

# Roundup Ready Canola Demonstration

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## Key messages

- Not all Roundup Ready varieties perform the same under the same conditions yield, oil, etc.
- Hybrid Roundup Ready has an increased gross margin over the Open Pollinated varieties.
- Seed size matters with plant establishment numbers.

## Aim

To compare four different GM canola varieties in a farmer sized trial and monitor these plots throughout the growing season with the potential to compare yield at harvest.

## Background

Roundup Ready canola is becoming more widely grown and there are many different varieties which are on the market with similar characteristics. This farmer demonstration is a chance to see the strengths and weaknesses of each variety side by side in one paddock.

## Trial Details

<b>Property</b>	Hunt Partners, east Marchagee
<b>Plot size &amp; replication</b>	9ha plots with no replications
<b>Soil type</b>	Sandy to sandy loam
<b>Sowing date</b>	29/04/2013 dry seeded
<b>Seeding rate</b>	2.2 kg/ha GT-Viper 2 kg/ha 43Y23 2 kg/ha GT-41 2 kg/ha Hyola 404
<b>Fertiliser</b>	29/04/13– 45-70 kg/ha Agras + potash mix 70:30 29/04/13 – 45-80 L/ha Flexi N 20/07/13 – 40 L/ha Flexi N @ 06/08/13 – 30 L/ha Flexi N
<b>Paddock rotation</b>	2011: lupins, 2012: wheat
<b>Herbicides</b>	29/04/13- Trifluralin @ 3 L/ha 29/04/13 – Chloropyrifos @ 500 mL/ha 28/05/13 – Round up Ready Plantshield @ 900 g/ha 18/06/13 – Round up Ready Plantshield @ 900 g/ha 18/06/13– Lontrol @ 40 g/ha 20/07/13- Alpha Cypermethrin @ 120 mL/ha 30/09/13 - Alpha Cypermethrin @ 200 mL/ha
<b>Growing Season Rainfall</b>	235mm

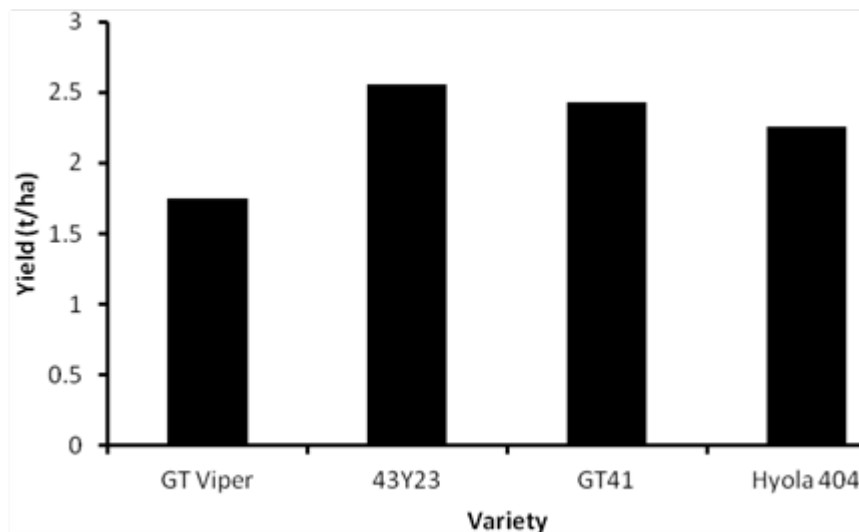
## Trial Design

This trial was a farmer demonstration size seeded in the random order covering 9ha up and back in the paddock, the order east to west was Hyola 404, GT-41, 43Y23, GT Viper

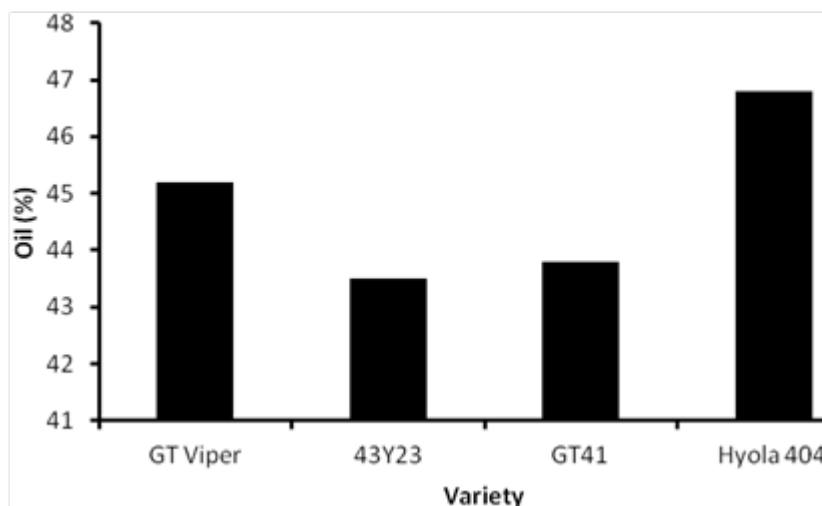
## Results

**Table 1:** Yield and oil content of four Roundup Ready canola varieties.

Variety	Yield (t/ha)	Oil (%)
GT-Viper	1.75	45.2
Hyola 404	2.26	46.8
GT-41	2.43	43.8
43Y23	2.56	43.5



**Figure 1:** Yield results of four Roundup Ready canola varieties grown in 2013 at east Marchagee



**Figure 2:** Oil content results of four Roundup Ready canola varieties grown in 2013 at east Marchagee.

### Economic Analysis

**Table 2:** Economic Analysis of Gross Return (\$/ha) of four RR Canola varieties grown in 2013 at east Marchagee. Figures are based on Cash Price Kwinana zone CANG1 05/11/13 \$503/t +1.5% for every 1% oil over 42%.

Treatment	Yield (t/ha)	Gross Return
GT-Viper	1.75	922.5
Hyola 404	2.26	1218.62
GT-41	2.43	1259.29
43Y23	2.56	1316.65

### Comments

The first thing to point out, is that this was not a replicated trial, each plot covered 9ha in the paddock of which only half of the plot was harvested with the 2 middle rows totaling around 4ha of comparison. This was weighed and the samples taken to CBH for testing.

This demonstration had a mixed germination, with the larger seed varieties 43Y23 and Hyola 404 having a lower plant population of around 20 plants per square meter, compared to the GT-41 and GT Viper around 30 plants per square meter. This was reflected in the seeds per kilo with the bigger 2 varieties ranging from 150,000-175,000 while the smaller seed was around the 250,000 seed per kilogram figure. There is feeling that farmers need to start taking more notice of this seeds per kilo when planning their seeding rate.

The results show that the highest yielding and highest gross margin variety actually has the lowest oil content, which leads back to the point that while there are a number of different varieties on the market to fit the early to early mid window, they do have differences. Another important difference which has not been mentioned was that these varieties were also different to harvest, with the GT Viper and GT 41 being the easiest to harvest, while the Hyola 404 was more difficult. There was some pre harvest shattering loss on the GT Viper and the Hyola 404 caused by the wind. One of the more interesting things to come out of this demonstration was how the open pollinated GT Viper compared to the hybrid varieties showing the increased advantage of hybrid seed.

### **Acknowledgements**

Thanks to Hunt Partners for their time and to the seed companies for providing the seed.

**Paper reviewed by:** This trial has been circulated amongst Landmark's network of agronomists and also forwarded to the seed companies involved.

### **Contact**

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