Plant growth regulators in canola

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Key findings

- Application of PGRs significantly reduced plant height and increased grain yield at Hart in 2013.

Why do the trial?

The application of plant growth regulators (PGRs) to cereal crops is common in many countries such as Europe and New Zealand. Previous PGR trials conducted by the HFSG have focused on cereal crops however; the addition of PGRs to crops such as canola and beans is another emerging area of research.

Similar to the trial above the aim was to measure the effect of PGRs on canola plant height and grain yield.

How was it done?

Plot size	1.4 m x 10 m	**Fertiliser**	DAP (18:20) @ 80 kg/ha + 2% Zn UAN (42:0) @ 75 L/ha, 11th July
Seeding date	10th May 2013	**Variety**	45Y82 hybrid canola

Plant growth regulator application:

Experimental PGR treatments were applied on the 14th August as canola plants were ending the stem elongation growth phase (50% of final stem length, buds but no flowers visible).

The trial was a randomised complete block design with 3 replicates. All plots were assessed for grain yield and oil content.

Results

The application of PGRs to canola significantly reduced the crop height between 10-25 cm. Plots where PGR had been applied were clearly visible in the trial. The application of PGRs to canola significantly increased grain yield. Experimental PGR 1 did not increase grain yield compared with the nil treatment however, grain yield increased significantly by 0.21 t/ha and 0.38 t/ha for PGR 2 applied at rate 1 or 2 respectively. Oil content was not affected by PGR application.

Table 1. The effect of PGRs on grain yield (t/ha) and oil content (%) of canola at Hart in 2013.

Treatment	Yield (t/ha)	Oil Content (%)
Nil PGR	1.63 c	43.9 a
Experimental PGR 1	1.71 c	43.4 a
Experimental PGR 2 rate 1	1.84 b	44.1 a
Experimental PGR 2 rate 2	2.01 a	43.6 a
LSD (P≤0.05)	0.12	ns