

# generating ripples ...creating change

# GrazingFutures Grazier Participant Online Survey Report

## August 2021

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### **Snapshots**

#### **GrazingFutures Attendees** ... improve, drought recovery/preparedness 2019 2021 2018 2020 **Somparative data** Graziers timing drought decisions sooner 29% 31% 27% Graziers' level of increased drought preparedness @ Rating >7/10 25% 36-51%\* **Evaluator comment:** \* Percentage ranges are for responses given with and without description or reason. 1021 data comments 36-51%\* 44-69%\* 22-53%\* Making decisions sooner **Increased preparedness Having decision dates** 66 As it gets drier 66 Critical date we wean earlier to **66** Assess our grass must have received take pressure off once the wet season 70% of average rainfall the cows. finishes - April/May if by **mid-Feb** and no/late wet season our grass budget date assess earlier and sell for some years to scanned in lamb ewes. assess carrying capacity is mid-April. **66** Better **66** Excel workshop **66** Work around may assist in drought management of by setting out the cashflow and tax selling on my critical strategy for destocking planning will inform date and deciding livestock and timing of stock sales in what is most overpriced evaluating balance with rainfall and start selling based supplementary and feed

feeding programs.

management.

on that.

#### **GrazingFutures Attendees** ... all-up practice change 2019 2018 2020 2021 Comparative Graziers considering change 71% 87% Graziers change commenced or completed 49% 62% 62% 53-71%\* 33-44%\* graziers made a business or livestock record keeping change <u>202</u>1 Business change data Stock records General records Financial records Digitalised all of my **Using templates** received to record bookkeeping processes. livestock numbers to work Excel spreadsheets to out livestock numbers document payment schedules. Developed accurately and quickly at EOFY. It is more a and completed quarterly management and and end of year taxation time/stress saver by processes to a much-Better use of Excel making record keeping improved standard. spreadsheets. easier. **66** Have increased our • Started new herd Application of Excel in the **production of** record keeping system. recording system for fertility records. financial reviews and grazing business data record keeping. Influence of GrazingFutures event or staff For the business or livestock record keeping changes, 60% rated the level of influence at or greater than 7 on the 10-point scale. GrazingFutures sponsored events and deliverers are seen as a credible source of financial business and record keeping information. Graziers will make management changes when provided with tools that work and the training to use them.

## **GrazingFutures Attendees**

... Animal production changes made

omparativ

2021 data and comments

2018 2019

2020

2021

Graziers making changes

39%

49%

27%

44-46%\*

## Animal production change examples

Weighing heifers as weaners and yearlings to gauge growth rates and have been feeding M8U and P

Targeting paddocks for **twin-bearing ewes** and investigating pastures suitable to our country.

beginning with

mOOvement tags

implementation. Sorted
heifer selection and

joining issues.

## Influence of GrazingFutures event or staff

For the livestock changes, 63% rated the level of influence at or greater than 7 on the 10-point scale.

## Graziers expecting benefits to occur

**66** 1. Having multiple income streams.

2. Increased grazing efficiency due to grazing/browsing habits of goats

**66** Better joining/breeding/weaning results ...

Most graziers were able to give an example of the source of the profit, demonstrating that they had identified their understanding that for them there was a relative advantage in making the change.

Knowing relative advantage is known to improve adoption rates.

## GrazingFutures Attendees

... GLM changes made

Comparative

2021 data and comments

2018

2019

2020

2021

Graziers making changes

16%

18%

31%

40-42%\*

## **GLM** change examples

Rotating mob to rest 60% of the property this wet season. Using ABL mentoring on graze period calculators to push decision to destock earlier.

Experimenting with ripping bare areas to help with rain infiltration giving pasture spread.

**66** Grazing **budgeting**, working out how much feed we actually do have, **learning** different types of grasses **helps** with grazing ratios ...

## Influence of GrazingFutures event or staff

For the GLM changes, 63% rated the level of influence at or greater than 7 on the 10-point scale. This represents a measure of confidence by these 19 araziers in the content and those that delivered it.

## Graziers expecting benefits to

Help manage dry years

Increase ground cover

Increase profit

95%

94%

88%

**66** Feel better able to **objectively match** stocking rate to carrying capacity.

Paddocks aren't "flogged" as cattle are i moved regularly. Plus improved pastures are great for ground cover and land condition, properly managed.

More productive pastures and greater carrying capacity and cattle body condition.

The one grazier, reporting it would not increase groundcover, was clear in explaining that the interplay between his GLM and animal production changes was the reason.

The interplay between recommended practices is worthy of note by regional coordinators and their teams as they prepare content for events.

### 2 Background

Since the start of GrazingFutures, rain recordings in much of western Queensland are down. In the 2020/2021 summer there have been varying degrees of increases in rain in parts of the project's South and North regions. Central region, while experiencing some increased incidence of rain, it has remained variable with some area continuing to experience low rainfall. As well, grasshoppers have been active in some districts with the denuded areas being extensive.

Initially GrazingFutures included the use of the Grazing BMP process as an entry point for connecting with graziers. The project now focusses on the delivery of activities identified as timely and relevant to industry and relevant to improved business, drought preparedness and resilience.

GrazingFutures contributes to the Queensland Government's 2015 election promise to 'work concurrently with industry to develop a suite of measures that will assist producers to improve their climate risk management and drought preparedness strategies for the longer term'. This project will build more resilient businesses by helping beef and sheep producers make informed decisions to recover from the current drought and to better plan and manage for future droughts.

The survey work reported here assesses landholder responses to the delivery of GrazingFutures activities including changes made as a result of their involvement and includes changes in drought management and the timeliness of decisions for drought conditions.

The preparation of the survey report again provides information relevant to components of the GrazingFutures Project Strategic Plan. They are:

- It provides methodological support for the process of enhancing graziers' skills referred to in the strategic plan, and
- It provides for management of the strategic project risk that 'Graziers don't see value in the project they don't get involved, there is industry disinterest and lack of engagement. Workshop/engagement fatigue is an issue'. This risk can be substantially reduced by being proactive and implementing the strategies suggested throughout this report.
  - o Background in previous reports have included this item and it can be noted that over the progress of the project the level of involvement by graziers, and the changes made as a result have been suggest it is less of a risk.

### 3 Survey methodology

#### **Survey content**

For the 2021 participant surveying the GrazingFutures team agreed to a two-tiered survey approach with:

- The main component of the surveying to be 45 graziers completing a self-report, online survey with regional staff contacting the respondents and inviting them to complete the survey. Design, data analysis, interpretation and recommendations to be done by the external evaluator, GR Consulting.
- Twenty (20) on-property surveys being done by an external evaluator, GR
  Consulting, where the purpose was to engage in discussion with grazier on
  questions each region suggested would assist them in planning to increase the
  adoption impact of their work. Design, data analysis, interpretation and
  recommendations to be done by the external evaluator.

The all-regions online survey design began with the previously used content (2018, 2019, 2020) developed with project regional co-ordinators and other DAF staff involved in the project. It was redesigned to suit the online format.

For the 2021 on-property surveying, negotiations were done with regional coordinators and their teams on region-specific themes and/or questions. The negotiations often took time to organise and complete. And at times plans had to be re-made as regional staff had other priorities. The information provided by the surveying was for use in 2021/2022 regional planning where attention was to be given ways to improve adoption rates.

The reporting for the on-property surveying has been done separately to this report.

#### Respondents

Regional co-ordinators and their teams decided who they would contact for the online surveying.

Confidentiality of survey information has been assured because the project team agreed to anonymity through separation of landholder-identifying details and survey responses.

#### **Response numbers**

Each region agreed to getting 15 respondents for a total of 45 respondents. Responses were collected from participating graziers with 17 in South, 15 in Central region and 13 in North.

#### Seasonal conditions in which GrazingFutures has operated

There were no items in the 2021 GrazingFutures all-regions survey asking for information on seasonal conditions these 45 graziers were experiencing.

These were excluded in the interests of reducing time to do the survey as the format of surveying was online for the 45 graziers.

#### 4 Reporting

The findings reported here are from 45 grazier respondents who'd attended GrazingFutures events in the 12 to 18 months prior to April 2021 in the three (3) regions of the project.

### 5 Findings and interpretations

Findings and interpretations are presented under headings that correspond to GrazingFutures, Objective 2 which reads, "Support grazing businesses in western Queensland to improve business resilience, drought recovery and future drought preparedness". Wherever possible headings align with those used in the two most recent years of surveying.

This survey was offered online for self-reporting by graziers. Forty-five graziers in total provided responses with sufficient detail to be included in to the survey. Some of the 45 respondents skipped parts of questions. While that isn't unexpected in self-reporting it means percentage figures or number per total number do provide the consistency that makes for ease in reading.

#### 5.1 Reasons for attending events

GrazingFutures staff provided lists of event topics for each region with identifying information, such as place and time, as a reminder to graziers of events they'd attended. They included that in their email contact with graziers they contacted for the surveying.

The percentage of graziers selecting each reason, provides a measure of their interest in the content of events. (See Figure 1)

The other reason was a specific aspect of GLM, 'To find out more about Mitchell Grass dieback/non-response'.

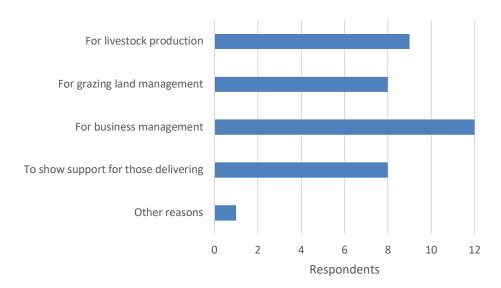


Figure 1. Reasons for attending events

#### 5.2 Level of change in drought decision making

#### 5.2.1 Drought preparedness

To support graziers in their drought decision making is a reason for GrazingFutures operating in the regions where it does and the level of influence is a measure of project effectiveness.

Graziers were asked how much GrazingFutures activities assisted them to better prepare for drought. The rating scale was 1=Not at all; 10=Very much. The results are shown in Table 1.

For that rating scale 51% i.e. 23 of these grazing businesses rated the activities they attended at 7 or more for enabling them to in some way improve their drought management. Fifty-one percent (51%) is a significant increase on previous progress since GrazingFutures started. The trend has been of 25% in 2018, 27% in 2019 and 29% in 2020.

In total 20 provided a comment on their rating as asked for, and of those 16 provided a reason that could be said to be directly linked to drought or sources of information that could assist in drought times. The four (4) others provided responses that were not applicable for example, 'I went to say thanks to the Buy from the Bush ladies who promoted my daughter's earring making business.'

Graziers were asked 'How much' had GrazingFutures activities assisted them to prepare for drought. Responses given show that the events are providing a practical level of assistance which means GrazingFutures is achieving this objective.

Table 1. Level of assistance to better prepare for drought

Rating	Responses
Not at all 1	1
2	1
3	4
4	-
5	6
6	6
7	11
8	7
9	3
10 Very much	2
Not applicable	4

Some providing directly linked comments gave specific examples which, taken together, clearly explain the range of ratings which were at all other levels than rating four:

- Learning the pasture condition categories has set a goal for us to get our pastures into category A or B condition in better times so that they have better ground cover going into a dry time. This results in less time being drought affected and a quicker response after a rain event
- It wasn't really about drought preparedness
- As it gets drier we wean earlier to take pressure off the cows.
- It is helpful to have another opinion on products. Also interesting to listen to advice on land management that other people have tried and or had success with.
- We haven't been able to get any planning on paper since we have attended, it's
  hard to get us all in one room. But we have started talking about it which is better
  than previous generations!
- We are fairly used to drought from long-term drought (when) in NSW but are always keen to learn more. Pasture identification workshop in St George was terrific as it helped us with new types of pastures in Qld as opposed to those we are used to in NSW

 Excel workshop may assist in drought by setting out the strategy for destocking livestock and evaluating supplementary feeding programs.

There may be a caution to take when interpreting the 51% being better prepared for drought. It is that only 16 or (36%) who actually offered a comment that exemplified better preparation. The reason for the caution on interpretation is that events and services which regions listed for 2021 are not substantially different in content or number than those conducted in previous years in GrazingFutures. The rate of increase suggests there is reason to consider the size of the increase in this parameter, level of preparedness and numbers making decisions sooner, since 2020. This will be done in Section 5.2.4.

#### 5.2.2 Timing of drought decisions

A second element in assessing change in drought decision making capacity from this project continues to be whether or not drought decisions are being made sooner. The proportion reporting 'Yes' to making decisions sooner is 53% or 24 'Yes' responses. As with drought preparedness this is substantially increased on previous surveying. In the previous three survey periods the trend has been upwards with 2018 showing 27% making decisions sooner, in 2019 it was similar at 29% and for 2020 it is 31%. It was a small but consistent increase in proportion.

The comparison year-to-year is shown in Table 2.

Table 2. GrazingFutures participants making drought decisions sooner, 2018 to 2021

Value	Percent	Survey year
Yes	53%	2021
Yes	31%	2020
Yes	29%	2019
Yes	27%	2018

Examples of the decisions graziers are making sooner in the 2021 surveying, or of what it is that enables them to make decisions sooner are:

- Useful information on selling decisions/when and what/and what costs are involved feeding livestock classes versus return
- Work around selling on my critical date and deciding what is most overpriced and start selling based on that
- Have critical dates on grazing management chart and we make decisions on rainfall received, not on what might fall

 It's so important to look after your grass so being prepared to sell off when needed is vital

- Sell weaners sooner and sell old cows that are saleable
- Better management of cashflow and tax planning will inform timing of stock sales in balance with rainfall and feed management.

These graziers were asked, 'For the events you attended...will you make decisions sooner in times of drought or when faced with other business risks?' The response made by 53% i.e. 24 of them was 'Yes'. They were also asked to comment on their answer however only 10 or 22% of those saying 'Yes' made a comment on what they will do sooner and examples of those are above this paragraph.

The examples of what they will now do sooner are being done as a result of GrazingFutures events. It shows that, in this dimension of 'sooner' decisions, GrazingFutures is delivering what it's meant to for the grazing industries across the three regions.

As for drought preparedness there is a caution to be noted for making decision sooner. It is again that even when asked to comment only a smaller number, 10 in this case, did so. Again the reason for the caution on interpretation is that from the events and services which regions listed for 2021 they are not substantially different in content or number than those conducted in previously in GrazingFutures. The rate of increase suggests there is reason to consider the size of the increase in this parameter of numbers making decisions sooner, since 2020. This will be done in Section 5.2.4.

#### 5.2.3 Decision-making dates in dry times

An additional question was included in 2021 on decision-making in dry times. It was, 'Do you use decision dates during dry years or drought as prompts to sell-down or destock?'. Graziers were asked to 'Please describe' those decision dates.

For those with decision-making dates their processes can be clustered into three main categories:

- Emphasis on feed available
- Emphasis on planned dates for action including finishing calving, and feed assessment
- Mixed processes that can include climate forecasts.

For the new question of whether or not graziers have decision making dates in dry times 31 of the 45 surveyed graziers i.e. 69% reported 'Yes' however it was only 20 who provided 'Please describe' information on their dates. With only 20 giving information on dates suggests it is cautionary to expect the proportion may be between 44% and 69% with decision dates. This caution will also be discussed in Section 5.2.4.

Of most interest to regional coordinators and other project deliverers, is the fact that at least 31% and possibly 56% do not report having dates or plans in the face of coming drought. As such they can be expected to be more at risk of being unprepared for drought and consequently their resilience diminished. The proportion without decision dates suggests there is still scope to in some way experientially bringing to graziers the value of having and using decision dates. Experiential learning has been shown to be able to produce transformation in attitude and practice.

As well, some descriptions suggest decisions may only be made 'as needed', saying for example, 'Decision dates are flexible and must be altered depending on current circumstances e.g. We've just had 9mm of rain on dry pasture. We may need to adjust livestock numbers earlier than planned'.

Those grazier with decision making plans that are more developed gave examples that show where they focus their decision-making attention in dry times. Some are as simple as assessing feed at a general or specific date with some adding amounts of rain e.g. '...must have received 70% of average rainfall by mid-Feb'.

Other even more sophisticated planners describe the integration of action in dry times into their whole management program, 'Assess pasture amount and quality by the end of the wet season/growing season, depending on the year, usually by end of March/mid-April. Make stocking rate decisions accordingly. Wean and pregnancy test in early July, sell all empty cows, either immediately if fat, or as soon as freshened up, usually by October. Re-assess pasture at pregnancy testing to decide if we can carry the pregnant cows through to February. If not, arrange to destock accordingly to match pasture availability. We will sell cattle at a younger age/lighter weight if pasture availability requires that e.g. sell feeder steers in March rather than carry them through to slaughter weight. If there is winter rain that adversely affects the pasture then we reassess and change plans accordingly'.

#### Other examples included:

- Emphasis on available feed
  - o Sell down earlier as a result of quantifying feed base
  - o Dates are decided on amount of feed available and market prices
  - Numbers/feed density Vs rainfall/feed available
  - Assess our grass once the wet season finishes April/May if no/late wet season assess earlier and sell scanned in lamb ewes. Usually wethers are sold in March...Usually we can carry over until September with this plan and hope for early storms again
  - o Completing feed budgets quarterly.

• Emphasis on planned dates for action including finishing calving, and feed assessment:

- Critical date must have received 70% of average rainfall by mid-Feb and our grass budget date for some years to assess carrying capacity is mid-April
- Develop grass budgets by March. End of year move mobs of cattle to best available feed
- o 15th of March is sell date if the wet fails totally, April is assess-feed-time to decide if we can buy trade stock, and need to have feed until March next year. Benefits: Sell early in bad years to maximize grass for retained stock, and capitalise on sale stock being in the best condition for sale and early before more stock hit the market. Using grass by grazing and spelling promoting growth by leaving enough behind for best infiltration and protection when it does rain. Using a portion of the herd to trade so we can easily destock and easily be in full production sooner
- Restrict join for 12 weeks, so that all cows are calved by the end of January, so that if the wet season fails we can shift to agistment or sell with the cattle in good condition and strong
- We are organic, so key decision dates are crucial for our business. Reduced stocking meant we were able to get through the drought without forward selling and look after the country so that it responded immediately once the season improved.
- There has been no change to our decision-making dates as a result of any events attended. They were already in place.
- Mixed processes that can include weather forecasts:
  - Watch BOM site and forecasts (which were not at all useful in the last wet season due to poor information on La Nina dates) to make decisions on lightening off numbers or taking advantage of cattle price cycles
  - Focus on stock that may require specialist care e.g. first calf heifers and weaner lambs whilst grass stocks are little and have poor nutrient value by providing suitable supplements
  - Use of Green date, and pasture assessments to determine available pasture and number of head to be kept/moved/supplemented.
  - Assess feed going into summer plus outlook predictions e.g. if have limited feed in January and outlook isn't great then will start selling ASAP. This increases available grass for remaining breeders, keeping them in better condition and improving chances of re-conception.

#### 5.2.4 Summary

Graziers were asked specifically 'How much' had GrazingFutures activities assisted them to prepare for drought. That the events are providing a practical level of assistance is shown by the examples in response to the request to give a reason for their rating. They show GrazingFutures is achieving this objective with 51% rating it as 7 or greater out of 10 in providing assistance.

As well, these graziers were asked, 'For the events you attended...will you make decisions sooner in times of drought or when faced with other business risks?' The response made by 53% of them was 'Yes'. The comments made are examples of what they will now do sooner and are doing so as a result of GrazingFutures events. It shows that in the second dimension of sooner decisions, GrazingFutures is delivering what it's meant to for the grazing industries across the three regions.

A new question was included in 2021 on decision-making in dry times. It was, 'Do you use decision dates during dry years or drought as prompts to sell-down or destock?'. With it graziers were asked to 'Please describe' those decision dates.

Thirty-one of the 45 surveyed graziers, i.e. 69%, reported 'Yes' and 20 or 44% of them provided 'Please describe' information on their processes.

#### Considering the size of the increases for the online survey 2021

While it is positive to see increases at these higher levels for drought preparedness and sooner decision-making, the size of the increase when compared to responses for the two questions in previous years suggests consideration be given to if there is sufficient data to support the rises.

The reasons to consider the level of supporting data are:

- GrazingFutures events have not essentially changed from previous years in relation to drought preparedness or making sooner decisions.
- More of the GrazingFutures area, particularly in South and North regions experienced increased rain in summer 2020-2021.
- Invitations to do the survey were made regionally by GrazingFutures deliverers who,
  in one region, said they needed to 'call in favours' to get response numbers, which
  still did not achieve their target number. This contrasts with previous years when the
  evaluator selected a cross-section by topic, region, whether or not they'd been
  surveyed previously, from information provided by regional teams.
- When rating preparedness for drought 51% i.e. 23 of these grazing businesses rated the activities they attended at seven (7) or more for enabling them to in some way improve their drought management. Fifty-one percent (51%) is a significant

increase on previous the rate of increase since GrazingFutures started. The trend has been of 25% in 2018, 27% in 2019 and 29% in 2020.

- For the 24 (53%) responding 'Yes' to making drought decisions sooner only 10 graziers provided an example of what they'll do sooner in their response. The gap in the number providing an example is of interest because it represents a significant loss of being able to support the claim that all responding 'Yes' do make decisions sooner.
- For the new question of whether or not graziers have decision making dates in dry times 31 of the 45 surveyed graziers i.e. 69%, reported 'Yes' however it was only 20 who provided 'Please describe' information on their dates. With only 20 giving information on dates, it suggests expecting the proportion to be between 44% and 69% who have decision dates.

With these points in mind it may be prudent to consider numbers of relevant comments and numbers reporting 'Yes' at the same time to provide the more realistic assessment of project impact.

For example, when adjusting numbers of respondent comments that give examples of what they will 'do sooner' rather than 'Yes' only, shows supported numbers of 10, or 22%, rather than the 53%. The suggestion here is that the actual number who can be claimed to have shown evidence of making a change for this population of graziers is likely to be in the 30s. As such it is in keeping with the previous trend line.

For the new question of whether or not graziers have decision making dates in dry times 31 of the 45 surveyed graziers i.e. 69% reported 'Yes' however it was only 20 who provided 'Please describe' information on their dates. Only 20 giving information on dates suggests it is cautionary to expect the proportion with decision dates to realistically be between 44% and 69%. While there is no previous trend line for this question it seems reasonable the actual number for this same population lies in the 50s for those with dates for making decisions in dry times.

For similar reasons the rise to 51% rating their being better prepared may also be in question. A more realistic suggestion is that with 16 graziers or 36% providing a reason it lies between 36% and 51%.

The reason for viewing both number of responses and the provision of an example or reason together does seem prudent because the most significant difference to previous years is the change from direct contact interviewing by an external evaluator, to an online self-report following an invitation from the local delivery team members. The change was made to allow for some on-property surveying designed to provide region-specific information to use in delivery to improve adoption in the 2021/2022 workplans.

There is one other reason that could explain the increases reported for drought preparedness and making decision sooner. It is that in 2018 and in reports since, there has been a consistent recommendation. In its 2020 wording it was this:

"It is recommended that for all GrazingFutures events, specific attention be given to the design and delivery of them for impacts known to align with improved business resilience, drought recovery and future drought preparedness and that those delivering make clear reference to that application 'on-farm' and provide examples of what other graziers are doing to apply it in their drought management."

It was made with the intention that explicitness of those elements in design and delivery would assist graziers to link the event or service with how they could improve their resilience in drought times.

It is however unlikely to be that the recommendation has been applied in any consistent way as there has been no mention of it being applied in any of the work plans regions developed. As well, with consistency of use it could be expected that graziers would more readily be able to give examples of what they had done.

Returning to the absence of comments when asked to do so online in 2021, it may demonstrate something of a 'tick-and-flick' approach to doing the online survey where respondents wanted to at least demonstrate support for the delivery of services. It is however more than that in evaluation terms. It means that some claims made in this survey are not able to be fully supported by the respondent's other data.

Because the occurrence of lower number of responses with examples or reasons about their improved drought capabilities was unknown before responses were examined it represents an emergent outcome of the evaluation process. Emergent outcomes are a characteristic of the action research<sup>1</sup> methodology used in the evaluation design because the process is to simultaneously act and do research. Those two are brought together by critical reflection which in this work took place when analysis of the data began.

The knowledge of being unable to fully support some claims about improved drought capability without a description will now inform the remainder of the evaluation and this will be noted where it occurs.

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<sup>&</sup>lt;sup>1</sup> Dick, B. (2002) Action research: action **and** research [On line]. Available at <a href="http://www.aral.com.au/resources/aandr.html">http://www.aral.com.au/resources/aandr.html</a> (Accessed 02/08/2021)

## 5.3 Assessing the link between GrazingFutures events and project objectives

#### Numbers considering a management change

Respondents from 39 of 45 grazing businesses surveyed report considering making a management change following involvement in a GrazingFutures 'event' over the previous 12-18 months.

The overall proportion considering changes is 87% and is greater than in previous years and the variation across the four survey periods is shown in Table 3. All 39 were able to nominate the management change area (animal production, GLM, business or livestock recording) they considered.

Value	Percent	Response nos.	Survey year
Yes	87%	39/45	2021
Yes	71%	32/45	2020
Yes	82%	37/45	2019
Yes	74%	42/57	2018

Table 3. Graziers considering a change after events in 3 survey periods

For North region the proportion is 92%. For Central region the proportion of graziers reporting considering change was 80%. For South region the proportion is 88%. All three are substantial proportions of attendees considering change and deliverers are to be commended for providing that level of motivation.

Points of context to note in considering the differences between regions are:

- Summer rainfall in the project regions was again variable however North and South regions received some better totals and wider distribution of rainfall events than the previous year. Better totals and wider distribution could provide increased grazier capacity to consider change. There are some areas in both regions that have remained dry.
- Pasture conditions remain poor for large areas of Central region resulting in low or no livestock running on properties. There are a few small pockets of country where rainfall events have enabled pasture to respond positively. Given this situation the events that the GrazingFutures Central team have run over the last 12 months have been focused on bring people together to capitalise on the social interaction and answer any immediate questions producers have. Paddock walks have been the preferred method for this type of event and has been utilised by both GrazingFutures and E-Beef projects with success.

As well in Central grasshoppers and lack of positive pasture response to rainfall
events have taken precedence for Extension Officers with considerable time being
invested by the Central team. Two project staff have been heavily involved in
navigating the grasshopper issue, with a survey to capture the impact of the
grasshoppers and a working group to explore management options.

- DAF staff numbers allocated to work in GrazingFutures vary between regions ranked from highest to lowest as North, South, Central although it is not known what is the full-time-equivalent allocation.
- Survey numbers for each region were agreed by coordinators at 15 each.

Proportions considering change have varied year-to-year and suggests that capacity to change, influenced by seasonal conditions, may be one driving force for those considering change post-event across all three (3) regions. It will therefore be of interest to follow the thread linking events to project objective two (2). That will be done next by examining the numbers starting and completing changes.

#### 5.3.1 Commenced or completed the management change

The next element of impact data available from the surveying is that of numbers of graziers reporting having started their selected change or changes.

Again, it can be reported that that GrazingFutures is having an impact with these 45 graziers. In this sample 71% (see Table 4) report commencing a management change. That proportion has risen from the 2019 and 2020 surveying figure of 62%.

Value	Percent	Responses	Survey year
Yes	53-71%	32*/45	2021
Yes	62%	28/45	2020
Yes	62%	28/45	2019
Yes	49%	28/57	2018

<sup>\*</sup> Eight (8) did not describe their change.

#### 5.3.2 Summary

Survey data demonstrated that GrazingFutures project delivery is achieving success in Project Objective 2 i.e. "Support grazing businesses in western Queensland to improve business resilience, drought recovery and future drought preparedness."

As in the previous grazier surveys reported in 2018-2020 it has again been possible to establish the impact of the project from tracking levels of those who, after a GrazingFutures event, had:

- · Considered making a management change, and
- Commenced one or more changes.

The proportion of graziers reporting commencing their change has risen to 71%. In conjunction with this proportion it is important to note that eight (8) respondents did not describe their change. This suggests that the proportion starting their change could be between 53% and 71%. That is a point to be noted by project coordinators.

Again, this has been achieved even with some continuing drought through the Central and South regions and the seasonal variability experienced even in the North region where better rainfall was more widespread.

The following section will consider the data available to report on changes made in business management, animal production and GLM.

#### 5.4 Changes in animal production, GLM and business

In providing events to improve grazier business resilience, drought recovery and future drought preparedness, the GrazingFutures project focuses on activities that do this through events related to animal production, GLM and business.

Across all three (3) areas of management the 45 graziers report 52 changes made. Table 5 shows the distribution of them across the three management areas as well as over the four (4) surveying periods.

It is useful to note that it was in 2018 when Grazing BMP was part of the GrazingFutures that the surveying of business practices was done in any depth. In 2018, 2019 and 2020 an evaluator spoke to each respondent. In 2021 it was a self-report online survey and included a follow-on question, requested by staff, that asked about level of influence by GrazingFutures events or staff.

Table 5. Categories of changes made by GrazingFutures attendees

Value	2021	2020	2019	2018
Animal production changes	44* or 46%	27%	49%	39%
GLM changes	40** or 44%	31%	18%	16%
Business changes	33^ or 44%	7%	4%	16%

<sup>\*</sup> One (1) respondent did not describe their animal production change (adjusted range 44-46%)

<sup>\*\*</sup> Two (2) respondents did not describe their change (adjusted range 40-44%)

<sup>^</sup> Five (5) respondents did not describe their business change (adjusted range 33-44%).

The percent shown is the proportion of changes made in each management area and is made in relation to the total number of graziers surveyed. That is required here to maintain the same basis for comparison with the way these figures were reported in previous survey results. The process used was chosen originally by the way the data was recorded as part of the Grazing BMP process in use by GrazingFutures at that time.

A comparison between years needs to consider the following context notes:

- Grazing BMP was a central mechanism for identifying events to run in each region and that is reflected in the 2018 survey reporting when it incorporated a module 'People and Business'
- For surveying in 2019 and 2020 the survey reporting regions chose events based on project objectives and regionally identified needs as Grazing BMP had been withdrawn from use by AgForce
- Drought, low rainfall and variable distribution of rain has persisted in many districts of the Central and some in South regions in all years
- No surveying was done in North in 2019 following a damaging rainfall event that required DAF and partners to allocate much of their resources to recovery activities.

For the question on animal production change one (1) person replied 'Yes' they had but did not describe the change as asked for. With the questioning perspective of evaluation that suggests a low of 44% and high of 46% made the change, which here is less significant.

For the GLM question two (2) people replied 'Yes' they had but did not describe the change as asked for. With the questioning perspective of evaluation that suggests a low of 40% and high of 44% made the change.

For the question on business change or livestock record keeping five (5) people replied 'Yes' they had but did not describe the change as asked for. With the questioning perspective of evaluation that suggests a low of 44% and high of 46% made the change, which here is less significant.

In following sections, the level of change in each management area will be considered in turn to assess level of impact.

#### 5.4.1 Animal production changes

In the 2021 surveying, animal production changes exceed GLM changes made in this group of graziers. As well, it is a significant increase in proportion of graziers making changes at 46% up from 27% in 2020. Examples given by respondents of their changes in animal production after GrazingFutures events were described by graziers in this way:

• Growing silage for weaners to be kept when our other properties are in drought

• Cattle tracking beginning with mOOvement tags implementation. Sorted heifer selection and joining issues. Changed supplementation

- From our Advancing Beef Leaders (ABL) mentoring we shifted our joining date back (later) a month to better match our green date and, used Climate App to establish green date properly
- Have been weighing heifers as weaners and yearlings to gauge growth rates and have been feeding M8U and P
- Can use Excel to draft on specific parameters
- Adding P to our M8U mix
- Changed from a sole cattle operation to adding goats to our operation
- Starting using EID tags in breeder females and have recently purchased EID tag reader
- Pre-weigh heifers
- Looking deep into supplement ingredients and changing feeding programs
- Earlier weaning of calves
- Targeting paddocks for twin-bearing ewes and investigating pastures suitable to our country.

## 5.4.2 Influence of GrazingFutures staff or events on making an animal production change

Respondents were asked to rate the level of influence the GrazingFutures event or staff support had on their starting or completing the change. The scale was 1=Not at all and 10=A lot. (See Table 6)

For the livestock changes 63% rated the level of influence at or greater than 7 on the 10-point scale.

It is significant that 63% of those making a livestock management change rate the influence by the event or staff support. It is another indicator of the impact of GrazingFutures project. Respondents were not asked to give a reason for their rating.

Table 6. Level of influence of GrazingFutures staff or events on making an animal production change

Rating	Responses
Not at all	1
2	-
3	-
4	1
5	4
6	3
7	2
8	9
9	2
10 A lot	1

#### 5.4.3 Benefit expected from animal production changes

Seventy-eight percent (78%) of graziers making an animal production change expect the benefit to be evident in less than 2 years with the remainder expecting it to take 2-5 years.

A key benefit these graziers expect is increased profit, and 87% expect an improvement in profit. Fourteen (14) of them gave a reason for thinking so e.g. A grazier who'd introduced goats into his animal production system explained it would come through, '1. (Having) Multiple income streams. 2. Increased grazing efficiency due to grazing/browsing habits of goats utilising low Gidyea, burr and Mimosa.'

Examples of other reasons profits are expected are:

- More calves on the ground
- Have done the silage growing and feeding for the last two years and been very successful
- Should decrease supplementation costs
- It has increased calving percentage
- Better joining/breeding/weaning results.

All are realistic animal production outcomes that explain the expected increased returns.

#### 5.4.4 Summary – animal production

These graziers described their animal production changes and were able to rate the level of influence from GrazingFutures on their making of the change. As well, they could estimate the time until the benefit would be realised with 78% expecting it within two (2) years.

A key benefit recognised by 87% of graziers is that it will provide them an improvement in profit. Most were able to give an example of the source of the profit, demonstrating that they had identified their understanding that for them there was a relative advantage in making the change. Demonstrating relative advantage to a prospective adopter of a practice change is known to be of importance in assisting people to make a change.

Providing evidence of relative advantage is something for GrazingFutures coordinators to keep in front of their delivery staff as a valuable means of increasing the project's capacity to influence graziers on choosing to at least trial, a management change.

#### 5.4.5 GLM changes

At 44% of properties choosing to make changes in GLM practices this is again a substantial increase from the 31% in 2020 and 18% in 2019.

Examples of how graziers describe the changes made are:

- Completed Southern Gulf water and fencing project
- Concentrating on developing and improvement of our better soils and pastures areas. In fact freeholding marginal/ poor production country and selling off to allow better management and development of improvable soils
- Rotating mob to rest 60% of the property this wet season. Using ABL mentoring on graze period calculators to push decision to destock earlier
- Completed (exclusion) fencing paddocks that needed change to conserve fodder and also concentrated on controlling grazing pressure, namely by reducing kangaroo numbers
- Grazing budgeting, working out how much feed we actually do have, learning different types of grasses helps with grazing ratios, spelling paddocks we can when it rains
- Started to put some small leaky weirs/spreader banks in to slow water flow but need more technical knowledge
- Spreader banks

• Experimenting with ripping bare areas to help with rain infiltration giving pasture spread.

## 5.4.6 Influence of GrazingFutures staff or events on making a GLM management change

Grazier were asked to rate the influence the GrazingFutures event or staff support had on their starting or completing their GLM change. The rating scale was, 1=Not at all and 10=A lot.

For the GLM changes 19 of 20 graziers rated the influence and 12 or these, i.e. 63%, rated the level of influence at or greater than seven (7). The distribution of all ratings is shown in Table 7.

Table 7. Level of influence of GrazingFutures staff or events on making a GLM change

Rating	Responses
Not at all 1	-
2	1
3	-
4	2
5	2
6	2
7	3
8	6
9	2
10 A lot	1

The 63% is, as it was for the animal production changes, significant at or above 7. It represents a measure of confidence by these 19 graziers in the content and those that delivered it. It is a remind to GrazingFutures delivery staff that time preparing content and doing follow-up with graziers on the content, is time well spent.

#### 5.4.7 Benefit expected from GLM changes

For graziers making a GLM change:

• 84% expect to see a benefit in under two (2) years.

 95% say it will help them better manage the dry and drought years through, for example:

- Knowing how much feed you are prepared to eat, once you have eaten it being prepared to destock to then let your country recover once it does rain
- o Feel(ing) better able to objectively match SR:CC
- Improved pasture development with fertiliser application, weed control and rotational grazing to manage and save available pasture for dry times
- Easier to adjust stocking rate to carrying capacity, more grass from the rain that falls
- Rehydration of landscape (through) better water infiltration and utilisation
- 94% expect it to increase ground cover, and one other is 'hopeful' it will. Increases are expected as:
  - Paddocks aren't "flogged" as cattle are moved regularly. Plus, improved pastures are great for ground cover and land condition, properly managed
  - o Matching SR: seasonal CC
  - Fencing off creek gully area allowing stock to be excluded and managed better.
  - o Increased Mitchell grass tussocks
  - Providing more rest to overgrazed areas
  - o More grass, more infiltration, more ground cover, less run off
  - o The aim is for more grass = better land condition
  - Combined with our current grazing system (time-controlled grazing) and exclusion fence, to be able to manage grazing pressure of other species.

The one grazier responding 'No', to groundcover increase, explained the reason for saying 'No'. Their description of the change in its complexity was, 'Lick mixers are being used as the quality of the vegetation decreases. Vegetation has increased on areas where water ponding was created.'

It is positive to see this grazier understanding the interactions taking place in their grazing system. The interactions between the GrazingFutures animal and GLM recommended practices is something GrazingFutures coordinators and delivery staff could valuably consider as a topic for discussion in events.

- 88% expect their GLM change to generate a profit saying for example:
  - More productive pastures and greater carrying capacity and cattle body condition
  - More resilient pastures long term
  - More grass of better quality, more kg per ha

 A decrease in fence repairs. A better body of feed available for domestic stock. Less soil erosion

- Having grass to eat means profit
- o Better livestock production increased turnoff.

#### 5.4.8 Summary - GLM

These graziers described their GLM changes and were able to rate the level of influence from GrazingFutures on their making of the change as 63%, the same as that for animal production changes.

They reported their estimate of the time until the benefit would be realised with 84% expecting it within two (2) years. As well, 95% say it will help them better manage the dry and drought years.

Importantly, 94% report that it will improve ground cover and they gave reasons for that expectation. The one grazier reporting it would not increase groundcover was clear in explaining that the interplay between his GLM and animal production changes was the reason. The interplay between recommended practices is worth of note by regional coordinators and their teams as they prepare content for events.

A key benefit recognised by 88% of graziers is that it will provide them an improvement in profit. Most were able to give an example of the source of the profit, demonstrating that they had identified their understanding that for them there was a relative advantage in making the change. As with animal production events recommending changes, GLM events can also include content demonstrating relative advantage to a prospective adopter of a practice change. It is known to be of importance in assisting people to make a change.

#### 5.4.9 Business changes

Nineteen (19) graziers, or 42%, report making changes in their business management including livestock record keeping. With five (5) not providing a description the proportion making a change is better presented as between 31% and 42%.

Slightly more than one third of descriptions given are to do with livestock record keeping in the enterprise. One respondent described theirs as a time and stress saver, 'Using templates received to record livestock numbers to accurately and quickly work out livestock numbers at EOFY. (It is) More a management and time/stress saver by making record keeping easier.' A second grazier described the level of a particular refinement of their application to use the livestock records in auto-drafting, 'AutoDraft on profit parameters.'

Another third is clearly applicable to financial management of the enterprise, for example 'Digitalised all of my bookkeeping processes. Excel spreadsheets to

document payment schedules. Developed and completed quarterly and end of year taxation processes to a much-improved standard.'

The other third is indeterminate in one or other aspect of the enterprise, for example, 'Move towards paperless record keeping'.

Other descriptions given by these grazing businesses of their changes include:

- Better record keeping of stock numbers in each paddock
- As a...seedstock/stud business we use herd, bull, stud female and paddock record.
- Started new herd recording system for fertility records
- Stock flows recording
- Application of Excel in the production of financial reviews and grazing business data record keeping
- Better use of Excel spreadsheets
- Business Excel spreadsheets (improving layout)
- Have increased our record keeping system.

The rise to between 33% to 42% appears a significant amount when compared on a numerical basis with 2020 (7%) and 2019 (4%). However, it is useful to note that the 2021 business section of the survey was simplified asking only about change in business management as financial and livestock record keeping.

The 2020 GrazingFutures surveying report included reference to the initial delivery mechanism for business which was the inclusion of the Grazing BMP module People and Business. It explicitly paid more attention to for business financials and record keeping aspects.

That report also referenced the fact that between 2018 and 2020 fewer GrazingFutures events had focused on business specific activities. That has been the case until 2020 – 2021. This year saw:

- The inclusion of workshops on the use of Excel throughout the enterprise by ConnectAg, and
- Access to the business record keeping and business analysis tool Agrihive for those
   GrazingFutures clients engaged in the E-Beef program.

When that information is considered and even with the increased proportion making business practice changes, it continues to suggest there is scope for more financial input by GrazingFutures to develop those skills in their grazing industry clients.

## 5.4.10 Influence of GrazingFutures staff or events on making a business management including livestock record keeping change

Again grazier respondents were asked to rate the level of influence GrazingFutures events or staff had on the business changes. All 20 who responded 'Yes' to making a

change did so and the proportion rating the level of influence at or greater than 7 on the 10-point scale is 60%. The distribution of all ratings for influence is shown in Table 8.

Table 8. Level of influence of GrazingFutures staff or events on making a business management change

Rating	Responses
Not at all	-
2	1
3	1
4	2
5	2
6	2
7	4
8	2
9	3
10 A lot	3

It is important to note the level of influence recorded here as it shows the potential for GrazingFutures to occupy more of the business management change space as was recommended in a number of previous surveying reports.

It is significant that 60% of those making a business management change including livestock record keeping rate the influence on making the change by the event or staff support and this demonstrates the impact of GrazingFutures project. It suggests two (2) other interpretations for future use in GrazingFutures, and they are that:

- GrazingFutures sponsored events and deliverers are seen as a credible source of business and record keeping information, and
- Graziers will make management changes when provided with tools that work and the training to use them.

A companion item to these two interpretations comes from some recent on-property surveying done for GrazingFutures (GR Consulting 2021). It shows that they are more likely to adopt a new practice when provided with follow-up that shows them how to use it in their own businesses.

#### 5.4.11 Summary – business changes

It is significant that 60% of those making a business management including livestock record keeping change rate the level of influence at 7 or greater out of 10 for the event or staff support for that change. This indicates the impact of GrazingFutures project. It is also important as it shows the potential for GrazingFutures to occupy more of the business management change space.

Two (2) other interpretations of the level of influence for future use in GrazingFutures are that:

- GrazingFutures sponsored events and deliverers are seen as a credible source of financial business and record keeping information, and
- Graziers will make management changes when provided with tools that work and the training to use them.

A companion item to these two interpretations came in some recent on-property surveying done for GrazingFutures (GRC 2021). It shows that graziers are more likely to adopt a new practice when provided with follow-up that shows them how to do it in their own businesses.

#### 5.5 Other practice changes

As well as being asked to identify specific changes related to the topic of the GrazingFutures events attended (Table 5), graziers were later asked to identify any other changes made following GrazingFutures events. Thirty-three percent (33%) of respondents reported they had (see Table 9).

Table 9 Making other changes

Value	Percent	Responses
Yes	33%	15
No	67%	30

Of the 15 only three (3) reported a change different to that which they listed earlier in their survey responses.

The three (3) reported their change as:

- Exclusion fencing
- Trying to practice using the drone for livestock management and mustering. There is an Increasing need to use the drone on our farm
- To be able to understand how the weather information is presented.

There is no material suggesting GrazingFutures provides information on exclusion fencing however, however the fencing is in evidence in Central and South regions. Weather forecast information and interpretation is delivered in North and events incorporating drone technology have taken place in North and South regions.

#### 5.6 Level of confidence in the future prospects for grazing businesses

A question asked of graziers was on their level of confidence in the future prospects for their grazing business for the next 2-3 years. Response ratings were made by 43 graziers (two (2) skipped the question) generating the average rating was 7.7 on the scale, where 1=Not at all, and 10=A lot.

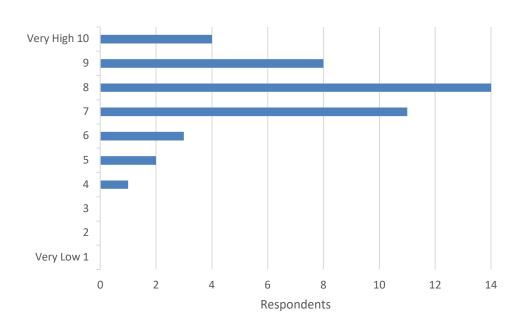


Figure 2. Level of confidence in the future prospects for grazing businesses

The distribution of the ratings is shown in Fig 2 and explains why the average rating is 7.7 as it shows significant ratings in the 7 to 10 range. Only three (3) rated their level of confidence at 5 or less.

Asked to give a reason for their rating, 22 graziers of the 43 did so. Their responses could broadly be categorised into 'planned and confident', 'confident' and 'recognising external factors'.

#### Category 'Planned and confident' examples:

- Diversity of operations both geographically and commodity wise (Beef, Goats and Cropping). Current market prices and interest rates. Succession - we are starting to talk about transitioning into our parent's business
- We have a strategic plan we are working towards, as well as a targeted management plan, with KPIs to monitor progress

 We are confident with our next 5 and 10 year plans to progress our business and stock and land management processes. The steps aim to consolidate breeding practices, improve water infrastructure, and accounting and record keeping to work towards drought preparedness

- Cattle prices (commercial and seedstock) are buoyant currently, with good forward indicators...We have "tidied up" our herd, focused on, sold off unproductive country, freed up dormant capital for on-farm and off-farm investment. Continued "roll over" (our) 1 and 5-year management plans
- We are better placed to deal with dry and to take advantage of the wet
- Plans are reviewed regularly with principals and family members. Regular contact with DAF and NGRMG officers plus E-Beef for inspiration and communication, monitoring and networking has proven to be very productive

#### Category 'Confident' examples:

- We have a federal government that supports agriculture. Cattle prices are at a level where the industry is profitable. Interest rates are the lowest in history.
   Hopefully, the worst of the decades seasonal conditions are behind us for while
- There is a lot of potential with current high cattle prices and because we have had good rain and have good feed but there is also potential for bushfires and the beef market is in unknown territory at the moment
- We have very low stock numbers and require at least 2-3 average or above average years of pasture growth, in a row, to begin to recover from the last 9 years of lower than average rainfall and pasture response. Strong stock prices and low interest rates are a positive
- Commodity prices have never been stronger and our season has been close to average.

#### Category 'recognising external factors' examples:

- I will put a little over half way as the future is unknown. If it continues to rain regularly
  then the confidence would increase. The weather is very unpredictable and we
  depend on it for the animal health and well-being and the vegetation growth land
  condition
- All depends on the wet reason and amount of rainfall
- Grasshoppers are a major concern for us having been hit last 3 years
- This rating depends on the amount of rainfall we get in the next 2-3 years, if no rain rating would be lower.

The reasons given reflect the experience of these graziers where they live, work and hold their business. Their most recent experiences, say between three (3) and 10 years, can be expected to have informed their choice of rating. While these can't be

mapped to local areas because of stated confidentiality afforded respondents, they do provide three perspectives for GrazingFutures regional teams to have in mind as they develop their work plans.

The categories can be used to assist when creating events by matching content to the three industry perspectives. As well, it may also prove informative when listening to individual clients to identify something of their 'perspective' on the future and to respond accordingly. Demonstrating understanding of a grazier's perspective on their future when talking with them at an event will make the engagement more meaningful for them and that can build their confidence in 'tuning-in' to the content of the event.

#### 5.6.1 Summary

An average industry confidence rating of almost 8 on the 10-point scale shows where graziers are at the present. Part of the confidence may be attributable to somewhat more favourable summer rain situations and higher commodity prices.

The reasons given reflect the experience of these graziers particularly their more recent experiences, say between three (3) and seven (7) years. These can't be mapped to local areas however they do provide three perspectives for GrazingFutures regional teams to have in mind as they develop their work plans.

That can assist when creating events by matching content to the three industry perspectives. As well, it may also prove informative when listening to individual clients to identify something of their 'confidence perspective' on the future and to respond accordingly. Thereby building their confidence to be 'tuned-in' to the content of events.

#### 6 Recommendations

Again in 2021 is evident from the data reported here that there have been positive advances in the effectiveness of GrazingFutures events in achieving the project's objectives especially relating to the proportion of graziers who are making management changes.

This is so even when taking into account the consideration of the need for caution with some 'Yes' answers that don't also 'describe' their change or give their reason. The gains shown in this report even when they are adjusted for no description are again significant in all but one category.

#### **Recommendation 1**

That GrazingFutures coordinators include or continue events in their next 12 months that build grazier financial business skills and knowledge. An example of a start event may be 'grazing business literacy' presented by local staff and collaborators. As well it is

recommended that they look for one or two tools local delivery staff could apply in GrazingFutures work. Ideally the tools would be one's local graziers already use.

#### **Recommendation 2**

It is recommended that for all GrazingFutures events, to continue giving specific attention to the design and delivery of them for impacts known to align with improved business resilience, drought recovery and future drought preparedness and that those delivering make clear reference to that application 'on-farm' and provide examples of what other graziers are doing to apply it in their drought management.