Canola Variety Demonstration - Dalwallinu

Clare Johnston, R&D Coordinator, Liebe Group

Aim

To compare yield and quality of new and existing canola varieties in a paddock scale demonstration trial.

Background

This demonstration was conducted using farmer equipment. Farm scale demonstrations are a valuable way to explore new varieties, products or practices, complimenting results which are produced through more scientifically rigorous, small plot trials. There are numerous canola varieties available to growers with differing characteristics such as yield potential, maturity level, disease resistance and oil content. The varieties tested include those that are widely grown in the area as well as recently released varieties.

Varieties

- **ATR Cobbler:** Early-mid season variety, med-high rainfall, MS blackleg rating.
- **ATR Snapper:** Early-mid season variety. High oil content.
- **ATR Stingray:** Early maturing, high oil content, MR-MS blackleg rating.
- **Bonanza TT:** Early maturity, good yield, oil and protein. Low-med rainfall areas with good early vigour. Anticipated MR blackleg rating.
- **CB Sturt:** Previously known as CBWA 106, very early maturity for low-med rainfall zones. MS blackleg rating, medium oil content.
- **Crusher TT:** Mid maturity, good oil and protein. For medium to very high rainfall. MS blackleg rating.
- **Fighter TT:** Early-mid maturity. High yield, moderate oil and protein, for medium rainfall areas. MR blackleg rating.
- **Hyola 555 TT:** Mid-early maturity hybrid, good yield, oil and protein. Suitable for mid-low rainfall areas, MR blackleg resistance.
- **Jackpot TT:** Mid-early maturity, high yields similar to Crusher TT, MR for Blackleg, low to med-high rainfall areas.

Trial Details

Property	Geln Carlshausen, EG Carlshausen & Co., Dalwallinu
Plot size & replication	100m x 18.3m x varied replications
Soil type	Sandy gravel
Soil pH ($CaCl_2$)	0-10cm: 5.4, 10-20cm: 4.9, 20-30cm: 4.7, 30-40: 4.6
EC	0.054 dS/m
Sowing date	2/5/12
Seeding rate	3.7 kg/ha
Seeding equipment	18.2m Bourgault bar, Agmor sowing boots.
Soil amelioration	2010: 2 t/ha Lime
Fertiliser	2/5/12: 80 kg/ha Agras 20/8/12: 30 L/ha Flexi-N
Paddock rotation	2009 lupin, 2010 wheat, 2011 wheat
Herbicides	14/6/12: 2.3 kg/ha Atrazine, 200 mL/ha Arrow, 300 mL/ha Chlorpyrifos 20/8/12: 500 mL/ha Select, 200 mL/ha Targa, 0.5% Uptake
Fungicides	2/5/12: 400 mL/ha Impact
Growing Season Rainfall	141mm

Results

Table 1: Yield with nearest neighbour control (*italics*) and oil content of canola grown on the Carlshausen property, Dalwallinu.

Variety	Yield (t/ha)	% NN Control*	Oil (%)	Grade
Bonanza TT	0.31	70	38.4	CAN1
ATR Stingray	*0.44*	*100*	*37.8*	*CAN2*
Crusher TT	0.25	57	37.1	CAN2
Fighter TT	0.36	87	37.6	CAN2
ATR Stingray	*0.41*	*100*	*37.8*	*CAN2*
Hyola 555TT	0.54	131	37.3	CAN2
CB Sturt	0.69	104	34.8	CAN2
ATR Stingray	*0.66*	*100*	*37.8*	*CAN2*

*ATR Stingray is the nearest neighbour control.

Table 1 shows the yield of each variety in comparison to ATR Stingray which was the nearest neighbour control. Other varieties were also grown at random alongside the trial without a nearest neighbour control, these results are shown below in Table 2.

Table 2: Yield and oil content of extra varieties trialled at Dalwallinu.

Variety	Yield (t/ha)	Oil (%)	Grade
ATR Cobbler	0.29	35.5	CAN2
ATR Snapper	0.51	38.4	CAN1
ATR Snapper	0.47		CAN1
ATR Snapper	0.45		CAN1
ATR Snapper	0.43		CAN1
Jackpot TT	0.27		CAN2
Jackpot TT	0.27	37.9	CAN2

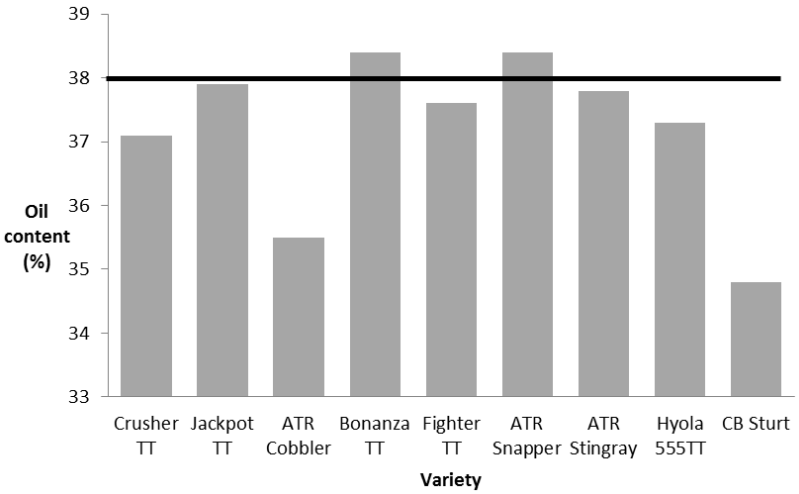

Figure 1: Oil content (%) of canola varieties trialled in Dalwallinu. Line indicates minimum oil content required for CAN1 grade. CAN2 must contain greater than 30% oil.

Comments

- Farmer observation: Jackpot looked more drought stressed than other varieties.
- Quality tests were also taken to determine oil content. CBH standards require oil to be greater than 38% for CAN1 grade, CAN2 must be over 30%. Snapper and Bonanza were the only varieties to make CAN1 oil grade with Jackpot TT and ATR Stingray, Crusher TT, Fighter TT and Hyola 555TT all less than 1% lower than the required 38%.
- This farmer demonstration should be interpreted with caution. It is suggested to refer to national variety trial data over a number of seasons to get a better picture of variety performance.

Acknowledgements
Thank you to the Carlshausen family for hosting and implementing the trial and Canola Breeders and Pacific Seeds for supplying seed.

Paper reviewed by: Chris O'Callaghan, Liebe Group

Contact
Clare Johnston, Liebe Group
clare@liebegroup.org.au
(08) 9661 0570