

## NGA project overview 2010-2015

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### Key words

NGA, grower solutions group, agronomy

### GRDC code

NGA00003: GRDC Grower Solutions for Northern NSW and Southern Qld

### Take home messages

1. NGA continues to perform a key role in conducting responsive, regionally prioritised project activity in the northern grains region
2. In excess of 400 trials conducted during NGA00003 with an average of 10 project themes per season
3. Weed and disease management were the major areas of activity
4. Key project themes: feathertop Rhodes grass and awnless barnyard grass control, *Pratylenchus thornei* impact and management, nitrogen strategies in wheat
5. Nutrition and other agronomy issues increasing in importance in recent years

### The Process

NGA has been actively involved in regional R,D&E in the northern grains region since early 2006. The approach or model of operation has essentially remained unchanged during that period. In its simplest form the process is:

1. Local Research Groups (LRGs) set up to provide a broad regional coverage
2. Members of the LRGs (regional consultants, agronomists and growers) determine and prioritise the issues of agronomic concern
3. NGA develops project activity to respond to these issues after discussion with key researchers (agency and private) to fine-tune direction and avoid duplication of effort
4. Project results are communicated via a range of methods, including GRDC Updates and our website ([www.nga.org.au](http://www.nga.org.au)), but with a primary pathway being directly via the LRG network of advisers
5. Feedback is obtained to complete or further refine project direction

One of the key components that has helped to ensure the value of NGA activity is the flexibility to rapidly respond to issues raised by industry. This is a significant challenge in management due to the very short time frames between issue generation and project initiation, however it ensures that activity is focussed on the highest priority issues in the timeliest fashion. This does however mean it is difficult to predict future research areas.

## Project Activity

During the 5 year period, NGA were involved in conducting or sampling in excess of 425 individual trials. Trial activity was conducted on ~10 different project themes in each winter or summer season. The majority of these themes were evaluated for 2-3 years with Table 1 detailing the broad breakdown of the key segment of activity.

Table 1 – Breakdown of NGA trial activity by segment 2010-15

Segment	% of total trials
Weeds	48
Diseases	28
Nutrition	11
Other agronomy	13

### Weeds

- Weed management has been the major segment with summer fallow weed control the primary area of attention
- Key weed targets were fleabane (particularly 2010-2012), feathertop Rhodes grass (2010-2015), awnless barnyard grass (particularly 2013-2015) and more recently, common sowthistle
- The dominant issue has been the evaluation of management strategies for glyphosate resistant/tolerant weed populations

### Diseases

- A major segment of activity particularly from a winter crop perspective
- Key disease targets included crown rot (particularly 2010-2012), yellow spot (2011-2013), *Fusarium* in sorghum (2010-2012) and *Pratylenchus thornei* (2010-2015)

### Nutrition

- Increasing number of priority issues in this segment in recent years
- Nitrogen management in wheat continues to be a major issue involving aspects of canopy management, application timing and issues of low protein achievement in key varieties
- Canola nutrition was also a focus (2012-2014) along with chickpea nutrient responses

### Other agronomy

- Another segment with increasing amount of project activity in recent years
- Important areas of trial activity have been fallow monitoring to improve our understanding of N mineralisation rates and fallow soil water efficiency together with evaluations of crop safety from fallow or previous crop herbicide use

- Minor areas of activity have evaluated harvest aid strategies in a range of crops

## Key Outcomes

### Feathertop Rhodes grass (FTR) management

- FTR started to become a major issue in northern NSW and southern Qld from ~2009 onwards
- An excellent example of the benefits from having an approach enabling a rapid response in evaluation of management options together with important input from CQ learnings and the northern weeds team
- NGA heavily involved in evaluating effective double-knock strategies and obtaining a permit (12941) to enable the use of a haloxyfop followed by paraquat for improved knockdown control
- NGA also heavily involved in evaluating residual chemistry for activity against FTR, particularly when used as registered in the winter crop phase. This approach can assist reducing the seedbank and decreasing the reliance on knockdown control in the summer fallow
- NGA efficacy results also helped to fast track the addition of FTR on product registrations
- Surveys on the management of summer grass weeds conducted to measure the impact of project activity on knowledge levels, adoption and uptake

### *Pratylenchus thornei* (Pt)

- Major theme throughout entire project
- NGA played a key role in raising awareness of the importance and impact of this disease, particularly in northern NSW and central to western Darling Downs
- Conducted three 'multiple season/multiple individual trial' sites (at Weemelah and Yallaroi, NSW and Macalister, Qld) evaluating the performance of a range of crops for actual *Pt* impact
- Heavily involved in variety and crop evaluation for *Pt* resistance which has highlighted the commercial implications of variety choice but also validated a new technique to improve evaluation of new varieties
- Identified the agronomic and economic importance of variety choice in situations where both *Pt* and crown rot are primary disease risks
- Collaborated with seed companies, breeders and NVT co-ordinators to obtain valuable extra *Pt* resistance data from existing trials
- Surveys conducted to measure the impact of activity of project activity on knowledge levels, adoption and uptake

### Nitrogen management in wheat

- Heavily involved in determining the direction of N volatilisation activity conducted by NSW DPI

- Evaluated the potential of late N application for protein achievement in wheat under northern conditions
- Validated N volatilisation results under regional trial conditions for mechanically incorporated v spread urea
- Evaluated the fit of alternative urea formulations and treatments and their potential for use in canopy management
- Investigated the impact of timing of N application on canopy management and economic outcomes

### Communication

- The NGA website ([www.nga.org.au](http://www.nga.org.au)) has operated since 2011
- Finalised project reports, GRDC Update papers, survey results, maps of trial locations by project theme and year together with other communications are available. NB: some projects involving off label evaluation, can't be published.
- Annually ~1,500-2,000 visitors to the site with >10,000 page views
- Since 2011, a total of >60,000 downloads of project reports and GRDC Update papers
- A new role to focus on improving the speed and timeliness of NGA communications has been recently created

### Extra Engagement

- An *eNewsletter* is sent to >500 subscribers twice per annum to detail project plans and highlight other topics of importance. Project results are sent directly to the same subscribers as available. Newsletter signup is available on the website to anyone interested
- New growers interested in being involved in the LRGs are always welcome. For more information please contact Glenn Milne - Darling Downs, Stuart Thorn - Goondiwindi, Andrew Earle - Mungindi, Tim Poole - Moree, Brad Coleman - Walgett and Greg Giblett - Liverpool Plains. Contact details are listed on our website under *Key Contacts*
- Agronomist involvement must be partly structured to ensure a broad regional coverage, representation from both private and agribusiness organisations and to ensure meeting size is still practical and effective. For more information again see our *Key Contacts*
- For those unable to attend meetings but keen to propose an issue for consideration, a *Raise a Research Issue* opportunity is also available on our website or contact other LRG members
- NGA has started to evaluate Twitter as another communication medium (@NthGwrAlliance)

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