

# 9. CANOLA AGRONOMY TRIALS

## 9.1 EVALUATION OF PLANT GROWTH REGULATORS IN CANOLA - TASMANIA

Location: "Glen Esk", Conara Tasmania

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## Acknowledgements:

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Growing season rainfall (April-Nov): 372 mm

### Background:

Excess vegetative growth can result in decreased crop yields through lodging and difficulties in harvesting. In addition yield may be reduced through less plant assimilates and nutrients being available for grain fill. Plant growth regulators (PGR's) have been used for a number of years on cereals in Europe to reduce plant height and strengthen the stem.

To date PGR trials on canola in Australia have concentrated on using cereal growth regulators. It appears that two PGR's registered for use on canola in the UK have not been evaluated in Australia.

## Discussion:

The season was marked by a wet winter (decile 7) which continued up until mid October after which there was virtually no rain to finish the crop. This is a particular problem on duplex soils with poor water storage.

Final crop height was relatively short due to cooler temperatures in early spring and there was no lodging.

Conara

### Aim:

To evaluate plant growth regulators currently used on canola in the UK.

#### Methodology:

Two chemicals were applied (tebuconazole, metconazole) at 3 rates at the yellow bud stage (29<sup>th</sup> Sept 2003). There were 4 replicates in a randomised block design.

Variety:ATR GraceSowing date:10th May 2003Sowing rate:5.5kg/haHarvest date:29th Dec 2003

#### Fertiliser:

predrill - urea/sulphate of ammonia 50/50 mix at 100kg/ha basal - 9:13:17:8 at 150kg/ha, topdressing - urea at 100kg/ha

Weed Control: Treflan @ 1.7//ha, Simazine @ 2//ha, Nutrazine @ 2//ha.

No disease was evident in the crop. Height differences were not obvious in all replicates but differences were statistically different. The higher rates of metconazole (70g, 105g/ha ai) resulted in a height reduction.

The treatments had no significant effects on the grain yield.

Treatment	height (m)	yield (t/ha)
Nil	1.34	2.54
Tebuconazole 125 g/ha ai	1.34	2.52
Tebuconazole 250 g/ha ai	1.32	2.32
Tebuconazole 375 g/ha ai	1.35	2.54
Metconazole 35 g/ha ai	1.32	2.50
Metconazole 70 g/ha ai	1.27	2.41
Metconazole 105 g/ha ai	1.26	2.50
LSD	0.05	nsd

#### Conclusions:

Table 69: Effect of Growth Regulators on Plant Height and Grain Yield of Canola (cv ATR Grace),

Application of metconazole to canola resulted in a reduction in plant height but in this trial there was no effect on grain yield. Tebuconazole had no effect on plant height or final yield.

In seasons where excess vegetative growth is a problem increases in grain yield following treatment could be expected through improved harvest efficiency (less lodging and/or redirection of plant assimilates to the grain).

Trials with both treatments will continue next year with two application dates and additional plant measurements eg. stem width. Results may also be important in reducing height in mustard.