Crusader Ryegrass, but what surprised me was the extra growth we saw in the regrowth after grazing".



**Trial Number:** SB152005  
**Title:** To demonstrate the benefit of Gaucho® seed treatment on subterranean clover production.  
**Conducted By:** Kelly Burke, Bayer CropScience

#### SITE

Locality: Kenny Road, Naracoorte, SA.

#### PRODUCTS

Product	Active Ingredient (g a.i)
Gaucho	600 g/L imidacloprid

#### TARGET

Latin name	Common Name	Infestation Level
<i>Halotydeus destructor</i>	Redlegged earth mite	200 – 300 per m <sup>2</sup>

#### CROP

Crop	Variety	Sowing Date and Rate
Clover	Subterranean	4/7/05 @ 5 kg/ha

#### TRIAL LAYOUT & APPLICATION

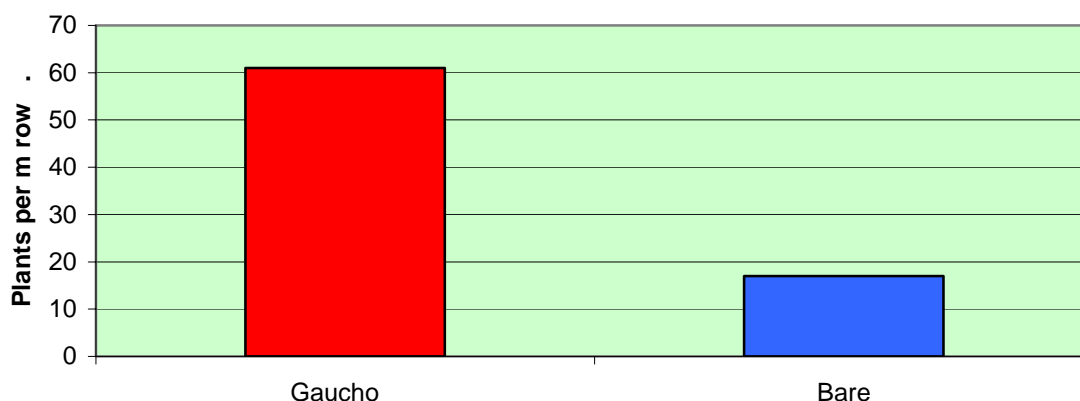
Application Method	Seed treatment	No. of replicates	1
Equipment	ATV and seed spider	Plot Size	3.2 x 40 m

#### ASSESSMENTS

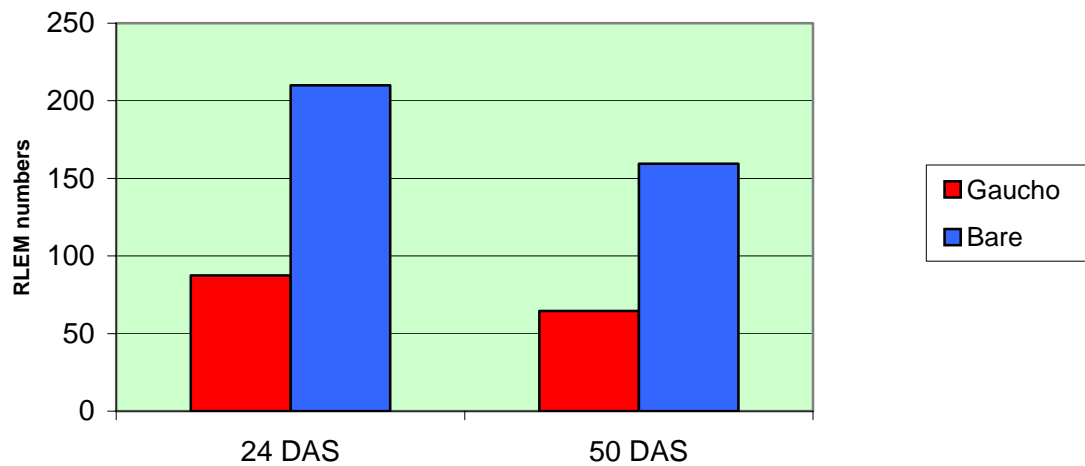
Assessment Type	Assessment Method	Assessment Date
Emergence	Count per metre row	24 DAS (days after sowing)
Pest count	Counts per m <sup>2</sup>	24 DAS, 50 DAS

#### RESULTS:

##### Clover establishment: treated vs untreated



### Effect of Gaucho on RLEM numbers



#### COMMENTS:

Redlegged earth mite numbers were at moderate levels at this site, which caused a high level of seedling damage as well as seedling death in both the untreated and the Gaucho plots. The increase in plant establishment that resulted with the Gaucho seed treatment highlights the benefits of using Gaucho.

The seed treatment Gaucho is designed to be part of an overall redlegged earth mite management strategy. The reduction in average mite numbers from the bare seed (210 and 160) to the Gaucho treated seed (87 and 64) support the use of Gaucho to improve plant establishment and protect young seedlings from pests like RLEM.



**Trial Number:** SB102005  
**Title:** To demonstrate the benefit of Gaucho® seed treatment on the establishment of various pasture species.  
**Conducted By:** Kelly Burke, Bayer CropScience

#### SITE

Locality: Bordertown, SA.

#### PRODUCTS

Product	Active Ingredient (g a.i)
Gaucho	600 g/L imidacloprid

#### TARGET

Latin name	Common Name	Infestation Level
<i>Halotydeus destructor</i>	Redlegged earth mite	20 – 50 per m <sup>2</sup>

#### CROP

Crop	Variety	Sowing Date and Rate
Lucerne	Stamina GT and Flairdale	22/9/05 @ 5 kg/ha
Chicory	Chico	22/9/05 @ 10 kg/ha
Plantain	Tonic	22/9/05 @ 5 kg/ha

#### TRIAL LAYOUT & APPLICATION

Application Method	Seed treatment	No. of replicates	1
Equipment	ATV and seed spider	Plot Size	1.6 x 20 m

#### ASSESSMENTS

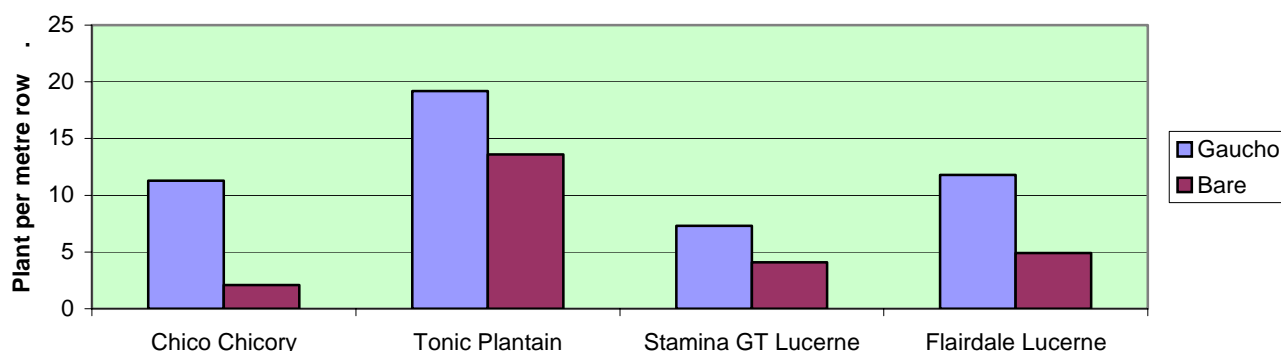
Assessment Type	Assessment Method	Assessment Date
Emergence	Count	21 DAS (per metre row)
Pest count	Counts per m <sup>2</sup>	21 DAS, 35 DAS



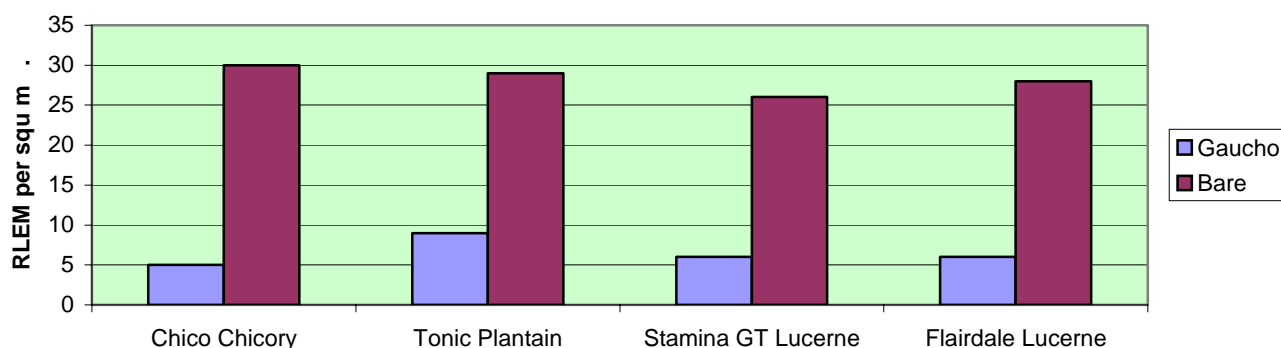


## RESULTS:

**Emergence at 21 DAS: treated vs untreated**



**Count of RLEM: treated vs untreated**



## COMMENTS:

This trial demonstrates the damage that redlegged earth mite are capable of doing, even when present at low numbers and the effect that this has on plant establishment.

Plant numbers varied between the plots due to different sowing rates, but the obvious difference was between the untreated and the Gaucho treated seed. The Chico chicory showed the greatest difference with 11.3 plants in the Gaucho treated area while there were only 2.1 plants in the untreated area. This equates to a 538% improvement in plant establishment and while this was the greatest difference of all of the varieties, all varieties showed improved establishment that would be considered a major benefit from a commercial perspective.

Redlegged earth mite numbers were low due to the farmer applying an insecticide to target the pest approx 10 days before sowing this trial (11/09/05). The earth mite numbers didn't increase over the trial site between pest counts, which could be attributed to the time of the year as well as the timing of the insecticide. However, there was excellent spring rainfall that allowed the redlegged earth mite to continue to forage on green plant material and cause damage within the trial.

**Trial Number:** SB112005  
**Title:** To demonstrate the benefit of Gaucho® seed treatment on the establishment of various pasture species.  
**Conducted By:** Kelly Burke, Bayer CropScience

#### SITE

Locality: Locks Road, Naracoorte, SA.

#### PRODUCTS

Product	Active Ingredient (g a.i)
Gaucho	600 g/L imidacloprid

#### TARGET

Latin name	Common Name	Infestation Level
<i>Halotydeus destructor</i>	Redlegged earth mite	0 - 5 per m <sup>2</sup>

#### CROP

Crop (inc variety)	Treatment	Sowing rate	Sowing date
Plantain (Tonic)	Gaucho	6 kg/ha	23/7/05
Plantain (Tonic)	Bare	6 kg/ha	
Chicory (Puna II)	Gaucho	4 kg/ha	
Chicory (Puna II)	Bare	4 kg/ha	
Chicory (Chico)	Gaucho	8 kg/ha	
Chicory (Chico)	Bare	8 kg/ha	

#### TRIAL LAYOUT & APPLICATION

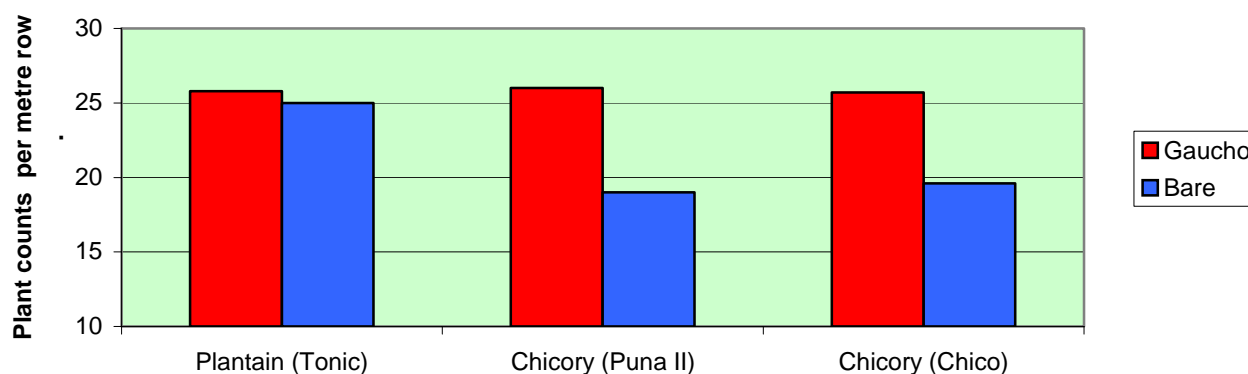
Application Method	Seed treatment	No. of replicates	1
Equipment	ATV and seed spider	Plot Size	1.6 m x 20 m

#### ASSESSMENTS

Assessment Type	Assessment Method	Assessment Date
Emergence	Count (Per metre row)	22 DAS (days after sowing)

#### RESULTS:

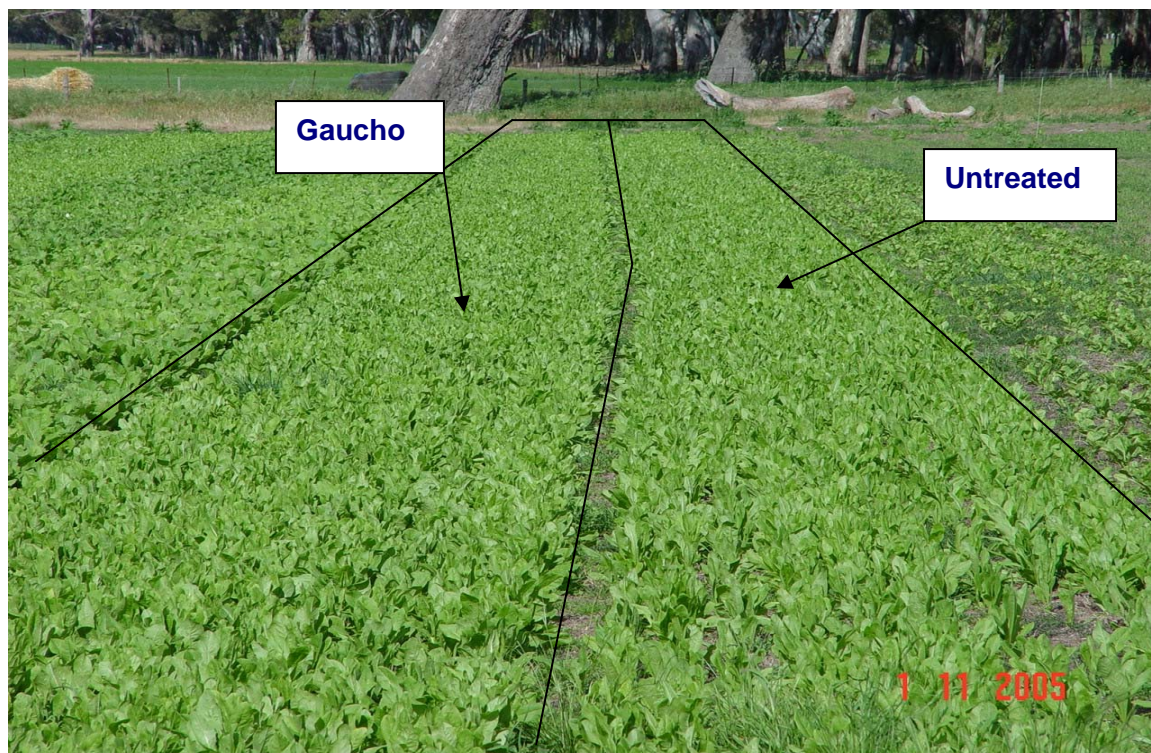
**Plant count 22 DAS treated v untreated**



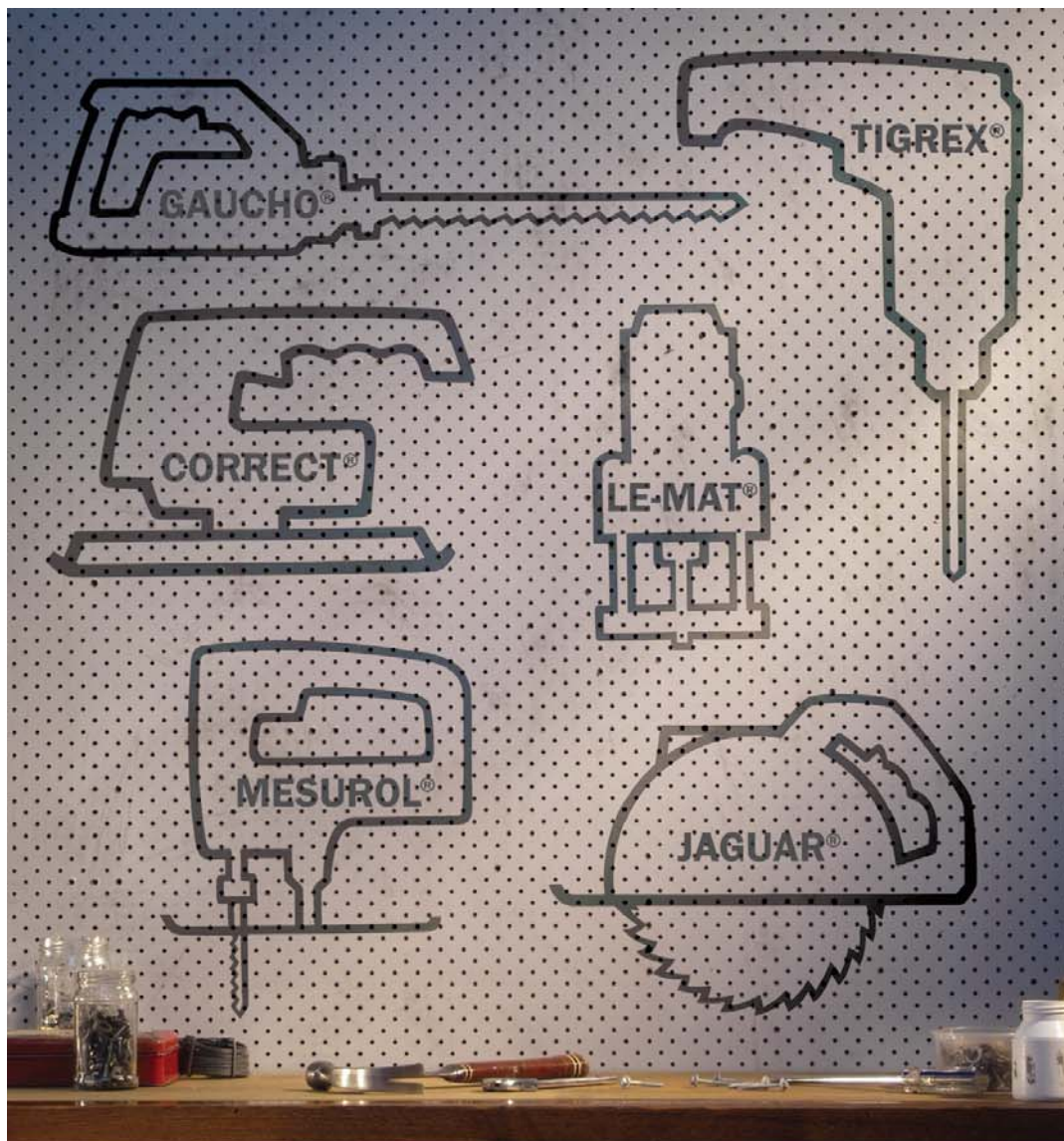
## COMMENTS:

Plant health throughout the trial was good with insufficient levels of redlegged earth mite to cause any damage. The reason for this is that the herbicide knockdown application was mixed with an insecticide to coincide with the farmers Timerite<sup>®</sup> date. This was done before the sowing of the trial, which resulted in excellent control of redlegged earth mite. Thus reducing the effect of the redlegged earth mite.

The seed treatment Gaucho resulted in a 37% and 31% improvement in plant counts at 22 DAS with the Puna II and Chico varieties compared to untreated plots.







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## **Key messages from the 2004 and 2005 trial program.**

- Early season broadleaf weed control allows pasture growth to be optimised by fully utilizing available water and nutrients.
- Achieve best weed control results while weeds are small (young age) and actively growing. This maximises pasture productivity and return on investment.
- Early herbicide application can result in an increased level amount of crop effects with legume pasture species but has NO effect on the growing point. Therefore pasture productivity is not compromised, while removing weed competitors.
- Jaguar and Tigrex are excellent options for the control of capeweed in new or perennial pastures.
- Asulox is the best option to control established dock in perennial pastures.



**Trial Number:** SB202004  
**Title:** To demonstrate the tolerance of various pasture species to various selective herbicides.  
**Conducted By:** Kelly Burke

#### **SITE**

Locality:	Naracoorte, SA
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#### **PRODUCTS**

Product	Active Ingredient	Product Rate / ha
Tigrex	25 g/L diflufenican 250 g/L MCPA	500 mL, 750 mL, 1 L, 2 L
Diuron	500 g/L diuron	300 mL
MCPA LVE	500 g/L MCPA LVE	1L
Jaguar	25 g/L diflufenican 250 g/L bromoxynil	500 mL, 750 mL, 1 L, 2 L
Broadstrike <sup>®</sup> *	800 g/kg flumetsulam	25 g
Raptor <sup>®</sup> **	700 g/kg imazamox	50 g
Buttress <sup>®</sup>	500 g/L 2-4D,B	2 L
MCPA 500	500 g/L MCPA amine salt	1 L

\* Addition of Chemwet<sup>®</sup> 1000 at 100 mL/ 100 L

\*\* Addition of Hasten<sup>®</sup> at 500 mL/ 100 L

#### **CROP**

Crop	Variety	Sowing Rate
White clover	Prestige	5 kg ha
Sub-clover	Urana	10 kg ha
Berseem clover		10 kg ha
Shaftal clover		10 kg ha
Tall fescue	Advance	30 kg ha
Arrowleaf clover	Zulu	10 kg/ ha
Sub-clover	Riverina	10 kg/ ha
Plantain	Tonic	10 kg/ ha
Persian clover	Hard seeded	10 kg/ ha
White clover	Haifa	5 kg/ ha
Sub-clover	Laura	10 kg/ ha
Chicory	Grouse	5 kg/ ha
Red clover	Colenso	10 kg/ ha
Balansa clover	Paradana	10 kg/ ha

#### **TRIAL LAYOUT & APPLICATION**

<b>Application Method:</b>	Spray	<b>No. of replicates:</b>	1
<b>Equipment:</b>	ATV	<b>Plot Size:</b>	1.6 m x 3.5 m
<b>Nozzle (No./ Type):</b>	110 015	<b>Pressure:</b>	3 bar
<b>Speed:</b>	5.5 km/ h	<b>Spray vol:</b>	96 L ha
<b>Sowing Date:</b>	29/6/04		
<b>Application Dates:</b>	17/8/04 (early)	30/9/04 (late)	

## ASSESSMENTS

Assessment Type	Assessment Method	Assessment Date
Visual Rating	Score of 0 - 5	02/12/2004

The rating process was done simply to see any major differences to herbicides and to pasture varieties. The process was done visually and then the grading was done on a scale of 1 – 5:

- 0 – No crop effect
- 1 – Early noticeable effect, but no crop effect
- 2 – Approx 0-25% effect on biomass
- 3 – Approx 26-50% effect on biomass
- 4 – Approx 51-75% effect on biomass
- 5 – Approx 76-100% effect on biomass

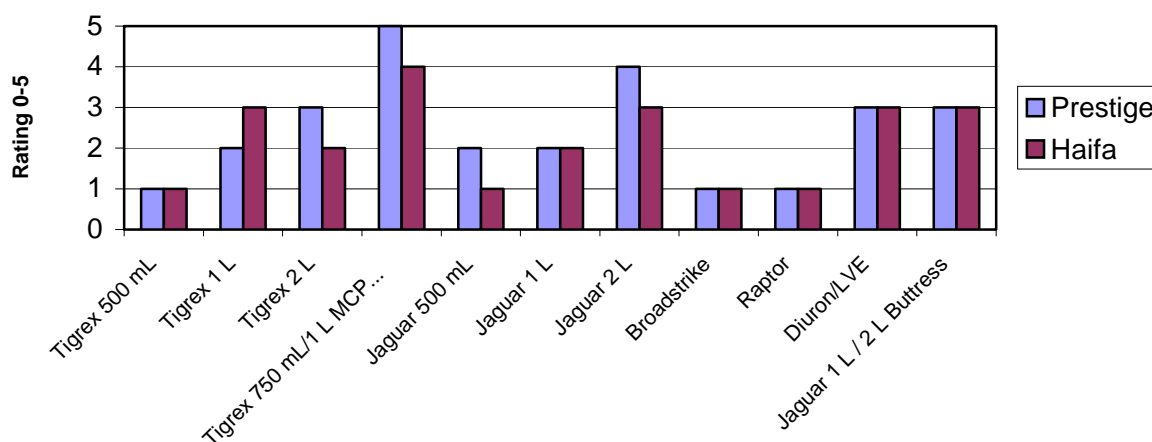
### Comments:

There were two timings of application for this trial. The first application was between 1<sup>st</sup> and 2<sup>nd</sup> trifoliate for the application of Tigrex at 500 mL/ha and Jaguar @ 500 mL/ha. All other applications were applied at a later timing.

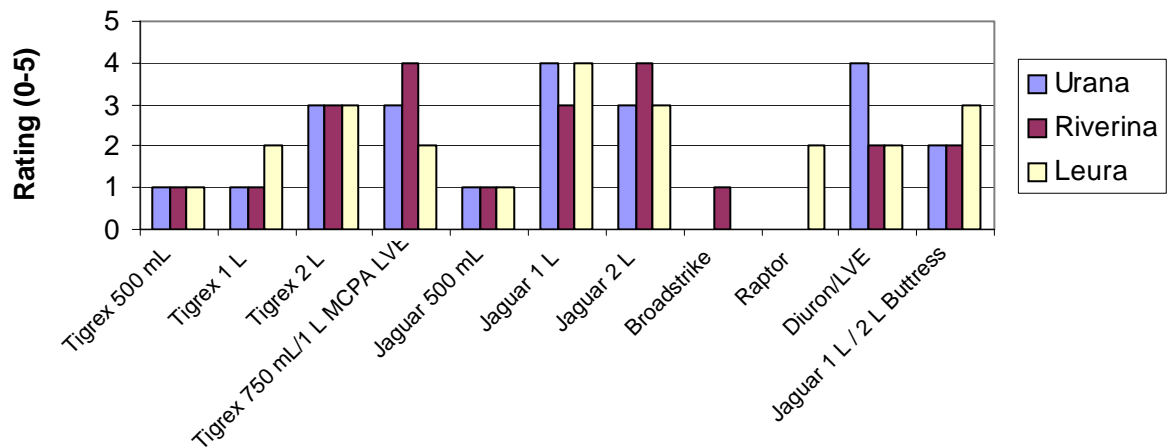
The timing of the second application was later than ideal. Most of the clovers growth stage was between 6 and 12 trifoliate leaves.

### Results:

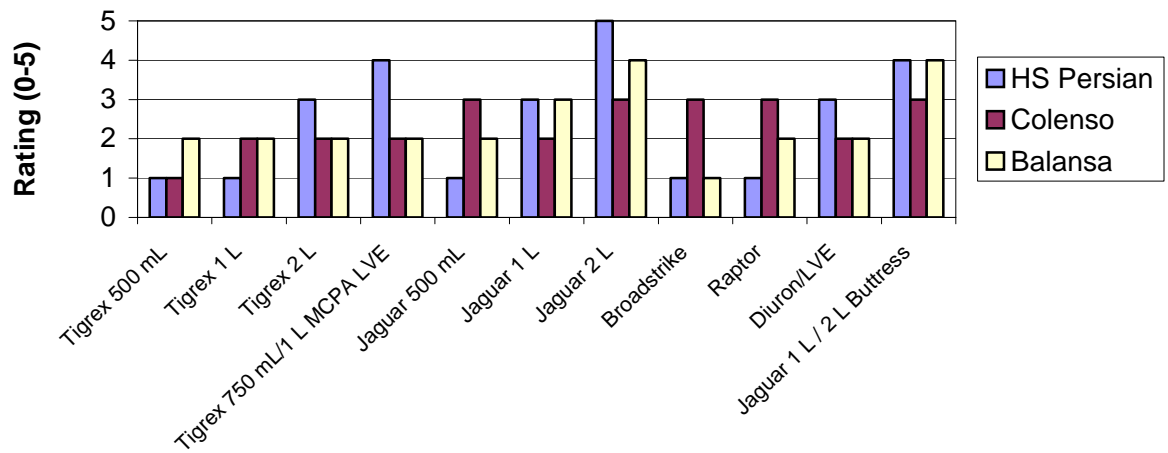
#### Tolerance of white clovers



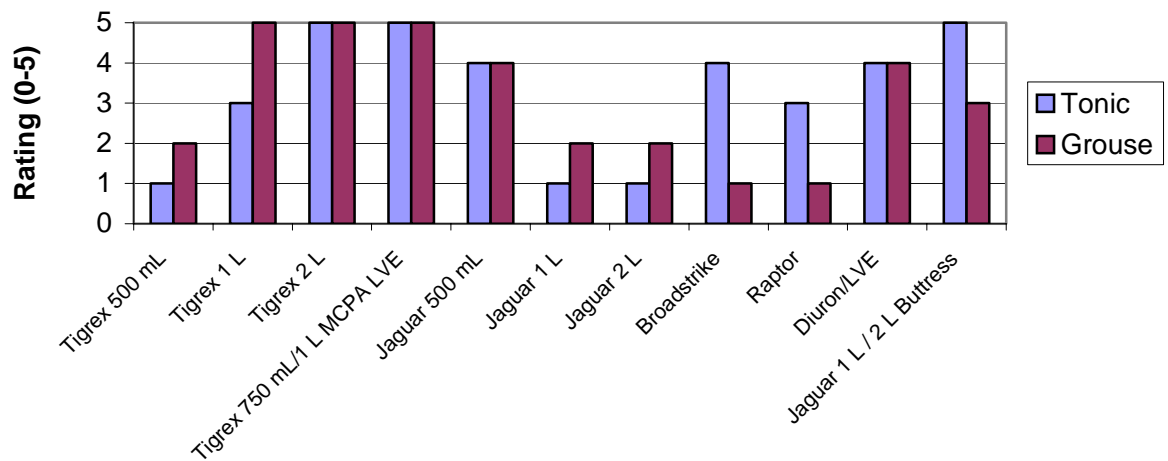
### Tolerance of sub-clovers



### Tolerance of short term clovers



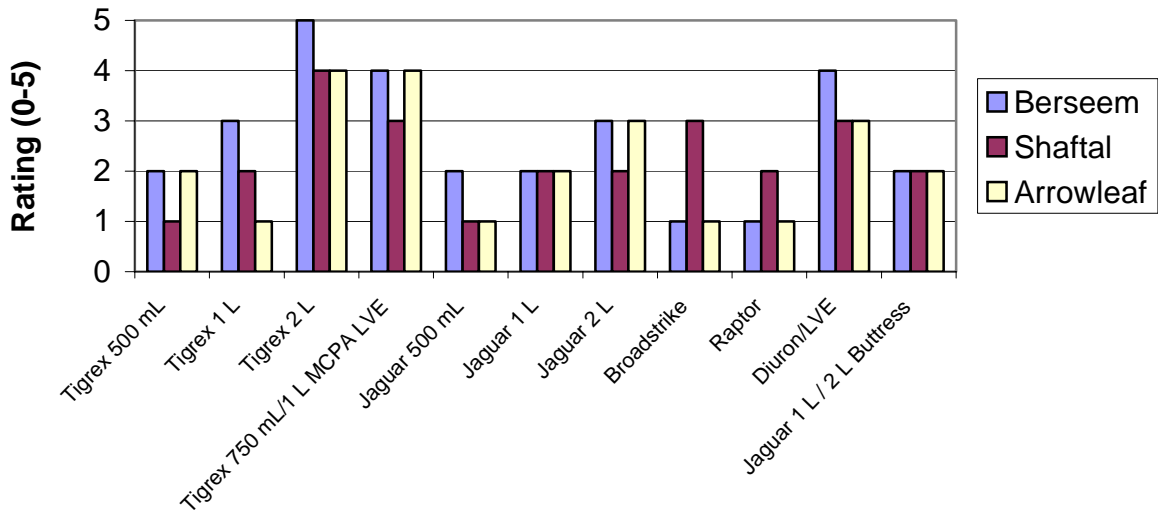
### Tolerance of herbs



Note: Jaguar and Tigrex are not registered for use on herb pastures and therefore cannot be recommended.



## Tolerance of annual clovers



### Comment:

This trial demonstrated that the level of effect that Tigrex at an early application had on the clovers was very minimal. Tonic plantain showed little effect with Tigrex at the low rate, which may need to be explored further.

The tank mixes proved that they can be a little “hot” at times, and when using these mixtures, especially at these rates highlighted that care needs to be taken.

Finally, it was disappointing that application couldn’t have been 3-4 weeks earlier, which would have better reflected optimal application timing but the results still highlight some key points that need to be considered for pasture management.

**Trial Number:** DL012005  
**Title:** To demonstrate broadleaf weed control and crop safety of a variety of herbicides in shaftal clover pastures.  
**Conducted By:** David Lonsdale, Mahony & Lonsdale, Bendigo.

#### SITE

Locality: Bamawm, Victoria
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#### PRODUCTS

Product	Active Ingredient (g a.i)	Product Rate / ha
Tigrex	25 g/L diflufenican 250 g/L MCPA	500 mL, 750 mL, 1 L
Broadstrike	800 g/kg flumetsulam	25 g
2-4 DB	500 g/L 2-4D,B	3 L
MCPA 500	500 g/L MCPA amine salt	700 mL
BS1000		

#### TARGET

Common Name	Latin name	Weed size
Ox-tongue	<i>Pichris echiioides</i>	10-16 leaf up to 20 cm. Diameter
Marshmallow	<i>Malva parviflora</i>	stem elongation, 20-30 cm diameter
Capeweed	<i>Arctotheca calendula</i>	multi-leaf up to 20 cm diameter
Milk thistle	<i>Sonchus</i> spp.	multi leaf up to 25 cm diameter

#### CROP

Crop	Variety	Sowing Rate
Clover pasture	shaftal	Established pasture

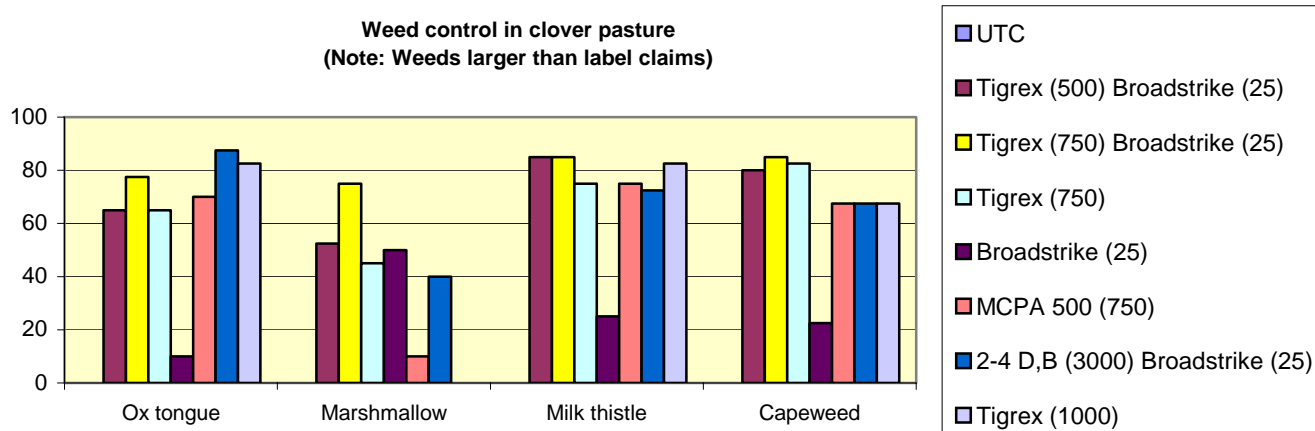
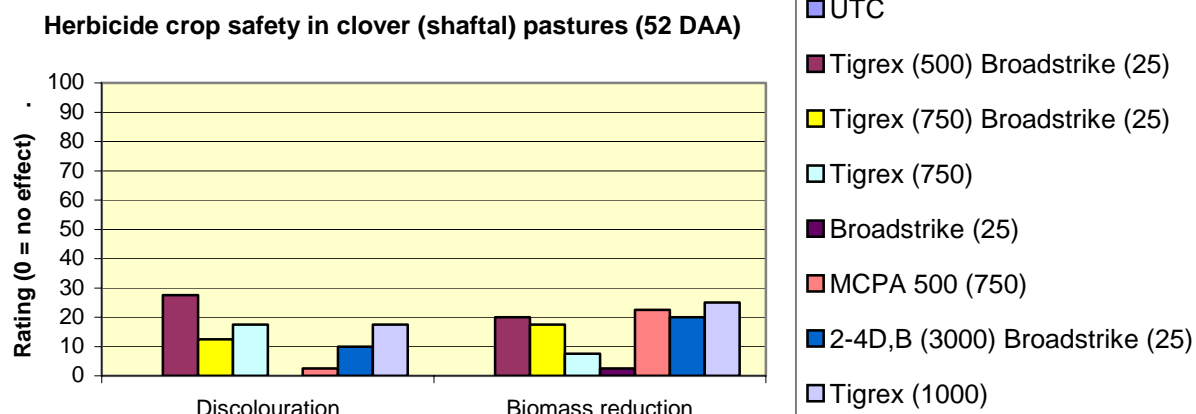
#### TRIAL LAYOUT & APPLICATION

Application Method	Hydraulic nozzles via an ATV.	No. of replicates	2
Equipment	Teejet 110015 flat fan nozzles at 200 kPa	Plot Size	6 m x 20 m

#### ASSESSMENTS

Assessment Type	Assessment Method	Assessment Date
Crop safety	discolouration/phytotoxicity rating (>40 = commercially unacceptable)	52 DAA (7/7/05)
Crop safety	biomass reduction (>30 = commercially unacceptable).	52 DAA
Weed efficacy	Percent control (estimation)	52 DAA

## Results:



## Extension Comment:

Crop and weed growth over late summer and early autumn was prolific following several summer rainfall events and also irrigation as required. Large weed sizes at application resulted from non-application of knockdown treatments at sowing. District practice has been to follow crop herbicide application with heavy grazing by cattle to achieve almost 100 percent weed control. This strategy was used by the farmer/co-operator on the rest of the paddock area achieving excellent efficacy by 2nd assessment. Grazing negates visible crop phytotoxicity by removing most crop material.

The trial was conducted to evaluate crop safety and weed efficacy of Tigrex and Broadstrike tank mix treatments compared to commercial standards. Tigrex at 500 mL/ha and 750 mL/ha tank mixed with Broadstrike at 25 g/ha and BS1000 adjuvant did not cause commercially unacceptable crop phytotoxicity. Tigrex tank mixture with Broadstrike did not antagonise broadleaf weed efficacy. Weed efficacy was generally slightly improved compared to Tigrex alone and much improved on marshmallow. Given the late application timing, the weeds were too advanced for herbicides to achieve excellent control.

Note: Tigrex and Broadstrike mixtures are not registered and therefore cannot be recommended.

**Trial Number:** DL022005  
**Title:** To demonstrate broadleaf weed control and crop safety of various herbicides in shaftal clover pastures.

**Conducted By:** David Lonsdale, Mahony & Lonsdale, Bendigo.

#### SITE

Locality: Tennyson, Vic.

#### PRODUCTS

Product	Active Ingredient	Product Rate / ha
Giant <sup>®</sup>	21 g/L diflufenican 230 g/L MCPA	900 mL, 1.2L
MCPA LVE	500 g/L MCPA LVE	700 mL
Jaguar	25 g/L diflufenican 250 g/L bromoxynil	750 mL, 2 L
Broadstrike	800 g/kg flumetsulam	25 g
2-4 DB	500 g/L 2-4D,B	3 L
MCPA 500	500 g/L MCPA amine salt	700 mL
Igran <sup>®</sup>	500 g/L Terbutryn	400 mL
BS1000 <sup>®</sup>		0.1% v/v

#### TARGET

Common Name	Latin name	Weed size
Ox-tongue	<i>Pichris echioides</i>	6-12 leaf up to 15 cm. diameter
Capeweed	<i>Arctotheca calendula</i>	2-20 leaf up to 15 cm diameter
Milk thistle	<i>Sonchus</i> spp.	multi leaf up to 10 cm diameter

#### CROP

Crop	Variety	Comments
Clover pasture	Shaftal cv. Missile	Approx 8 weeks old. Size varied from 3 -10 trifoliolate leaves, approx 10 cm crop height

#### TRIAL LAYOUT & APPLICATION

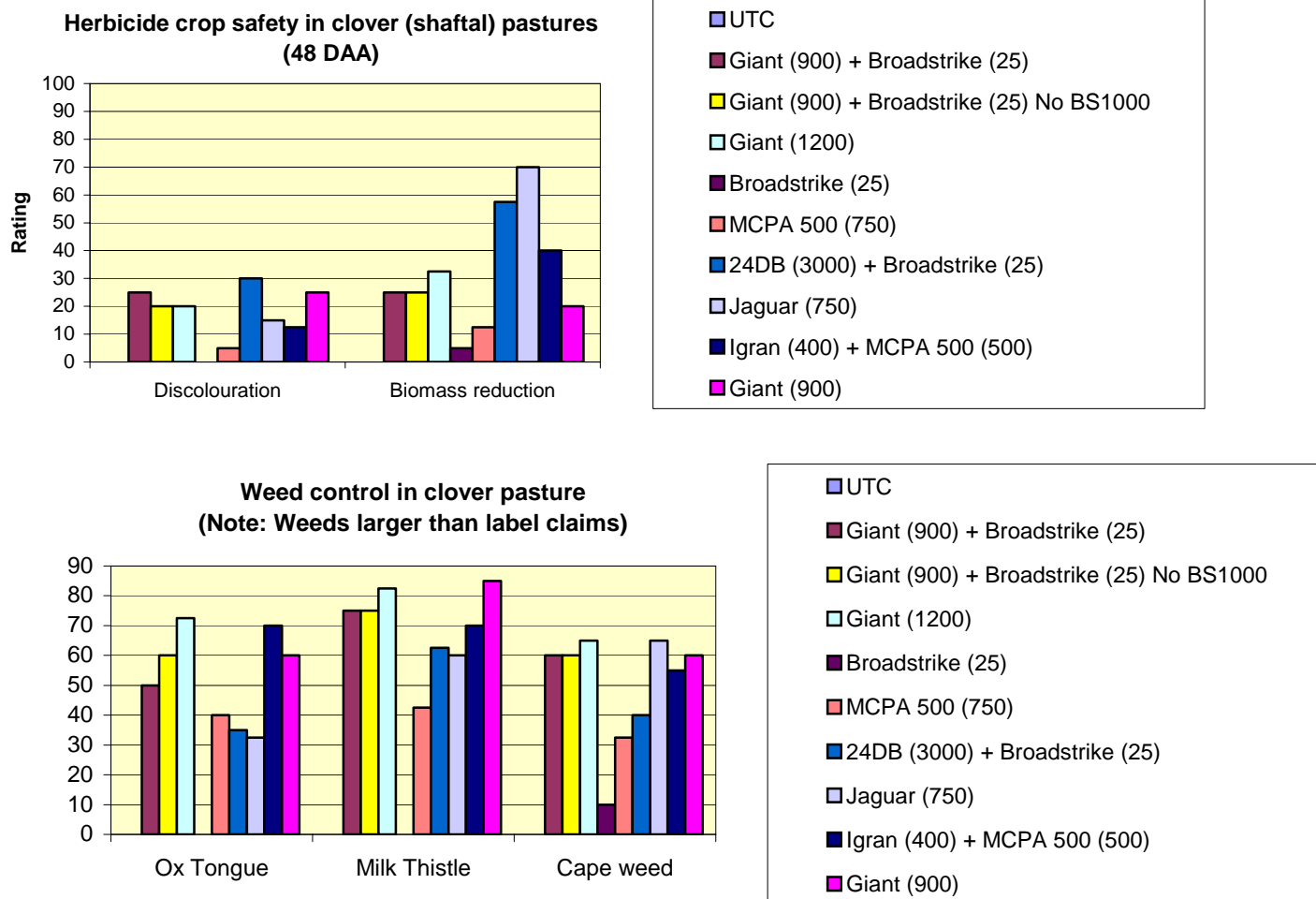
Application Method	Hydraulic nozzles via an ATV.	No. of replicates	2
Equipment	Teejet 110015 flat fan nozzles at 200 kPa	Plot Size	6 m x 20 m

#### ASSESSMENTS

Assessment Type	Assessment Method	Assessment Date
Crop safety	Discolouration / phytotoxicity rating (>40 = commercially unacceptable)	49 DAA (7/7/05)
Crop safety	biomass reduction (>30 = commercially unacceptable).	49 DAA
Weed efficacy	Percent control (estimation)	49 DAA



## Results:



## Extension Comment:

Crop and weed growth over late summer and early autumn was prolific following several summer rainfall events and also irrigation as required. District practice is generally to follow crop herbicide application with heavy grazing by cattle to achieve almost 100 percent weed control. Grazing negates visible crop phytotoxicity by removing most crop material.

Discolouration of Giant treatment at 900 mL/ha was noticeable but still rated commercially acceptable. Biomass reduction was more pronounced but still commercially acceptable at 900 mL. Giant at 1200 mL/ha caused borderline commercially acceptable crop discolouration. Jaguar, Igran+MCPA and 24DB+Broadstrike all caused commercially unacceptable crop biomass reduction.

Tank mixes of Giant and Broadstrike gave strong suppression to borderline commercially acceptable control of all three weeds. Giant efficacy at 900 mL/ha alone was equivalent to tank mix treatment with Broadstrike. The commercially accepted standard of MCPA alone gave inferior efficacy to Giant treatments. Comparison of Giant + Broadstrike tank mix with and without BS1000 adjuvant did not show any crop phytotoxicity or weed efficacy differences. Giant tank mixed with Broadstrike did not antagonise broadleaf weed efficacy compared to Giant alone. Tank mix efficacy was equivalent compared to Giant alone on asteraceae weeds. At application weeds were not too advanced for herbicides to achieve excellent control. Giant treatments were superior to MCPA and 24DB + Broadstrike commercial standard treatments. Jaguar and Igran+MCPA caused unacceptable crop phytotoxicity.

Note: Giant and Broadstrike and not registered mixtures and therefore cannot be recommended.

**Trial Number:** SB042005  
**Title:** To assess the tolerance of various pastures to a selection of herbicides.  
**Conducted By:** Kelly Burke

#### SITE

Locality: Naracoorte, SA
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#### PRODUCTS

Product	Active Ingredient (g a.i)	Product Rate / ha
Jaguar	25 g/L diflufenican 250 g/L bromoxinal	500 mL, 750 mL, 1 L
Tigrex	25 g/L diflufenican 250 g/L MCPA	500 mL, 750 mL, 1 L
Raptor <sup>®</sup>	700 g/kg imazamo	50 g
MCPA 500	500 g/L MCPA amine salt	700 mL
Broadstrike *	800 g/kg flumetsulam	25 g
Buttress	500 g/L 2-4D,B	3 L
Correct <sup>®</sup>	100 g/L propaquizafop	300 mL
Simazine	500 g/L simazine	1L
Gramoxone <sup>®</sup>	250 g/L paraquat	200 mL
Asulox	400 g/L asulam	500 mL
Hasten <sup>®</sup>		0.5%
BS1000		0.25%

#### TARGET

Common Name	Latin name	Population
Capeweed	<i>Arctotheca calendula</i>	30 – 50 / m <sup>2</sup>
Marshmallow	<i>Malva parviflora</i>	15 – 20 / m <sup>2</sup>
Common storksbill	<i>Erodium cicutarium</i>	40 – 65 / m <sup>2</sup>
Shepherds purse	<i>Capsella bursa-pastoris</i>	20 – 30 / m <sup>2</sup>
Mouse eared chickweed	<i>Cerastium</i> spp.	80 –100 / m <sup>2</sup>

#### CROP

Crop & variety	Sowing Rate
See list in plan and treatment section	27/6/2005

#### TRIAL LAYOUT & APPLICATION

Application Method	Hydraulic nozzles via an ATV.	No. of replicates	1
Equipment	Teejet 110 015 flat fan nozzles at 200 kPa	Plot Size	1.6 x 3.5 m
Application date	22/8/2005 (1 <sup>st</sup> trifoliate) and 1/9/2005 (3 <sup>rd</sup> trifoliate)		

#### ASSESSMENTS

Assessment Type	Assessment Method	Assessment Date
Crop colour	discolouration/phytotoxicity rating (>40 = commercially unacceptable)	15 DAT
Crop biomass	Biomass rating (>40 = commercially unacceptable)	64 DAT
Weed efficacy	Rating (Estimation of % control)	64 DAT

## Trial plan and treatment list:

Serradella (Serratas)	Jaguar 500 mL/ha (1 <sup>st</sup> Trifoliolate)	Jaguar 1000 mL/ha	Tigrex 1000 mL/ha	Tigrex 500 mL/ha (1 <sup>st</sup> Trifoliolate)	Tigrex 750 mL/ha + Simazine 1000 mL/ha + Paraquat 200 mL/ha	Tigrex 750 mL/ha + Asulox 500 mL/ha	UNTREATED	Jaguar 500 mL/ha + Asulox 500 mL/ha	Tigrex 750mL/ha + MCPA LVE 500 mL/ha	Tigrex 750 mL/ha + 2,4-DB 1500 mL/ha	Tigrex 500 mL/ha + Broadstrike 25 g/ha + BS1000 0.25%	Tigrex 750 mL/ha + Broadstrike 25 g/ha + BS1000 0.25%	Raptor @ 50 g/ha + Hasten 0.5%	Correct @ 300 mL/ha + BS1000 0.25%
Plantain (Tonic)														
Chicory (Grouse)														
Chicory (Puna)														
Berseem														
Persian (Lightning Type)														
Arrowleaf (Zulu)														
Arrowleaf (Arrowtas)														
Balansa (Paradana)														
White (Prestige)														
White (Winter White)														
Subterranean (Urana)														
Subterranean (Riverina)														
Strawberry (Palestine)														
Red (Colenso)														
Crimson														
Shaftal														
Medic (Tornada)														
Lucerne (SARDI7)														

NB: The trial layout was set up in a matrix format with the varieties running vertically and the herbicide treatments running horizontally over each of the varieties.

## Results:

Weed efficacy results - see Table 1

Crop discolouration results – see Table 2

Crop biomass results – see Table 3

## Extension Comment: Weed efficacy

The level of weed control was up-and-down between treatments, however the weed populations were lower than expected due to a good knockdown herbicide application before sowing.

The mixtures of Jaguar and Asulox did perform poorly on the weeds species present. This mixture resulted in poor control of weeds such as capeweed, shepherd's purse and chickweed compared to the straight Jaguar treatment that has a high level of activity on these weeds. This poor level of control for the same weeds was not present in the Tigrex plus Asulox treatment. Therefore this indicates that there may be some level of antagonism between asulam and bromoxynil.

There were some treatments that performed well regarding weed control. These treatments include Raptor (50 g/ha), Tigrex (750 mL/ha) mixed with Broadstrike and a wetter, Tigrex/ MCPA LVE and Tigrex/ simazine/ paraquat. As already highlighted, the Tigrex / simazine / paraquat treatment was applied earlier than label registrations, so weed control would expect to be very good. The Tigrex/ MCPA LVE treatment showed good weed control, but the

levels of crop damage to most species especially the herbs and annual clovers was higher than what would have been considered to be acceptable.

### **Extension Comment: Crop discolouration and biomass**

Crop discolouration and biomass effects varied greatly between the different pasture species and the different herbicide treatments. Chicory was the most sensitive pasture species and was affected by most broadleaf herbicide treatments (See table 2 & 3). Raptor showed the greatest level of crop safety when applied over chicory with no ratings over 20. Tonic plantain didn't tolerate any of the herbicide treatments except the early application of Tigrex at 500 mL/ha at the 1<sup>st</sup> trifoliate timing. This treatment had a discolouration rating of 40 but recovered during the season with a biomass rating of 15. Overall, the herb species showed that they are very sensitive to most of the broadleaf herbicide treatments.

The annual clover species showed various levels of crop safety to the herbicide treatments with the Persian species (Persian & Shaftal) generally showing the highest level of crop effect (discolouration and biomass). The higher rates of Tigrex and Jaguar (1 L/ha), together with the higher rates as tank mixes recorded the highest crop effect ratings. These treatments would be a concern if applied commercially. The two treatments that showed low levels of crop effects to all of the annual clover species was Tigrex (500 mL/ha) at the 1<sup>st</sup> trifoliate timing and Raptor at 3<sup>rd</sup> trifoliate timing. The Tigrex treatment showed high levels of crop discolouration early, however had recovered later to show minimal effect.

The white clover species showed moderate levels of crop effects to most treatments early but as the season progressed, the level of crop effect diminished which typifies the nature of clover species and their ability to compensate after an early herbicide application.

Subterranean clovers showed a high tolerance level to the herbicide treatments with Tigrex / simazine / paraquat showing the highest level of crop effect. The high level of crop effect with this tank mixture would be expected as it was applied at the 3<sup>rd</sup> trifoliate growth stage of the clover when the registered timing of this treatment is the 5<sup>th</sup> trifoliate.

Overall, the treatments used in this trial are only some of the available options for weed control in pastures. Some of the positive findings out of this trial include the high level of safety when Tigrex (500 mL/ha) is applied at the 1<sup>st</sup> trifoliate growth stage. Correct has shown to have no effect on any of the pasture species sown in this trial and Tigrex has shown to have excellent tank mixing qualities to broaden the weed spectrum.

Note: The mixture of Tigrex and Jaguar with Asulox or Tigrex with Broadstrike and the use of these products in herb pastures or on pasture species at stages other than recommended on the label are not registered and therefore cannot be recommended.

**Table 1. Weed efficacy from various herbicides 64 days after treatment.**

Weed species	Jaguar 500 mL/ha (1st trifoliate)	Jaguar 1 L/ha	Tigrex 1 L/ha	Tigrex 500 mL/ha (1st trifoliate)	Tigrex 750 mL/ha + simazine 1 L/ha + paraquat 200 mL/ha	Tigrex 500 mL/ha + Asulox 500 mL/ha	Untreated	Jaguar 500 mL/ha + Asulox 500 mL/ha	Tigrex 750 mL/ha + MCPA LVE 500 mL/ha	Tigrex 750 mL/ha + Buttress 1.5 L/ha	Tigrex 500 mL/ha + Broadstrike 25 g/ha + BS1000	Tigrex 750 mL + Broadstrike 25 g/ha + BS1000	Raptor 50 g/ha + Hasten	Correct 300 mL/ha + BS1000
<i>Arctotheca calendula</i> (Capeweed)	90	95	100	90	90	90	0	40	100	90	90	90	70	0
<i>Malva parviflora</i> (Marsh mallow)	80	80	80	80	90	70	0	30	80	80	90	100	95	0
<i>Erodium cicutarium</i> (Common storksbill)	25	20	85	75	85	55	0	10	90	65	80	85	95	0
<i>Capsella bursa-pastoris</i> (Shepherd's purse)	90	85	95	85	95	90	0	40	90	75	95	100	80	0
<i>Cerastium</i> sp. (Mouse eared chickweed)	80	80	90	85	90	85	0	40	85	80	85	90	95	0

**Green**

= commercially acceptable control

**Yellow**

= acceptable with a few escapes

**Red**

= commercially unacceptable



**Table 2. Crop discolouration 15 days after treatment**

Variety / Treatment:	Jaguar 500 mL/ha (1st trifoliolate)	Jaguar 1 L/ha	Tigrex 1 L/ha	Tigrex 500 mL/ha (1st trifoliolate)	Tigrex 750 mL/ha + simazine 1 L/ha + paraquat 200 mL/ha	Tigrex 500 mL/ha + Asulox 500 mL/ha	Untreated	Jaguar 500 mL/ha + Asulox 500 mL/ha	Tigrex 750 mL/ha + MCPA LVE 500 mL/ha	Tigrex 750 mL/ha + Buttress 1.5 L/ha	Tigrex 500 mL/ha + Broadstrike 25 g/ha + BS1000	Tigrex 750 mL + Broadstrike 25 g/ha + BS1000	Raptor 50 g/ha + Hasten	Correct 300 mL/ha + BS1000
Serradella	60	70	40	70	50	50	0	30	75	35	20	30	0	0
Plantain	80	75	40	40	40	30	0	30	40	35	20	20	5	0
Grouse chicory	60	40	70	60	60	65	0	60	70	60	25	35	0	0
Puna chicory	40	40	70	65	60	60	0	45	70	60	20	35	0	0
Berseem	35	30	35	10	45	30	0	20	15	20	10	10	0	0
Persian	20	30	35	10	40	25	0	20	20	20	10	10	0	0
Zulu arrowleaf	15	30	20	5	40	20	0	15	15	15	10	10	0	0
Arrowtas	10	30	25	10	40	20	0	20	15	15	10	10	0	0
Balansa	10	15	10	5	30	10	0	15	10	10	5	5	0	0
Prestige white	10	25	20	10	35	15	0	15	15	10	10	15	0	0
Winter white	15	25	20	10	35	15	0	15	15	10	10	15	0	0
Urana sub	5	15	10	5	25	10	0	10	10	5	5	5	0	0
Riverina sub	5	15	10	5	20	10	0	10	10	5	5	5	0	0
Strawberry	10	35	25	10	45	20	0	15	20	15	10	15	5	0
Colenso red	10	30	20	10	40	15	0	10	15	10	10	10	0	0
Crimson	10	30	20	10	40	15	0	10	20	15	10	10	0	0
Shaftal	15	35	20	5	40	20	0	20	20	15	10	15	0	0
Tornada medic	40	50	50	30	40	40	0	20	50	30	30	40	0	0
Sardi 7	10	20	80	70	60	70	0	5	80	70	40	50	0	0

**Green**

= commercially acceptable

**Yellow**

= acceptable with some yellowing =

**Red**

commercially unacceptable

**Table 3. Crop biomass assessment ratings, 64 days after treatment**

Variety / Treatment:	Jaguar 500 mL/ha (1st trifoliolate)	Jaguar 1 L/ha	Tigrex 1 L/ha	Tigrex 500 mL/ha (1st trifoliolate)	Tigrex 750 mL/ha + simazine 1 L/ha + paraquat 200 mL/ha	Tigrex 500 mL/ha + Asulox 500 mL/ha	Untreated	Jaguar 500 mL/ha + Asulox 500 mL/ha	Tigrex 750 mL/ha + MCPA LVE 500 mL/ha	Tigrex 750 mL/ha + Buttress 1.5 L/ha	Tigrex 500 mL/ha + Broadstrike 25 g/ha + BS1000	Tigrex 750 mL + Broadstrike 25 g/ha + BS1000	Raptor 50 g/ha + Hasten	Correct 300 mL/ha + BS1000
Serradella	80	90	90	60	60	60	0	20	80	70	30	60	5	0
Plantain	80	90	80	15	50	35	0	20	60	40	30	30	60	0
Grouse chicory	30	70	90	80	70	70	0	15	80	70	45	60	15	0
Puna chicory	30	70	90	80	50	70	0	15	80	70	50	60	10	0
Berseem	30	20	30	10	70	30	0	5	30	15	10	15	10	0
Persian	30	20	30	10	70	30	0	5	30	15	5	15	10	0
Zulu errowleaf	10	20	10	0	60	20	0	0	20	10	5	10	0	0
Arrowtas	10	20	10	0	60	20	0	0	20	10	5	10	0	0
Balansa	5	15	5	0	40	15	0	0	0	5	0	5	0	0
Prestige white	10	20	10	5	30	15	0	0	20	10	0	10	0	0
Winter white	10	20	10	5	30	15	0	0	20	10	0	10	0	0
Urana sub	5	5	0	0	20	10	0	0	0	0	0	0	0	0
Riverina sub	5	5	0	0	20	10	0	0	0	0	0	0	0	0
Strawberry	15	20	20	10	40	25	0	5	30	15	10	15	25	0
Colenso red	10	15	10	0	40	15	0	5	20	10	0	10	10	0
Crimson	10	20	20	0	40	15	0	5	20	10	0	10	10	0
Shaftal	10	20	30	10	60	20	0	5	30	10	10	20	20	0
Tornada medic	70	90	90	70	70	55	0	20	80	60	90	100	0	0
Sardi 7	0	10	100	100	90	80	0	0	100	90	100	100	10	0

**Green**

= commercially acceptable

**Yellow**

= acceptable with some yellowing

**Red**

= commercially unacceptable

**Trial Number: SB042005**

**Title: To assess the control of established dock in perennial pastures with various herbicides.**

**Conducted By: Kelly Burke, Bayer CropScience**

## SITE

Locality: Lucindale, SA

## PRODUCTS

Product	Active Ingredient	Product Rate
Tigrex	25 g/L diflufenican 250 g/L MCPA	500, 750 mL
Jaguar	25 g/L diflufenican 250 g/L bromoxynil	500, 750 mL
Asulox	400 g/L asulam	500, 750, 2.8 L

## TARGET

Common Name	Latin name	Infestation Level
Slender dock	<i>Rumex brownii</i>	40 – 80 / m <sup>2</sup>

## CROP

Crop	Variety	Sowing Rate
Perennial pasture mixture	Phalaris and ryegrass, Strawberry and Mt Barker clovers	Established

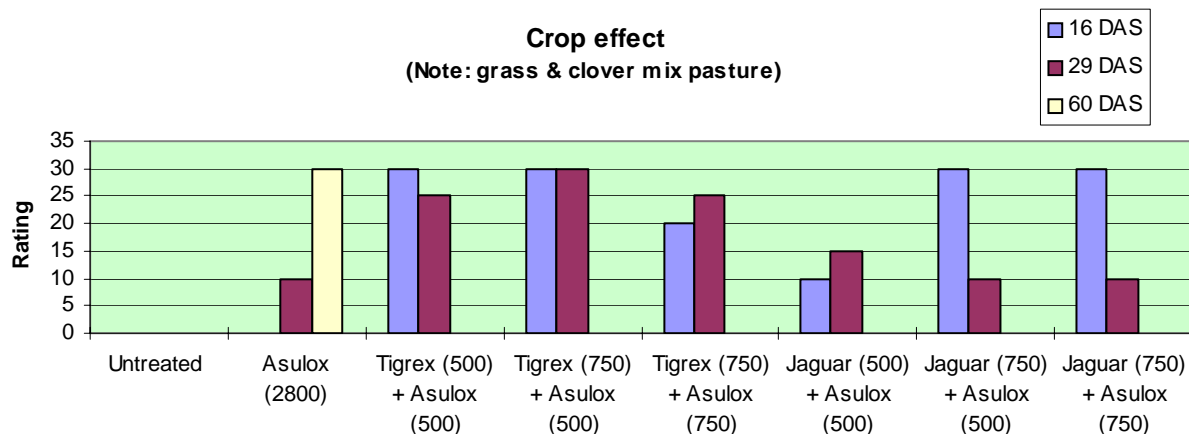
## TRIAL LAYOUT & APPLICATION

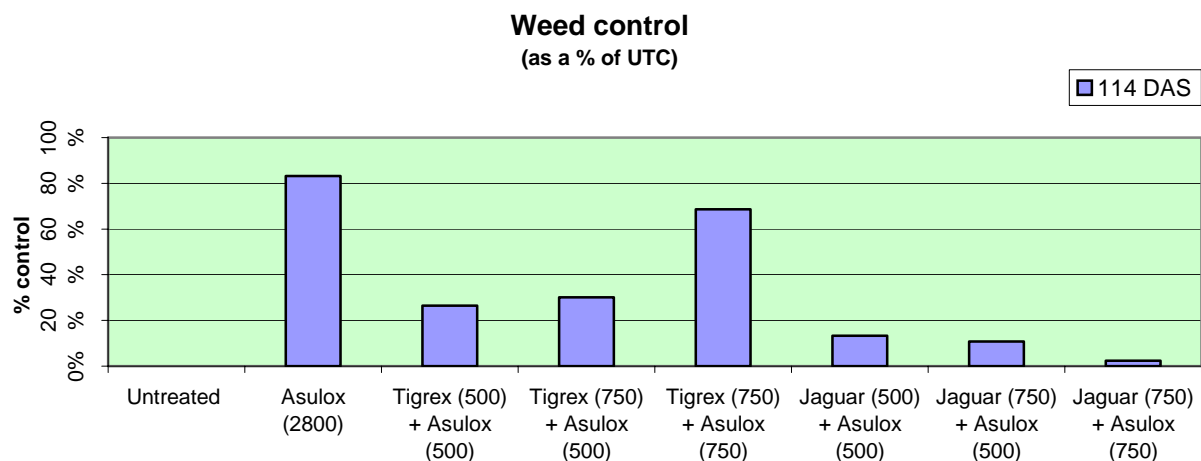
Application Method	Spray	No. of replicates	2
Equipment	ATV @ 90 L/ha using 110 015 nozzles	Plot Size	4 m x 15 m
Date of application	25/08/05		

## ASSESSMENTS

Assessment Type	Assessment Method	Assessment Date
Crop Effect	Visual rating	16, 29 and 60 DAS
Weed Count	Weed square	114 DAS

## Results:





### Discussion / comments:

The crop effects from the Tigrex and Asulox tank mixes visually showed the greatest amount of crop effect, which was a result of the diflufenican. The Jaguar and Asulox mixes visually looked good at the early weed control assessments as the dock was showing a good level of yellowing with a little leaf margin burning. But by final weed count, it appeared that the level of dock control with all of the Jaguar and Asulox treatments was very low.

The Tigrex and Asulox tank mixes appear to have had some impact on the dock population within those plots. The low rates of both products had minimal effect, however the high rates of the two products (750 mL/ha of both products) reduced the dock numbers by 69% compared to the untreated. Like the Jaguar treatments, the diflufenican effects were present at the first and second crop effect assessments, however the combination of the asulam and the MCPA LVE appear to have had a positive effect on controlling established dock plants.

The application of Asulox as a stand-alone product performed well with 84% control compared to the untreated. The level of crop effect with the Asulox was minimal at the first assessment, but did increase by the second assessment and again by the third assessment. This indicates the slow nature of asulam activity on both the dock and the desirable species.

The superior treatment for this trial was the Asulox as a stand alone treatment, however due to its narrow weed spectrum and high cost per hectare, there is a need to find either a reduced rate of Asulox which may require a two year approach or a tank mixing partner to lower the cost per hectare and broaden the weed spectrum. The timing of the Asulox may restrict the tank mixing partners to a MCPA type product.

**NOTE: THESE HERBICIDE MIXTURES ARE NOT REGISTERED AND THEREFORE CANNOT BE RECOMMENDED.**





# Timing earth mite treatments for maximum impact and cost-effectiveness

While redlegged earth mite (RLEM) and blue oat mite (BOM) continue to be a threat to Australian crops and pastures, there is surprisingly little information in circulation about their identification and control.

One key strategy is to reduce hatchings rather than just wait for the mites to appear before using an insecticide.

Years of research has shown that spraying in spring (the Timerite® timing) is doubly effective because it both reduces mite numbers immediately and results in much lower levels of mites hatching the following autumn.

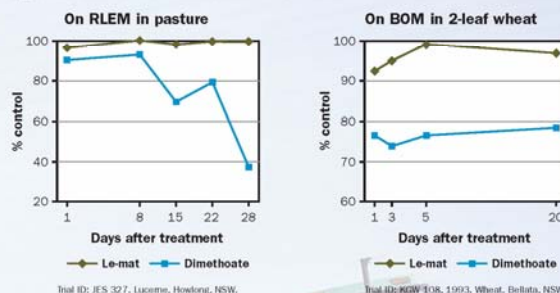
Spring spray timing with Le-mat® Insecticide

Spray timing	Date assessed		
	November 1992	July 1993	September 1993
Untreated	1012	980	358
Early September	0 (100%)	20 (98%)	11 (97%)
Late September	0 (100%)	105 (89%)	131 (63%)
Spray topping	0 (100%)	415 (58%)	395 (0%)

□ Number of mites per m<sup>2</sup> (% control) Source: JES 398, 1992, Yerong Creek, NSW.

The numbers in the table don't tell the full story: the extra benefit of reduced hatchings is that young crops and pastures are better protected at their most vulnerable growth stage. Countless studies have shown that the plants which quickly become strongly established produce the highest yields.

These graphs show just how much difference a well-timed application of Le-mat can make:



Timerite® gives growers the optimum date to spray for RLEM control in spring. It is essential not to spray later than the Timerite date – which is when RLEM will start to produce diapause eggs that are impervious to insecticides and survive inside the female over summer, hatching next autumn. Le-mat can be applied up to several weeks earlier to control RLEM if spraying is not possible on the Timerite date.

More information on Timerite is available from [www.timerite.com.au](http://www.timerite.com.au).

There are significant differences in the life cycles of RLEM and BOM, however spraying at the correct time in spring can also greatly reduce blue oat mite numbers the following year.

For more information, ask your reseller, visit our website at [www.bayercropscience.com.au](http://www.bayercropscience.com.au) or call **1800 804 479**.



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**Disclaimer:** The information and recommendations set out in this brochure are based on tests and data believed to be reliable at the time of publication. Results may vary, as the use and application of the products is beyond our control and may be subject to climatic, geographical or biological variables, and/or developed resistance. Any product referred to in this brochure must be used strictly as directed, and in accordance with all instructions appearing on the label for that product and in other applicable reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.



## Key messages from the 2004 and 2005 trial program

- Correct is the best herbicide option for the control of barley grass in legume based pastures
- Correct and simazine show excellent compatibility when wanting to control both barley grass and silver grass in pastures.
- Correct is excellent for controlling brome grass.
- The addition of Hasten to Correct improves the control of hairy grass species like brome grass.



**Trial Number:** SB082005  
**Title:** To demonstrate the benefit of Correct for the control of barley grass in perennial pastures.  
**Conducted By:** Kelly Burke, Bayer CropScience

#### **SITE**

Locality: Kenny's Road, Naracoorte.
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#### **PRODUCTS**

Product	Active Ingredient	Product Rate / ha
Correct	100 g/L propaquizafop	200 and 250 mL
Simazine	500 g/L simazine	1 L
Sertin <sup>®</sup> Plus	120 g/L sethoxydim	300 mL
Tramat <sup>®</sup>	500 g/L ethofumesate	3 L
Tigrex	25 g/L diflufenican 250 g/L MCPA	500 mL
BS1000		0.2%
Hasten		0.5%

#### **TARGET**

Common Name	Latin Name	Infestation Level
Barley grass	<i>Hordeum leporinum</i>	100 – 200 per m <sup>2</sup>
Silver grass	<i>Vulpia bromoides</i>	50 – 80 per m <sup>2</sup>

#### **CROP**

Crop
Perennial pasture

#### **TRIAL LAYOUT & APPLICATION**

<b>Application Method</b>	Boom spray at 90 L/ha	<b>No. of Replicates</b>	2
<b>Equipment</b>	ATV using 110 015 nozzles	<b>Plot Size</b>	15 m x 4 m
<b>Weed stage at spraying</b>	Mid tillering	<b>Date of application</b>	13/08/2005

#### **ASSESSMENTS**

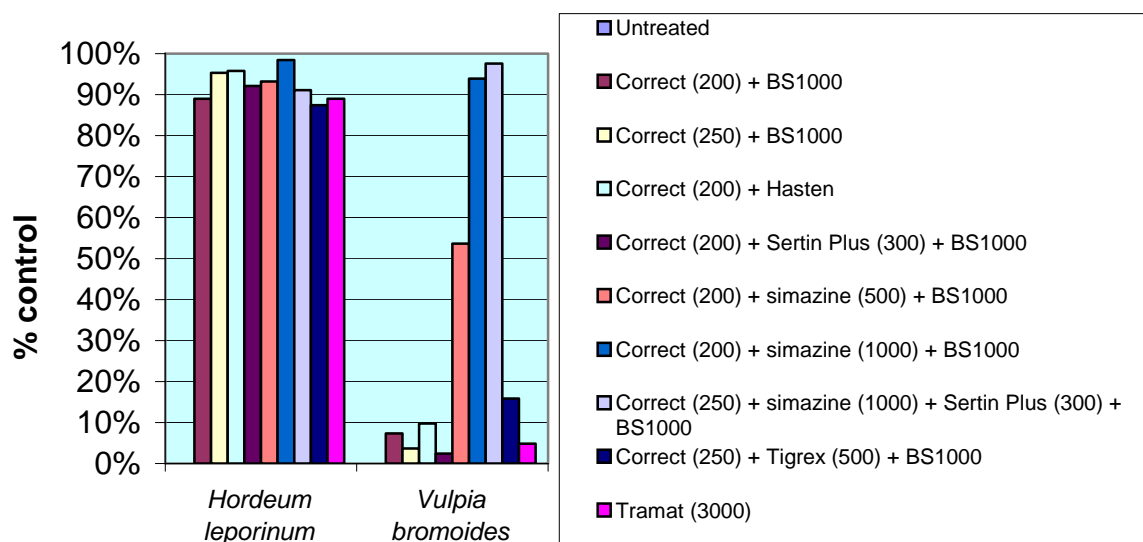
Assessment Type	Assessment Method	Assessment Date
Crop effect	Visual rating	20, 30 and 62 DAT
Weed control	Counts (using a weed square)	62 DAT

## Results:

	Crop effect	Crop effect	Crop effect
<b>Date:</b>	3/09/2005	14/09/2005	16/10/2005
<b>Days after spraying:</b>	20DAS	30DAS	62DAS
<b>Assessment Method:</b>	Rating (0-100)	Rating (0-100)	Rating (0-100)
<b>Treatment: (rate/ha)</b>			
Untreated	0	0	0
Correct 200 mL/ha + BS1000	5	5	0
Correct 250 mL/ha + BS1000	10	10	0
Correct 200 mL/ha + Hasten	10	10	0
Correct 200 mL/ha + Sertin Plus 300 mL/ha + BS1000	5	5	0
Correct 200 mL/ha + simazine 500 mL/ha + BS1000	5	15	5
Correct 200 mL/ha + simazine 1 L/ha + BS1000	5	40	60
Correct 250 mL/ha + simazine 1 L/ha + Sertin Plus 300 mL/ha + BS1000	20	40	60
Correct 250 mL/ha + Tigrex 500 mL/ha + BS1000	10	10	0
Tramat 3 L/ha	0	5	10

Note: 0 = no effect 30 = commercially unacceptable.

## Weed control with Correct and mixtures



## Discussion / comment:

Correct at all rates and tank mixes offered excellent control of barley grass, however the data indicates that the higher rate of Correct (250 mL/ha) has offered a marginally higher level of control.

This trend would be expected where populations were higher. This difference is not large and both rates (200 mL & 250 mL) in all plots are considered to be at control levels when looking at a commercial situation.

**Trial Number:** SB092005  
**Title:** To demonstrate the benefit of Correct® for the control of barley grass in perennial pastures.

**Conducted By:** Kelly Burke, Bayer CropScience

#### SITE

Locality: Burke Road, Naracoorte.

#### PRODUCTS

Product	Active Ingredient	Product Rate / ha.
Correct	100 g/L propaquizafop	200, 250 mL
Simazine	500 g/L simazine	1 L
Sertin Plus	120 g/L sethoxydim	300 mL
Tramat	500 g/L ethofumesate	3 L
Tigrex	25 g/L diflufenican 250 g/L MCPA	500 mL
BS1000		0.2%
Hasten		0.5%

#### TARGET

Common Name	Latin Name	Infestation Level
Barley grass	<i>Hordeum leporinum</i>	180 – 200 per m <sup>2</sup>
Silver grass	<i>Vulpia bromoides</i>	80 – 100 per m <sup>2</sup>
Brome grass (Soft)	<i>Bromus hordeaceus</i>	100 – 140 per m <sup>2</sup>

#### CROP

Crop
Perennial pasture

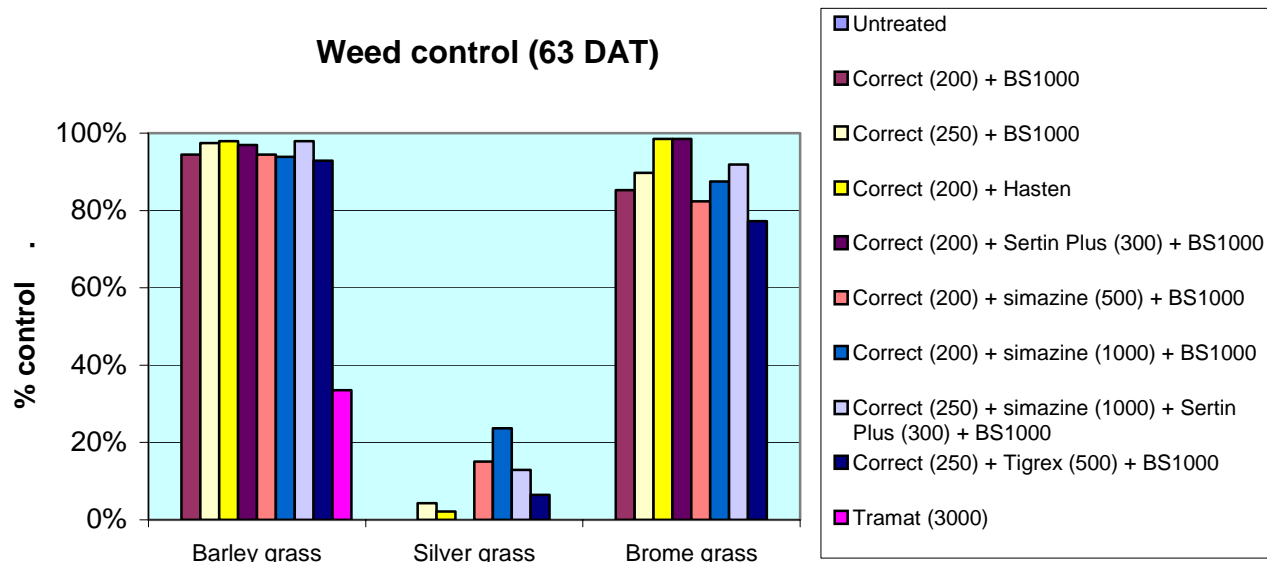
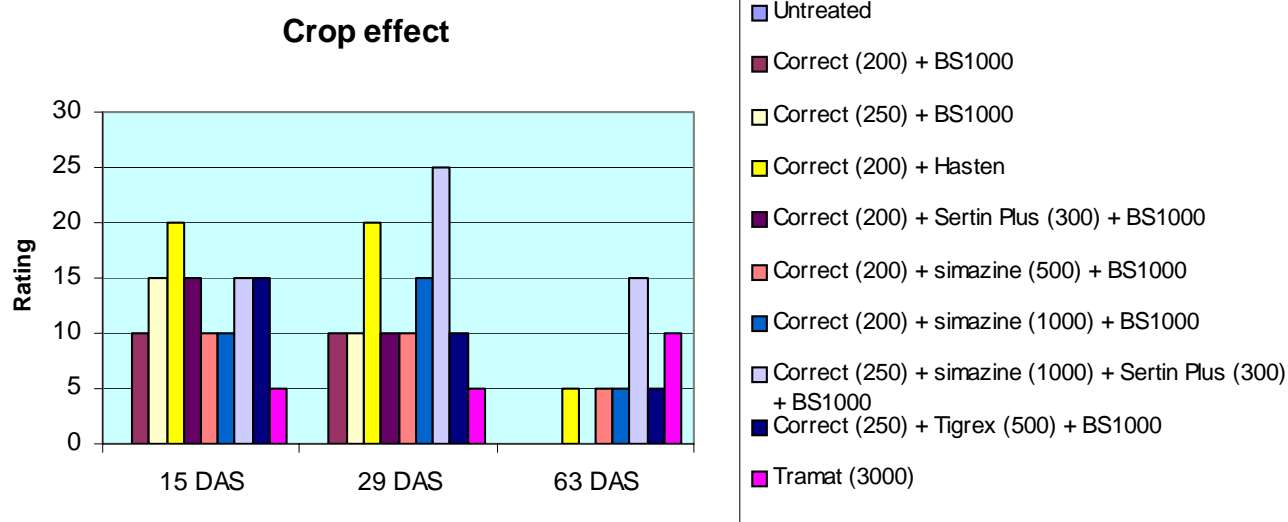
#### TRIAL LAYOUT & APPLICATION

<b>Application Method</b>	Boom spray at 90 L/ha	<b>No. of replicates</b>	2
<b>Equipment</b>	ATV using 110 015 nozzles	<b>Plot Size</b>	20 x 4.5 m
<b>Weed stage at spraying</b>	Late tillering – stem elongation	<b>Date of application</b>	13/09/2005

#### ASSESSMENTS

Assessment Type	Assessment Method	Assessment Date
Crop effect	Visual rating 0 = no effect 30 = commercially unacceptable	15, 29 and 63 DAT
Weed control	Counts (using a weed square)	63 DAT

## Results:



## Discussion / comment:

Weed control throughout the trial was excellent with most treatments, which was surprising due to the growth stage of the weeds at the time of application and the high population that was present at the time of application. However, this trial highlights the importance of the appropriate timing. Timing of application for this trial was later than ideal with the barley grass weed stage at late tillering which is approximately 4-5 weeks later than when the products used in this trial should have been applied to achieve optimum results.

The control achieved with Correct ranged from 95% to 97%. The results achieved at controlling barley grass with Correct also highlights the high level of flexibility given the growth stage of the barley grass at the time of application. Control of soft Brome with Correct ranged from 86% to 99%.

Correct when tank mixed with Hasten gave the best result on weed control for both barley grass and soft brome grass, however the level of crop effect was also increased. The crop discolouration was still commercially acceptable. The point worth noting is that with all brome grasses species having hairs on the leaves, the addition of Hasten assists the absorption of Correct and gains a higher level of control.



**Trial Number:** JW012005  
**Title:** To investigate Correct and its compatibility with broadleaf herbicide mixes in medic pastures and the subsequent effect on brome and barley grass control.  
**Conducted By:** Grant Gibbins, North West Ag

#### SITE

Locality: Speed, Vic.

#### PRODUCTS

Product	Active Ingredient (g a.i)	Product Rate
Correct	100 g/L propaquizafop	200 mL, 250 mL, 300 mL
Jaguar	250 g/L bromoxinil 25 g/L diflufenican	500 mL
Tigrex	250 g/L MCPA 25 g/L diflufenican	500 mL
MCPA	500 g/L MCPA LVE	500 mL, 750 mL
Hasten	704 g/L esterified vegetable oil	

#### TARGET

Common Name	Latin name	Infestation Level
Barley grass	<i>Hordeum leporinum</i>	High
Brome grass	<i>Bromus diandrus</i>	Medium

#### CROP

Crop	Variety	Sowing Rate
Medic	Harbinger and Parrabinga	Annual regeneration

#### TRIAL LAYOUT & APPLICATION

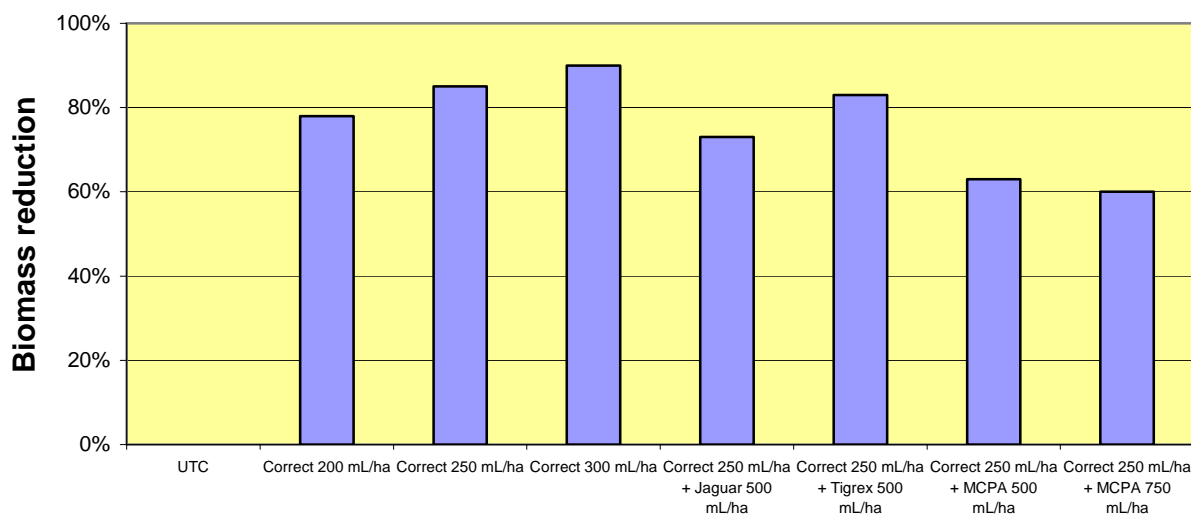
Application Method		No. of Replicates	2
Equipment	Boom	Plot Size	4 m by 20 m

#### ASSESSMENTS

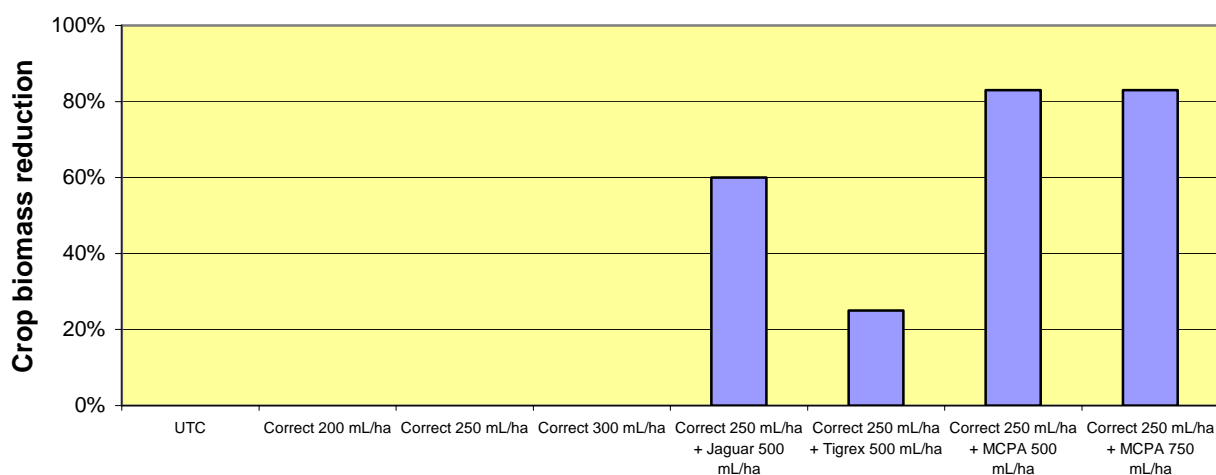
Assessment Type	Assessment Method	Assessment Date
Crop effect	Biomass reduction (%)	3/11/2005
Weed control	Biomass reduction (%)	3/11/2005

## Results:

### Weed biomass reduction



### Crop biomass reduction



*Note: All treatments involving Correct were applied with Hasten at 0.5% v/v.*

### Agronomist Comment:

The grass weeds in the trial were at the upper limits of the label regarding weed size and thus were not ideal. The results show that Correct should not be mixed with Jaguar or MCPA 500 as there is antagonism with grass weed control.

Correct requires the use of Hasten rather than products like BS1000.

Mixtures with Jaguar and MCPA 500 were too harsh on the medic pastures. Do not use Jaguar on medic pastures. Best mix when it comes to Correct is Tigrex, although this mixture still reduced the pasture biomass by 25%. If used a little earlier, Tigrex rates could possibly be dropped to 350 mL/ha, which improves the herbicide safety on the medic. This mix is used a lot in South Australia.


Note: Mixtures of Tigrex and Correct are not registered and therefore cannot be recommended.

Bayer CropScience would like to thank the following companies for assisting in making these research trials possible:



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