2.2.2 An Evaluation of Spring Sown Barley - Inverleigh, Vic

Location: Inverleigh

Funding:
This trial was funded by SFS as an initiative to determine if early season barley varieties bred for the lower rainfall locations better suited later sowing of barley when compared to Gairdner in the HRZ.

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Special thanks to suppliers of seed to enable SFS to conduct this trial.

Rainfall (mm) August – December:
GSR 283mm.
Season total 529mm.

Summary of Findings:

- Gairdner barley averaged the highest yield for the late sown 'Spring' barley variety trial, recording 4.5t/ha, significantly more than VBO432 (3.66t/ha) and Copeland (3.54t/ha). Gairder barley did not yield significantly more than Flagship (4.48t/ha) or Vlamingh (4.19t/ha)
- Yield, test weigh and screenings were not significantly different for all varieties.
- Thousand grain weights (grams) were significantly higher for Vlamingh (41.58g) when compared to VBO432 (40.58g) and Copeland (37.85g)
- All varieties were downgraded to feed based on very high protein and low test weights.

Background:
This trial was conducted to evaluate alternative barley maturities to Gairdner for a "Spring" planting. Most barley variety trials are sown in May or June, which does not give a good pointer to those varieties best suited to a later plant situation.

Trial Design:
A completely randomized block design. Each plot was approximately 17m^2.

The inputs for this trial were based mainly around a typical timing of seeding to control in-crop weeds. Fungicides were not used in this trial as monitoring of disease was undertaken and with a dry spring was not deemed necessary.

Table 2.14: Trial inputs

Sowing Date:	16 August 2007
Sowing Rate:	Seed to achieve 160ppm2 (90Kg/ha)
Harvest Date:	2/2/08

	Product	Rate	Date Applied
Herbicides	Roundup PowerMax + Triflur 480	1.5L/ha + 1.5L/ha	16 August 2007
	Dual Gold + Diuron	0.25L/ha + 0.5L/ha	17 August 2007
	Tigrex	0.7L/ha	17 September 2007
Fertiliser	MAP	100Kg/ha	16 August 2007
	Urea	40KgN/ha	28 September 2007

Results:

This trial suggests that Gairdner barley is a worthy variety to sow in Spring, when compared to the other varieties in test. Gairdner yielded significantly more than VBO432, seen as one potential replacement to this broadly adapted line and Copeland, a quick season feed type. Gairdner did not yield significantly more than Flagship or Vlamingh.

As can be seen in Table 2.15 there was no significant difference for grain protein percentages, with all varieties averaging above 13% protein, declassifying the malt lines to the lower grading Feed 2. Test weights and screenings were also not significantly different, however varieties did show differences in their thousand grain weights.

Table 2.15: Yield and grain quality outputs for spring sown barley

Description	Crop Yield t/ha	Grain Prot %	Test Wt (kg/hl)	Screening %	TGW (g)	$/Ha Gross Return
Gairdner	4.50 a	13.20	61.28	3.57	41.10 ab	1485.00
Flagship	4.48 a	13.35	60.19	3.27	40.58 ab	1478.00
VBO432	3.66 b	13.55	60.53	2.18	38.88 bc	1208.00
Vlamingh	4.19 a	13.28	61.95	2.9	41.58 a	1383.00
Copeland	3.54 b	13.73	61.34	2.67	37.85 c	1168.00
LSD (P=0.05)	**0.52**	**NS**	**NS**	**NS**	**2.675**	**-**
CV	**8.28**	**3.53**	**3.08**	**36.33**	**4.34**	**-**

Means followed by the same letter do not significantly differ (P=0.05, LSD). NS = Not Significantly Different

With each of the treatments classified to Feed 2 status (test weight >60<62.5), there was no grain quality benefit for any of the varieties. Gairdner gave higher returns than any other variety with a grain price of $330.00/t (at the time of harvest).

Trial Observations:

With the late seeding and kind finish, barley yields were high. The GSR for August to December was more than the total amount of rain received in the April to November growing season for 2006. Care needs to be taken therefore when reviewing these results, with a drier finish likely to have a significant impact on the results.