

SAKURA® 850WG, compared to commercial standards for the pre-emergent control of annual ryegrass (*Lolium rigidum*) in wheat on sandy soil. (10WE08)

Rick Horbury – Technical Advisor, Bayer CropScience

Purpose:	1. To compare the weed control and yield of Sakura with commercial standards. 2. To demonstrate efficacy & crop safety of Sakura when sown with grower's machinery..
Location:	Badgingarra Research Station
Soil Type:	Sandy loam with gravel
Soil Test:	pH 4.9 (CaCl ₂)
Rotation:	2009 wheat, 2008 lupin
GRS:	300mm

BACKGROUND SUMMARY

- Bayer CropScience is planning to launch Sakura 850WG containing the new active ingredient pyroxasulfone in time for the 2012 season.
- Sakura 850WG's mode of action is an inhibitor of Very Long Chained Fatty Acid biosynthesis and is likely to be classed as a Group K herbicide.
- Sakura 850WG works through both root and shoot uptake.
- Sakura 850WG has been submitted for registration for the pre-emergent control of annual ryegrass, barley grass, phalaris, silver grass and toad rush in wheat, barley and triticale.
- Sakura 850WG is a pre-emergent herbicide that can be applied up to 14 days prior to sowing with knife points and press wheels or knife points and harrows. Sakura 850WG works best when incorporated by sowing (IBS).
- Sakura 850WG is to be applied at 118 g/ha and is compatible with a range of other knockdown and pre-emergent products.

TRIAL DESIGN

Plot size: 5 m x 24 m (3 replicates)

Spray details: Applied on 2/6/10; water rate of 82 L/ha; ground speed of 8 kph

Machinery: Air Mix 015/ 2.5 bar; Knife points and press wheels

Herbicide: **Pre-seeding:** Roundup®CT at 1.75 L/ha + Estericide® 680 at 400 mL/ha + Alpha-cypermethrin at 75 mL/ha on 1/6/10

Ground cover: 95% ground cover 0-5cm residue. 5% 5-15cm RG stubble
RG 200+/ m2 (1 leaf - tillering), WR 0-10/m2 (2 – 8 leaf)

Crop details: Magenta wheat at 105 kg/ha on 3rd June 2010

Fertilizer: CSBP K-till Xtra 100 kg/ha

RESULTS & DISCUSSION

This site received only a single knockdown on the 1st June 2010. There was a thick covering of green material present across the trial site when the treatments were applied especially on the header rows which would have compromised coverage and therefore final weed control. The trial treatments were applied to moist soil on the 1st June. The trial was sown by the grower the following day after treatments were applied with knife point and press wheels on 9 inch row spacing. After sowing there were some clumps of trash caught up in the points particularly in the header rows across the site.

A site inspection on the 29/6/10 confirmed the effectiveness of the glyphosate application with no large weeds observed across the site.

Rainfall

There was a 50 mm summer rainfall event over two days on the 22-23rd March 2010. A total of 286.2 mm of rainfall was recorded at the site from the start of May to the end of November. 218.6 mm of rainfall was recorded on the site from the application of the treatments to harvest with 102.2 mm throughout spring.

Figure 1: High density header row at application 2/6/10



Table 1: Crop Effects and yield (t/ha) in Magenta wheat.

		Assessment Date	29/06/10	29/06/10	15/09/10	10/11/10	10/11/10
		Days after application	27 DAA	27 DAA	105 DAA	161 DAA	161 DAA
		Rating Type	Rating	Rating	Rating	Harvest	Harvest
		Rating Scale	%	%	%	t/ha	%
No	Treatment	Rate /ha	Discolour	Biomass Reduction	Biomass	Yield	% untreated
1	UNTREATED		0	0	95	2.33 a	100
2	SAKURA 850	118 g/ha	0	0	100	2.66 a	114
3	BOXER	2.5 L/ha	0	0	100	2.68 a	115
4	SAKURA 850 WG LOCORAN®	118 g/ha 30 g/ha	0	0	100	2.64 a	114
5	TRIFLURX® AVADEX XTBA®	1.5 L/ha 1.6 L/ha	0	0	100	2.57 a	111

Yields t/ha followed by the same letter do not significantly differ (P= 0.05, Duncan's New MRT).

Crop safety

- All treatments were safe to the crop.
- All treatments recorded a comparable increase in biomass over the untreated at 105 DAA.

Yield

- All treatments recorded higher yields than the untreated although none were significant ($P \leq 5\%$).
- Late differences in ryegrass control did not impact on yield as early control was the key in a dry spring.

Table 2: Grain quality analysis and gross return \$/ha.

No	Treatment	Rate /ha	Protein %	Moisture %	Hectolitre kg/L	Screenings %	Grade	t/ha	Gross Return \$/ha
1	UNTREATED		12.6	8.5	80.5	10.6	FED1	2.33	\$612.79
2	SAKURA 850 WG	118 g/ha	12.3	8.5	80.3	11.1	FED1	2.66	\$699.58
3	BOXER GOLD	2.5 L/ha	12.3	8.6	80.5	11.0	FED1	2.68	\$704.84
4	SAKURA 850 WG LOGRAN 750 WG	118 g/ha 30 g/ha	12.8	8.6	80.4	10.2	FED1	2.64	\$694.32
5	TRIFLURX AVADEX XTRA	1.5 L/ha 1.6 L/ha	12.1	8.5	81.1	9.8	AUH2	2.57	\$932.91

*Based on Grain Trade Association wheat receival standards 2010-11.

- Pricing based on AWB contract pricing delivered to Fremantle port zone, AUH2 = \$363, FED1 = \$263 9/12/2010
- Screenings above 5% prevented any treatments from being graded APW1, Screenings in excess of 10 prevented treatments other than TriflurX 1.5 L/ha + Avadex Xtra 1.6 L/ha from being graded at AUH2.
- Lower crop biomass in the TriflurX + Avadex treatment resulted in lower screenings in a dry spring finish.

Table 3: Control of annual ryegrass (*Lolium rigidum*).

		Assessment Date	29/06/10	15/09/10	15/09/10
		Days after application	27 DAA	105 DAA	105 DAA
		Rating Type	Rating	Rating	Rating
		Rating Scale	%	%	%
No	Treatment	Rate /ha	Control	Overall Control	Header row Control
1	UNTREATED		0	0	0
2	SAKURA 850 WG	118 g/ha	79	85	70
3	BOXER GOLD	2.5 L/ha	82	77	60
4	SAKURA 850 WG LOGRAN 750 WG	118 g/ha 30 g/ha	77	85	70
5	TRIFLURX AVADEX XTRA	1.5 L/ha 1.6 L/ha	79	69	50

Annual ryegrass control

- Good soil coverage at application was not possible due to the high levels of green material present, this affected the level of control recorded in the high density header rows at 105 DAA for all treatments.
- The lack of a rainfall event in excess of 10 mm until the 8th July did not favour the redistribution of Sakura back into the cropping row or off stubble. The majority of ryegrass in the Sakura plots was in patches of stubble or on the edge of the furrow where nil herbicide was located.
- Control was comparable for all treatments at 27 DAA.
- Sakura treatments recorded the best control of ryegrass at 105 DAA in both the general plot and the high density header rows.
- The extended dry conditions on a sandy soil type did not assist the root activity of Sakura and under these seasonal conditions optimal results from Sakura would not be expected.

Figure 2: Final Control 15/9/2010

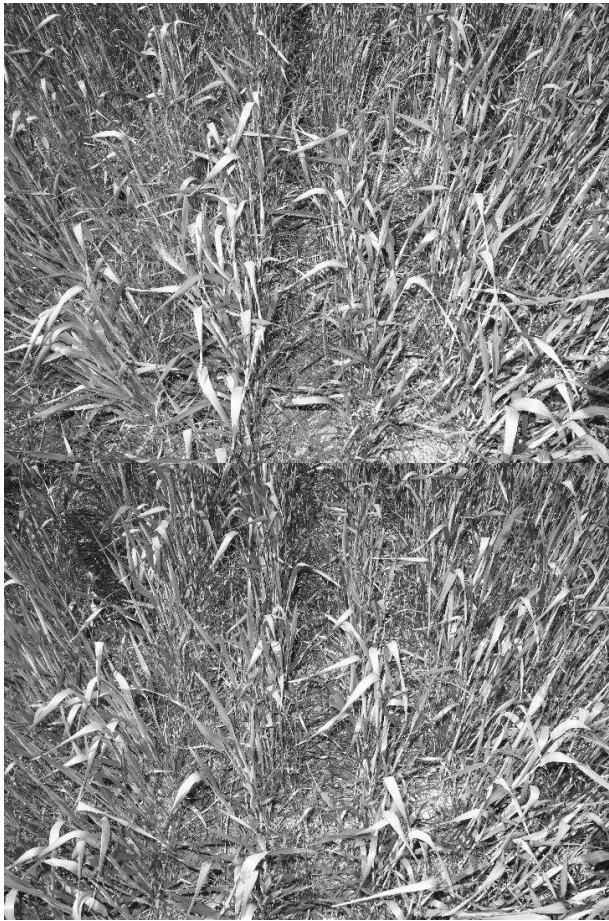
Untreated



Sakura 118 g/ha

Boxer Gold 2.5 L/ha

TriflurX 1.5 L/ha + Avadex Xtra 1.6 L/ha



Note: Ryegrass present in Sakura treatment had less tillers and was lower in overall biomass.

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Comments

- At the time of publication Sakura 850WG is not registered. An application for the registration of Sakura 850WG has been made.
- Sakura® is a Registered Trademark used under license by Bayer CropScience.

CONTACT EMAIL: rick.horbury@bayer.com