

Sustainable Grains Production Course – building grains industry futures.

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Abstract

The Sustainable Grains Production course was established in 2003 by the University of New England (UNE) with funding from Grains Research and Development Corporation (GRDC). The aim of the course was to improve the knowledge and skills base of people, particularly advisors, working in the northern grains region of Australia, and to increase the economic and environmental performance of the grains industry.

Through a survey of past and current students, UNE and GRDC sought to review the impact of the Sustainable Grains Production course on graduates, and within the grains industry. The survey was conducted in October, 2011, with 70 responses being received from 150 valid email addresses.

Fifty percent of respondents were agronomists, and an additional 20% were from farms, with most from NW NSW and SE Queensland. Grains (GRNS) study was valued for its specificity in grains production, and the opportunity it gave students to develop their knowledge and skills in grain production in areas which were directly relevant to their careers. As a result of their study, 75% of respondents had spoken to farmers about a broader range of issues, and 66% had made or suggested changes to farming systems, showing that the course is achieving its intended outcomes of increasing grains industry human capacity, and accelerating the adoption of research findings. Additionally, all respondents thought that the grains industry benefitted from the course, and 57% of students thought that GRNS study had helped them obtain a promotion or new job.

Key Words

Professional development, networking, communicating research, capacity building

Introduction

The University of New England (UNE) Sustainable Grains Production course, funded by the Grains Research and Development Corporation (GRDC), is designed to provide specialist training in the ever-increasing complexities of modern grain production and marketing to increase the ability of growers, and others at all stages along the grain supply chain, to survive in a highly competitive and increasingly regulated environment. The course is intended to provide a vehicle for those working in the grains industry to develop a greater understanding of cropping systems and their underlying science, plus be exposed to the latest innovative and sustainable grains farming research. It also allows people wanting to work in the grains industry, but with little experience, to develop expertise quickly. Through building expertise and capacity in the Australian grains industry, the course has benefits for both the careers of the students involved, and the industry as a whole, through better decision making and faster uptake of research outcomes (Coleman and Birchall 2011).

The course is the only one of its kind focusing on grain production in Australia, and has been designed and written by industry experts with advisory, consulting, agribusiness, education, research, policy and extension backgrounds. It is specifically tailored for advisers, consultants, retail agronomists, growers, grain handlers, researchers, students and anyone else who has an interest in the grains industry.

This paper will firstly discuss the Sustainable Grains Production course units offered and delivery. The second part of this paper will review the results of the survey of past and current students, and the impact of the course on graduates and within the grains industry.

Sustainable Grains Production Study at UNE

The Sustainable Grains Production course is ideal for those who are working and looking to improve their career prospects within the grains industry, or wanting to get the skills to move into the grains industry. The course allows study from home over a one to two year period, and is taught in both the Northern and Southern Grains regions, with 3 to 4 day intensive schools being held in Toowoomba and Tamworth, or Adelaide, Horsham or Wagga Wagga, depending on the student's location.

Detailed notes are provided covering the topics, such as marketing and finance, pest management, precision agriculture, grain quality and product integrity and environmental impacts and management. Students who have a university degree and complete all four units are awarded a Graduate Certificate in Agriculture (Sustainable Grains Production). Students who do not have a university degree could combine these subjects with another four subjects in areas such as agronomy, cotton, genetics, poultry, wool or meat technology, earning a Diploma in Agriculture. Individual units can be put towards other qualifications, such as a masters or bachelor degree.

The four units on offer are:-

Agronomy of Grains Production (GRNS300/500) which includes grains industry overview, plant breeding and adaptation/biotechnology, crop morphology and physiology, soil characterisation and management, tillage systems, plant nutrition, water management, and precision agriculture.

Grain Crop Protection (GRNS301/501) covering weed management, disease management, pest management, pesticide resistance, chemical application and pesticide legislation, grain quality and product integrity, and grain industry biosecurity.

Grains and the Environment (GRNS302/502) covering ecology and sustainability of grains systems, crop and pasture rotations, environmental impacts and management of cropping, native vegetation and soil conservation, legal issues, and property management planning.

Grains Industry Systems (GRNS303/503) covering quality assurance, occupational health and safety, human resource management, socioeconomics of grain production, grain processing and products, and grain marketing.

Survey methodology

The UNE and GRDC sought to assess the impact of the course on the grains industry and graduates through a survey of past and present students who had studied all or some units. A survey was developed using Survey Monkey (www.surveymonkey.com) to identify the benefits which students perceived in undertaking the course, their role and experience at the time of study, and aspects of each unit which they thought were outstanding or needing improvement (data not presented in this paper). In October 2011, an introductory email explaining the purpose of the survey was sent to 246 students who had undertaken units in the off-campus mode (excluding international students). A link to the survey was emailed to the 150 valid email addresses five days later, and two reminder emails sent during the next 3 weeks. Seventy responses were received, giving a return rate of 47%.

Results

The majority of students surveyed (62.9%) were from northern New South Wales and southern Queensland, with a few from central and southern New South Wales, Victoria and South Australia (Table 1). When surveyed, more than 50% of respondents were working as agronomists (retail, government and private), while another 20% were farming as owners, managers or farm hands (Table 2). Other respondents had a diverse range of roles, mostly within the grains industry.

Table 1. Region of residence for survey respondents and years of experience in grains industry before starting studying. (n=70)

Region	% respondents	Average experience (yrs)	Region	% respondents	Average experience (yrs)
NSW	75.8		Queensland	27.1	
NE	4.3	14	SE	11.4	9
NW	32.9	8	SW	14.3	8
Central	15.7	12	NW	1.4	
Southern	7.2	8	South Australia	2.9	7
Sydney	4.3		Western Australia	1.4	
Victoria	4.3	5			

Table 2. Role of survey participants in the grains industry¹.

Industry Role	Before studying	When surveyed
Agronomist	31.5	51.6
Agribusiness	19.2	29.7
Private consultant	9.6	17.2
On-farm/corporate	2.7	4.7
Not employed in grains industry	12.3	10.9
Merchandise	8.2	7.8
Undergraduate student	8.2	4.7
Farmer	6.8	9.4
Farm manager	6.8	7.8
Farm hand	1.4	3.1
State DPI	5.5	6.3
Finance	4.1	4.7
Territory manager/sales	4.1	1.6
Grain trader	-	6.0
	n=73	n=83

¹Note that some respondents have more than one role

Table 3. Reasons for enrolling in GRNS study

Reason	% responses	n
Professional development	30.7	47
Learn new skills and knowledge	19.6	30
Further my career prospects	18.3	28
Update my skills and knowledge	18.3	28
Personal interest	11.1	17
An employer requirement	2.0	3

Reasons for enrolling in GRNS study (Table 3) were mostly focussed around the participants desire to improve their understanding of grains production, with professional development and improving skills and knowledge being stated in more than 68% of responses. The need for information is particularly significant in isolated areas, with one participant commenting that “local knowledge [was] limited so [I] needed to learn for myself”.

Many GRNS students are already well educated in a tertiary context, with over 82% of survey respondents having undertaken a university degree (either in a related agricultural discipline or in another discipline), or an undergraduate or postgraduate diploma. The positive outcomes of study, and the participant’s reasons for enrolling, suggest that there is need for training programs like this which are able to provide industry specific knowledge and skills to build on earlier, and more general, qualifications. Several participants also commented that being a recognised qualification meant that completing the GRNS course was more valuable than undertaking several short courses, which may not be widely recognised.

Table 4. The outcomes for respondents and the grains industry as a result of completion of the course, or individual GRNS units

Survey statement	Strongly agree	Agree	Unsure	Disagree	Strongly disagree	n
I developed new skills or knowledge that were directly relevant to my job.	36.9	52.3	7.7	3.1	-	65
I developed new skills or knowledge that I believe will be helpful for me in future employment.	35.4	52.3	9.2	3.1	-	65
I am making better decisions as a result of knowledge developed during my GRNS study.	29.7	56.3	10.9	3.1	-	64
I have changed or suggested changes to farming practices as a result of knowledge I acquired during my GRNS study.	20.0	46.2	24.6	9.2	-	65
I have a broader base of knowledge on which to base my professional decisions.	31.3	59.4	7.8	1.6	-	64
I now speak to farmers on a broader range of issues as a result of the knowledge I acquired during my GRNS study.	32.3	43.1	18.5	6.2	-	65
I believe the industry benefits from the existence of this Course.	69.7	30.3	-	-	-	66

The outcomes for students doing the grains course are overwhelmingly seen as positive, both to the individual studying, and to the industry as a whole (Table 4). Overall, respondents were very positive about the skills and knowledge of research and farming practices which they acquired while studying, and the relevance of these improvements to their careers and the industry. More importantly, 75% of respondents stated that they were now discussing a broader range of issues with farmers, and 66% had either implemented or suggested changes to farming practices based on knowledge acquired during GRNS study.

These positive outcomes are significant as they show that the grains course is achieving its objectives, which are to increase capacity within the grains industry by improving the knowledge and skills base of advisors and growers, and to accelerate the adoption of research outcomes and best management practices to improve the economic and environmental performance of the grains industry. This extremely positive outcome is further supported by all of the respondents stating that the grains industry benefits from the existence of the grains course.

In addition to answering the survey questions, respondents also provided their own views on the benefits of GRNS study. Comments were positive about the relevant overview and broad coverage the course provides of the Australian grains industry, particularly of newer issues. They were also positive about the ability of the course to build capacity, enabling individuals to contribute more to the grains industry regardless of their current role.

Respondents also valued the opportunity to meet and learn from experts at the residential schools, and meeting and learning from fellow students. One respondent's comment summed up the positive attitude towards GRNS study: "This was a great course to give someone a broad overview of the industry. It was great in helping understand how the industry worked and in establishing an understanding of the various areas of the industry. It was also very useful in enabling participants to establish contacts within the industry."

In addition to improving knowledge, a large proportion of respondents (57%) considered that GRNS study has also helped them to either win a promotion in their role within the grains industry, or obtain more suitable employment in the industry. To assess their overall reaction to the course, respondents were also asked if they would recommend undertaking GRNS study to others, and over 88% replied positively.

Conclusion

Overall, survey respondents have a very positive view of the Sustainable Grains Production course, and the impact of the course on graduates and on the grains industry. GRNS study is valued for its specificity in grains production, and the opportunity it gives students to improve their agronomic skills, particularly for students in isolated locations. Participants suggest that studying the GRNS course has positive outcomes for both themselves, and for the broader industry, and would recommend GRNS study for others.

By educating industry-based students on the latest research and grains production techniques, the course is making an important contribution to research adoption in the industry, as graduates gain the skills and confidence to help farmers to make positive practice changes.

Acknowledgments

Thanks to GRDC for funding the Sustainable Grains Production course, to the survey participants who provided comments and suggestions, and to all those in the grains industry who have assisted with the course and contributed to its impact and success.

For further information on the Sustainable Grains Production course, go to www.une.edu.au/grainproduction

References

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