

# FINAL REPORT

DAN00188

## eXtensionAUS Crop Nutrition Pilot

### PROJECT DETAILS

PROJECT CODE: DAN00188

PROJECT TITLE: EXTENSIONAUS CROP NUTRITION PILOT

START DATE: 19.11.2013

END DATE: 31.03.2015

SUPERVISOR: JULIE WHITE

ORGANISATION: NSW DEPARTMENT OF PRIMARY INDUSTRIES

CONTACT NAME: JULIE WHITE

### Summary

Australian grain growers have benefited from a US-based online platform for sharing agronomic research and information through the eXtensionAUS project. Applying the US model, the eXtensionAUS Crop Nutrition pilot built a research based learning network that connected the laboratory with the paddock through online systems. It focused on delivering the latest research in the context of, and in response to, seasonal conditions. A community of practice (CoP) of 46 private and public sector experts, with a core leadership group of 10 people, curated and developed content. User engagement was through coordinated use of social media, webinars, 'Ask an Expert' and web based publishing.

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## Conclusions

The US model for delivering online extension is effective in the context of the Australian grains sector. Specifically, this model enables agility in responding to seasonal conditions and contextualising research and development (R&D) to facilitate awareness and uptake.

In the case of crop nutrition, there is a sound argument for application of the model as part of the More Profit from Crop Nutrition Program II (MPCN II), thereby increasing efficiency and reach of extension and the release of the research findings.

A successful CoP requires a leadership team who share a purpose and a champion who can sustain momentum and clarity of purpose. Having the right people, and a diversity of people, actively involved in a CoP is essential.

Coordinated use of social media was a significant element in the success of this project in directing people to specific content and providing an avenue for engagement with the target audience. CoP members also benefited from the experience with social media gained from participating in the pilot.

Crucial to the success was the 'licence to operate' and publish information quickly. One example was an article developed called 'Is it too late for N?' This was identified as a nationally relevant topic at a CoP meeting on a Friday, based on the issues members were seeing in practice, and by the following Friday the article had been published with content provided by three members of the CoP (one from each region). The final article was reviewed by an additional two members. Despite the number of people involved, it was written and published in a week to meet a seasonal need.

Much beyond the use of platforms was gained from the partnership with the US Extension Foundation, whose members showed a willingness to share knowledge, systems, experience and data on how they operate. This openness allowed for rapid learning.

## Recommendations

1. There has been proof of concept so the pilot should continue, subject to due consideration of resourcing, with a focus on community of interest engagement.
2. If the pilot should continue, a partnership with US eXtension should continue in some form.

3. There are major unresolved issues in relation to the operation of the US systems in Australia. These would need to be addressed if the pilot were to continue.
4. Clear incentives for ongoing involvement in the CoP need to be identified, including the option of a sitting fee.
5. eXtensionAUS Crop Nutrition and the MPCN II program need to be linked.
6. Actively seek partners from other sectors to extend the use of the model to other agricultural sectors.

## Outcomes

### Environmental benefits:

The crop nutrition pilot has provided a coordinated and accessible means to distribute new and existing knowledge on nutrient use and management that leads to increased nutrient efficiency on grain farms across Australia. It has also reinforced the use of existing tools in the context of the current season.

No articles or other documents were produced in hard copy with the focus remaining on on-line platforms. Only two face-to-face meetings were held, with most conducted via video hookups.

### Economic benefits:

Existing resources were delivered in a more coordinated way and in response to seasonal conditions. The power of social media was harnessed to drive key messages and to reach the target audience. The members of the CoP gained skills in using on-line tools and social media that have immediate application in their professional careers.

### Social benefits:

A national connected crop nutrition CoP. These crop nutrition experts have now had a greater exposure to operating in an online environment and the benefits, and how to effectively use social media. The community of interest, that is the users of the information, are benefiting from a reliable and credible source of information and advice that is available wherever there is an internet connection.

## Achievement/Benefit

The eXtensionAUS Crop Nutrition pilot has achieved the overarching objective of this project, which was 'to test the applicability of the eXtension USA model for the Australian grains industry'. The Crop Nutrition pilot has demonstrated that the system can work in Australian conditions and has proved that a CoP can operate in Australia's private-public extension system. Fundamental to this was the engagement of private sector crop nutrition experts who contributed time and knowledge to the pilot and actively contributed to its operation. Most importantly, there is evidence of engagement with the community of interest, the users of the CoP's knowledge and information, in the form of grower and agronomist interest in the project and engagement with the CoP through the live site and social media channels. These metrics need to be viewed in the context that the live site was not available until July 2014, later than anticipated, meaning there was less time to drive traffic to the site and generate engagement than initially planned.

### Background

Strong interest in on-line platforms, combined with a general retraction of extension services in the agricultural sector, has created a need to look for new, integrated ways to deliver extension. Further, shortening the time between research and dissemination of results, data and application is seen as critical to drive productivity and innovation in the grains industry.

eXtensionAUS provided a platform and central communication hub to point to and promote the existing portfolio of GRDC and other stakeholder-funded research in crop nutrition. It encouraged cross-fertilisation of research and innovation through the involvement of public and private sector specialists and industry organisations.

This pilot aimed to confirm the feasibility of a national coordinated eXtension model by using an existing platform that contextualised for the Australian operating environment. It also aimed to assess the potential demand from and benefits to learning network participants.

The pilot also provided an opportunity to focus the information that is currently sourced from a range of locations and ensure the information provided is credible, reliable and targeted to industry needs.

## Major achievements

### Formation of the CoP

In the space of 15 months, the project team has established a Crop Nutrition CoP, introduced the community members to the US online extension model and showed them how to use the tools available through this platform and how to communicate and network using other online tools.

By February 2014, the crop nutrition CoP had 46 members and a core leadership team of 11 people. This is comparable with well functioning CoPs in the US system. The leadership team included crop nutrition specialists from several major fertiliser companies, representatives from private agronomy businesses and key people from New South Wales Department of Primary Industries (NSWDPI), Department of Agriculture and Food Western Australia (DAFWA), the Victorian Department of Environment and Primary Industries (VIC DEPI) and Department of Agriculture and Fisheries Queensland (DAF QLD). It also included a representative from Fertilizer Australia (and thereby the Fertcare program). The CoP was chaired by Dr Robert Norton from the International Plant Nutrition Institute. It required a substantial amount of work from the project team to recruit this group, especially the private sector members who immediately asked 'why should I be involved? What's in it for my business'. The CoP quickly began to function as intended, agreeing on its method of operation within the model, its focus - 'Connecting the lab and the paddock in crop nutrition' - and its publishing protocols.

The Crop Nutrition CoP leadership team met monthly, initially agreeing on the way in which the content would be structured and then beginning the process of agreeing on topic areas and focus. It was decided to present information according to a calendar of operations that grouped R&D in relation to the seasons. Articles were then developed with a focus on current seasonal conditions. The articles were kept brief and to the point, were written in plain English and provided links to further information for more detailed explanations. There was a strong focus from the outset on developing multimedia content.

In total, from the launch of the live site in July 2014, the Crop Nutrition CoP published 37 articles by public and private researchers and specialists. Some of these were national articles ('Grain analysis for nutrient strategy' as an example), some were national articles written from the perspective of each region ('Is it too late for N?') and some were region specific. What these articles demonstrate is the collaboration achieved by the CoP and the preparedness to engage as each article involved multiple authors and two reviewers per article. In addition, 18 videos were produced and released on the YouTube channel and embedded in articles on the live site.

A significant focus of the project was to provide professional development to CoP members through working with new tools such as Google hangouts and Google docs, as well as the tools provided in extension.org. Structured professional development was also provided through three technical webinars. Two of these, on 'Using Twitter in your business', were delivered by US partners and the third, on using mobile devices to capture good video, by eXtensionAUS. These webinars were well attended by private and public sector members of the CoP.

The final evaluation meeting held over two days in November was attended by 12 members of the CoP - three from the private sector, three from not for profit organisations or grower groups, the five members of the NSW DPI project team plus the chairman. This attendance is a demonstration of the commitment of the members to the pilot, their desire to express their views on it and the potential they saw in the model.

The benefit to industry is the collaboration between researchers and crop nutrition experts across Australia to develop and release timely information immediately relevant to advisers and growers that links to existing detailed information.

### Potential for closer interaction with the MPCN II

From the outset, close association with MPCN II was considered essential to the success of the crop nutrition pilot. Initially there was considerable resistance to involvement by several of the senior scientists from this program. By November, the MPCN II program leaders were wanting to talk about integration and a closer working relationship. This change in attitude in a relatively short period of time is a major achievement of the pilot and opens the door to a relationship that will have many benefits for the grains sector and the reach of GRDC funded research.

This suggests there is potential to use the mechanisms developed in this pilot to raise awareness of identified crop nutrition issues in parallel with the research and to progressively release research findings. A good relationship with MPCN II scientists could address a key concern of the CoP about efficiency and being asked for content from multiple sources.

### Engagement with the Community of Interest



From the moment the social media channels were live, there was engagement with the Community of Interest (Col). The number of followers on the Twitter account grew consistently from the start of the project, increasing by approx.100 a month. This increase has steadied since December, in line with seasonal activity.

The Col was a targeted group constructed using nominations from the CoP. Each CoP member provided the details of advisers they saw as 'quality advisers' to be directly contacted about the pilot and 32 were approached. Those contacted were made aware of the pilot, invited to join a newsletter list and asked to volunteer to be part of a focus group. This enabled the pilot to hear from the target audience what they expect, their needs and how they would like to receive information.

Eight 'Ask an Expert' questions were answered and six questions and comments about specific articles were received and addressed.

The majority view of the Crop Nutrition CoP was that the system had not been running long enough to gain traction and therefore start to make a significant difference in delivery of extension. This was a clear message from the Evaluation Workshop, where there was scepticism from some western region representatives as to whether there would ever be traction in that region because they are so well serviced by western-specific networks.

## Other Research

There is an opportunity to build on what has been achieved by continuing the two pilot CoPs. This would enable the model to be tested more thoroughly in a full cycle of operation. There are still significant issues to be sorted out with the US from a platform and technology point of view. Currently, the technology to publish to the live site from Create (on extension.org) is not operating. This has significantly increased the need for manual processes, is highly inefficient and has reduced the usefulness of Create. Google docs has been used as a replacement for the Create tool, so a significant element of the US platform is being under-utilised. This has introduced version control issues.

There is also much more to be learnt from the US partners who are currently undergoing a major restructure and redefinition of delivery. There is also a major upgrade of systems underway and there are obvious benefits from being part of this as it unfolds.

## Intellectual Property Summary

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## Collaboration Organisations

USA eXtension Foundation.

## Collaboration Details

USA eXtension Foundation, through Dan Cotton, Craig Wood and Ashley Griffen, were partners in the pilot project, providing access to their eXtension platform and knowledge of the CoP and Col model used to implement online eXtension in the US.

## Additional Information

### Attachments

1. eXtensionAUS - pamphlet.
2. Communication activities - Crop Nutrition Update.□