

## Nufarm Roundup Ready Canola Systems Trials – 2008

Mark Slatter, Research and Development Officer, Victoria, Nufarm

Angus MacLennan, Business Development Manager, New South Wales, Nufarm

Co-operators: Monsanto, Nuseed, Pacific Seeds, Pioneer Seeds

In 2008 five replicated field trials were established across Victoria and New South Wales to compare the four commercially available canola growing systems; Conventional, Triazine Tolerant, Clearfield and Roundup Ready.

Trials were established in key canola growing regions and many advisers, farmers and industry representatives were given the opportunity to visit these sites to view the trials. Varieties in the trials were commonly grown varieties for each region with maturities selected to suit the expected rainfall. Roundup Ready canola varieties were GT61 (Nuseed), 46Y20RR (Pioneer Seeds) and Hyola502RR and Hyola601RR (Pacific Seeds) with maturity rankings varying from early/mid to mid/late.

Plant vigour assessments taken four weeks after sowing displayed visual differences between the canola systems. Triazine tolerant varieties were significantly lower in vigour at all sites when compared to the other three canola systems. Plant vigour is an important trait to help compete with insects and weeds particularly in a system such as conventional or Roundup Ready canola, where there is no residual herbicide available to control weeds.

Photo 1 & 2: Teesdale site – 4<sup>th</sup> July 2008 (32-DAS)

Roundup Ready variety



Triazine Tolerant variety

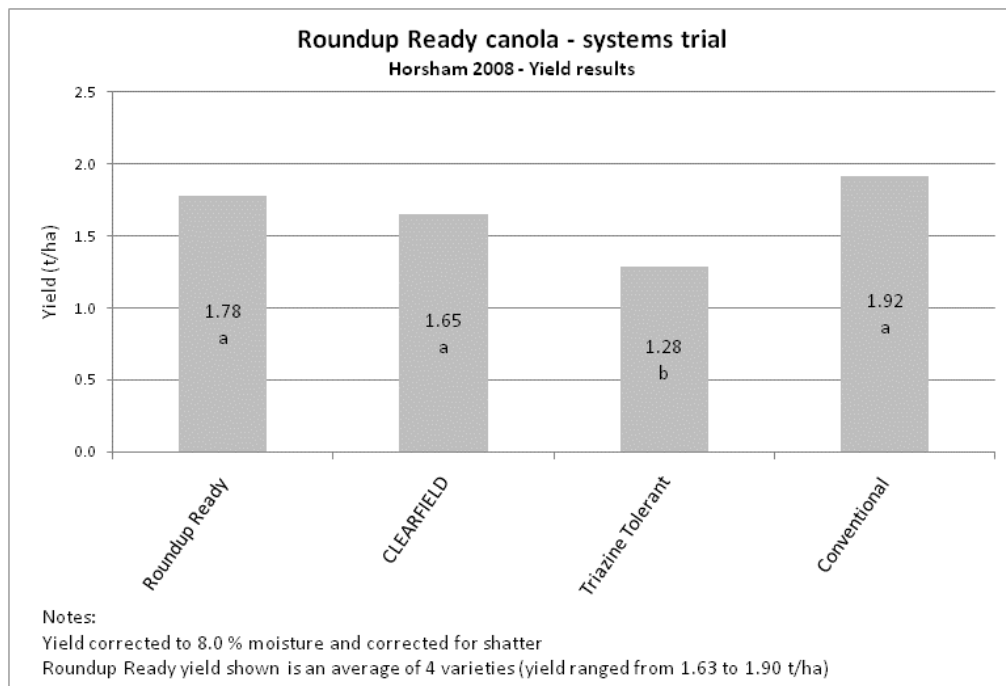


Seed size has a large impact on the vigour and plant population and therefore its ability to compete with weeds. Seed size of all varieties in these trials varied from 182,000 seeds/kg to 300,000 seeds/kg. Seed size variation did not necessarily correlate to whether the variety was a hybrid or open pollinated. This variation in seed size produced a close correlation to plant population and vigour ratings in all trials.

Weeds present at the sites included annual ryegrass, wild radish and volunteer cereals with weed pressure at all sites being light to medium. A pre-emergent application of TriflurX was applied (incorporated by sowing) at all trial sites. Post emergent herbicide applications were applied at 2 leaf stage of the canola for all canola systems. Rates and timing were consistent with district practice and label recommendations. An advantage of herbicide tolerant canola systems is being able to control weed. Subsequent yield advantages are therefore

often observed over conventional canola. Due to the low weed pressure at the trial sites, the three herbicide tolerant systems may not have shown their true yield potential as would be displayed in commercial practice (higher weed pressure).

A dry finish to the season combined with frost damage and/or shatter losses from the direct heading harvesting resulted in the loss of some trials. The graph below demonstrates the yield of the various canola systems from one of the trials at Horsham. This trial experienced only light frost and shatter damage. Yield results from this site were achieved with low sub soil moisture at sowing time and a decile 1 growing season rainfall (183 mm). Oil data was not available at the time of publication.



For further information on canola systems or specific varieties, see the National Variety Trial (NVT) data or discuss with relevant seed companies.

Volunteer control of Roundup Ready canola, either in crop or as a knockdown, can be managed with the use of many various herbicides. Control of volunteers in the following crop, normally a cereal, is essentially no different to controlling other types of canola with the option of herbicides from many modes of action (group B, C, F, G, H, I, J and O). Products such as Paragon (picolinafen + MCPA) or Midas (imazapic + imazapyr + MCPA) are examples of products with multiple modes of action registered for the control of volunteer canola.

The use of knockdown herbicides, (from groups L, N, and Q) as an alternative knockdown herbicide to glyphosate, is strongly encouraged both as a resistance management tool for annual ryegrass, but also for control of volunteer canola plants. Alternate knockdown herbicides to glyphosate, for control of volunteer canola<sup>#</sup> and ryegrass, could include products such as Nuquat 250 (paraquat) or Alliance (paraquat + amitrole). A new herbicide under development, to be named Sharpen\*, has displayed rapid and complete control of Roundup Ready canola plants.

Control Key tips for growing Roundup Ready canola

- Sow early (flexibility to sow dry in no-till systems)
- Use a pre-emergent herbicide for annual ryegrass and wireweed control
- Use seed size to help calibrate correct sowing rate
- Apply two applications of Roundup Ready herbicide; first application at cotyledon – 2 leaf stage, second application prior to the 6 leaf stage.

# trials results only; not a registered use

\*registration pending.

#### Contact details

Mark Slatter

Ph: 03 5381 0307

Email: [mark.slatter@au.nufarm.com](mailto:mark.slatter@au.nufarm.com)

Angus MacLennan

Ph: 0408 358 024

Email: [angus.maclennan@au.nufarm.com](mailto:angus.maclennan@au.nufarm.com)