

# Are we influencing you?

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## Key messages

- An increased need for transparency when working in projects funded by multiple sources has pushed researchers to assess the value of their work to both funders and end users. Furthermore, researchers are now finding the need to measure the level of influence that their findings are having on the intended end user.
- Understanding the key outcomes required to be met by project completion is vital to planning a process that will allow researchers to reach them.
- The Department of Food and Agriculture, Western Australia's (DAFWA) barley agronomy project has found three key ways of monitoring the interaction between project staff, key messages from research findings and their end users (growers and agricultural consultants).
- A survey completed in 2013 showed that 66% of growers and 77% of agricultural consultants utilised findings from the barley agronomy project's research. A survey completed in 2015 and a survey at project end (2017) will determine whether this uptake of information has increased, decreased or plateaued.

## Aims

Have you ever wondered – 'Is the work I am doing meaningful' or 'Is anyone ever going to use the outcomes of my research'? The answer for many would have to be 'yes' to both of these questions. However, have you ever had to measure the effect that your work has had on others and to what extent?

The aim of this paper is to demonstrate the ways in which the DAFWA's barley agronomy project has gone about measuring the uptake of recommendations from project work.

The Department of Agriculture and Food, Western Australia's barley agronomy project, Management of barley and barley cultivars in Western Australia (DAFWA), which is jointly funded by the Grains Research and Development Corporation (GRDC) have been asked to do just this. The project has been working to monitor the effect that its research has had on the barley growers in Western Australia against five key outcomes set out at the start of the project. These outcomes include;

- Barley growers will have access to improved barley cultivars, management information and industry decisions to align crop production with market requirements will be more profitable.
- By project end 1,500 barley growers (>100 ha) in Western Australia will be using project outputs and 100 examples of practice change will be recorded.
- Additionally at least 20% of growers and next users surveyed will annually utilise technical information and/or decision support tools generated from this project to assist them select barley cultivars and management practices suited to their business structure, their business location and to meet market requirements.
- It is expected that 5 - 15% of barley growers using this project's information will achieve a 5 - 15% increase in profitability through greater barley production and/or an increase in percent receival as malting.
- Research will be used to develop the underlying principles supporting Western Australian barley production, focusing on the Kwinana, Albany and Esperance Port Zones. Awareness of quality and end use targets are enhanced by working with barley breeders and the GIWA Barley Council.

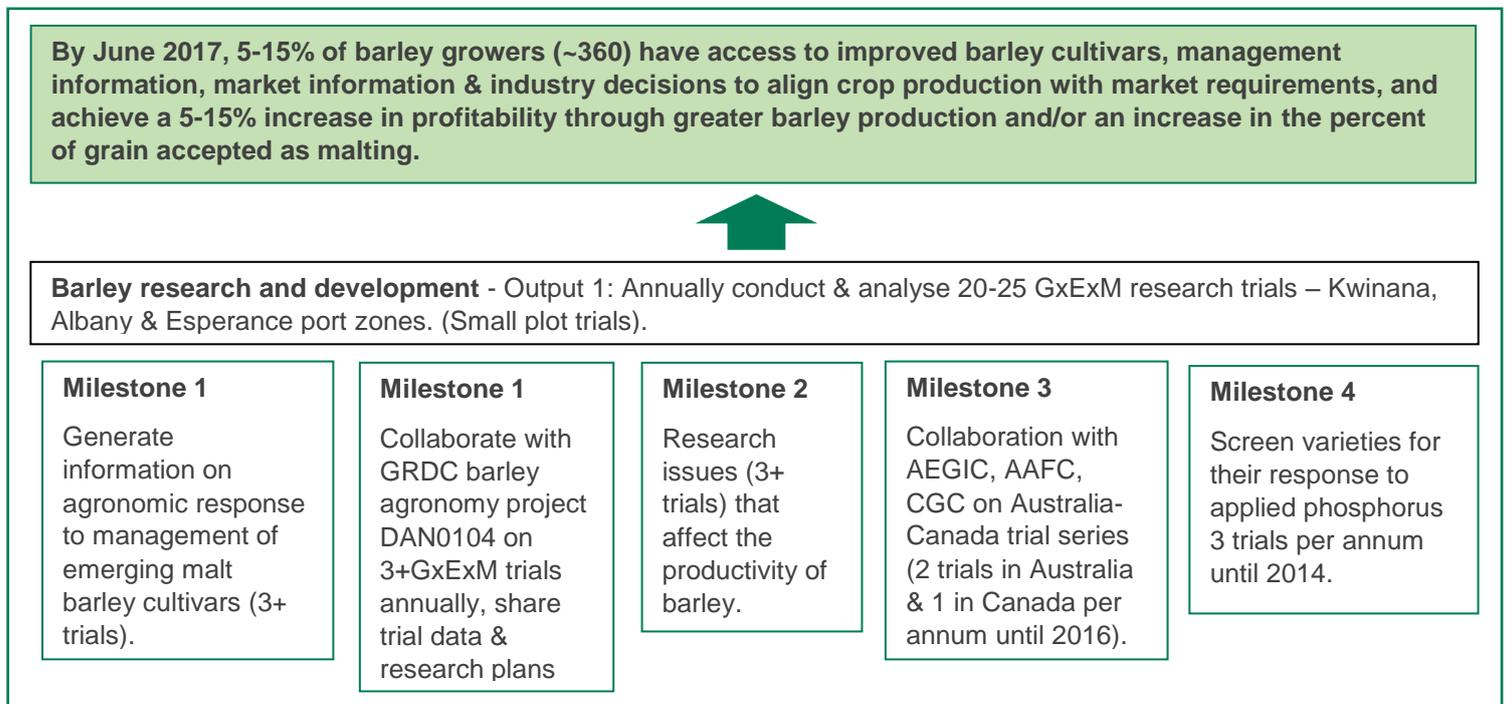
## Method

### *Planning process*

It's widely accepted that the barley industry and researchers know how to produce relevant and informative information. However, measuring the uptake of this research is a recent concept. A part of the project's planning was to design and implement a monitoring and evaluation plan. The monitoring and evaluation plan specifies the tasks that will be completed and questions that will be asked to ensure that each outcome of the project has been covered. Some of the tasks in the monitoring and evaluation plan include the ways that evaluation data will be recorded, how

the data will be delivered to the GRDC in annual and final reports and the types of surveys that will be carried out to assess the level of practice change.

The project then went about producing a program logic which acts as a visual guide, linking each activity undertaken in the project including trials, field days and communication outputs, against the final required outcomes. The program logic represents a mind map for the project staff. Figure 1 is an excerpt from the barley agronomy project's program logic. This model displays the theory of change which means that work completed under each milestone will equate to the three project outputs (outputs 2 & 3 not featured in Figure1) and eventually these outputs will work to complete the overarching outcome of the project (featured in the green box).



**Figure 1. An excerpt from the barley agronomy project's program logic. The milestones summarise the process of meeting each output.**

### *Monitoring and evaluation activities*

The overall aim of the monitoring and evaluation activities in this project is to understand whether the project's recommendations and tools, such as the variety guide, are effecting a practice change in Western Australia's barley growing enterprises. At project end, along with the usual outputs including findings from trials and variety decision support tools, there must be evidence of 100 examples of practice change on farms growing barley in Western Australia. Measuring practice change throughout the project has proven to be quite difficult. Aside from visiting each barley grower every year to find out whether the project's work has helped to make any changes on their farm, there are limited ways to find out exactly how and why growers make the changes and decisions that they do on their farms. As such, the barley agronomy project has implemented call and enquiry logs, records of extension activities, records of tweets and social media activities, google analytics through DAFWA webpage and a grower and consultant survey conducted in 2013, 2015 and at project end (2017).

Between June 2012 and June 2015, the project staff undertook 305 extension activities including the production of the barley variety sowing guide, spring field days and crop update presentations. As part of measuring their effectiveness, all extension activities are recorded onto a spreadsheet which is shared by all project staff. The advantage of this is that the spread of activities across mediums can be tracked and evaluated for project reports. Assumptions can be made about the level of engagement each activity received from growers and consultants. In turn, the assumed engagement level can be used as evidence contributing towards eventual on farm practice change.

A strategy that the project has undertaken in its communication and extension activities is to build the relationship with consultants and barley industry representatives. Direct communication with consultants through regular newsletter updates has helped to increase the profile of project work. It is expected that through sharing the key findings of the project work with consultants and advisors, information will be passed to growers. The current project mailing list reaches 100 consultants. It is expected that by sharing information with this group, our recommendations will be shared with clients who will then make a practice change on their farms.

Further information has been collected from both consultants and growers through spring surveys. Two surveys have been carried out so far in the project in the spring of 2013 and 2015 with a final survey being conducted in 2017. The content of the three surveys is being kept as similar as possible for continuity and ease of comparison across the years. The consultant survey focuses on the way that project information is accessed, recommendations made to growers and attitudes towards project outputs such as the variety guide. The grower survey has similar themes but focuses on the impact that project recommendations have on decisions made on farm. Other topics covered in the survey include use of the project's tools including the barley variety guide in on farm decision making, seeding rate and variety choice. The reason for the three surveys is to understand the attitudes of growers and consultants at project start, mid-way through the project and at the end of the project. After all three surveys have been completed, the results will be used to assess whether recommendations made throughout the project have been taken on board to make a practice change on farm. Comparisons will be made across the three surveys to find out if growers and consultants attitudes have changed and if project work can be attributed to these changes.

The project recently began utilising social media to share findings. Information has been shared from both personal twitter accounts and DAFWA managed twitter accounts. Once a post has been shared, statistics such as total engagements, retweets, likes and whether the tweets links were clicked on are noted in the project activities spreadsheet. Twitter has been very successful at gauging the attitudes of growers to current barley issues. Information that is received from growers and consultants through twitter interactions is recorded and used to give examples of potential practice change.

## **Results**

### *What is known so far*

Monitoring the level of practice change is an ongoing process, with much of the information used to support our examples of practice change coming from the three surveys. So far, the 2013 data is available with information from the 2015 surveys being released at the end of January.

The information collected and analysed in the 2013 survey has provided valuable insight into the attitudes of both growers and consultants at the start of the project. The findings from 2015 will show us whether the information that we have shared so far has been put into practice on barley growing properties in Western Australia.

In 2013, a total of 138 people were surveyed including 95 growers and 43 advisors. Findings from the 2013 survey have shown that there was quite a difference between what rate growers were sowing their varieties at and what advisors recommended. For example, the average kilogram per hectare seeding rate for growers was 64kg whereas advisors suggested 73kg. When findings from the 2015 survey are released, comparisons will be made between the seeding rate information from the 2013 survey and the information found in the 2015 survey. If the seeding rate has increased and moved closer to the rates recommended from findings from project research work, a successful practice change will have been identified. If seeding rates have not changed, the project can look at new ways of sharing recommendations better. Another finding from the 2013 survey showed that only 15% of the 95 growers surveyed counted the number of plants per square metre in their paddocks.

The barley variety sowing guide is produced each year and distributed in hard copy to over 7,000 readers through the GRDC's GroundCover network. Results from the 2013 survey showed us that the majority of growers surveyed received and used the hardcopy of the guide, whilst the majority of advisors utilised the electronic copies found on the GRDC and DAFWA websites. Again, the majority of growers surveyed (66%) found the variety guide to be useful when making their variety decisions and 77% of advisors used the guide when assisting growers in making their variety decisions. This result will enable the project to understand whether the information passed to consultants and growers have been adopted. Growers found the Grain Yield Comparisons and Agronomic Characteristics the most useful sections in the guide.

Through recording the project staff extension activity, interactions on twitter and enquiries that are received throughout the life of the project, examples of practice change or possible adoptions of recommendations will be reported at the end of the project.

## **Conclusion**

The Barley Agronomy Project is on track for to reach its overarching outcome of 'By June 2017, 5-15% of barley growers (~360) have access to improved barley cultivars, management information, market information & industry decisions to align crop production with market requirements, and achieve a 5-15% increase in profitability through greater barley production and/or an increase in the percent of grain accepted as malting.'

So far the extension of the key messages from research activities has been extensive and has covered a wide range of formats including face to face presentations at field days, social media, an increased presence on the DAFWA website and written information in grower group newsletters.

It is expected that the three surveys taken with growers and consultants over the course of the project will provide the most insight into the effect that the project's messages have had on the way barley is grown in Western Australia. Comparisons from the start, mid-way through and at the end of the project will be made to find areas where key messages have been successfully shared through the project staff's relationships with consultants or through direct contact with growers.

Whilst measuring the effectiveness of this project's work has required the implementation of new techniques and a shift in the way that interactions with the target audiences are considered, the monitoring and evaluation techniques used have provided value to the project. Along with the advantage of accurately reporting the effect that project work has had on the Western Australian barley industry to external funders, monitoring the work that the project is doing has provided guidance to project members and signalled areas where further work is required.

### **Key words**

Monitoring and Evaluation, Communication, Practice change

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