



Winter 2016 Trial Snapshots

1. Sowthistle Management

A number of trials planned to evaluate a range of alternative herbicide options to glyphosate given increasing resistance. Three of these will be assessing residual herbicide options for use in winter fallow. An additional three trials will look at knockdown options in fallow followed by a double knock.

2. Chickpea Harvest Index

Four trials established investigating the effects of Plant Growth Regulators (PGR'S) on flowering, pod set and yield of chickpeas. One large planted site will contain three varieties and two application timings. Three other small plot trials undertaken in commercial paddocks will assess whether PGR's can be used to induce flowering and/or pod set.

3. Nitrogen Management in Wheat

Continuation of project activity from 2014 and 2015 looking at the response in wheat of added Nitrogen. Three trials will evaluate the response in Suntop from the timing of Urea application, rates and method. These sites are well underway with the first application in December 2015. Three additional trials will compare the response of Lancer and EGA Gregory respond to timing and rates of Urea. These are also underway with the first Urea application applied in February 2016.

4. Safety of Annual Ryegrass Herbicides in Cereals

A single trial site, screening for crop safety effects in cereals across a variety of residual herbicide options for annual ryegrass. This trial will contain two wheat varieties, one durum and two barley varieties, all under a disc and tyne planted situation.

5. Paraquat Alternatives

Four trials planned to assess the efficacy of a double knock where an alternative to Paraquat is used as the second knock. Targeting broadleaf weeds in winter fallow such as large rosette stage fleabane and sowthistle.

6. Late Application of Group A herbicides in Chickpeas

A number of trials planned to evaluate for crop effects from Group A applications near flowering. One larger trial assessing multiple varieties across two timings, five treatments, and three small plot trials assessing a single variety across 12 treatments.

7. Plant Growth Regulators in Barley

A continuation of trial work undertaken in winter 2015 evaluating the use of PGRs in barley to prevent lodging, yield loss and their fit in our region. This winter three trials planned assessing application timings and products.

8. Chickpea Problem Weeds

Four trials assessing a range of residual herbicide options to control hard to kill weeds such as Mexican Poppy, Spiny Emex, Slender Celery, Spear and Variegated Thistle.



9. *Pratylenchus thornei*

A large-scale site at Bullarah is to go ahead this winter. Plans include a number of trials evaluating the effect of *P thornei* on different winter crops. Also a trial assessing the role nutrition plays on the impact of nematodes in chickpeas as well as a number of trials evaluating the interaction with crown rot and different crop varieties.

10. Wild Oat Management in Western Areas

Evaluating alternative herbicides for wild oat management. NGA is keen to hear from any growers or agronomists that are considering using alternative herbicides this winter. NGA can aid in designing and setting up a trial area and conduct assessments.

11. Fallow Efficiency by Crop

A continuation of earlier fallow efficiency work and taking advantage of the multi-crop trials at the 2015/2016 Macalister RLN site EM38 runs have already been conducted post winter or summer crop harvest with an 'end of fallow' assessment to be conducted in late winter/spring. Will also conduct at the Bullarah nematode site after harvest. Assessment of nitrogen mineralisation between crops and fallow is also planned at Macalister.

12. In-crop Water Use Efficiency

No direct trial activity is planned for winter 2016, however, NGA will be using APSIM to model a number of previous trials to estimate water use efficiency upper 'targets'.

13. Canola Powdery Mildew

No small plot trials planned, however, should the season be conducive to disease and powdery mildew is confirmed, NGA is able to set up a larger scale trial in an infected commercial paddock.

Ongoing Trials Winter 2016

The following are mostly large-scale trials, which have been ongoing throughout the last few seasons and will continue this winter:

- **Chickpea Post-plant Levelling**

Set up to assess the impacts of 'levelling' post-plant chickpeas on soil water and crown rot. Sites established in winter 2015 have been assessed for fallow water efficiency with crown rot, yield, grain quality and water use efficiency to be assessed in the 2016 wheat crop.

- **Impact of Kelly Chains**

Three ongoing sites looking at the impact of Kelly chains on soil water and crown rot. These trials were established post wheat harvest in 2015.