

3.5 Oats and Triticale

3.5.1 Triticale variety trial - Bairnsdale, Vic

Location: SFS Dunkeld Research Site

Funding:

This was an SFS Gippsland Branch Funded Trial

Summary of findings:

Tobruk produced the highest yield of 5.9t/ha which was significantly higher than Bogong, the lowest yield producer, but not different to the other varieties. Bogong produced the highest test weight and protein content.

Researcher(s): Shayne Mathews, DPI Vic, Nicole Hellyer & John Waller, SFS, Gippsland

Author(s): Shayne Mathews, Annieka Paridaen (SFS), Elaina Vandermark (SFS)

Acknowledgements: Thanks to the Gippsland Branch Committee

Background/Aim:

To evaluate a number of commercially available triticale varieties for yield and grain quality. These reflect the most widely grown varieties in the area and include others that may be considered in the future. They grain only and dual purpose varieties.

Rainfall:

2011 Total: 737.4 mm
Avg. Annual: 644.7 mm
2011 G.S.R.: 496 mm
Avg. G.S.R.: 444.1 mm

Paddock History:

2009: Canola
2010: Winter fallow, Summer Millet

Soil Characteristics:

Soil Type: Brown Sodosol – Sandy loam over medium-heavy clay subsoil
pH (1:5 CaCl): 6.1
Deep N (kg N/ha): 6.4
P (Colwell) (mg/kg): 35
K (Colwell) (mg/kg): 81
Organic Carbon %: 1.8

Yield Potential: The Water Limited Yield Potential (WLYP) for this trial was 8.5t/ha

*WLYP: Calculated using WUE values of 15kg/ha per mm rainfall for Wheat/Barley and 7kg/ha per mm rainfall for Canola, 130mm assumed evaporation and GSR of 30% Jan & Feb + 50% Mar (only if >20mm) + April to November. This calculation makes an allowance for a % of stored moisture from the summer

Variety: Various

Sowing rate: Aiming to establish 160 plants/m²

Sowing date: 18th May 2011

Harvest: 3rd-5th Jan 2012

Plot size: 20m x 1.26m x 4 reps

Plots/tillage: Flat layout. Cultivated with Vaderstad Topdown 12th May 2011 prior to sowing

Fertiliser:

18-May-11	DAP 80kg/ha SOP 30kg/ha
2-Sep-11	Urea 100kg/ha (TOS1)
11-Oct-11	Urea 60kg/ha (TOS1)

Herbicide:

29-Mar-11	Roundup 2.5l/ha, Surpass 0.415l/ha, Goal 75ml/ha
12-May-11	Treflan 800ml/ha incorporated with Vaderstad Topdown
23-Aug-11	Tigrex 1L/ha

Fungicide:

27-Sep-11	Prosaro 150ml/ha, Hasten 1L/ha
11-Nov-11	Prosaro 300ml/ha, Hasten 1L/ha

Measurements: Grain yield and grain quality components

Tillage type: The trial was sown with SFS Gippsland's Agriplow cone seeder on 21cm row spacing's using 2.5cm baker boot and knifepoints. Millet stubble was cut and baled prior to sowing.

Diseases: In-crop fungicides were effective in controlling any disease. There was little foliar or root disease witnessed in the triticale this year.

Results and discussion:

Table 1. Yield and quality performance of triticale varieties at Bairnsdale.

Treatment	Yield t/ha		Protein %	Test Weight kg/ha	Screening %
Tobruk	5.94	a	9.4	70.7	1.8
Endeavour	5.77	a	9.13	64.65	1
Crackerjack	5.73	a	9.73	70.35	1
Bogong	4.81	b	10.3	71.55	1
<i>LSD (P=.05)</i>	<i>0.71</i>		<i>0.68</i>	<i>1.05</i>	<i>0.4</i>
<i>CV</i>	<i>7.98</i>		<i>9.64</i>	<i>69.31</i>	<i>1.19</i>

Means followed by same letter do not significantly differ (P=.05, LSD).

The highest yielding varieties were the dual purpose variety Tobruk (5.94t/ha), Endeavour (5.77t/ha) and Crackerjack (5.73t/ha), which were not significantly different from each other but were all significantly higher yielding than Bogong (4.81t/ha). Although Bogong had a lower yield than the other varieties, it had a significantly higher protein level (10.3%) than Tobruk and Endeavour. It also had a significantly higher test weight (71.55kg/hl) than Crackerjack and Endeavour.

Little disease pressure was observed in triticale crops, which was aided by two well timed fungicide applications in order to control almost all disease. Higher than normal yields may have been a reflection of the long/soft growing season experienced in Gippsland in 2011.