



"Seeing is believing"

Gaucho[®] Insecticide improves pasture ryegrass establishment and growth rates.

Trial Reports 2006

Introduction.

For many years graziers have experienced the benefits of having their broadleaf pasture seeds such as lucerne, clover, brassicas and herbs treated with the insecticide seed treatment Gaucho®.

Gaucho improves plant establishment by protecting the seedling from pests such as redlegged earth mites during early growth.

From trials conducted in 2004 and 2005 Bayer CropScience found that ryegrass pasture seed treated with the Gaucho displayed similar benefits to those experienced with broadleaf pasture species.

In 2006 Bayer embarked on a number of large scale paddock trials with Gaucho treated ryegrass seed with fantastic results. Across all commercial trials Bayer, together with reseller agronomists and graziers, found that the Gaucho increased seedling establishment by an average of 29%. Biomass increased compared to pasture grown from untreated seed by an average of 30% prior to 1st grazing. See Summary of results in Graph 1.

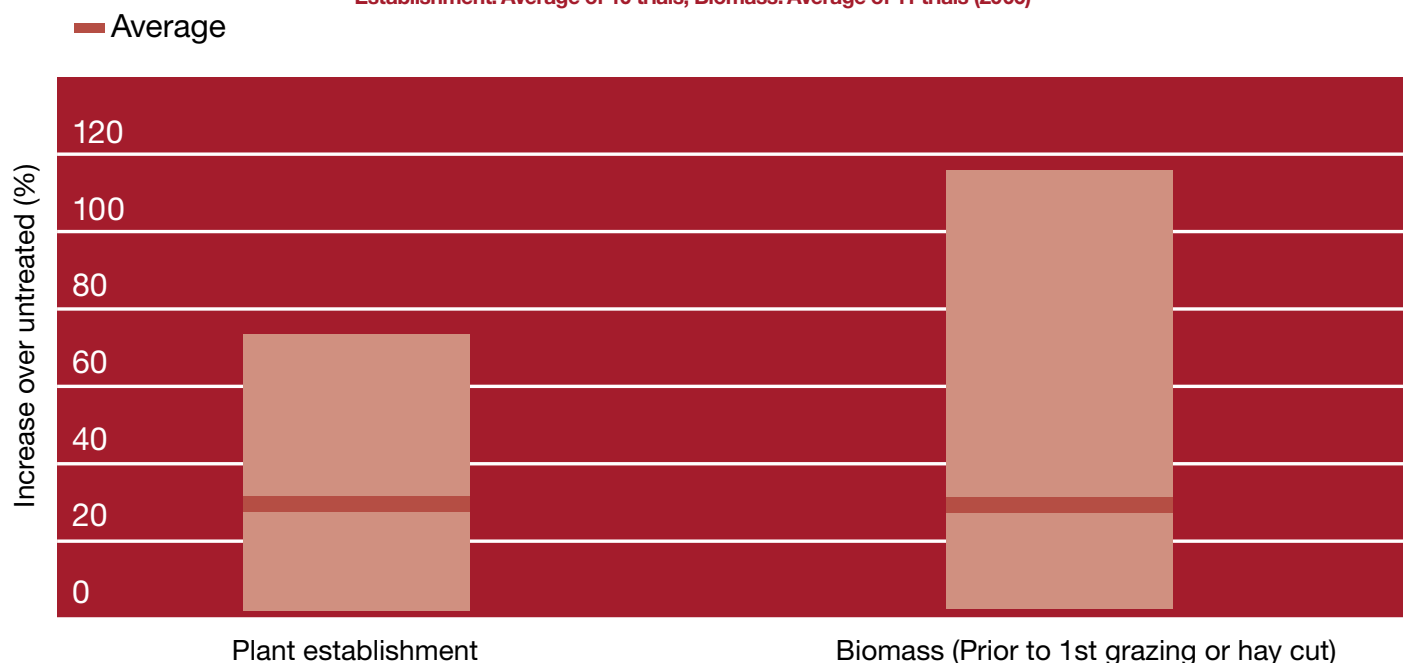


Gaucho treated

Gaucho untreated

Graph 1: Establishment & biomass increases with Gaucho treated ryegrass seed compared to untreated.

Establishment: Average of 10 trials, Biomass: Average of 11 trials (2006)



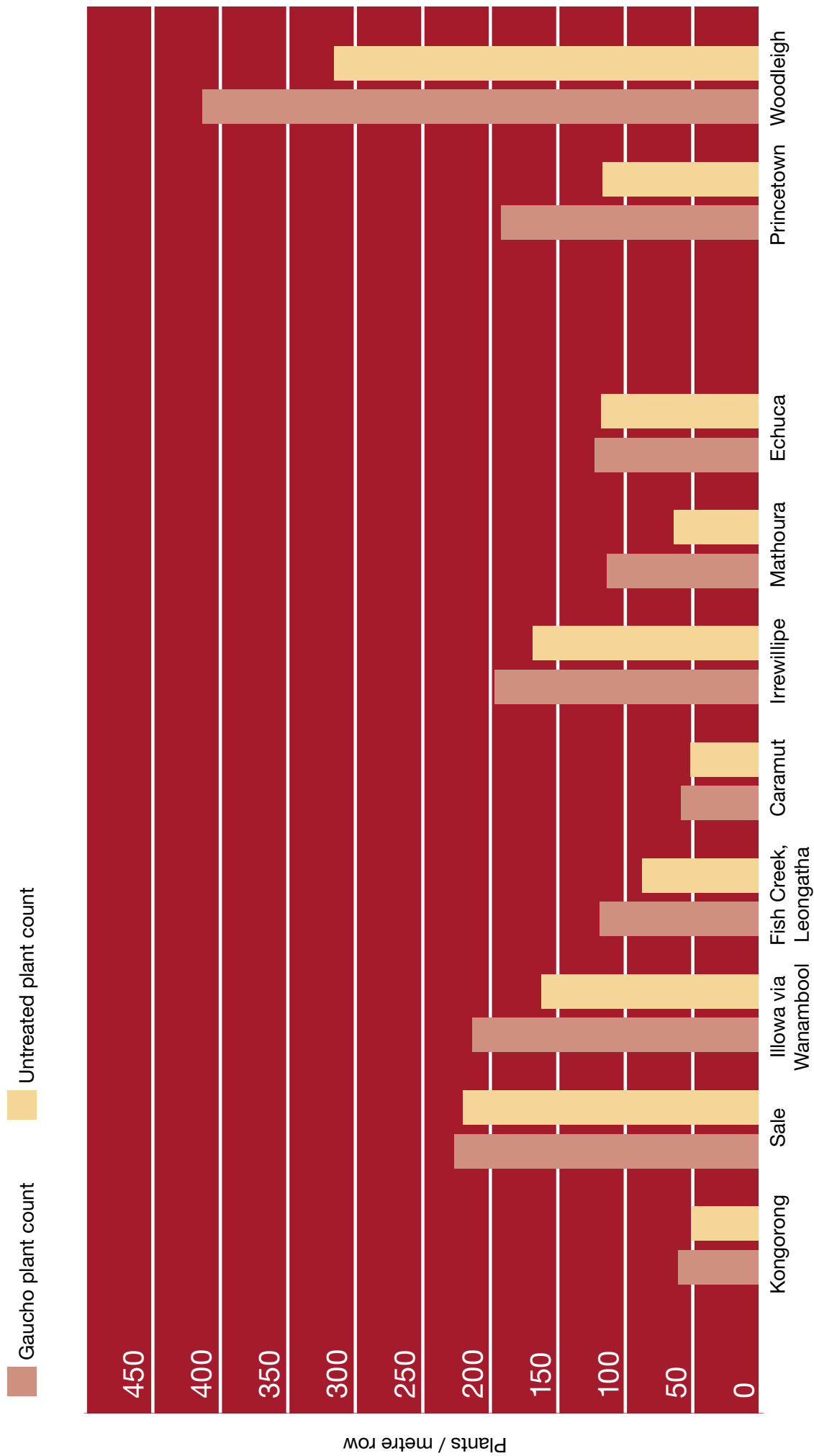
2006 trial references: Kongorong, Sale, Illowa via Warnambool, Fish Creek (Leongatha), Caramut Irrewillipe, Mathoura, Echuca, Princetown, Woodleigh, Bunbartha, Albury, (Charger and Drummer).

Note: Irrewillipe and Mathoura are only plant counts (establishment), Bunbartha and Albury are biomass only.

In trials at Irrewillipe and Illowa, pasture biomass was measured prior to each grazing (grazing 1 to 4). Biomass production was increased compared to the untreated ryegrass seed. This suggests that the positive effects from the Gaucho treatment last longer than just getting the plant established.

Plant establishment was improved over the untreated across 10 trials (Graph 2).

Graph 2: Effect of Gaucho seed treatment on the establishment of ryegrass compared to untreated.



Note: The plant establishment assessments at the Prinetown and Woodleigh sites were plants per m².

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Alissa Howieson (Elders at Mt Gambier), Kelly Burke (Wrightson Seeds) and Geoff Berry (Bayer CropScience)

Site			
Address:	Kongorong, SA	Paddock:	Hay Paddock
		Soil type:	Loam over limestone
		Soil pH:	5.5-6.0 (water)

Products		
Product	Active	Formulation/code
Gaucha	600g/L imidicloprid	FS

Crop			
Crop:	Ryegrass	Variety:	Banquet II
Date Sown:	07/06/2006	Timerite:	Yes
Fertiliser:	Pasture Gold @ 85 kg/ha (just prior to sowing)	Row space:	150mm
Sowing rate:	25 kg/ha	Other Chemicals:	2004 - Amicide® 625 2005 - Amicide® 625

Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Present
Blue oat mite	<i>Penthaleus major</i>	Present
Lucerne flea	<i>Sminthurus viridis</i>	Present

Assessments/Requirements	
Rating:	
Plant Counts	23 DAS (count the number of each species per metre row)
Yield	Grassmaster II pasture probe prior to each grazing
Photos	Visual differences of emergence, root development and dry matter yields
Testimonials	Distribution representative and grower

Trial Plan

Each paddock was divided in two. The treated area (approx. 2 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock was sown with untreated seed. The same variety (and germplasm) was used in the treated and the untreated.

Results

Table 1: Emergence

Plant Count	
Results:	Emergence
Date	30/06/06
Days after sowing	23 DAS
Assessment method	Plants per m row
Treatment:	
1. Untreated	50
2. Gaucho	59
Change	+ 18%

Table 2: Yield

Yield			
Results:	Yield	Yield	Yield
Date	06/09/06	01/11/06	22/11/06
Days after sowing	91 DAS	147 DAS	168 DAS
Assessment method	Pasture probe	Hay cut (farmers data)	Pasture probe (3 weeks after hay cut)
Recording kg/ha:			
1. Untreated	1577	12 big bales	1458
2. Gaucho	1646	13 big bales	1632
Change	+ 4%		+ 12%



Photograph 1: Ryegrass seedlings 23 days after sowing. Seedlings were slightly taller on average and have a greater amount of fine root hairs compared to the untreated.



Photograph 2: If the ryegrass has a better start, (more plants, larger root system and leaf area), the plant potentially responds better after grazing or hay cutting. The Photograph shows that the plants from the Gaucho treated seed have responded faster, producing greater biomass than plants from bare seed. Photographs taken 3 weeks after a hay cut (22/11/06) at Mt. Gambier.



Photograph 3: After pulling plants out from the areas with Photograph 2 the Gaucho treated ryegrass appeared to have thicker root systems (Comments from Alissa Howieson, agronomist, Elders Mt Gambier).

Discussion

Plant establishment counts 23 days after sowing showed an 18% improvement compared to the untreated (Table 1). It was difficult to see any visual differences, except that the Gaucho treated seed looked to have established slightly quicker than the untreated (Photograph 1). It is generally accepted that it is very difficult to see visual biomass differences of less than 20% in pasture.

The pasture was grown for hay and therefore it was interesting to see that in the Gaucho treatment the ryegrass regrowth was faster after hay cut than untreated. Initial biomass measurements prior to hay cutting recorded a 4% increase in favour of the Gaucho treatment. A biomass assessment 3 weeks after hay cutting recorded a 12% increase compared to the untreated (Table 2 and Photograph 2 & 3). This faster growth rate can only be attributed to the improved plant health and establishment early, as all other factors were constant (Table 1 and Photograph 1).

COMMENTS

Geoff Berry, Bayer CropScience: "Upon arriving at the site there looked to be no visible difference between the treated and the untreated. Once plant counts had been completed and plant samples taken it became obvious that Gaucho treated ryegrass was more advanced in its establishment and growth rates."

Alissa Howieson, agronomist, Elders Mt Gambier: "Standing back at the fence, there is no visual difference between the treated and untreated. However, when I pulled plants out, there appeared to be thicker root systems on the plants that have grown from Gaucho treated seed."

Matt Lucas, grower: "The Gaucho treated side did cut better and bales were heavier. I believe that the Gaucho treated grass would have cut around 500 kg per hectare more." (**Matt Lucas via Alissa Howieson**)

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Wayne Rowe (Parlours, Simpson) & Robert Bugge (Bayer CropScience)

Site			
Address:	Prinetown	Paddock:	Summer 3
		Soil type:	Sandy/Grey loam

Products		
Product	Active	Formulation/code
Gauche	600g/L imidicloprid	FS

Crop			
Crop:	Annual Rye	Variety:	Italian Stallion
Date Sown:	15/05/2006		
Fertiliser:	180 kg 2:1 (pre sowing)		
Sowing rate:	25 kg/ha		

Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Absent
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Absent

Assessments/Requirements	
Rating:	
Plant Counts	31 DAS (count the number of each species per metre ²)
Yield	Grassmaster II pasture probe prior to each grazing
Testimonials	Distribution representative and grower

Trial Plan

Each paddock was divided in two. The treated area (approx. 1 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock was sown with untreated seed. The same variety (and germplasm) was used in the treated and the untreated.

Due to wet conditions the seed was broadcast via a spreader.

Results

Table 1: Emergence

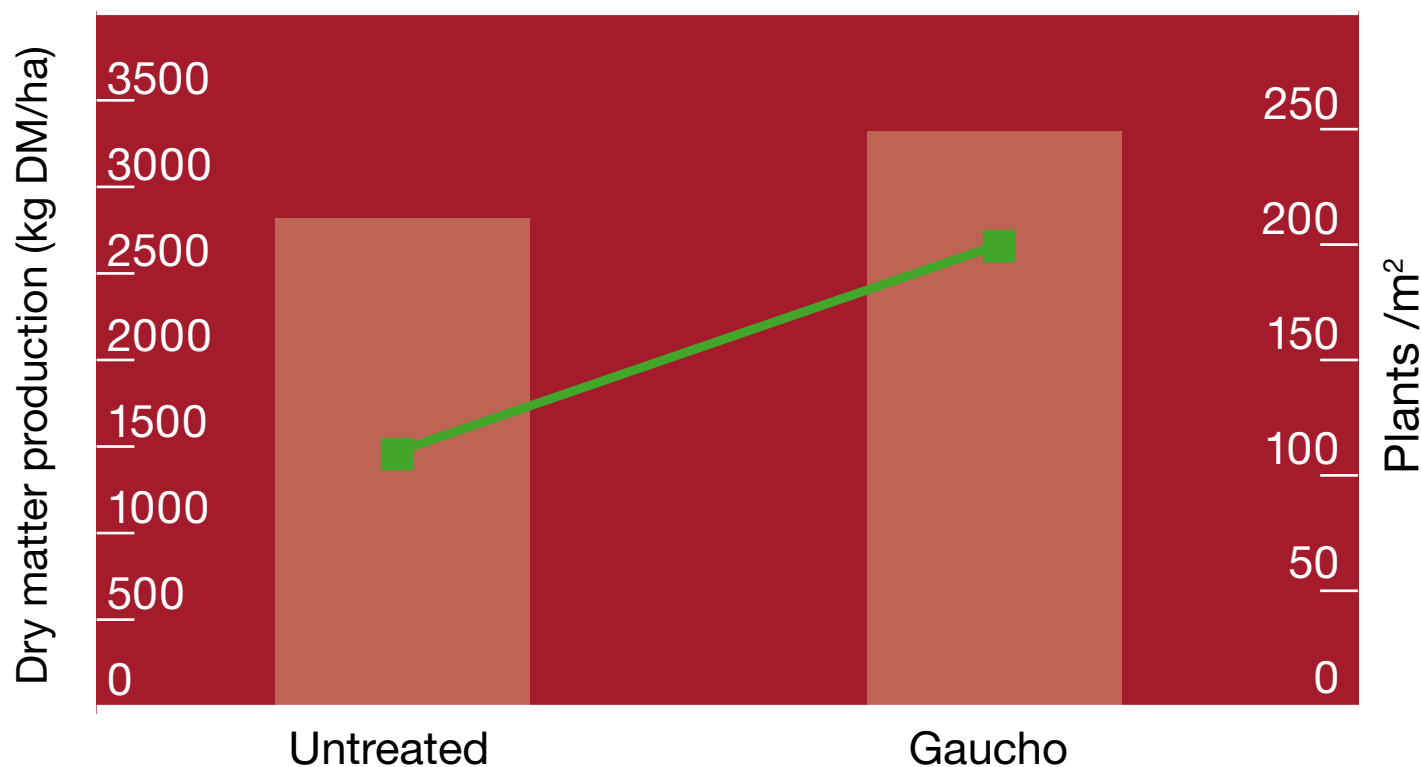
Plant Count	
Results:	Emergence
Date	15/06/06
Days after sowing	31 DAS
Assessment method	Plants per m ²
Treatment:	
1. Untreated	113
2. Gaucho	197
Change	+ 74%

Table 2: Yield

Yield	
Results:	Yield
Date	07/09/06
Days after sowing	115 DAS
Assessment method	Pasture probe
Recording kg DM/ha:	
1. Untreated	2766
2. Gaucho	3276
Change	+ 18%

Plant establishment and dry matter production.
(Italian Stallion, Princetown, 2006)

■ Dry Matter —◆— Plant count



Discussion

The trial was sown using a broadcast spreader due to the wet conditions. In these tough establishment conditions Gaucho resulted in a 74% increase in establishment compared to the untreated (Table 1). A pasture biomass assessment conducted prior to first grazing resulted in an 18% increase in dry matter production in the Gaucho treatment.

COMMENTS

Wayne Rowe (Parlours, Simpson): "The visual differences were dramatic. The Gaucho treated seed always looked thicker."

Michael Grant (Stephen Pasture Seeds): "Even under the tough wet conditions the Gaucho treated seed established better and always looked better than the bare seed."

Jason Newcombe (Grower): "Not a great visual difference but noticed some positive height difference with the Gaucho treated seed compared to the bare seed."

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Gary Condron (Rodwells, Sale) & Robert Bugge (Bayer CropScience)

Site			
Address:	Sale	Paddock:	Maize paddock
		Soil type:	Sandy loam
		Soil pH:	5.5

Products		
Product	Active	Formulation/code
Gaucho	600g/L imidicloprid	FS

Crop			
Crop:	Ryegrass	Variety:	Italian Stallion
Date Sown:	17/05/2006	Timerite:	No
Fertiliser:	100 kg/ha DAP	Row space:	150 mm
Sowing rate:	25 kg/ha		

Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Absent
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Absent

Assessments/Requirements	
Rating:	
Plant Counts	35 DAS (count the number of each species per metre ²)
Yield	Grassmaster II pasture probe prior to each grazing
Testimonials	Distribution representative and grower

Trial Plan

Each paddock was divided in two. The treated area (approx. 1 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock was sown with untreated seed. The same variety (and germplasm) was used in the treated and the untreated.

Results

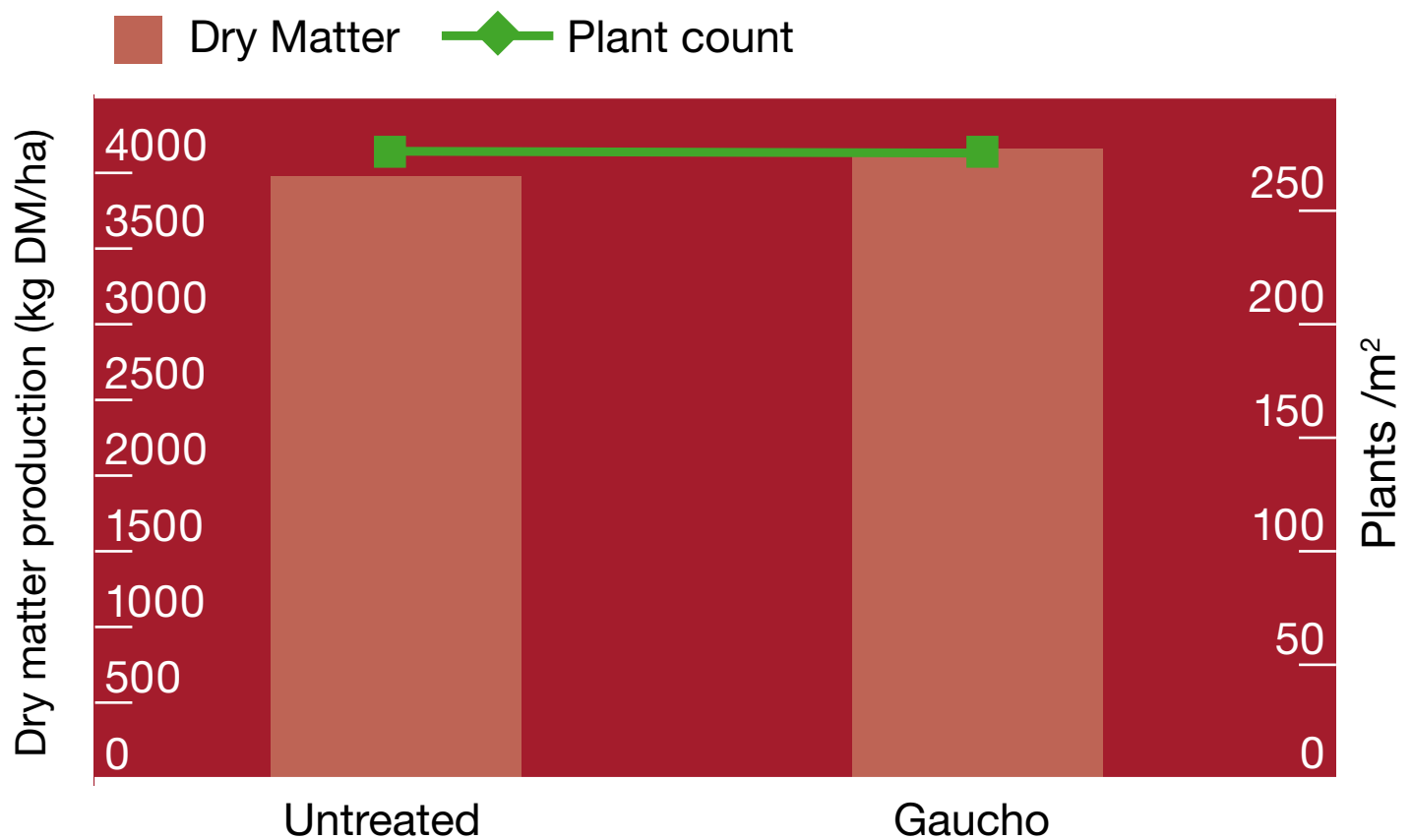
Table 1: Emergence

Plant Count	
Results:	Emergence
Date	21/06/06
Days after sowing	35 DAS
Assessment method	Plants per m row
Treatment:	
1. Untreated	221
2. Gaucho	226
Change	+ 2%

Table 2: Yield

Yield	
Results:	Yield
Date	29/08/06
Days after sowing	104 DAS
Assessment method	Pasture probe
Recording kg DM/ha:	
1. Untreated	3835
2. Gaucho	4045
Change	

Plant establishment and dry matter production.
(Italian Stallion, Sale, 2006)



Discussion

Plant counts were higher than expected. The Gaucho treatment produced a small improvement of 2% compared to the untreated (Table 1). This 2% improvement in plant establishment resulted in a 5% improvement in biomass (Table 2).

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Clinton Rogers (Elders Warnambool) & Robert Bugge (Bayer CropScience)

Site		
Address:	Illowa via Warnambool 3282	Paddock: 34
		Soil pH: 5 - 5.6
Products		
Product	Active	Formulation/code
Gauche	600g/L imidicloprid	FS
Crop		
Crop:	Ryegrass	Variety: Italian Stallion
Date Sown:	18/05/2006	Other Chemicals:
Fertiliser:	100 kg/ha DAP.	2006 x 2 Roundup® 1.5 L/ha +
Sowing rate:	25 kg/ha	Fastac® 100 mL/ha (1st spray)
		Tigrex® 750 mL/ha
Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Absent
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Absent
Assessments/Requirements		
Rating:		
Plant Counts	23 DAS (count the number of each species per metre row)	
Yield	Grassmaster II pasture probe prior to each grazing	

Trial Plan

Each paddock was divided in two. The treated area (approx. 2 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock was sown with untreated seed. The same variety (and germplasm) was used in the treated and the untreated.

Results

Table 1: Emergence

Plant Count	
Results:	Emergence
Date	14/07/06
Days after sowing	57 DAS
Assessment method	Plants per m row
Treatment:	
1. Untreated	164
2. Gaucho	212
Change	+ 29%

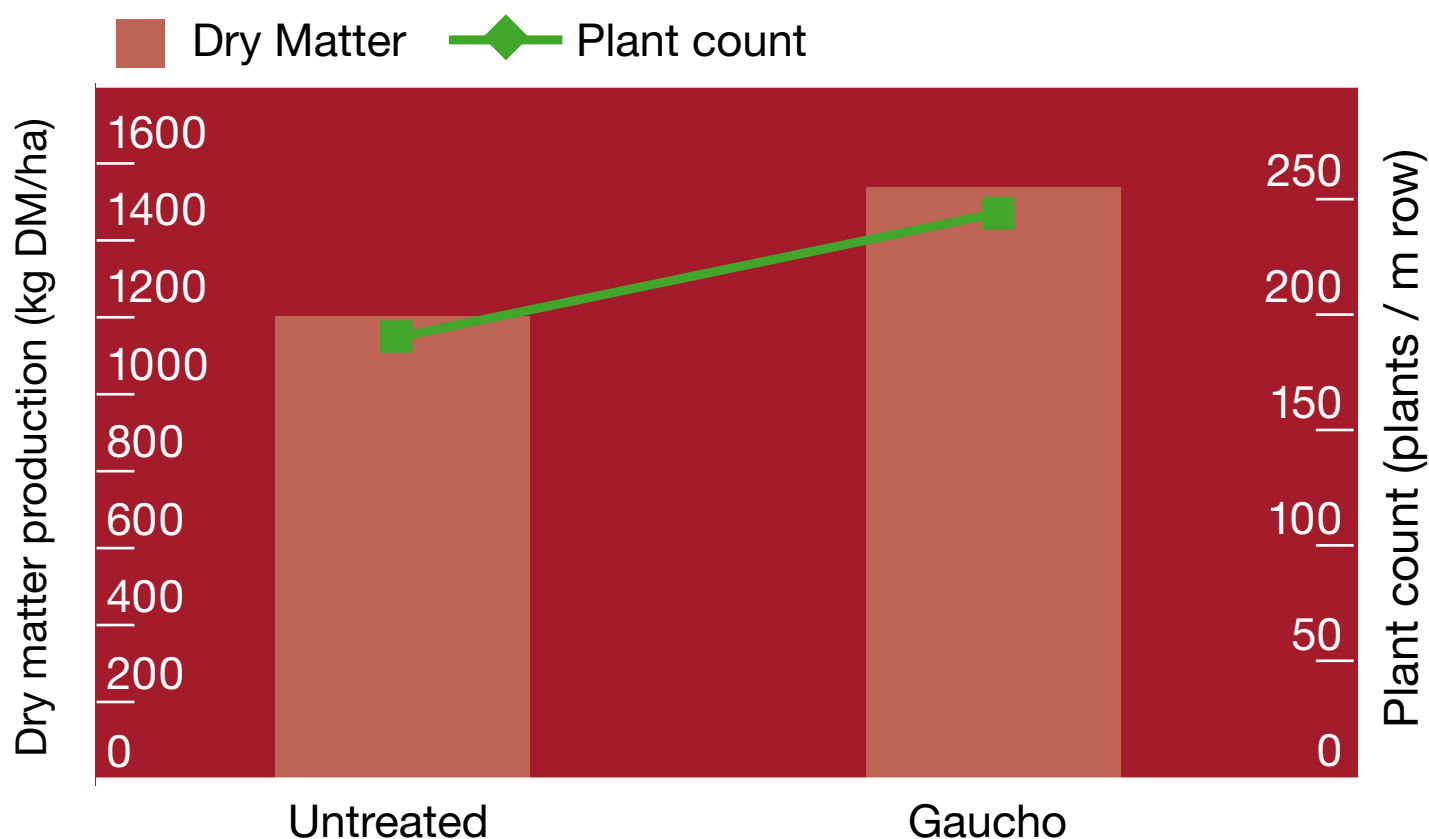
Note: The crop was noticeably taller in the Gaucho treatment.

Table 2: Yield

Yield			
Results:	Yield	Yield	Yield
Date	03/08/06	22/08/06	08/09/06**
Days after sowing	77 DAS	96 DAS	113 DAS
Assessment method	Pasture probe	Dry matter cut (kg DM/ha)	Pasture probe
Recording kg/ha:			
1. Untreated	6903	1080	3180
2. Gaucho	7121**	1440	3295
Change	+ 3%	+ 33%	+ 4%

** Probe measurements done while sheep grazing. Biomass had been removed by grazing so measurements should only be used as a guide.

Interaction between plant establishment and dry matter production. (Italian Stallion, Illowa, 2006)



Discussion

The Gaucho seed treatment resulted in a 29% improvement in ryegrass establishment compared to the untreated (Table 1). After the 1st grazing (96 DAS) a dry matter cut was used to assess dry matter production. The Gaucho treatment resulted in a 33% improvement in biomass compared to the untreated (Table 2).

The results from the pasture probe showed only a 2% increase in biomass compared to the untreated. There was a heavy population of chickweed in this paddock, weed control was poor and the pasture was being grazed at the time. This may have influenced the results that were gathered using the pasture probe (Table 2).

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Susie Tucket (Landmark Leongatha), Simon Hunt (Stephen Pasture Seeds) and Robert Bugge (Bayer CropScience)

Site			
Address:	Fish Creek	Paddock:	Old house
		Soil type:	Grey Loam
		Soil pH:	5

Products		
Product	Active	Formulation/code
Gaucho	600g/L imidicloprid	FS

Crop			
Crop:	Ryegrass	Variety:	Italian Stallion
Date Sown:	13/04/2006		
Fertiliser:	Lime		
Sowing rate:	25 kg/ha		

Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Absent
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Absent

Assessments/Requirements	
Rating:	
Plant Counts	31 DAS (count the number of each species per metre ²)
Yield	Grassmaster II pasture probe prior to each grazing

Trial Plan

Each paddock was divided in two. The treated area (approx. 1 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock was sown with untreated seed. The same variety (and germplasm) was used in the treated and the untreated.

Results

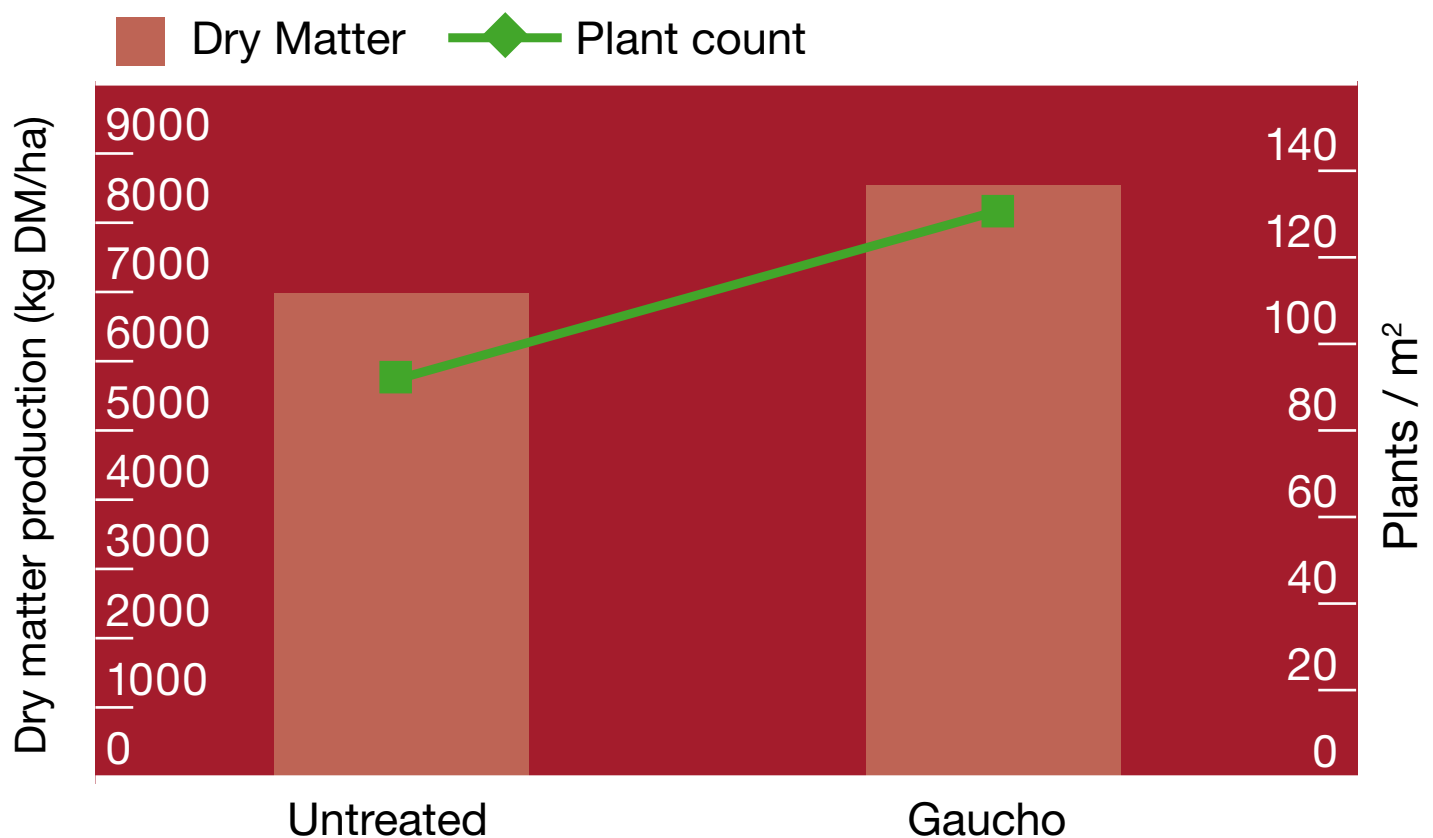
Table 1: Emergence

Plant Count	
Results:	Emergence
Date	11/05/06
Days after sowing	28 DAS
Assessment method	Plants per m row
Treatment:	
1. Untreated	90
2. Gaucho	117
Change	+ 30%

Table 2: Yield

Yield	
Results:	Yield
Date	25/07/06
Days after sowing	103 DAS
Assessment method	Pasture probe
Recording kg DM/ha:	
1. Untreated	6977
2. Gaucho	8067
Change	+ 16%

Plant establishment and biomass production.
(Italian Stallion, Fish Creek, 2006)



Discussion

Plant establishment improved by 30% as a result of the Gaucho seed treatment compared to the untreated (Table 1). The biomass assessment prior to 1st grazing returned a 16% improvement in favour of the Gaucho treatment (Table 2).

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Tony Goode (Elders Hamilton) and Robert Bugge (Bayer CropScience)

Site		
Address:	Caramut	Soil type: Clay Loam Soil pH: 5.4
Products		
Product	Active	Formulation/code
Gauche	600g/L imidicloprid	FS
Crop		
Crop:	Ryegrass	Variety: Banquet II
Date Sown:	19/05/06	Row space: 150 mm
Fertiliser:	MAP 110 kg/ha	
Sowing rate:	10 kg/ha ryegrass 10 kg/ha clover	
Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Absent
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Absent
Assessments/Requirements		
Rating:		
Plant Counts	70 DAS (count the number of each species per metre ²)	
Yield	Grassmaster II pasture probe prior to each grazing	

Trial Plan

Each paddock was divided in two. The treated area (approx. 1 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock was sown with untreated seed. The same variety (and germplasm) was used in the treated and the untreated.

Results

Table 1: Emergence

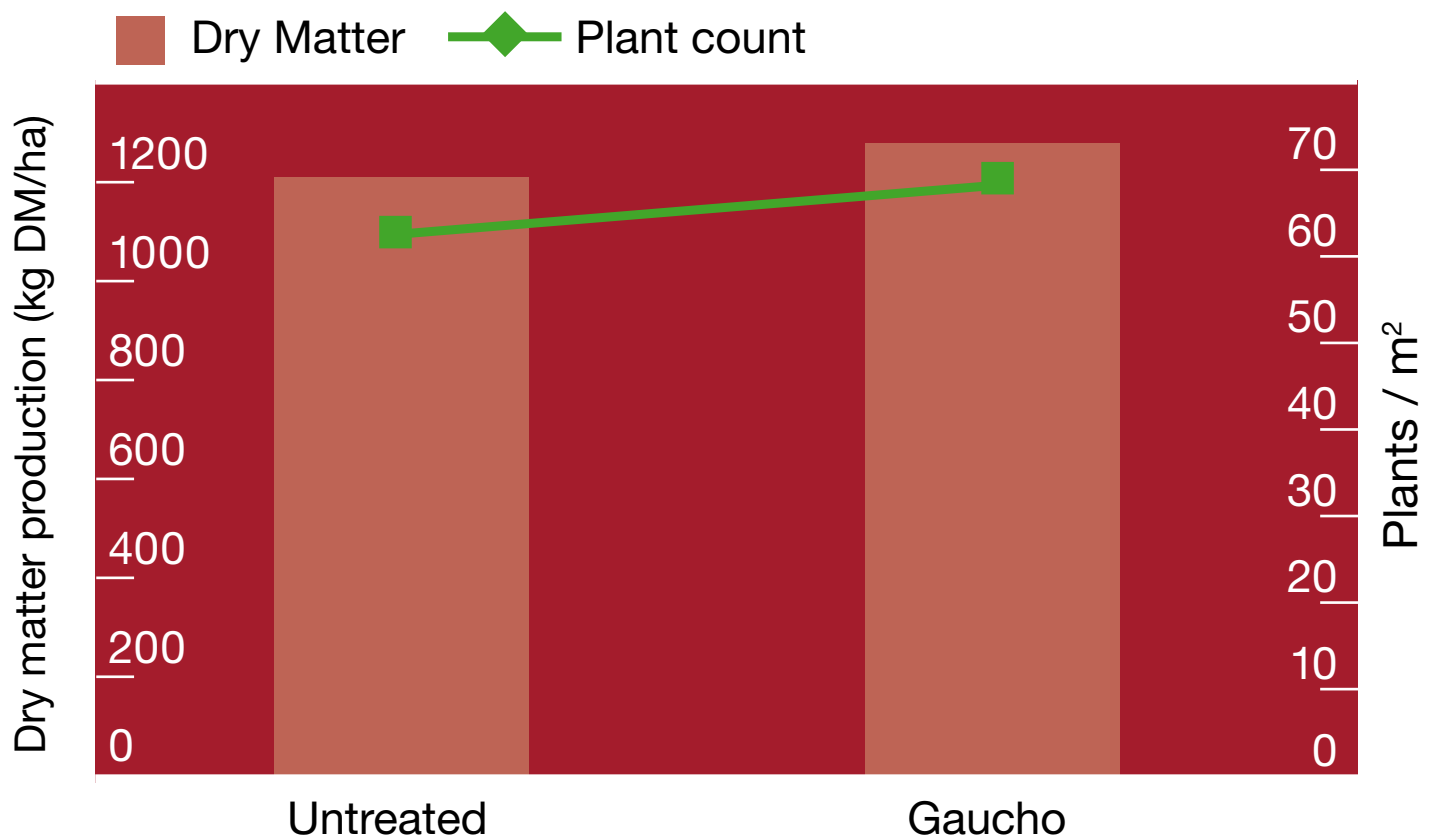
Plant Count	
Results:	Emergence
Date	28/07/06
Days after sowing	70 DAS
Assessment method	Plants per m row
Treatment:	
1. Untreated	52
2. Gaucho	60
Change	+ 15%

Table 2: Yield

Yield	
Results:	Yield
Date	28/07/06
Days after sowing	70 DAS
Assessment method	Pasture probe
Recording kg DM/ha:	
1. Untreated	1098
2. Gaucho	1227
Change	+ 12%

Plant establishment and biomass production.

(Banquet, Caramut, 2006)



Discussion

The seed treatment Gaucho resulted in an improvement in plant establishment of 15% and a biomass increase of 12% compared to the pasture from the untreated seed.

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Greg Wilson (Landmark Colac), Chris Harkness (Heritage Seeds) & Robert Bugge (Bayer CropScience)

Site			
Address:	Irrewillipe	Paddock:	Corner Paddock
		Soil type:	Sandy Loam
		Soil pH:	5.5

Products		
Product	Active	Formulation/code
Gaucho	600g/L imidicloprid	FS

Crop			
Crop:	Italian Ryegrass	Variety:	Hulk
Date Sown:	08/04/2006	Other Chemicals:	
Fertiliser:	DAP 250 kg/ha (post sowing)		2005 - Old pasture (hay)
Sowing rate:	30 kg/ha		2006 - Roundup® 2.5 L/ha + Kamba® 500 mL/ha

Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Absent
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Absent
Black headed cockchafer	<i>Acrossidius tasmaniae</i>	Heavy populations in 2005

Assessments/Requirements	
Rating:	
Plant Counts	23 DAS (count the number of each species per metre row)
Yield	Grassmaster II pasture probe prior to each grazing

Trial Plan

Each paddock was divided in two. The treated area (approx. 1 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock was sown with untreated seed. The same variety (and germplasm) was used in the treated and the untreated.

Results

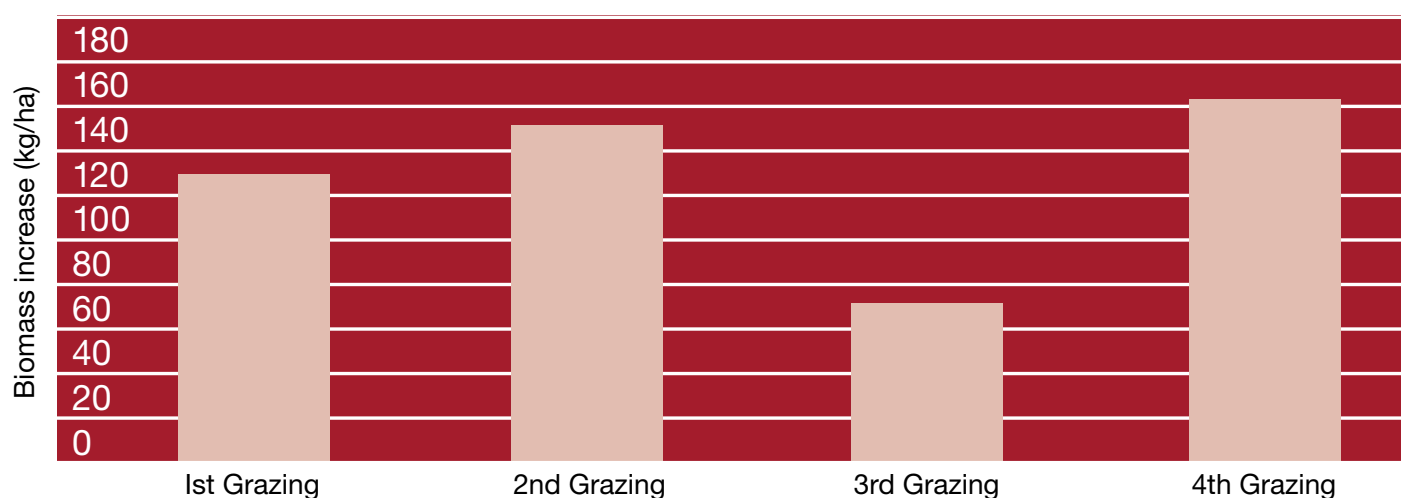
Table 1: Emergence

Plant Count	
Results:	Emergence
Date	17/05/06
Days after sowing	39 DAS
Assessment method	Plants per m row
Treatment:	
1. Untreated	169
2. Gaucho	197
Change	+ 17%

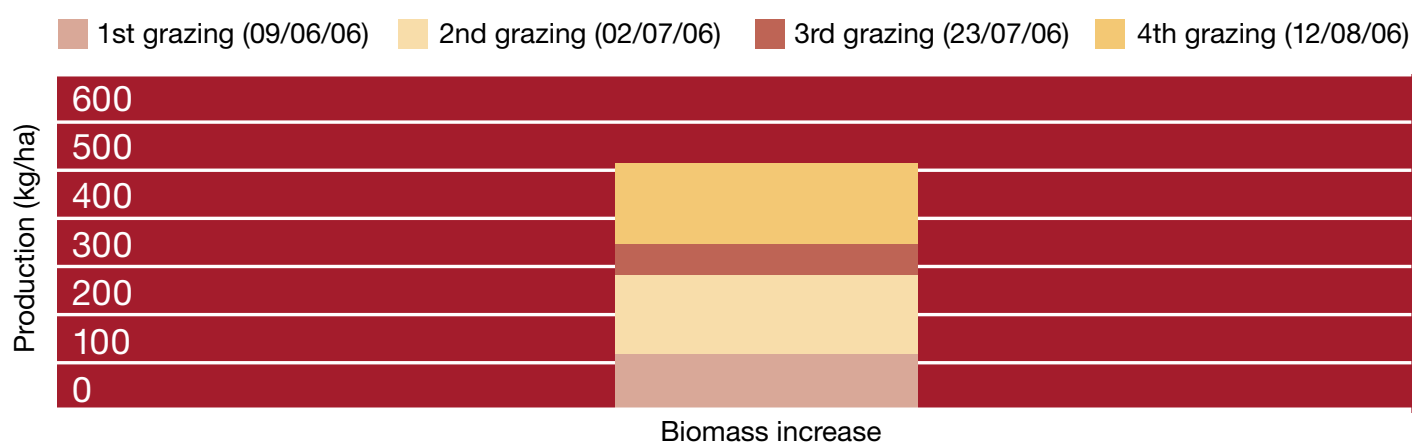
Table 2: Yield

Yield				
Results:	Yield	Yield	Yield	Yield
Date	09/06/06	02/07/06	23/07/06	12/08/06
Days after sowing	62 DAS	85 DAS	113 DAS	126 DAS
Assessment method	Pasture probe	Pasture probe	Pasture probe	Pasture probe
Recording kg/ha:				
1. Untreated	2897	3498	3798	4856
2. Gaucho	3028	3645	3865	5018
Biomass change (kg/ha DM)	131	147	67	162

Graph 1: Gaucho improves production across 4 sequential grazings compared to the untreated.



Graph 2: True benefit is in the cumulative production increases as a result of the Gaucho seed treatment.



Discussion

The seed treatment Gaucho resulted in a 17% improvement in plant establishment (Table 1) and improvements in biomass production prior to each of the four grazings (Table 2).

As can be seen in Graph 1, the benefits of the Gaucho are seen across each grazing not just prior to the 1st grazing. Gaucho continued to provide an increase in pasture and production following four successive grazings through the year (Graph 2).

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Shane Marks (Elders Pakenham) & Robert Bugge (Bayer CropScience)

Site		
Address:	Woodleigh	Paddock: Maize Soil type:
Products		
Product	Active	Formulation/code
Gauche	600g/L imidicloprid	FS
Crop		
Crop:	Ryegrass	Variety: Banquet II
Date Sown:	15/05/2006	Row space: Power harrowed
Sowing rate:	30 kg/ha	
Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Absent
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Absent
Assessments/Requirements		
Rating:		
Plant Counts	37 DAS (count the number of each species per metre ²)	
Yield	Grassmaster II pasture probe prior to each grazing	
Testimonials	Distribution representative	

Trial Plan

Each paddock was divided in two. The treated area (approx. 1 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock was sown with untreated seed. The same variety (and germplasm) was used in the treated and the untreated.

Trial was planted using a broadcast seeder due to wet conditions.

Results

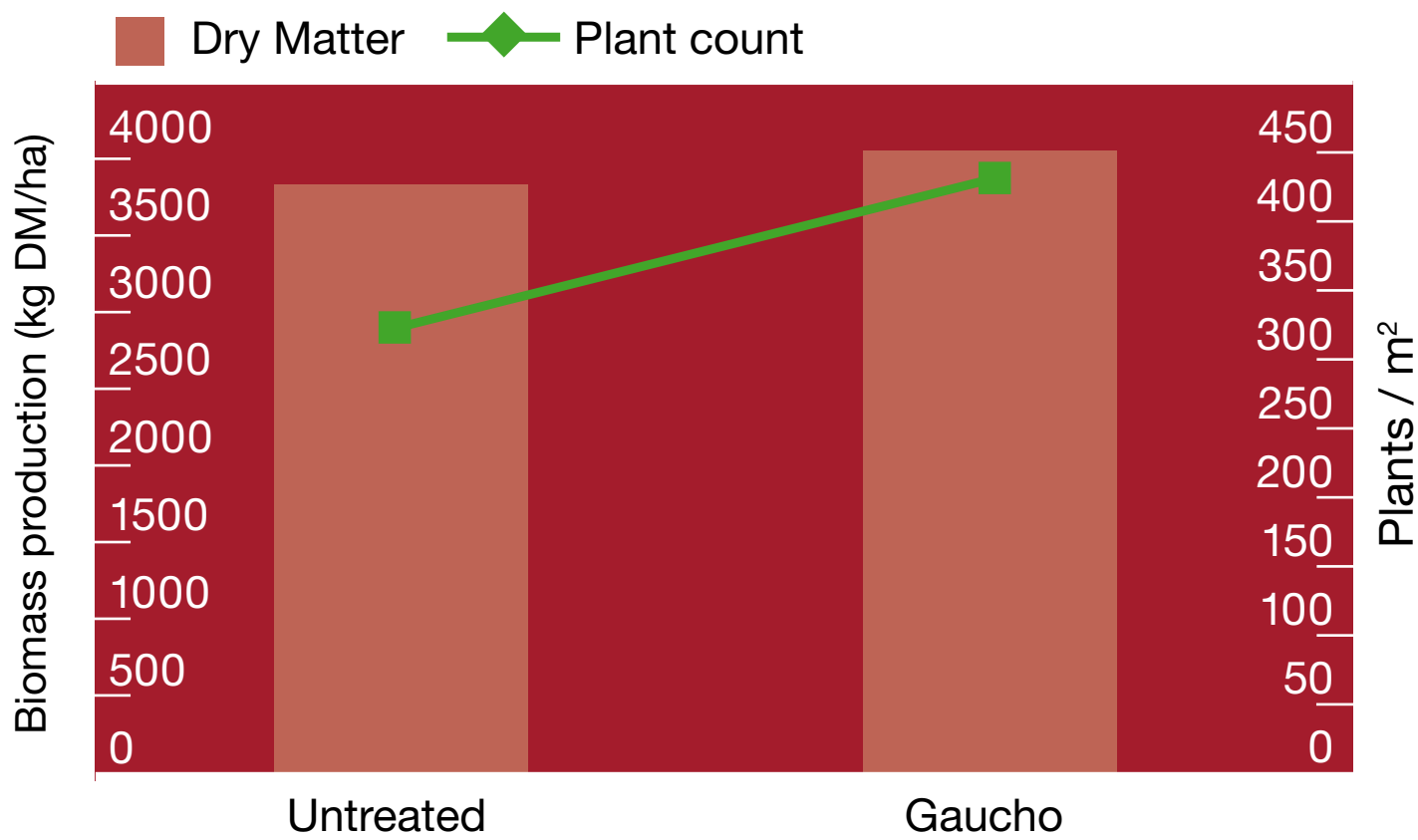
Table 1: Emergence

Plant Count	
Results:	Emergence
Date	21/06/06
Days after sowing	37 DAS
Assessment method	Plants per m ²
Treatment:	
1. Untreated	324
2. Gaucho	417
Change	+ 29%

Table 2: Yield

Yield	
Results:	Yield
Date	17/08/06
Days after sowing	94 DAS
Assessment method	Pasture probe
Recording kg DM/ha:	
1. Untreated	3722
2. Gaucho	3830
Change	+ 3%

Plant establishment and biomass production:
More plants, more biomass.



Discussion

The Gaucho seed treatment resulted in a 29% increase in plant establishment compared to the untreated and a 3% increase in pasture biomass prior to 1st grazing.

COMMENTS

Shane Manks (Elders agronomist, Pakenham): "Initially it was difficult to see any differences in plant establishment but after a closer inspection and a plant count, we found that the Gaucho treatment resulted in a 29% improvement in establishment which was excellent news."

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Justin Whittakers (Bayer CropScience)

Site			
Address:	Mathoura	Paddock:	Pasture bay
		Soil type:	Grey/red clay loam

Products		
Product	Active	Formulation/code
Gaucho	600g/L imidicloprid	FS

Crop			
Crop:	Ryegrass	Variety:	Crusader
Date Sown:	20/05/2006	Timerite:	No
Fertiliser:	200kg/ha single super	Row space:	180 mm
Sowing rate:	18 kg/ha		

Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Absent
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Absent

Assessments/Requirements	
Rating:	
Plant Counts	55 DAS (count the number of each species per metre ²)
Photos	Visual differences of emergence
Testimonials	Distribution representative and grower

Trial Plan

Each paddock was divided in two. The treated area (approx. 1 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock was sown with untreated seed. The same variety (and germplasm) was used in the treated and the untreated.

Trial was planted using a broadcast seeder due to wet conditions.

Results

Table 1: Emergence

Plant Count	
Results:	Emergence
Date	14/07/06
Days after sowing	55 DAS (24 days after rain)
Assessment method	Plants per m row
Treatment:	
1. Untreated	65
2. Gaucho	110
Change	+ 69%



Photograph 1: Untreated (left), Gaucho treated seed (right) 14/07/06).



Photograph 2a: Untreated (11/08/06)



Photograph 2b: Gaucho treated seed (11/08/06)



Photograph 3a: Untreated



Photograph 3b: Gaucho treated seed



Photograph 4: Untreated (left), Gaucho treated seed (right) 11/08/06).

Discussion

Crop planted in May and lay dry until rain at the end of June. Visual assessments of the biomass on 14th July (Photograph 1) and the 11th August (Photograph 2, 3 and 4) showed a remarkable difference in the absence of obvious pest pressure with the ryegrass in the Gaucho treatment more advanced than the untreated. Plant establishment counts showed that the Gaucho treatment resulted in a 69% improvement in ryegrass plant establishment.

COMMENTS

Justin Whittakers (Bayer CropScience): "The two treatments (blocks) were like chalk and cheese, the Gaucho treatment had a green tinge over the whole bay, while the non-treated was almost still just dirt."

Bill Haze (Grower): "I would definately consider using Gaucho on ryegrass again as there seems to be a establishment benefit. The treated bay got up and going much faster and there looked to be almost double the plant numbers."

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Howard Martin & Co CRT & Stephen Pasture Seeds

Site		
Address:	Berrigan	Paddock: Driveway paddock Soil type: Clay loam
Products		
Product	Active	Formulation/code
Gaucho	600g/L imidicloprid	FS
Crop		
Crop:	Ryegrass	Variety: Italian Stallion
Date Sown:	12/05/2006	Timerite: No
Sowing rate:	20 kg/ha	
Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Present
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Present (damage visible)
Assessments/Requirements		
Rating:		
Photos	Visual differences of emergence	
Testimonials	Distribution representative and grower	

Trial Plan

A variety of pasture species were sown in strips (3.8 m x 30 m) for comparison. The site was pre-irrigated due to the dry conditions.

Results

No plant counts were conducted due to the ryegrass being too advanced at time of assessment. Visual assessment of crop vigour and root growth was the primary means of assessment.





Photograph 1: Gaucho treated (left) vs untreated (right). Early protection from insect pests such as RLEM can result in improved plant growth and earlier grazing. Better establishment results in an increased biomass production compared to untreated seed.



Photograph 2: Early protection from insect pests such as RLEM allowed the ryegrass plants to maximise potential growth rate. Earlier faster growth allows for earlier grazing and overall better productivity.

Discussion

Due to seasonal conditions this trial site had a problem population of redlegged earth mites (RLEM) that would have normally required a foliar control strategy. At the time a foliar option was not possible.

The Gaucho treatment provided adequate early control of RLEM to allow the ryegrass to grow through the pest problem (Photograph 1 and 2).

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Chris Parager (Elders Albury) and Georgina Allen (Bayer CropScience)

Site			
Address:	Howlong	Paddock:	Creek reno
		Soil type:	Clay loam

Products		
Product	Active	Formulation/code
Gaucho	600g/L imidicloprid	FS

Crop			
Crop:	Ryegrass	Variety:	Charger
Date Sown:	15/05/2006		Drummer
Fertiliser:	Granulock	Other chemicals:	2005 - Le-mat [®]
Sowing rate:	20 kg/ha		

Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	10-20 per 10 cm ²
Blue oat mite	<i>Penthaleus major</i>	10-20 per 10 cm ²
Lucerne flea	<i>Sminthurus viridis</i>	5-10 per 10 cm ²

Trial Plan

Trial seed was drilled into existing perennial pasture to bulk up the ryegrass. A John Shearer drill with 'Bailer boots' was used. Existing pasture was a mixture of perennial ryegrass, phalaris, clover and wireweed. The pasture had a high population of various weeds the previous season that was controlled with herbicides. The removal of this weed population resulted in a patchy pasture and necessitated the sowing of ryegrass.

Two varieties (treated and untreated) were planted side by side in 4 large strips.

Assessment

Plant counts were not conducted as the trial strips were sown into an existing pasture and it was too difficult to count the new ryegrass amongst established pasture.

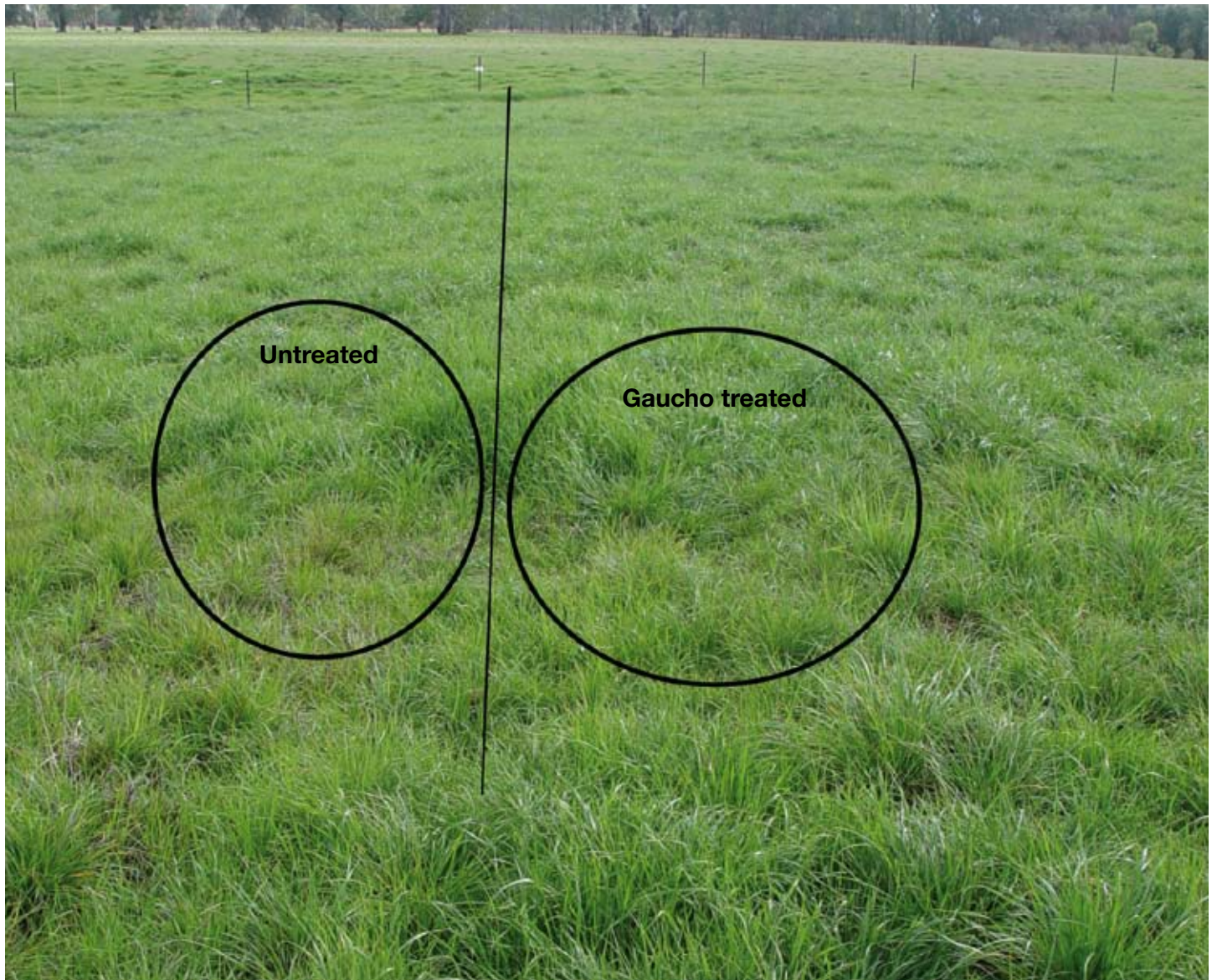
Results

Table 1: Yield

Yield		
Results:	Yield	Yield
Date	25/08/06	25/08/06
Days after sowing	102 DAS	102 DAS
Assessment method	Pasture probe	Pasture probe
Recording kg DM/ha:		
1. Untreated	772	626
2. Gaucho	1345	1348
Change	+ 74%	+ 72%



Photograph 1: Improved plant growth with the Gaucho treated ryegrass compared to the untreated. High populations of RLEM, blue oat mite and lucerne flea were evident on the existing clover in the pasture.



Photograph 2: Gaucho treatment shows improved establishment and earlier growth. Untreated (left) and Gaucho treated (right). Need to look at the rows as the established pasture does make it difficult to see the growth advantages.



Photograph 3: Later assessment shows that the Gaucho treated plants that have greater root system and growth rate compared to those from the untreated.

Discussion

The benefits with Gaucho improving plant establishment was visible in this trial (Photograph 1, 2, 3). As a result of the ryegrass being sown into an established pasture, one needed to focus on the newly sown pasture. Differences between the treated and untreated were visible with the Gaucho treated seed resulting in a greater density of plants compared to the untreated (Photograph 2). Closer inspection showed that plants from the Gaucho treated seed produced larger, more vigorous plants (Photograph 3).

Plant counts were not conducted, as it was very difficult to count the newly sown ryegrass in amongst the established pasture. However, there were positive biomass differences in favour of the Gaucho treatments with both Charger and Drummer (Table 1).

COMMENTS

Georgina Allen (Bayer CropScience): "Initially it was difficult to see the newly sown ryegrass but once you looked through the existing ryegrass clumps the seedlings from the Gaucho treated seed were far more advanced than the untreated."

Chris Parager (agronomist, Elders Albury): "There is a positive benefit with treating ryegrass pasture seed with the seed treatment Gaucho. Establishment is better and there are grown advantages associated. The differences between the treated and the untreated in both varieties were very obvious."

Bayer CropScience Market Development Trial Report

To demonstrate the benefit of Gaucho seed treatment on pasture species.

Conducted by: Brad Caldwell (Landmark Echuca) and Georgina Allen (Bayer CropScience)

Site			
Address:	Tongala	Paddock:	2 & 3
		Soil type:	Sandy loam

Products		
Product	Active	Formulation/code
Gaucho	600g/L imidicloprid	FS

Crop			
Crop:	Italian Ryegrass	Variety:	Italian Stallion
Date Sown:	01/06/2006	Timerite:	No
Fertiliser:	100 kg/ha DAP	Row space:	150 mm
Sowing rate:	25 kg/ha	Other chemicals:	2005 - Roundup® 2006 - Roundup® & dimethoate

Target		
Target	Casual organism	Present/Absent
Redlegged earth mite	<i>Halotydeus destructor</i>	Absent
Blue oat mite	<i>Penthaleus major</i>	Absent
Lucerne flea	<i>Sminthurus viridis</i>	Absent

Trial Plan

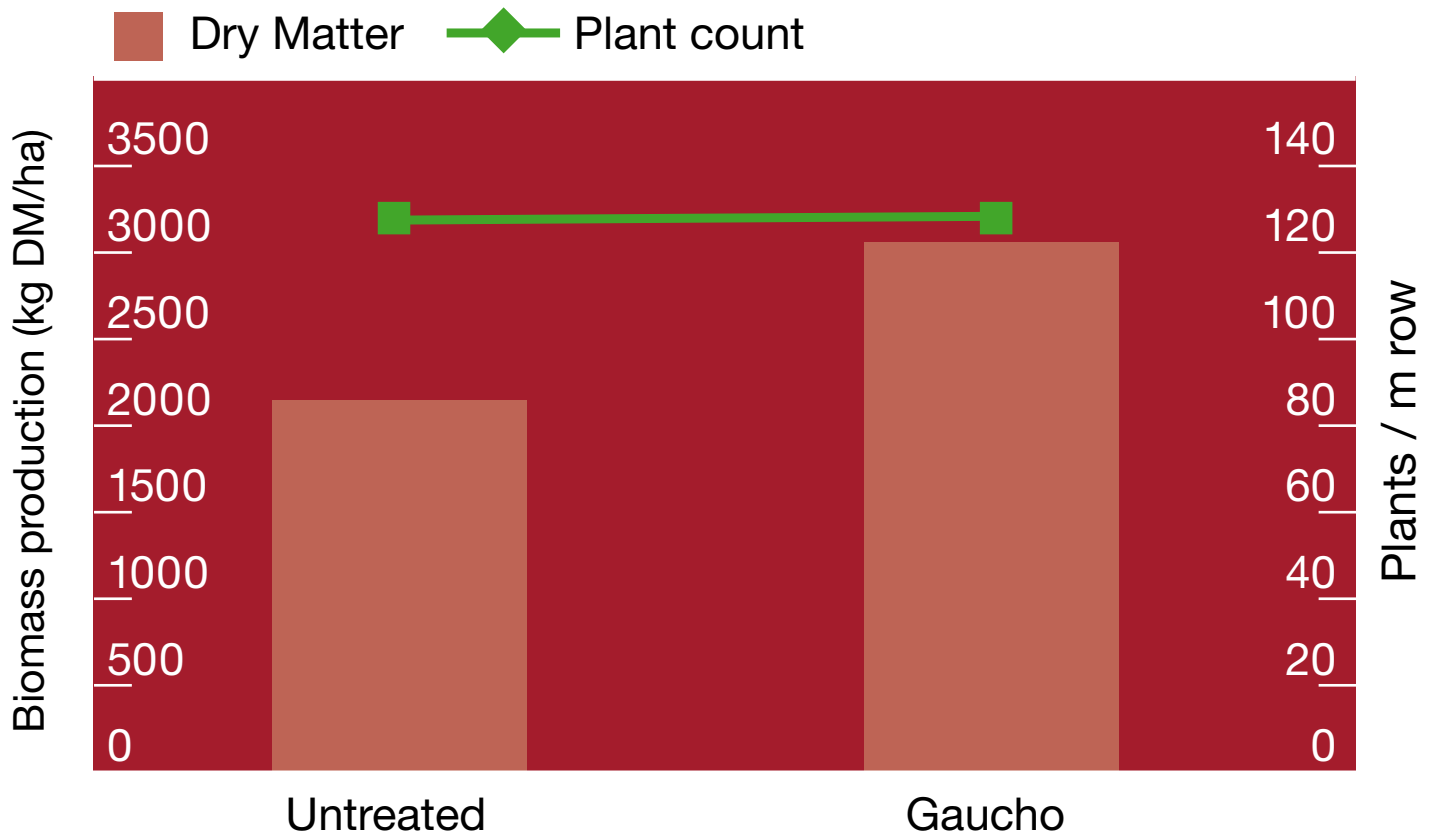
Each paddock was divided in two. The treated area (approx. 1 ha) was planted with Gaucho treated ryegrass and the remainder of the paddock sown with untreated seeds. The same variety (and germplasm) was used in the treated and the untreated.

Results

Table 1: Yield

Emergence and Yield		
Results:	Emergence	Yield
Date	10/07/06	01/09/06
Days after sowing	40 DAS	92 DAS
Assessment method	Plants per m row	Plants per m row
Recording kg DM/ha:		
1. Untreated	114	2050
2. Gaucho	118	2881
Change	+ 4%	+ 41%

Graph 1: Plant establishment and biomass production.
(Italian Stallion, Tongola, 2006)



Discussion

The Gaucho seed treatment resulted in a 4% increase in plant establishment and a 41% increase in biomass production compared to the untreated (Table 1 and Graph 1).

COMMENTS

Georgina Allen (Bayer CropScience): "Although visually it was hard in the early stages to see any difference between the Gaucho treated and the untreated, the pasture probe results showed there was a difference in biomass density in favour of the Gaucho."

Brad Caldwell (Landmark agronomist and grower): "At germination, after late rain, the treated paddock emerged first and the rows were more clearly defined in the early weeks. Visually the treated area was denser than the untreated block. After the assessments were completed I harvested the entire area for silage. No yield data was measured. Following the silage cut, I irrigated both areas once, and a minor rainfall event also occurred. In late October I had both areas cut for hay. Even though cattle got into the Gaucho treated area prior to the hay cut, I harvested 2 extra 5' x 4' rolls of hay off the treated area with an approximate weight of 400 kg/roll."

Bayer CropScience would like to acknowledge the support and assistance of the following companies in carrying out the Gaucho market development trials in 2006.



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