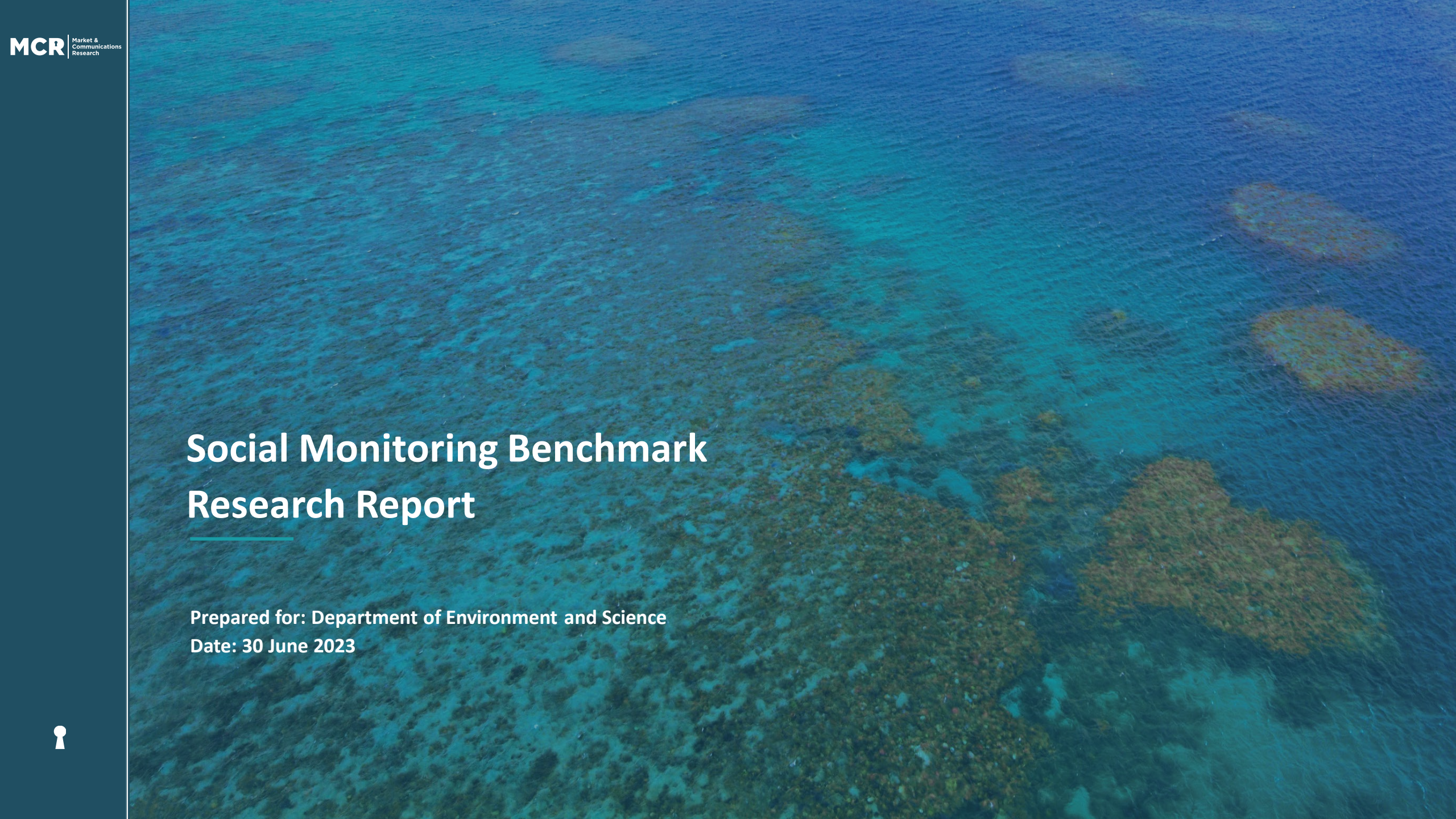

Social Monitoring Benchmark Research Report

Prepared for: Department of Environment and Science

Date: 30 June 2023

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Australia's peak industry body for research, data and insights organisations

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Introduction and method

Introduction

▶ Background

With the Great Barrier Reef under increasing pressure from a number of threats, improving Reef water quality is a key priority for the Queensland Government.

When it comes to the long-term survival of the Reef, the most manageable impact is reducing pollutant run-off to local waterways. In particular, sediment, nutrients and pesticides affect the health of coral and seagrass ecosystems.

The government has committed $270.1 million over five years to 2025–2026 to continue the Queensland Reef Water Quality Program, which funds a range of projects working with industry, agricultural producers and communities. The program supports the agricultural industry, driving practice change through Reef protection regulations and voluntary support programs for sugarcane, bananas, grazing, grains and horticulture^.

Social monitoring (surveying), in place since mid-2019, is conducted with agricultural growers and producers engaged in Queensland and Australian government programs for Reef water quality. These optional surveys are used to assess key factors that influence agricultural industries and producers to adopt land management practices.

▶ Project aims

In 2023, the Department of Environment and Science (the department) identified that while the data collected in social monitoring programs to date is useful, it is limited in terms of the practices and industries covered and only includes information from program participants.

To broaden the scope of participants, the department engaged MCR in February 2023 to undertake research with agricultural growers and producers operating in the Great Barrier Reef catchment areas.

The research aimed to provide insight into the attitudes, group norms, behavioural control, motivations, barriers and triggers to participation, trust and social norms. Both program participants and non-participants were included.

The study will provide a benchmark of social factors that influence agricultural industries to adopt practice change and ultimately engage in environmental stewardship. This baseline can be tracked over time.

▶ Method – overview

A two-staged method was employed.

The first stage was a qualitative investigation with industry stakeholders. The objective of this phase was to gather feedback on and refine the draft questionnaire.

The second stage was a quantitative survey of agricultural growers and producers operating in the Reef catchment area. A multi-modal method (hardcopy, online and telephone) was undertaken. The objectives of this stage were to provide insight into the attitudes, motivations, barriers and triggers to participation among program participants and non-participants.

Further details of the method are provided over the following pages.

^ Source: https://www.qld.gov.au/environment/coasts-waterways/reef/reef-program

Method – Stage 1 Qualitative investigation

Two focus groups and nine individual in-depth interviews were conducted with industry and program stakeholders. The objective of this qualitative phase was to gather feedback on the draft questionnaire prepared by the department.

16 individuals took part across four industry sectors as follows:

- Horticulture - 1 individual interview
- Grazing - 5 individual interviews
- Sugarcane - 1 focus group (4 participants), 3 individual interviews
- Bananas - 1 focus group (3 participants).

The interviews and focus groups were conducted between 6 and 9 March 2023 via online video link (Teams). The department requested participation from stakeholders and MCR arranged the interviews. Therese Coutts from MCR conducted all interviews and focus groups.

With the permission of participants, a representative from the department observed a selection of interviews. All respondents were made aware that, while their individual comments would not be identified in any reporting, that the sample size was small and as the department knew who was participating there was therefore potential for comments to be linked to individuals.

Feedback from stakeholders

Industry stakeholders provided detailed feedback on the draft questionnaire which was provided to the department to assist with finalising the questionnaire for Stage 2. A summary of key items of feedback and our response is provided below.

Many stakeholders cautioned that it would be difficult to secure the participation of growers and producers and stressed the need to keep the questionnaire as brief as possible. This feedback reinforced the importance of the multi-method approach designed for the study (giving people the option to complete the questionnaire via their preferred method: hardcopy, online or telephone). The questionnaire was also reviewed, and some questions removed to reduce its length.

Other strategies employed to encourage participation included:

- Letting industry representatives and extension officers know about the survey so that they could confirm its bona fides if asked by a potential respondent
- Including reasons in the primary approach (e.g. cover letter, email, telephone introduction) about how the information will be used and providing reassurance about confidentiality.

The qualitative phase also made it clear that some growers or producers may have multiple properties – potentially in different locations, sometimes farming different commodities. To account for this, the questionnaire asked growers and producers to think about their main commodity under production when completing the survey.

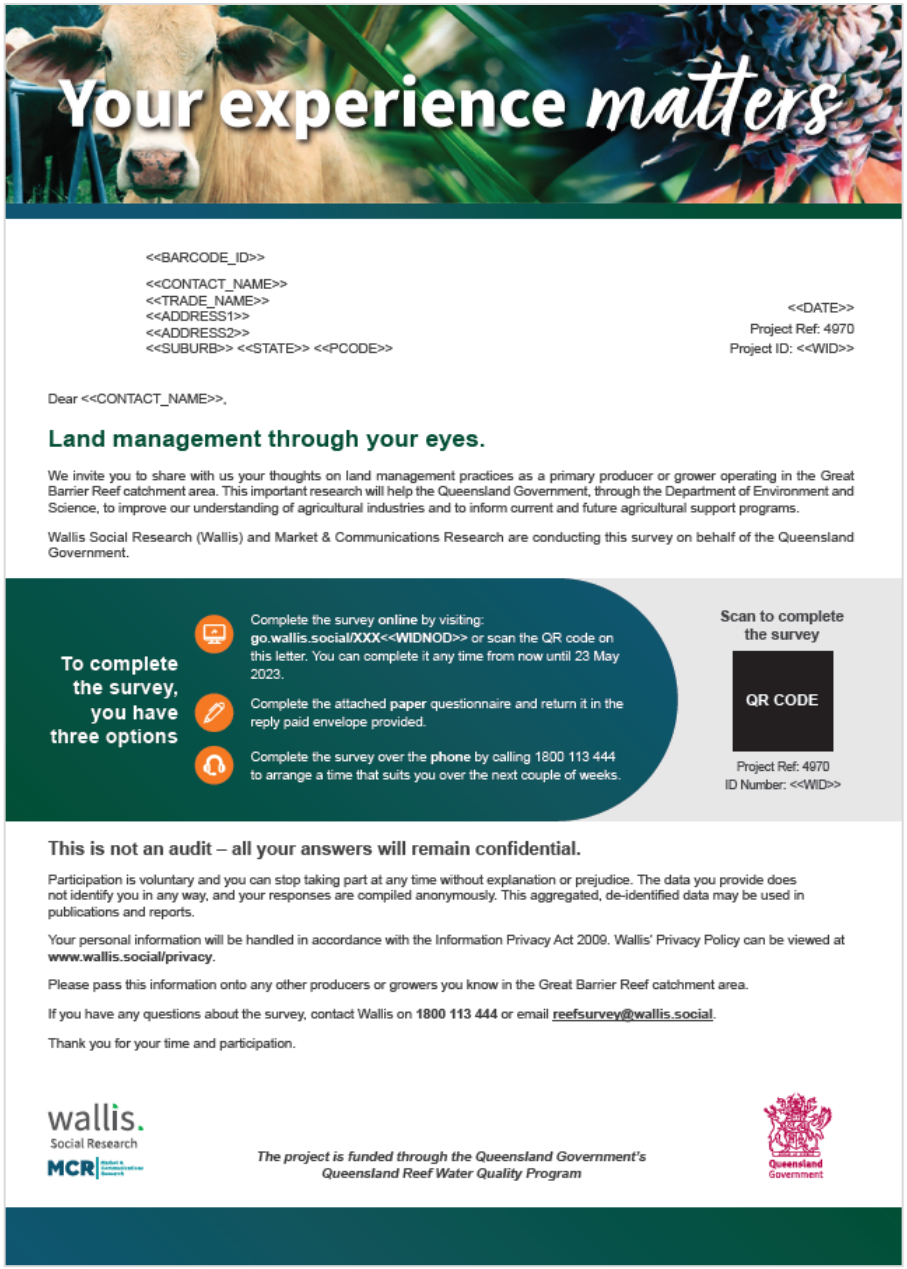
Feedback was also incorporated into the questionnaire in terms of language – for instance ‘growers and producers’ was preferred over farmers to best represent the variety of commodities of interest. The way key land management practices were referred to was also revised (e.g. keeping soil on your farm was revised to soil management practices).

Variable feedback was received in relation to how to define the size of a property, and with the aim of simplicity, it was decided that land size (hectares under production/grazing) would be used.

Feedback from stakeholders that definitions and examples would be helpful when describing Reef water quality programs was noted and examples (or more examples) were provided as relevant.

Method – Stage 2
Quantitative survey

ITEM	DETAILS
Method	A multi-modal method was employed which included: • Mailed hard-copy self-completion surveys (an introductory primary approach letter – see adjacent – and reply-paid envelope were included) • Online self-completion (where email addresses were available respondents were emailed a link, alternatively respondents could access the online survey by using the QR code on the introductory letter) • Computer-assisted telephone interviewing (CATI) (respondents were phoned directly and asked to participate).
Respondent	Respondents to the study were growers and producers in the Great Barrier Reef catchment areas of Cape York, Wet Tropics, Burdekin, Mackay Whitsunday, Fitzroy and Burnett Mary regions. Any grower or producer in the catchment area was permitted to take part in the survey. Commodities subject to Reef Water Quality regulations were of special interest and have been discussed throughout this report – namely grazing, sugarcane, grains, bananas and horticulture (other than bananas). Both participants in funded Reef water quality programs and non-participants were included. A detailed sample breakdown is included in the Respondent Profile section of this report on page 24.
Sample	154 growers and producers completed the survey. A range of sample sources were used to maximise sample size. These are discussed in detail over the page.
Fieldwork partner	MCR partnered with fieldwork supplier Wallis Social Research to conduct the publishing, mailing, programming, interviewing and data hosting tasks.
Questionnaire	The draft questionnaire was prepared by the department and reviewed by MCR after the first stage of the research project (Stage 1 qualitative). The final instrument is included at Appendix C.



Primary approach letter included with mailed hardcopy surveys.

Method – Stage 2 Quantitative survey (cont'd)

It was initially planned to use one sample source (Illion, a commercial research sample provider) to locate participants for the study.

There were 790 contacts available via the Illion sample. The quality (relevance of contact) contained within this sample was however lower than expected (103 interviews were achieved where it was expected that it would be possible to achieve 200 from this sample). In order to boost the final sample size, a second sample was employed – McNair yellowSquares. McNair offer a panel of pre-registered agricultural businesses and were able to achieve 50 interviews from this panel. An open-link was also provided to grower groups for distribution to members, there was low take up of this option with only 1 completed survey achieved.

Initially, no incentive was offered to participants. However, the McNair panel standardly incentivise their registered participants ($30). To provide some benefit to other participants all respondents were entered into the draw to win a $300 gift card.

Taking into account the number of refusals and completed surveys, the response rate for the Illion sample was 47% and for the McNair sample it was 41%. This is considered a good response rate.

Overall, the limited number of appropriate contacts in the sample was more of an issue than expected and refusal to participate was slightly less of an issue than expected. Potential strategies to increase the available sample for future research could include the following:

- Continue with the multi-modal approach but consider including a face-to-face element with interviewers attending local events/agricultural shows/conferences and interviewing on-the-spot
  - This may require more time in-field (potentially spreading the interviews over some months to align with the agricultural show/conference schedules)
- Develop a database of agricultural providers – consider linking with other government agencies where possible to source contacts
- Work with grower groups to develop a more comprehensive distribution strategy to their members (in this research, three grower groups confirmed an intention to distribute and did so via a conference and social media). With more time the department could work with grower groups to promote the survey more strongly (e.g. distribute email invitations to members directly).

Sample outcomes, response rates and fieldwork dates

Illion sample	
Complete: Online n=11 Hardcopy n=30 Telephone n=62	n=103
Refused	n=114
Response rate	47%
Unusable sample	
Wrong number/fax/wrong business, disconnected, business not in operation	n=253
No answer/answering machine/respondent not available (these numbers were contacted at least three times, on different days and at different times before being discarded)	n=283
Language barrier	n=1
Appointment set but not available at time	n=28
Screen out (not in Reef catchment area)	n=8
Dates - 2023	
Online - 26 April – 6 June	
Hardcopy 28 April – 6 June	
Telephone 2 May – 24 May	

McNair Sample	
Complete (telephone)	n=50
Refused	n=72
Response rate	41%
Unusable sample	
Wrong number/disconnected	n=418
No Answer/answering machine	n=883
Appointment set but not available at time	n=36
Out of Target	n=40
Dates - 2023	
Telephone 24 May – 29 May	

Open online link	
Complete	n=1
Dates - 2023	
Online - 17 May – 6 June	

Method – Stage 2 Quantitative survey (cont'd)

ITEM	DETAILS
Data analysis	MCR conducted the data analysis using the program Q Research Software, a market research specific data analysis platform. Data was subjected to tests of significance and they are highlighted as such through this report. No weighting was applied to the data.
Rounding	Throughout the report, percentages are rounded to whole numbers. Some percentages may not add to 100% or sub-totals may not appear as the sum of the individual items – this is due to rounding. Where percentages add up to more than 100% this may be due to: the question being multiple response rather than single response or rounding.
Commentary	Commentary throughout this report discusses findings by the total result as well as by sub-groups of interest (e.g. commodity, region, funded program participation and demographics). While not all differences discussed are statistically significant, they are mentioned in order to provide insight into trends in the data. The tables throughout highlight where results in one sub-group are statistically different to others.

Respondent confidentiality and information security	Respondent confidentiality and information security was a key consideration when developing this methodology:
	• All respondents were assured confidentiality. All data are reported in aggregate and at no time do we provide identifying data to the client
	• When collecting sensitive demographic information such as age, gender or other demographics there was an option for respondents to indicate if they would prefer not to answer that question
	• Participation was voluntary and respondents were reminded that they could stop the survey at any time
	• The research was conducted in accordance with the Information Privacy Act (IPPs) (2009)
	• Wallis has an in-house Privacy Officer to ensure privacy protection practices, procedures and systems for handling enquiries and complaints with respect to Wallis' compliance with the Industry Privacy Code and the Australian Privacy Principals (APPs) and the IPPs are maintained
	• A phone number and dedicated email address was made available for respondents to make contact with Wallis if needed
	• Both MCR and Wallis are members of the Australian Data and Insights Association (ADIA). ADIA is the peak industry body for data, insights and research organisations in Australia. ADIA Trust Mark research organisations are compliant with the highest ethical, quality and privacy standards
	• Both MCR and Wallis are members of The Research Society. The Research Society is Australia's largest research and insights community. Members have access to the latest industry knowledge, tools, quality assurances and professional standards
	• Wallis is accredited with the relevant quality assurance standards: ISO 27001 and ISO 20252
	  • ISO 27001 is the highest standard for information security management systems, providing assurance that Wallis systems, processes and people are keeping all data safe
	  • ISO 20252 is the international standard for market, opinion and social research and ensures all stages of the research project are delivered to a quality that can be relied upon.

Summary

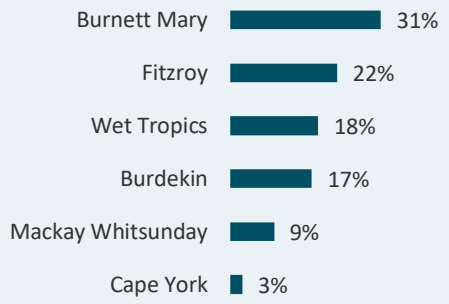
Summary

Project background

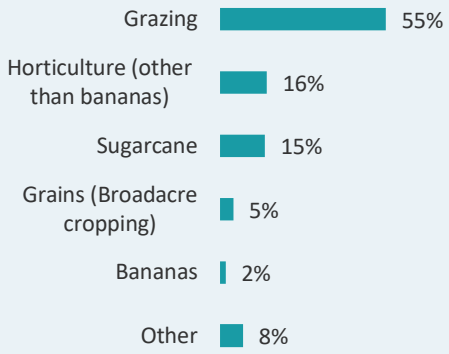
154 growers and producers in the Great Barrier Reef Catchment area participated in a survey between April and June 2023. Respondents could complete the survey via hardcopy self-completion, online self-completion or via telephone interview.

Profile of respondents

Region



Main commodity



Reef water quality program participation

31% of respondents in relevant commodities (e.g. grazing, grains, sugarcane, bananas, horticulture) could recall having participated in any funded Reef water quality programs, for their main commodity, since 2013.

The highest participation rates were found among sugarcane producers (57%). Two of the three surveyed banana producers reported participating in funded programs, while 28% of graziers and 22% of horticulture producers indicated involvement. No grain producers in our survey reported taking part in any funded Reef water quality programs.

When prompted with a list of funded programs, the following proportions of all respondents in relevant commodities reported participating in each of the following programs:

- Industry best management practice programs (21%)
- Nutrient management planning programs (14%)
- Sediment reduction or gully remediation programs (12%)
- Chemical improvement programs (6%)
- Irrigation management programs (5%).

70% of program participants had taken part in two or more programs (on average participants had experience of 2.3 programs).

Efforts to reduce pollutant loss

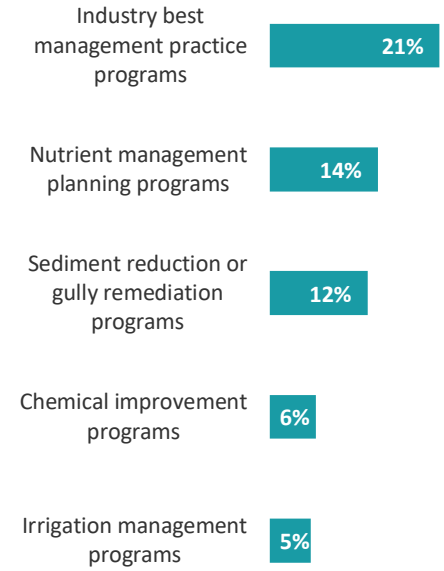
(among non-program participants)

Of those who had not participated in any funded Reef water quality programs, 86% indicated they do use practices to reduce pollutant loss in run-off (e.g. chemicals, sediments or nutrients). 7% did not use any while 2% were unsure.

31%

Could recall participating in any funded program since 2013

Participation in prompted funded programs (among all respondents)



Summary (cont'd)

Soil management

Asked to all growers and producers.

96% used at least one prompted soil management practice

Almost all producers and growers (96%) in the survey reported using at least one of the prompted soil management practices.

Grazing

The majority of graziers reported using the three practices prompted in the survey:

- Manage areas of poor land condition so they can recover (89%)
- Have a high amount of forage left in the paddock at the end of the dry season (84%)
- Areas close to streams are managed to have higher levels of ground cover (79%).

Sugarcane

87% of sugarcane producers reported that they maintain high ground cover during the wet season, especially in fallows. 9% were not using the prompted practice, but were planning to make changes, while 4% were not employing the practice and not planning to make changes.

Horticulture

Compared with other commodities, participation among horticulture growers appeared slightly lower:

- Maintain high ground cover on the inter-rows (tree crops) (78%)
- Maintain high ground cover on fallow areas (72%)
- Use controlled traffic (61%).

6% of horticulture respondents were unsure whether they were engaged in these practices.

Grains

Almost all grain producers reported that they:

- Maintain more high ground cover between October to March (100%)
- Have correctly designed and functional contour banks on areas with more than 1% slope (86%)
- Use controlled traffic farming practices (86%).

Bananas

All three banana growers stated that they maintain high covered ground on the inter-rows and ensure fallow areas maintain high cover. One reported using contour planting or contour banks.

Reasons for using soil management practices

The most common main reasons growers and producers do or would use the prompted soil management practices were:

- To improve soil health (64%)
- To maintain and/or improve productivity (51%)
- For the environment (48%).

Improved soil health was the biggest motivator for sugarcane (70%) and horticulture (67%) growers. Graziers (39%) and sugarcane producers (30%) were the segments most likely to be driven by a desire to improve the farm for future land managers.

Barriers to using soil management practices

The main challenges or barriers to using the prompted soil management practices were:

- Weather and seasonal issues (56%)
- Financial (e.g. it costs too much, don't have the money, worried about reduced profitability, it's not worth the return on investment) (43%)
- Additional administrative work (e.g. record keeping, office work) (22%).

Weather and seasonal issues were most commonly cited by graziers (61%) and sugarcane (61%) producers. Weather was less of an issue for grain producers, instead financial barriers (57%) or the limited availability of contractors (57%) were the most commonly noted challenges.

Other findings – soil management practices

96% indicated they expect at least some **positive** result from using the prompted soil management practices (the remaining 4% were unable to say). 56% were expecting a large or very large positive result, 35% were anticipating a moderately positively result while 5% could envisage a small positive result.

96% were **confident** in their ability to use the prompted soil management practices. 67% were very or extremely confident, while 29% were moderately or somewhat confident in their abilities. No respondents indicated they were not at all confident, though 1% opted not to respond and 3% were unable to answer this question.

One in two producers in the survey felt that **most or all** landholders they know or know of are using at least one of the prompted soil management practices (46%). 16% felt that half and 28% felt that some were using these practices. 2% said none were and 8% were unsure or declined to answer.

Summary (cont'd)

Nutrient management

Asked to sugarcane, horticulture and banana producers.

The vast majority of relevant producers/growers in our survey reported using at least one of the prompted nutrient management practices.

Sugarcane

91% of sugarcane producers reported that they use the least amount of inputs as possible to reduce surplus nutrients.

9% were unsure if they had used such practice.

Horticulture

94% of horticulture respondents indicated they use a tailored, farm-specific Nutrient Management Plan.

6% were unsure whether they were engaged in this practice.

Bananas

All three banana growers stated that they ensure timing (frequency), placement and amount of fertiliser on crops is optimised to reduce surplus nutrients.

Reasons for using nutrient management practices

The top main reasons growers and producers do or would use the prompted nutrient management practices were:

- For financial reasons (57%)
- To maintain and/or improve productivity (43%)
- To improve soil health (34%)
- For the environment (30%).

Regulation compliance was most commonly cited as a driver by sugarcane producers (35%) and banana producers (67%) (6% among horticulture growers).

Barriers to using nutrient management practices

The most commonly mentioned main challenges or barriers to using the prompted nutrient management practices were:

- Financial (48%)
- Weather and seasonal issues (43%)
- Additional administrative work (23%).

Weather and seasonal issues was the top issue among sugarcane producers (52%), while financial reasons were the most common challenge nominated by horticulture producers (56%).

Other findings – nutrient management practices

91% indicated they expect at least some **positive** result from using the prompted nutrient management practices. 2% did not expect any positive outcomes while 7% were unable to say.

98% were **confident** in their ability to use the prompted nutrient management practices. 84% were very or extremely confident while 14% were moderately or somewhat confident in their abilities. No respondents indicated they were not at all confident, 2% were unable to answer this question.

55% of producers in our survey felt that most or all landholders they know or know of are using at least one of the prompted nutrient management practices. 30% felt that some or half are using such practices, while 16% declined to answer or were unsure.

Summary (cont'd)

Irrigation management

Asked to sugarcane and horticulture producers.*

All horticulture growers and 80% of sugarcane growers (who irrigate) reported using at least one of the irrigation management practices.

* Those who do not irrigate could select 'not applicable' and were removed from the analysis on these questions.

Sugarcane

73% of sugarcane producers reported they ensure that irrigation water applied matches crop demands. 53% indicated they maximise the tonnes of cane grown per ML.

7% were not using any of the prompted practice, but were planning to make changes, while 7% were not employing the practice and not planning to make changes.

Horticulture

94% of horticulture respondents reported that they adjust irrigation based on monitoring water use and soil moisture. 56% agreed that they use an Irrigation Management Plan across the whole of farm.

Reasons for using irrigation management practices

The main reasons growers and producers do or would use the prompted irrigation management practices were:

- For financial reasons (64%)
- To maintain and/or improve productivity (48%)
- To improve soil health (30%)
- For the environment (24%).

Financial reasons were most commonly cited as a driver by sugarcane producers (73%) (56% among horticulture). 33% of horticulture growers rated the environment as a driver to using irrigation management practices (in comparison to 13% among sugarcane producers).

Barriers to using irrigation management practices

The main challenges or barriers to using the prompted irrigation management practices were:

- Financial (48%)
- Weather and seasonal issues (30%)
- Constraints related to availability of contractors/equipment (18%).

24% indicated there were no challenges or barriers to using irrigation management practices.

Concerns about production (27%) or not having the time (20%) were only indicated by sugarcane farmers.

Other findings – irrigation management practices

91% of sugarcane and horticulture growers indicated they expect at least some **positive** result from using the prompted irrigation management practices. The remainder (9%) were unable to answer this question.

94% were **confident** in their ability to use the prompted irrigation management practices. 88% were very or extremely confident while 6% were moderately or somewhat confident in their abilities. No respondents indicated they were not at all confident, 6% declined to or were unable to answer this question.

45% of sugarcane and horticulture producers in the survey felt that **most or all** landholders they know or know of were using at least one of the prompted irrigation management practices. 36% felt that some or half were using such practices, while 18% declined to answer or were unsure.

Summary (cont'd)

Pesticide management

Asked to sugarcane producers

91% used at least one prompted pesticide management practice

91% of sugarcane producers reported selecting lower risk pesticides to improve the quality of water in local waterways.

4% were not using this practice but were planning to make changes, while a further 4% were not employing the practice and not planning to make changes.

Reasons for using pesticide management practices

The top main reasons sugarcane producers do or would use the prompted pesticide management practices were:

- To maintain and/or improve productivity (57%)
- For financial reasons (52%)
- For regulation compliance (39%)
- For the environment (30%).

Barriers to using pesticide management practices

The most commonly noted main challenges or barriers to selecting lower risk pesticides were:

- Weather and seasonal issues (57%)
- Financial (52%)
- Additional administrative work (30%).

Other findings – pesticide management practices

96% of sugarcane producers would expect at least some **positive** result from using the prompted pesticide management practices (13% a very large positive result, 43% a large positive result). 39% expected a moderate positive result. The remainder (4%) were unable to answer this question.

100% of sugarcane producers in the survey were **confident** in their ability to use the prompted pesticide management practices. 74% were very or extremely confident while 26% were moderately or somewhat confident in their abilities.

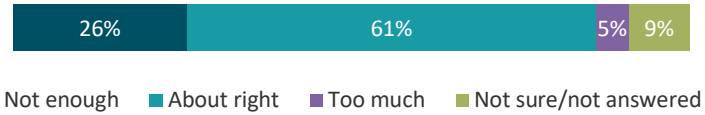
70% felt that **most or all** landholders they know or know of were using at least one of the prompted pesticide management practices. 26% felt that some or half were using such practices, while 4% were unsure.

Land management practices

Support from industry groups

61% of all survey respondents considered that the amount of support and advice provided by industry groups and/or peak bodies about land management practice was 'about right'. 26% felt there was not enough support and advice provided, while 5% received too much. 9% of respondents declined to or were unable to answer this question.

Amount of support/advice provided by industry groups/peak bodies



Graziers (34%) or those operating in the Burnett Mary region (38%) were significantly more likely than other segments (average 26%) to indicate the amount of support and advice provided was insufficient.

Clarity of information from industry groups

46% of respondents felt the information provided by industry groups and/or peak bodies about land management practices was either somewhat clear or very clear. 34% rated the clarity of information as average/mid-point of scale. 14% of producers believed the information provided was unclear. 6% either declined or were unable to answer.

There were no statistically significant differences by commodity, though sugarcane producers (65%) were the most likely commodity segment to rate the information provided as clear, while those involved in horticulture (38%) or 'other' commodities (25%) were less likely to do so.

Summary (cont'd)

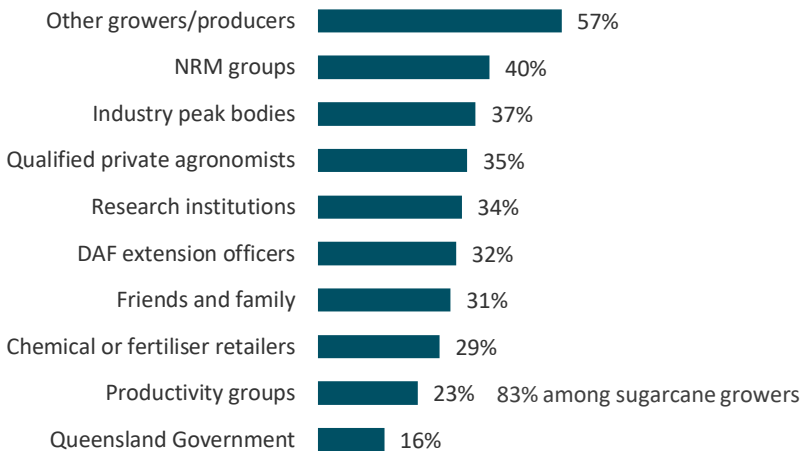
Land management practices

Information sources for land management practices

Respondents were most likely to say they sourced information on land management practices from other growers and producers whose opinions they value (57%). After this, a range of sources were used – the top ten are presented in the chart below.

Top 10 information sources for land management practices

% sourcing information via each source



Sugarcane growers (70%) were the most likely segment to consult other growers or producers. Graziers (48%) were more likely than others to seek information from Natural Resource Management groups (40%).

Younger producers (born 1971 or later) (12%) were less likely than their older peers to source information from productivity groups. Females appeared less likely than males to gather information from other growers (44%, males 61%) or productivity groups (13%, males 27%).

Participants in funded Reef water quality programs were more likely than non-participants to source information via the following sources: Natural Resource Management groups (60%), Research institutions (55%), Productivity groups (40%), Federal Government (15%).

Level of trust in information sources

Respondents were asked to indicate the extent to which they trust a range of sources on information or advice about land management practices. Other growers and producers were the most widely trusted source of information (92%), followed by:

- Qualified private agronomists (78%)
- Friends and family (75%)
- Research institutions (71%).

Field days, workshops, grower events and shed meetings

69% of respondents agreed that field days, workshops, grower events or shed meetings run in their area were well worth the effort of attending. 57% felt that such events were usually well attended by producers or growers. 38% indicated these opportunities were regularly available in their area.

Graziers were less likely than others agree that field days, workshops, grower events or shed meetings run in their area were run on a regular basis (28%, average 38%). Sugarcane (83%) and grain (86%) producers appeared the most likely to consider such events worthwhile. Sugarcane producers appeared most likely segments to agree the events were well attended (74%) and regularly run (78%). Those operating in the Fitzroy region (18%) were the least likely to agree such events were regularly run in their area. Males appeared more likely than females to consider these events to be worthwhile, well attended and regularly run.

Opinions were divided as to whether the number of field days, workshops, grower events or shed meetings run in their area for their main commodity were about right (47%) or too few (43%). Only 1% felt there were too many events, while 10% were unable to answer on this issue.

Summary (cont'd)

Actions that impact the Great Barrier Reef

Trustworthiness of science about the Great Barrier Reef
29% of respondents felt that science about the Great Barrier Reef water quality was trustworthy (4% completely, 25% somewhat). 46% believed the science to be untrustworthy (23% completely, 23% somewhat). 19% were neutral while 6% did not or could not answer.

27% of graziers and 22% of sugarcane producers considered the science to be trustworthy, compared to 38% among horticulture growers and 50% among 'other' producers. No grain producers in the survey rated the science as trustworthy – 43% rated the science as untrustworthy, 29% were neutral while 29% did not answer. Mixed views were expressed by the three banana producers in the survey (one respondent rated the science as trustworthy, one was neutral, and one rated it as somewhat untrustworthy).

Perceptions of trustworthiness appeared to decrease as age increased (37% of those born in 1971 or later rated the science as untrustworthy, 47% among those born in 1961-1970, 49% among those born in 1960 or earlier).

Those with higher levels of education (bachelor degree 57%) were more likely than those with a school level education (20%) to rate the science about Reef water quality as trustworthy.

Perceptions of Government regulations for protecting the Great Barrier Reef
32% of respondents agreed that the Government's regulations for protecting the Reef's water quality were based on at least some evidence (some evidence 27%, strong evidence 5%). 47% felt the evidence was weak or non-existent (40% weak, 7% no evidence). 4% were unsure or declined to answer.

Sugarcane (61%) and grain (57%) producers were the commodity segments most likely to consider that regulations were based on weak evidence.

Younger producers (born in 1971 or later 39%) appeared *less* likely than their older counterparts (1961-1970 50%, 1960 or earlier 47%) to rate the evidence as weak.

Perceptions of the impact of water run-off on the Great Barrier Reef
Most respondents (83%) felt that the quality of water that runs off the land into waterways has at least some impact on the Great Barrier Reef. 19% noted the impact was large or very large, while 64% believed the impact to be only small or moderate. 8% felt the Reef was not impacted by the quality of water run-off. 9% were unable to or declined to comment.

Perceptions of community actions and responsibility
Respondents were asked to reflect on their perceptions of community actions and responsibility more broadly.

Most respondents agreed with the following statements:

- It is the responsibility of everyone in my local area to try to reduce their impacts on the Great Barrier Reef (88%)
- I feel morally obligated to reduce any impacts I might personally have on the Great Barrier Reef (82%)
- Most people in my local area try to reduce any impacts they might have on the Great Barrier Reef (68%).

31% agreed that they cannot make a personal difference in improving the health of the Great Barrier Reef (55% disagreed, that is, they felt that they could personally make a difference).

Conclusions

Participation in funded programs
While most growers and producers in our survey had not participated in any *funded* Reef water quality programs over the past ten years, at least nine in ten were already using one or more land management practices that can improve the quality of water in local waterways.

Some individual practices were, however, less widely used, for instance ensuring the tonnes of cane grown per ML of water is maximised, using an Irrigation Management Plan across the whole farm or using controlled traffic. If relevant, there may therefore be opportunity to increase adoption of these (and other less universally used) practices.

Barriers to adopting land management practices
Financial concerns were a key barrier to adopting a range of land management practices, however only a minority reported having accessed funded water quality programs in the past. Continued promotion and/or extension of financial supports and funded programs is therefore endorsed. It is also worthwhile noting that financial benefits can be a driver to using a practice and explanation of the financial benefits would also therefore be worthwhile.

Administration was another common barrier to adopting land management practices, particularly among the older cohort. Reviewing administration processes and expectations would be suggested.

Weather and seasonal issues were another barrier to uptake of land management practices. Acknowledging this reality in communications and in program and reporting design may be worthwhile to help build trust and acceptance of the program.

Constraints around the availability of contractors and equipment also presents challenges. Efforts to address the supply pipeline would likely be welcomed.

Drivers to using land management practices
Financial benefits, improved productivity, improved soil health and regulation compliance were the primary drivers to using land management practices.

Environmental benefits were a secondary driver. Promoting the full range of benefits, not just environmental, is therefore recommended when promoting land management practices.

Those who had participated in a paid program were likely to have participated in multiple programs. This may indicate that these producers had a positive experience. Consideration of ways to encourage word of mouth recommendation by current users (a key trusted source of information) to potential users is recommended. It may also be the case that past participants could be targeted for further participation as programs are evolved or extended.

Expectations, personal capability and social norms
Most growers and producers expected a positive result from adoption of land management practices, and most were confident with the application of such practices. Still, there was a relatively low level of trust in the science, and there was scepticism regarding regulations being evidence based.

Producers and growers generally underestimated the proportion of other businesses that are engaged in land management practices. Word of mouth and increased awareness of what others are doing may be worthwhile to normalise the behaviour and to help increase trust in the science and acceptance of regulations.

Despite the scepticism, most producers felt a moral obligation to take action to protect the Reef, one third however felt powerless to make a difference. Demonstrating positive outcomes of land management practices, translated to an individual level impact, is recommended.

Trust in science and acceptance of regulations generally decreased with age and increased with higher levels education. Sugarcane and grain producers were the commodity segments most likely to consider regulations are based on weak evidence. Messages about these issues may therefore need to be more frequent or more detailed for these segments.

Conclusions (cont'd)

Information and support

One in four felt there was not enough information or support about land management practices and one in two felt that the clarity of information provided was average or somewhat unclear.

Horticulture and 'other' (i.e. non grazing, grains, sugarcane, horticulture or bananas) commodity segment were the least likely groups to consider information to be clear. Graziers or those operating in the Burnett Mary region were the segments most likely to indicate the amount of support and advice provided was insufficient.

A review of the way information and support is provided (especially for the identified segments above), to check for opportunities for improvement, may be beneficial.

Government was one of the less trusted sources of information. Continued collaboration with other agencies or groups such as agronomists, research institutions, peak bodies and NRM groups is endorsed.

The way different age groups or genders seek information can differ – for example – younger producers and female producers were less likely than others to seek information from productivity groups. Females were less likely than males to gather information from other growers or producers. Targeting communications by segment may therefore be worth considering.

Field days, workshops, grower events or shed meetings

Field days and other similar events were generally considered worthwhile and most thought they are usually well attended (at least six in ten). At a lower level, four in ten indicated that such events are run on a regular basis in their local area.

Graziers, horticulturalists and 'other' producers and growers were the commodity segments most likely to rate the number of events as being too few. Those operating in the Fitzroy or Burnett Mary regions were the most likely regional groups to be unsure about the number of events on offer. A review of the offering for these commodities and in these regions is therefore suggested.

Reef Water Quality Snapshot

PARTICIPATION IN REEF WATER QUALITY PROGRAMS

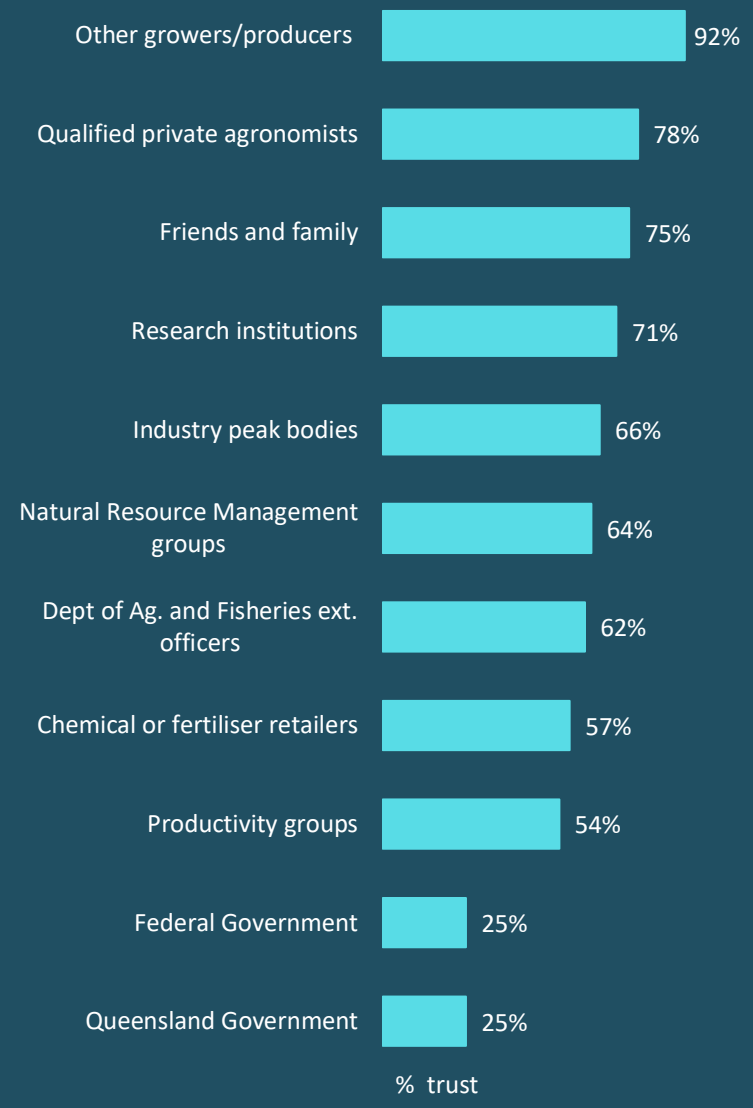
31% HAVE PARTICIPATED IN WATER QUALITY PROGRAMS

67%	57%	28%	22%	0%
Bananas^	Sugarcane^	Grazing	Horticulture^	Grains^

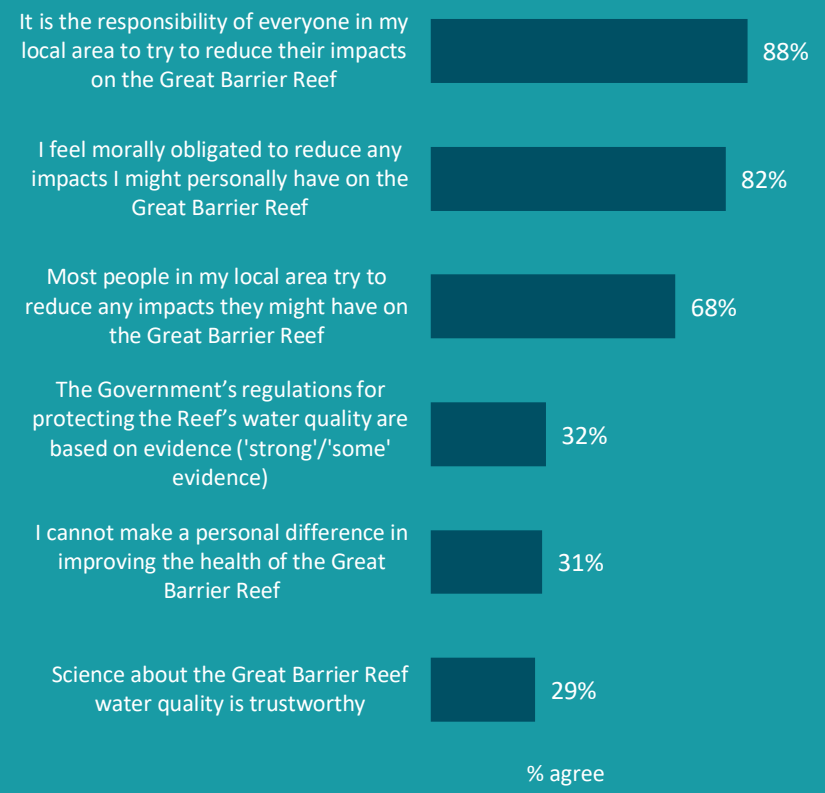
INFORMATION SOURCES USED

INFORMATION SOURCES USED (TOP 3)		Especially noted by:
Other growers/producers	57%	Sugarcane, Grazing, Grain
Natural Resource Management groups	40%	Grazing
Industry peak bodies	37%	Sugarcane, Horticulture

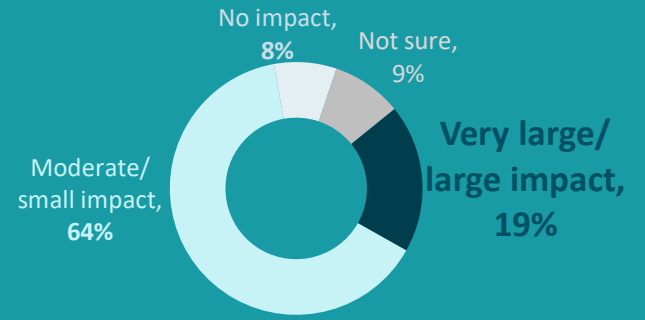
TRUSTWORTHINESS OF INFORMATION SOURCES



ACTIONS THAT IMPACT THE GREAT BARRIER REEF



Impact of water run-off on Great Barrier Reef

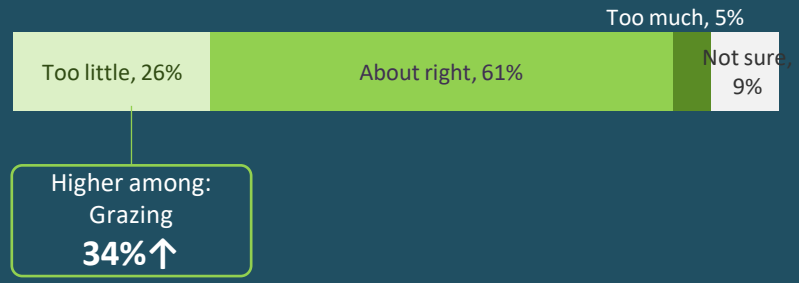


^ Caution small cell size <n=30: Bananas (n=3), Sugarcane (n=23), Horticulture (n=18), Grains (n=7)

Industry Groups and Field Days Snapshot

ADVICE FROM INDUSTRY GROUPS

Amount

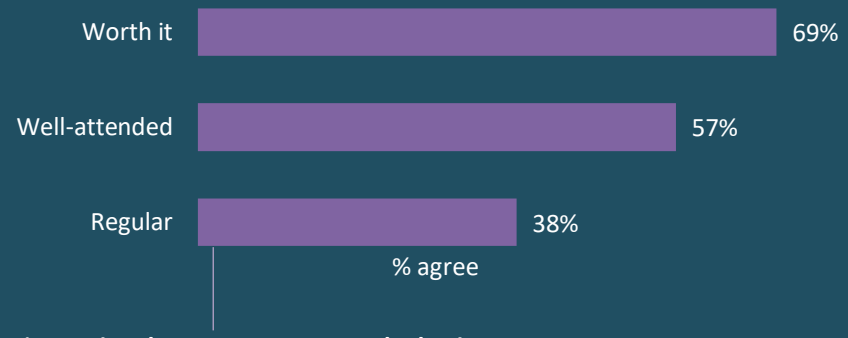


Clarity

FIELD DAYS

Number of field days

Field days are…



% agreeing they are run on a regular basis:

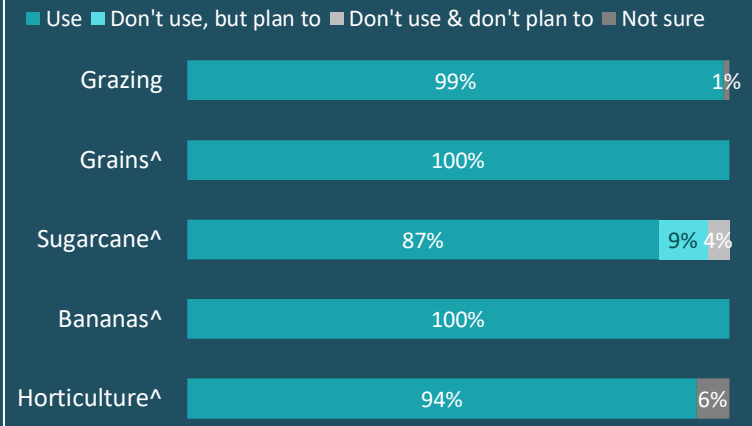
78%	57%	38%	33%	28%↓
Sugarcane^	Grains^	Horticulture^	Bananas^	Grazing

Arrows (↑↓) indicate a significant difference to the average at the 95% confidence level; ^ Caution small cell size

Management Practices Snapshot

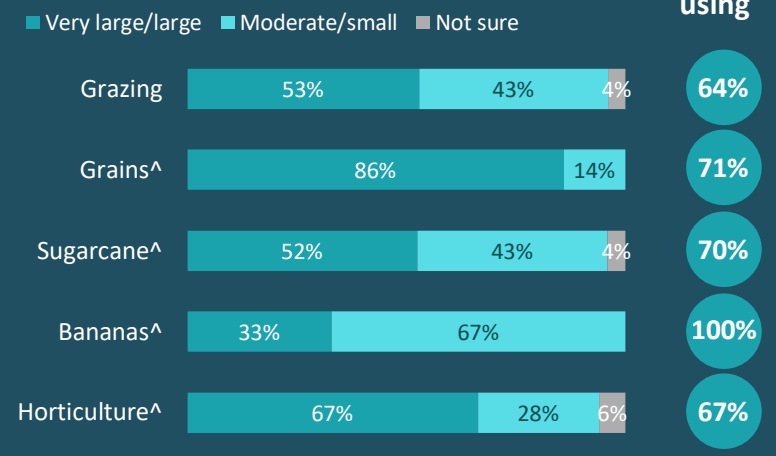
SOIL MANAGEMENT PRACTICES – PROMPTED PRACTICES

96% use



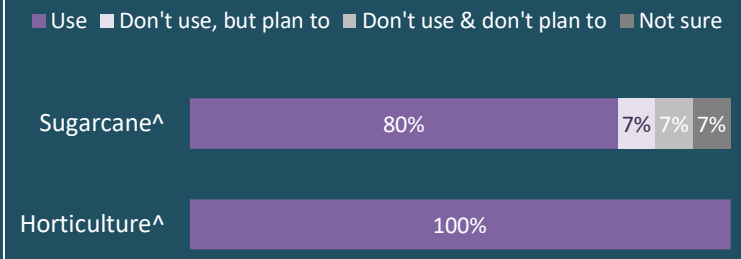
REASONS FOR USING (TOP 3)		Especially noted by:
Improve soil health	64%	All segments
Maintain/improve productivity	51%	Grains, Grazing
For the environment	48%	Bananas, Grains, Grazing

BARRIERS TO USING (TOP 3)		Especially noted by:
Weather/seasonal issues	56%	Grazing, Sugarcane
Financial	43%	Grazing, Grains
Additional administrative work	22%	Bananas, Sugarcane



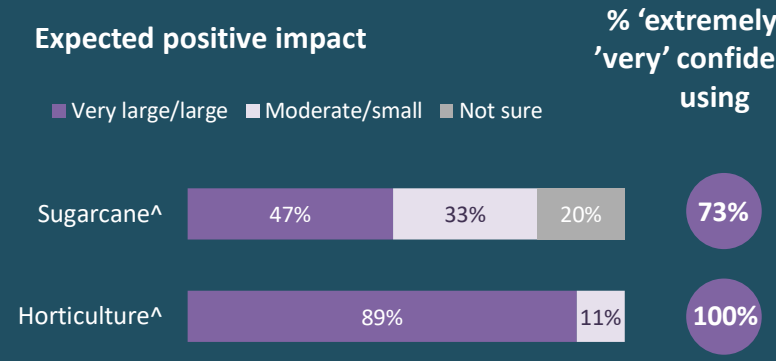
IRRIGATION MANAGEMENT PRACTICES – PROMPTED PRACTICES

91% use



REASONS FOR USING (TOP 3)		Especially noted by:
Financial reasons	64%	Sugarcane
Maintain/improve productivity	48%	Both segments
Improve soil health	30%	Both segments

BARRIERS TO USING (TOP 3)		Especially noted by:
Financial	48%	Both segments
Weather/seasonal issues	30%	Both segments
Avail. contractors/equipment	18%	Sugarcane

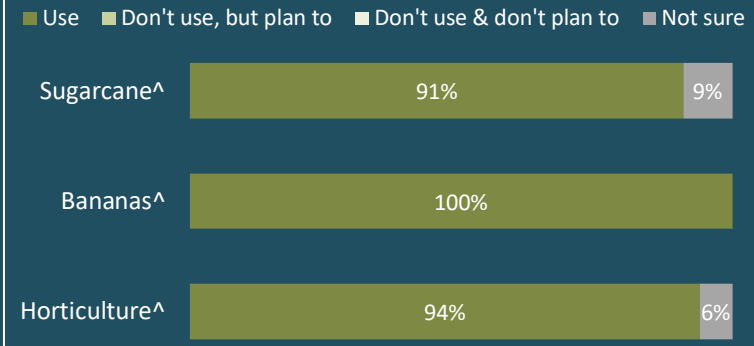


^ Caution small cell size

Management Practices Snapshot

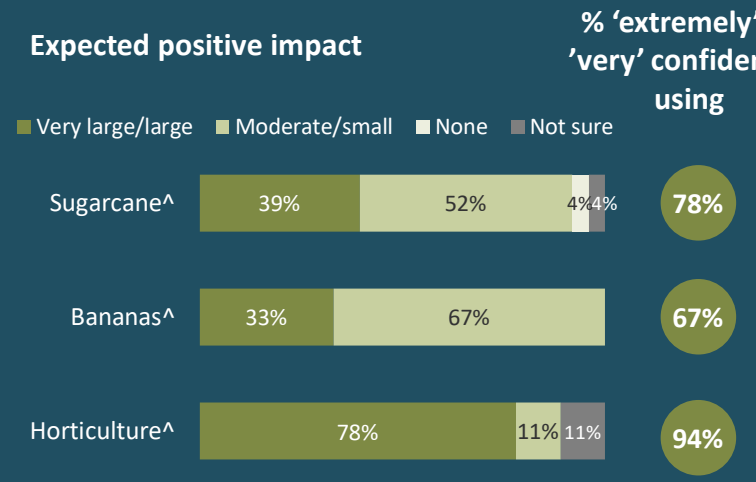
NUTRIENT MANAGEMENT PRACTICES – PROMPTED PRACTICES

93% use



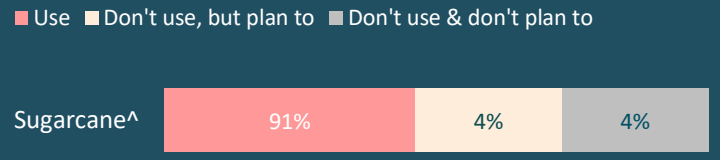
REASONS FOR USING (TOP 3)		Especially noted by:
Financial reasons	57%	Sugarcane, Horticulture
Maintain/improve productivity	43%	Bananas, Horticulture
Improve soil health	34%	Bananas

BARRIERS TO USING (TOP 3)		Especially noted by:
Financial	48%	All segments
Weather/seasonal issues	43%	Sugarcane
Additional administrative work	23%	All segments



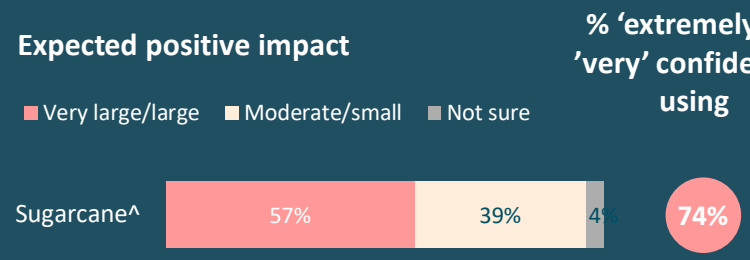
PESTICIDE MANAGEMENT PRACTICES – PROMPTED PRACTICES

91% use



REASONS FOR USING (TOP 3)	
Maintain/improve productivity	57%
For financial reasons	52%
For regulation compliance	39%

BARRIERS TO USING (TOP 3)	
Weather/seasonal issues	57%
Financial	52%
Additional administrative work	30%

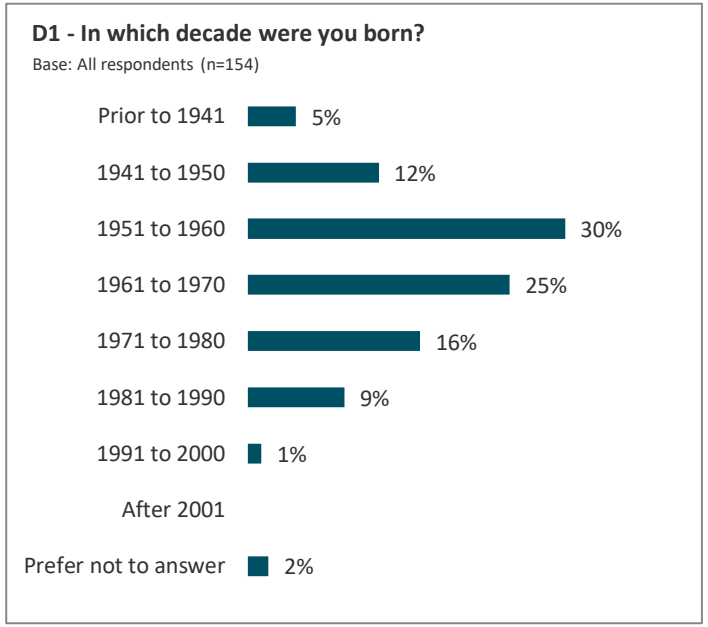


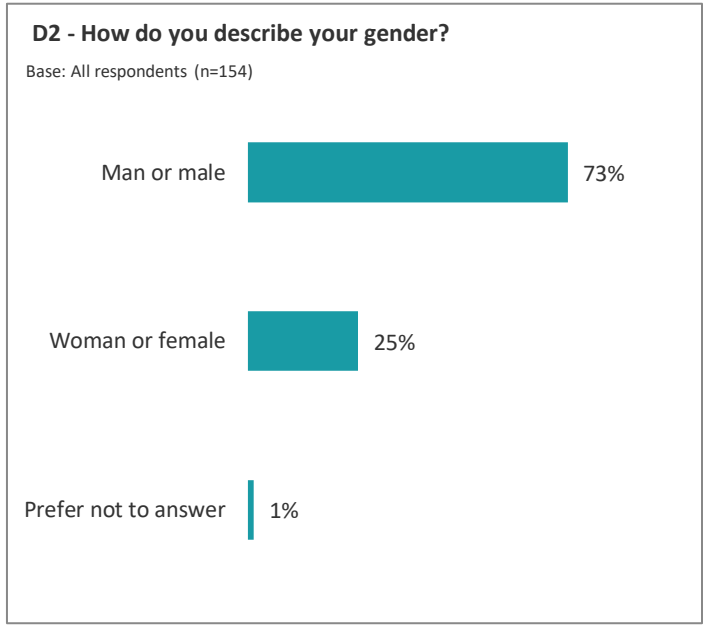
^ Caution small cell size

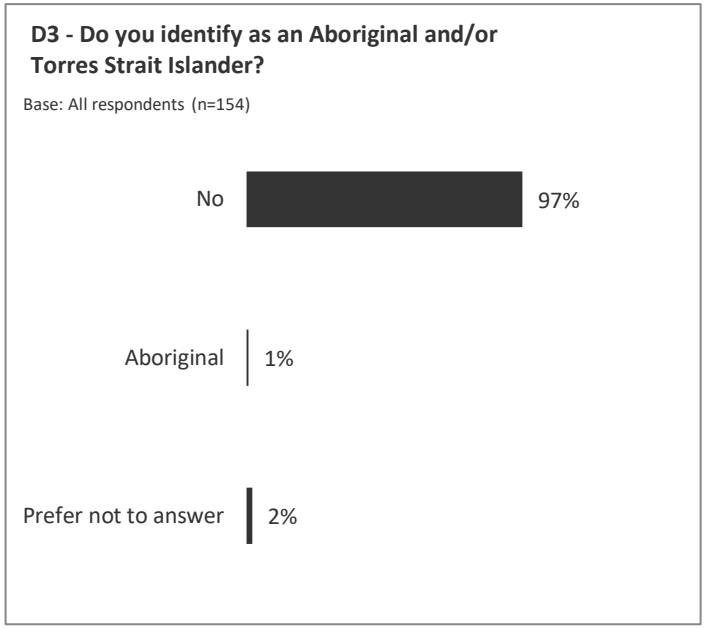
Detailed findings

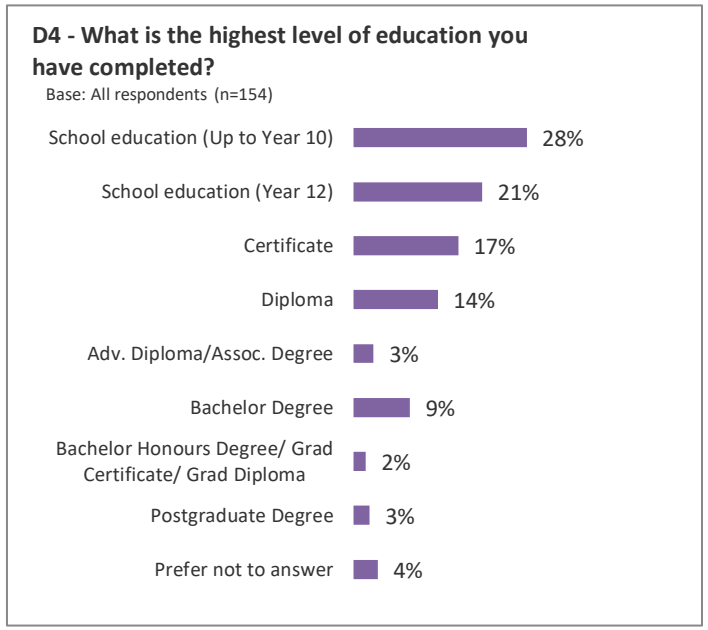
Respondent Profile

Respondent Profile - Demographics





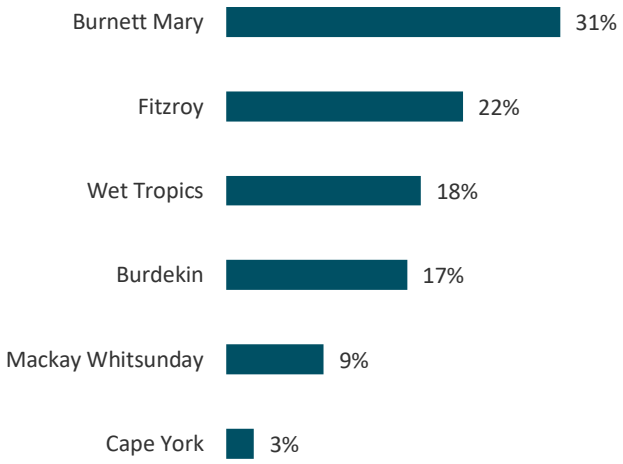




Respondent Profile - Farm Characteristics

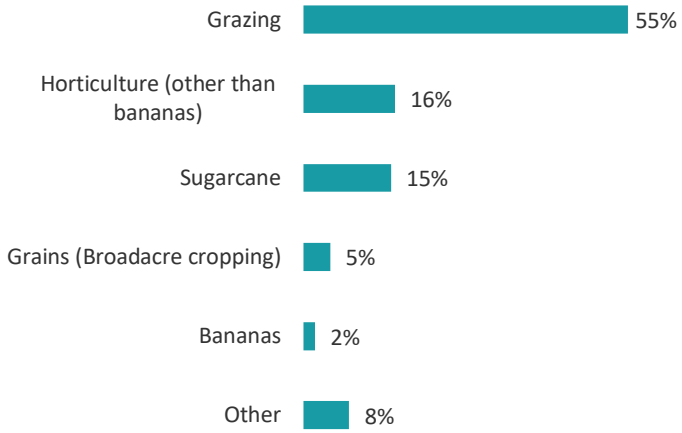
Region

Base: All respondents (n=154)



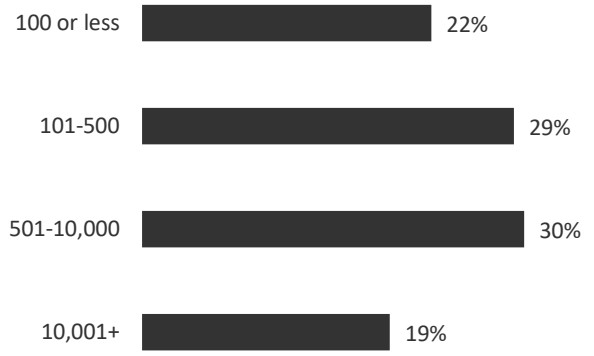
Q2 - Which type of agricultural commodity do you MAINLY farm or produce?

Base: All respondents (n=154)



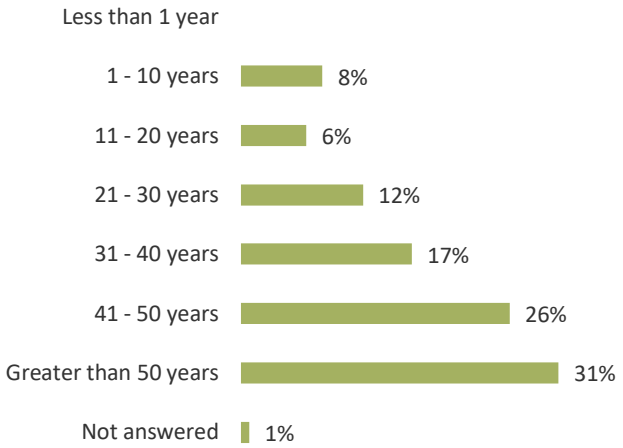
Q3 - Thinking about the commodity you MAINLY farm and including all properties currently under production/grazing, how many hectares of land would this involve?

Base: All relevant commodity producers providing an answer (n=125)



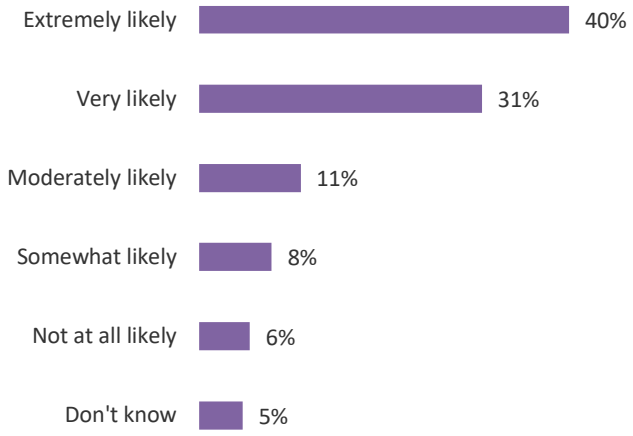
Q4 - How long have you been in the agricultural industry?

Base: All relevant commodity producers (n=127)



Q5 - How likely are you to be actively involved in operating your business for the next 5-10 years?

Base: All relevant commodity producers (n=127)



In the sample, 9 graziers and 6 horticulturalists incorrectly selected 'other commodity'. These respondents have been recoded as graziers/ horticulturalists, however some questions that were specific to graziers/ horticulturalists were skipped.

1.0 Reef water quality program participation

Reader note:
Commentary throughout this report discusses findings by the total result as well as by sub-groups of interest (e.g. commodity, region, funded program participation and demographics). While not all differences discussed are statistically significant, they are mentioned in order to provide insight into trends in the data. The tables throughout highlight where results in one sub-group are statistically different to others.

1.1 Participation in Reef water quality programs

31% of respondents in relevant commodities (e.g. grazing, grains, sugarcane, bananas, horticulture) could recall having participated in any funded Reef water quality programs, for their main commodity, since 2013.

Sub-group findings

Commodity findings

The highest participation rates were found among sugarcane producers (57%). Two of the three surveyed banana producers reported participating in funded programs, while 28% of graziers and 22% of horticulture producers indicated involvement. No grain producers in our survey reported taking part in any funded Reef water quality programs.

Regional findings

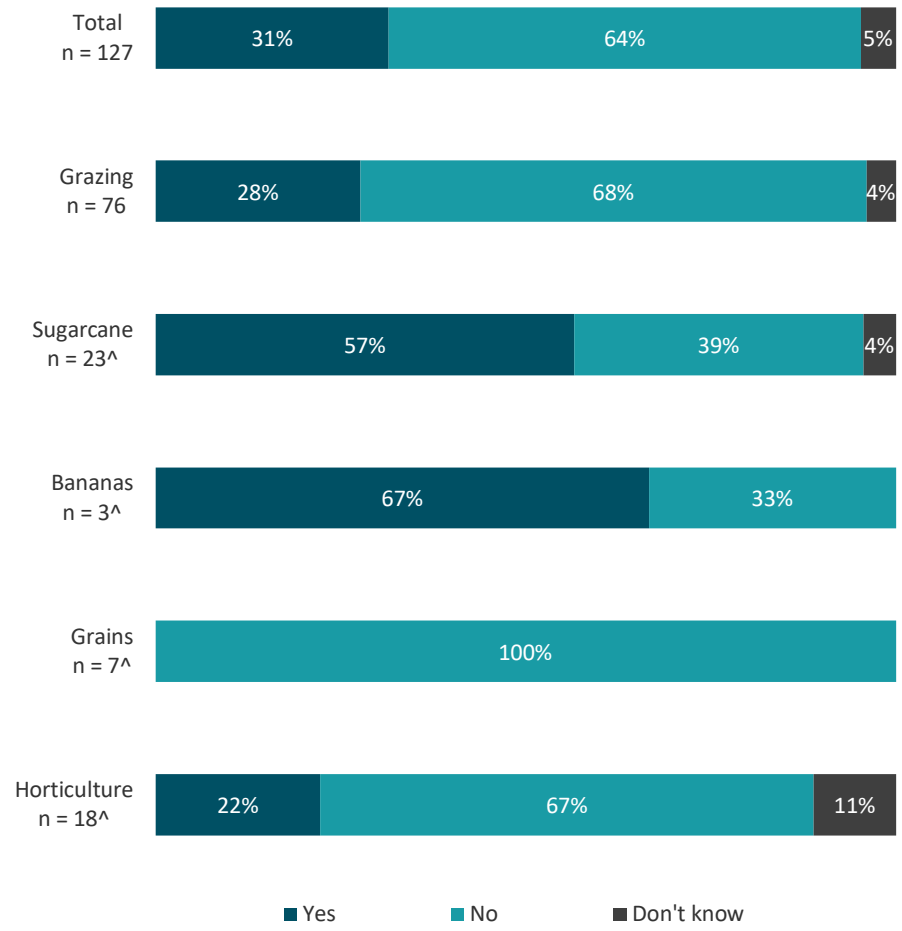
Mackay Whitsunday (57%), Burdekin (46%) and Wet Tropics (43%) operators were the most likely regional segments to report participating in funded programs. Lowest program uptake was noted among respondents operating in the Burnett Mary (19%), Fitzroy (17%) or Cape York (0%) regions.

Other findings

Highest participation was noted among those born in the 1960's (53-63 years) (48%). Participation rates were lower among both the older (23%) and younger (28%) cohorts.

Q6 - Have you participated in any funded Reef water quality programs for your main commodity since 2013? by COMMODITY

Base: All relevant commodity producers providing an answer



^ Caution small cell size

1.1 Participation in Reef water quality programs by region and reef program and demographics

Q6 - Have you participated in any funded Reef water quality programs for your main commodity since 2013? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 127	Cape York n = 2^	Wet Tropics n = 21^	Burdekin n = 24^	Mackay Whitsunday n = 14^	Fitzroy n = 24^	Burnett Mary n = 42	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Yes	31%		43%	46%	57%	17%	19% ↓	100% ↑		100%	100%	100%	100%	100%
No	64%	100%	52%	46%	43%	79%	76% ↑		93% ↑					
Don't know	5%		5%	8%		4%	5%		7%					

Q6 - Have you participated in any funded Reef water quality programs for your main commodity since 2013? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 127	1971 or later n = 29^	1961 to 1970 n = 31	1960 or earlier n = 64	Male n = 95	Female n = 30	School education n = 63	Certificate/ Diploma /Advanced Diploma n = 42	Bachelor degree or above n = 16^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Yes	31%	28%	48% ↑	23% ↓	31%	33%	29%	36%	38%	39%	33%	23%	25%	39%	27%	38%
No	64%	69%	45% ↓	72%	65%	60%	65%	60%	63%	58%	59%	74%	68%	61%	68%	58%
Don't know	5%	3%	6%	5%	4%	7%	6%	5%		3%	7%	3%	7%		5%	4%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

1.2 Reef water quality programs participated in

When prompted with a list of funded programs, the following proportions of all respondents in relevant commodities reported participating in each of the following programs:

- Industry best management practice programs (21%)
- Nutrient management planning programs (14%)
- Sediment reduction or gully remediation programs (12%)
- Chemical improvement programs (6%)
- Irrigation management programs (5%).

Most participants had taken part in more than one of the prompted programs: 70% of program participants had taken part in two or more programs (on average participants had experience of 2.3 programs).

Sub-group differences

Commodity findings

Graziers were relatively equally likely to have participated in industry best management practice (18%), sediment reduction (17%) or nutrient management planning (12%) programs. Sugarcane producers were most likely to report having taken part in industry best management practice programs (57%), followed by nutrient management planning programs (39%). Those involved in horticulture were most likely to have adopted industry best management practice (22%) or participated in irrigation management programs (17%). Two of the three banana producers participated in Industry best practice and nutrient management planning programs.

Regional findings

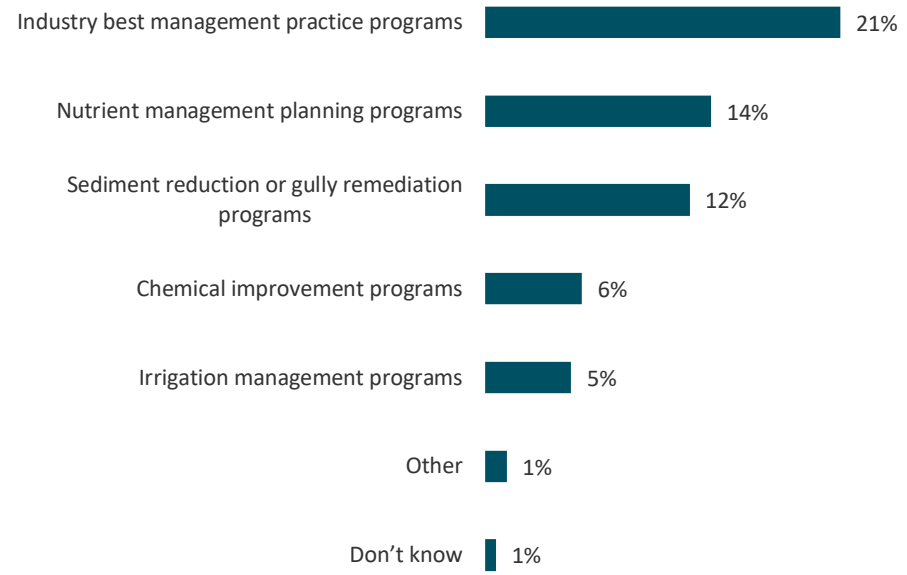
Burnett Mary (12%) and Fitzroy producers (8%) were the least likely regional segments to have participated in industry best management practice programs.

Chemical improvement (29%) and irrigation management (14%) programs were most commonly reported by Mackay Whitsunday producers. These producers on average took part in three programs (the highest of all regions).

Burnett Mary respondents on average took part in 1.38 programs (the lowest regional average). More detail is provided in the tables following.

Q6a - Which of the following Reef water quality programs have you participated in?

Base: All relevant commodity producers (n=127)



Number of programs participated in (among program participants)	Total n=40
One	30%
2 or more	70%
Average	**2.33**

1.1 Participation in Reef water quality programs by commodity

Q6a - Which of the following Reef water quality programs have you participated in? by COMMODITY

Column %		COMMODITY				
	Total n = 127	Grazing n = 76	Sugarcane n = 23^	Bananas n = 3^	Grains n = 7^	Horticulture n = 18^
Industry best management practice programs	26%	18% ↓	57%	67%		22%
Nutrient management planning programs	17%	12%	39%	67%		6%
Sediment reduction or gully remediation programs	15%	17%	22%			6%
Chemical improvement programs	7%	4%	26%			
Irrigation management programs	6%	1% ↓	17%			17%
Other	2%	1%	4%			
Don't know	1%	1%				

Q6a - Among program participants, number of Reef water quality programs participated in by COMMODITY

Column %		COMMODITY				
	Total n = 40	Grazing n = 21^	Sugarcane n = 13^	Bananas n = 2^	Grains n = 0^	Horticulture n = 4^
One	30%	38%	23%			25%
2 or more	70%	62%	77%	100%		75%
Average	**2.33**	**2.00**	**2.92**	**2.00**		**2.25**

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%;Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

1.1 Participation in Reef water quality programs by region and reef program

Q6a - Which of the following Reef water quality programs have you participated in? by Region & Reef Program

Column %		REGION						REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 127	Cape York n = 2^	Wet Tropics n = 21^	Burdekin n = 24^	Mackay Whitsunday n = 14^	Fitzroy n = 24^	Burnett Mary n = 42	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Industry best management practice programs	26%		38%	42%	57%	8%	12% ↓	100%	95%	79%	89%	88%
Nutrient management planning programs	17%		33%	29%	36%	8%		61%	100%	63%	78%	63%
Sediment reduction or gully remediation programs	15%		14%	25%	29%	13%	7%	45%	57%	100%	44%	50%
Chemical improvement programs	7%		10%	8%	29%		2%	24%	33%	21%	100%	38%
Irrigation mgt programs	6%		5%	8%	14%	4%	5%	21%	24%	21%	33%	100%
Other	2%			4%	7%			6%		5%		
Don't know	1%					4%						

Q6a - Among program participants, number of Reef water quality programs participated in by Region & Reef Program

Column %		REGION						REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 40	Cape York n = 0^	Wet Tropics n = 9^	Burdekin n = 11^	Mackay Whitsunday n = 8^	Fitzroy n = 4^	Burnett Mary n = 8^	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
One	**30%**		**33%**	**9%**	**13%**	**50%**	**63%**	**18%**	**5%**	**16%**	**11%**	
2 or more	70%		67%	91%	88%	50%	38%	82%	95%	84%	89%	100%
Average	**2.33**		**2.33**	**2.55**	**3.00**	**2.25**	**1.38**	**2.58**	**3.10**	**2.89**	**3.44**	**3.38**

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

1.1 Participation in Reef water quality programs by demographics

Q6a - Which of the following Reef water quality programs have you participated in? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 127	1971 or later n = 29^	1961 to 1970 n = 31	1960 or earlier n = 64	Male n = 95	Female n = 30	School education n = 63	Certificate/ Diploma /Advanced Diploma n = 42	Bachelor degree or above n = 16^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Industry best mgt practice programs	26%	24%	35%	22%	26%	23%	19%	36%	31%	36%	26%	18%	25%	33%	19%	29%
Nutrient mgt planning programs	17%	10%	26%	16%	19%	7%	16%	19%	19%	21%	17%	13%	11%	25%	11%	21%
Sediment reduction or gully remediation programs	15%	7%	19%	16%	15%	17%	14%	14%	25%	12%	15%	18%	11%	8%	19%	25%
Chemical improvement programs	7%	3%	10%	8%	5%	10%	6%	12%		6%	9%	5%	4%	14%	5%	4%
Irrigation mgt programs	6%	10%	13%	2% ↓	5%	10%	6%	7%	6%	12%	4%	5%	7%	8%	8%	
Other	2%	3%		2%	1%	3%	2%	2%		3%	2%		4%			4%
Don't know	1%			2%	1%		2%					3%			3%	

Q6a - Among program participants, number of Reef water quality programs participated in by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 40	1971 or later n = 8^	1961 to 1970 n = 15^	1960 or earlier n = 15^	Male n = 29^	Female n = 10^	School education n = 18^	Certificate/ Diploma /Advanced Diploma n = 15^	Bachelor degree or above n = 6^	30 yrs or less n = 13^	31-50 yrs n = 18^	51+ yrs n = 9^	100 or less n = 7^	101-500 n = 14^	501-10,000 n = 10^	10,001+ n = 9^
One	30%	25%	40%	13%	31%	30%	33%	13%	50%	31%	39%	11%	14%	43%	30%	22%
2 or more	70%	75%	60%	87%	69%	70%	67%	87%	50%	69%	61%	89%	86%	57%	70%	78%
Average	**2.33**	**2.13**	**2.13**	**2.80**	**2.38**	**2.10**	**2.28**	**2.53**	**2.17**	**2.31**	**2.17**	**2.67**	**2.43**	**2.29**	**2.40**	**2.22**

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

1.3 Efforts to reduce pollutant loss (among non-program participants)

Of those who had not participated in any funded Reef water quality programs, 86% indicated they do use practices to reduce pollutant loss in run-off (e.g. chemicals, sediments or nutrients). 7% did not use any while 2% were unsure.

Sub-group findings

Commodity findings

Graziers (who have not participated in funded programs) were the only commodity producer to indicate they do not use practices to reduce pollutant loss in run-off (12%).

Regional findings

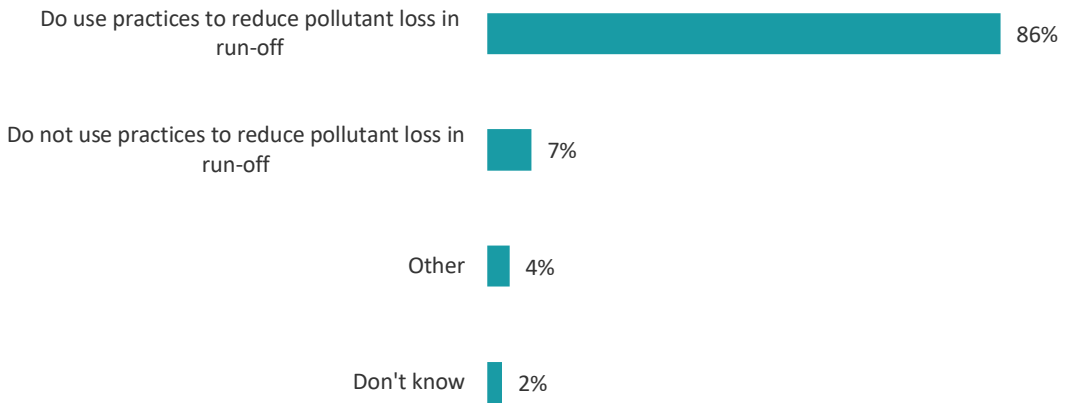
All regions reported a high use of practices to reduce pollutant loss in run-off. These practices were most commonly reported in Cape York (both respondents using), Burdekin (91%) and Burnett-Mary (88%).

Other findings

Those born in the 1960s unanimously reported using practices to reduce pollutant loss in run-off (100%). 85% of those born in 1960 or earlier and 80% of those born in the 1970s or later reported using such practices.

Q6b - You answered 'No' to having participated in funded Reef water quality programs for your main commodity since 2013. Which of the following best describes your situation?

Base: Respondents who have not participated in funded programs (n=81)



Q6b - You answered 'No' to having participated in funded Reef water quality programs for your main commodity since 2013. Which of the following best describes your situation? by COMMODITY

Column %		COMMODITY				
	Total n = 81	Grazing n = 52	Sugarcane n = 9^	Bananas n = 1^	Grains n = 7^	Horti-culture n = 12^
Do use practices to reduce pollutant loss in run-off	86%	85%	89%		86%	100%
Do not use practices to reduce pollutant loss in run-off	7%	12%				
Other	4%	2%	11%	100%		
Don't know	2%	2%			14%	

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.1 Efforts to reduce pollutant loss (among non-program participants) by region and reef program and demographics

Q6b - You answered 'No' to having participated in funded Reef water quality programs for your main commodity since 2013. Which of the following best describes your situation? by Region & Reef Program

Column %		REGION					
	Total n = 81	Cape York n = 2^	Wet Tropics n = 11^	Burdekin n = 11^	Mackay Whitsunday n = 6^	Fitzroy n = 19^	Burnett Mary n = 32
Do use practices to reduce pollutant loss in run-off	86%	100%	82%	91%	83%	84%	88%
Do not use practices to reduce pollutant loss in run-off	7%		9%	9%	17%	5%	6%
Other	4%		9%				6%
Don't know	2%					11%	

Q6b - You answered 'No' to having participated in funded Reef water quality programs for your main commodity since 2013. Which of the following best describes your situation? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 81	1971 or later n = 20^	1961 to 1970 n = 14^	1960 or earlier n = 46	Male n = 62	Female n = 18^	School education n = 41	Certificate/ Diploma /Advanced Diploma n = 25^	Bachelor degree or above n = 10^	30 yrs or less n = 19^	31-50 yrs n = 32	51+ yrs n = 29^	100 or less n = 19^	101-500 n = 22^	501-10,000 n = 25^	10,001+ n = 14^
Do use practices to reduce pollutant loss in run-off	86%	80%	100%	85%	87%	89%	85%	88%	90%	74%	94%	86%	84%	82%	96%	79%
Do not use practices to reduce pollutant loss in run-off	7%	10%		9%	6%	11%	7%	8%		16%		10%	5%	14%		14%
Other	4%	5%		4%	5%		5%	4%		5%	6%		11%		4%	
Don't know	2%	5%		2%	2%		2%		10%	5%		3%		5%		7%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.0 Soil management

2.1 Soil management practices used

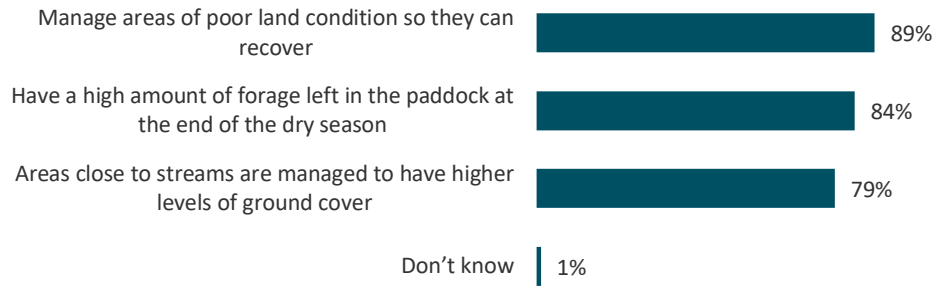
Almost all producers and growers (96%) in our survey reported using at least one of the prompted soil management practices. A discussion of results is provided on the following page.

Overall 96% using prompted soil management practices

Q7. Thinking about your main commodity, which of the following soil management practices which can improve the quality of water in local waterways, do you use?

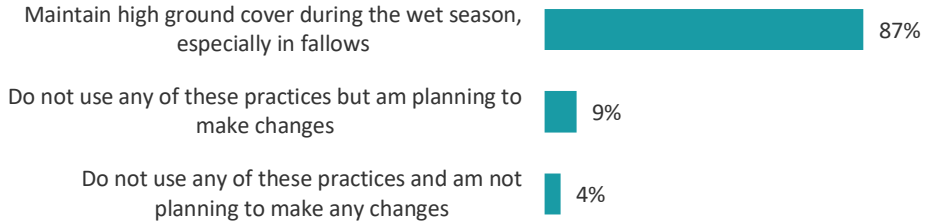
Grazing (n=76)

99% use



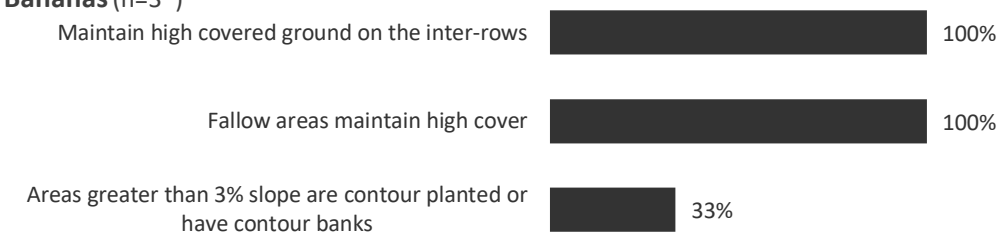
Sugarcane (n=23^)

87% use



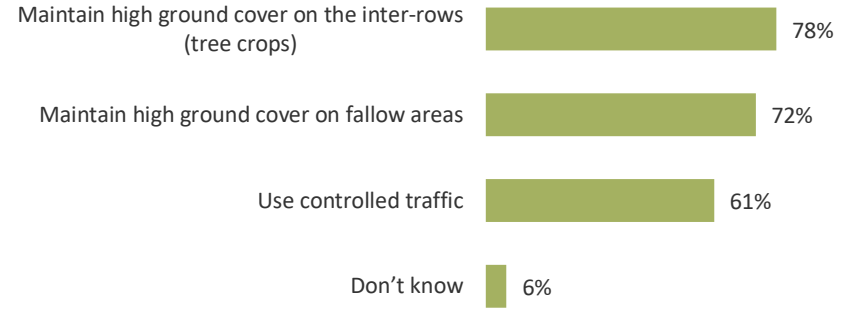
Bananas (n=3^)

100% use



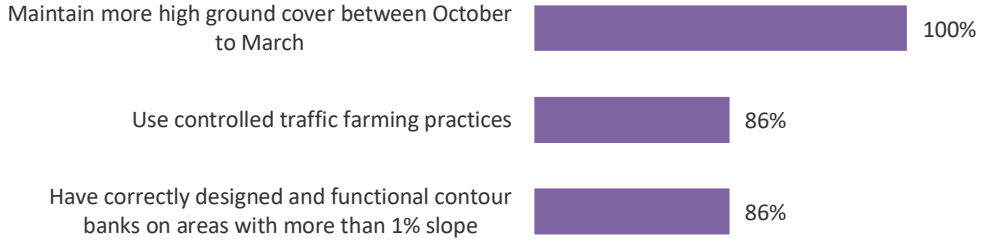
Horticulture (n=18^)

94% use



Grains (n=7^)

100% use



^ Caution small cell size

2.1 Soil management practices used

Grazing	Sugarcane	Horticulture	Grain	Bananas
The majority of graziers reported using the three practices prompted in the survey: • Manage areas of poor land condition so they can recover (89%) • Have a high amount of forage left in the paddock at the end of the dry season (84%) • Areas close to streams are managed to have higher levels of ground cover (79%). 99% of graziers were engaged in at least one of the practices. The remaining 1% were unable to answer this question.	87% of sugarcane producers reported that they maintain high ground cover during the wet season, especially in fallows. 9% were not using the prompted practice, but were planning to make changes, while 4% were not employing the practice and not planning to make changes.	Compared with other commodities, participation among horticulture growers appeared slightly lower: • Maintain high ground cover on the inter-rows (tree crops) (78%) • Maintain high ground cover on fallow areas (72%) • Use controlled traffic (61%). 6% of horticulture respondents were unsure whether they were engaged in these practices.	Almost all grain producers reported that they: • Maintain more high ground cover between October to March (100%) • Have correctly designed and functional contour banks on areas with more than 1% slope (86%) • Use controlled traffic farming practices (86%). All producers were engaged in at least one practice.	All three banana growers stated that they maintain high covered ground on the inter-rows and ensure fallow areas maintain high cover. One reported using contour planting or contour banks.
Funded Reef water quality program participation – impact on soil management practices used				
Those who had not participated in funded programs since 2013 were equally likely as those who had to indicate they: • Manage areas of land so they can recover (participants 90%, non 89%) • Leave a high amount of forage (participants 86%, non 84%). 86% of funded program participants reported that they have higher levels of ground cover close to streams, compared to 76% of non-participants.	92% of funded program participants maintain high ground cover during wet season, compared with 80% of non-participants.	Horticulture growers involved in funded programs appeared more likely to have used the prompted soil management processes than those who have not participated in such programs: • Maintain high ground cover on the inter-rows (tree crops) (participants 100%, non 71%) • Maintain high ground cover on fallow areas (participants 100%, non 64%) • Use controlled traffic (participants 75%, non 57%).	No grain producers in our survey reported taking part in any funded Reef water quality programs. The results above are therefore based on non-program participants.	Two of the three surveyed banana growers had participated in funded Reef water quality programs.

2.1 Soil management practices used by region and reef program

Q7 - Thinking about your main commodity, which of the following soil management practices which can improve the quality of water in local waterways, do you use? by Region & Reef Program

Column %			REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
		Total	Cape York	Wet Tropics	Burdekin	Mackay Whitsunday	Fitzroy	Burnett Mary	Yes	No /Not sure	Industry best mgt	Nutrient mgt	Sed. reduct./ gully remed.	Chemical improv't	Irrigation mgt
NET USE (n=127)		96%	100%	90%	92%	100%	96%	100%	97%	95%	97%	95%	100%	100%	87%
Grazing (n=76)	Manage areas of poor land condition so they can recover	89%		100%	89%	75%	95%	86%	90%	89%	86%	89%	100%	67%	100%
	Have a high amount of forage left in the paddock at the end of the dry season	84%		60%	94%	100%	80%	83%	86%	84%	93%	89%	85%	100%	
	Areas close to streams are managed to have higher levels of ground cover	79%		80%	83%	50%	80%	79%	86%	76%	86%	89%	85%	100%	
Grains (n=7^)	Maintain more high ground cover between Oct. to March	100%		100%	100%		100%	100%		100%					
	Use controlled traffic farming practices	86%		100%	100%		67%	100%		86%					
	Have correctly designed and functional contour banks on areas with more than 1% slope	86%		100%			100%	100%		86%					
Sugarcane (n=23^)	Maintain high ground cover during the wet season, especially in fallows	87%		89%	50%	100%		100%	92%	80%	92%	89%	100%	100%	75%
Horticulture (n=18^)	Maintain high ground cover on the inter-rows (tree crops)	78%	50%	50%	100%	100%	100%	82%	100%	71%	100%	100%	100%		100%
	Maintain high ground cover on fallow areas	72%	50%		100%	100%	100%	82%	100%	64%	100%	100%	100%		100%
	Use controlled traffic	61%	50%		100%	100%		73%	75%	57%	75%				67%
Bananas (n=3^)	Maintain high covered ground on the inter-rows	100%		100%					100%	100%	100%	100%			
	Fallow areas maintain high cover	100%		100%					100%	100%	100%	100%			
	Areas greater than 3% slope are contour planted or have contour banks	33%		33%						100%					
Do not use any of these practices but am planning to make changes		2%			8%				3%	1%	3%	5%			13%
Do not use any of these practices and am not planning to make any changes		1%		4%						1%					
Don't know		2%		4%			3%			2%					

Results have been filtered by commodity (i.e. for grazing, percentages are based only on graziers (n=76) etc)

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.2 Reasons for using soil management practices

The main reasons growers and producers do or would use the prompted soil management practices were:

- To improve soil health (64%)
- To maintain and/or improve productivity (51%)
- For the environment (48%).

31% believed the practices would improve the farm for future land managers and 29% nominated financial reasons. Other reasons are displayed in the adjacent chart.

Sub-group findings

Commodity findings

Improved soil health was the biggest motivator for sugarcane (70%) and horticulture (67%) producers. Graziers (39%) and sugarcane producers (30%) were the segments most likely to be driven by a desire to improve the farm for future land managers.

Funded program participation findings

The views of program participants and non-participants were consistent, except for the benefit of meeting consumer expectations of land management/gain market access – program participants (13%) were more likely than non-participants (1%) to nominate this as a potential reason for using soil management practices.

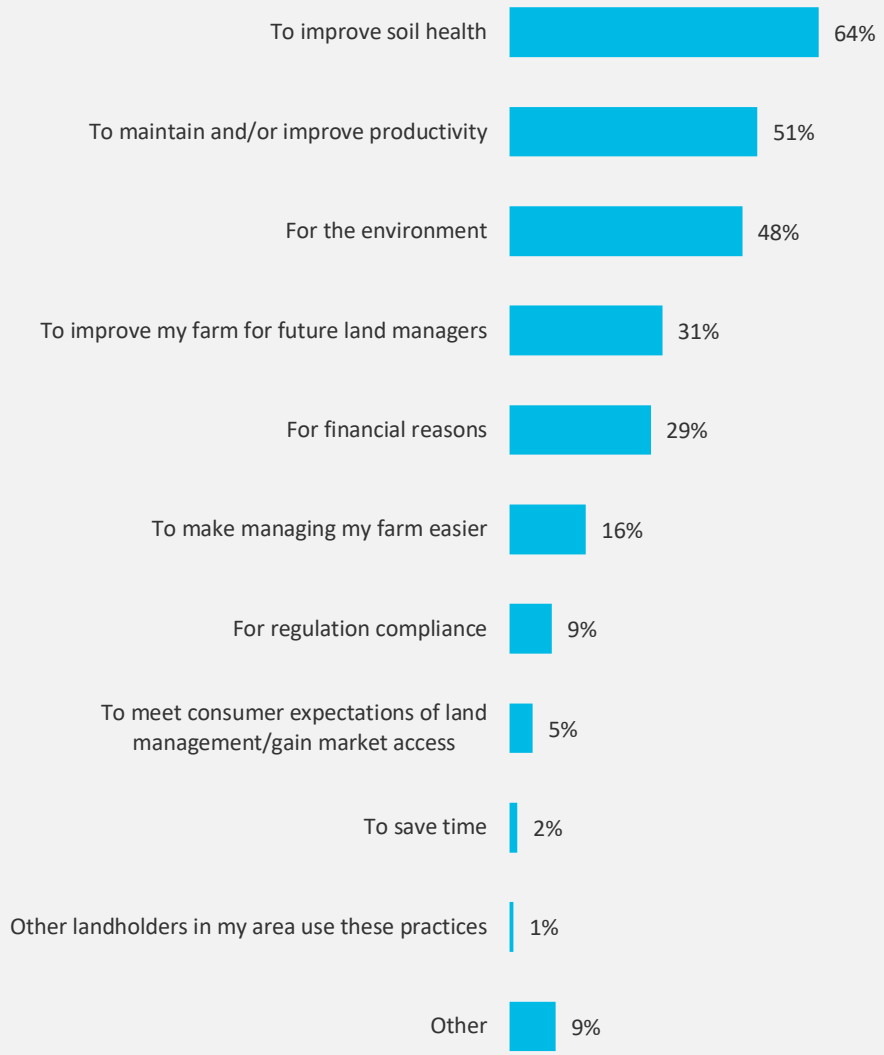
Other findings

Making managing the farm easier (22%) was slightly more likely to be nominated as a reason by those born in the 1960s or earlier than younger producers (16% on average).

Females were more likely than males to nominate improving the farm for future land managers (47%, 27% among males) as a reason for using soil management.

Q8 - What are the THREE MAIN reasons for why you would or do use these soil management practices?

Base: All relevant commodity producers (n=127)



2.2 Reasons for using soil management practices by commodity type

Q8 - What are the THREE MAIN reasons for why you would or do use these soil management practices? by COMMODITY

Column %		COMMODITY				
	Total n = 127	**Grazing n = 76**	**Sugarcane n = 23^**	**Bananas n = 3^**	**Grains n = 7^**	**Horticulture n = 18^**
To improve soil health	64%	61%	70%	100%	57%	67%
To maintain and/or improve productivity	51%	54%	48%	33%	57%	44%
For the environment	48%	54%	35%	67%	57%	33%
To improve my farm for future land managers	31%	39% ↑	30%	33%	14%	6%
For financial reasons	29%	28%	30%		43%	33%
To make managing my farm easier	16%	17%	17%		14%	11%
For regulation compliance	9%	5%	17%	33%		11%
To meet consumer expectations of land management/gain market access	5%	4%	9%			6%
To save time	2%	1%				6%
Other landholders in my area use these practices	1%	1%				
Other	9%	5% ↓	13%		14%	22%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.2 Reasons for using soil management practices by region and reef program

Q8 - What are the THREE MAIN reasons for why you would or do use these soil management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 127	Cape York n = 2^	Wet Tropics n = 21^	Burdekin n = 24^	Mackay Whitsunday n = 14^	Fitzroy n = 24^	Burnett Mary n = 42	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
To improve soil health	64%	100%	62%	63%	79%	58%	62%	68%	62%	70%	67%	53%	67%	63%
To maintain and/or improve productivity	51%		43%	50%	64%	67%	45%	48%	53%	48%	48%	47%	56%	25%
For the environment	48%	50%	38%	42%	29%	54%	60%	43%	51%	45%	38%	42%	22%	38%
To improve my farm for future land managers	31%		33%	46%	29%	33%	24%	35%	30%	27%	29%	47%	44%	50%
For financial reasons	29%	50%	14%	29%	36%	29%	33%	30%	29%	27%	33%	37%	22%	38%
To make managing my farm easier	16%	50%	19%	17%	21%	13%	12%	13%	17%	12%	14%	11%	22%	13%
For regulation compliance	9%		14%	8%	21%	4%	5%	15%	6%	18%	14%	11%	11%	13%
To meet consumer expectations of land management/gain market access	5%		5%	13%	7%	4%		13% ↑	1% ↓	15%	19%	21%	22%	13%
To save time	2%					4%	2%	3%	1%					
Other landholders in my area use these practices	1%			4%				3%		3%	5%	5%		
Other	9%	50%	19%	4%	7%	8%	7%	10%	9%	9%	14%	16%		25%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.2 Reasons for using soil management practices by demographics

Q8 - What are the THREE MAIN reasons for why you would or do use these soil management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 127	1971 or later n = 29^	1961 to 1970 n = 31	1960 or earlier n = 64	Male n = 95	Female n = 30	School education n = 63	Certificate/ Diploma /Advanced Diploma n = 42	Bachelor degree or above n = 16^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
To improve soil health	64%	72%	58%	63%	66%	53%	54% ↓	86% ↑	50%	73%	59%	62%	68%	72%	54%	63%
To maintain and/or improve productivity	51%	41%	55%	55%	48%	60%	57%	50%	44%	42%	52%	56%	50%	33% ↓	68% ↑	50%
For the environment	48%	48%	42%	50%	47%	50%	40%	52%	63%	55%	44%	49%	54%	50%	41%	54%
To improve my farm for future land managers	31%	21%	42%	31%	27%	47% ↑	37%	31%	19%	21%	39%	28%	18%	33%	30%	46%
For financial reasons	29%	34%	39%	22%	32%	23%	30%	33%	19%	27%	30%	31%	21%	28%	35%	29%
To make managing my farm easier	16%	10%	6%	22%	19%	7%	14%	14%	13%	9%	13%	26% ↑	7%	25%	16%	8%
For regulation compliance	9%	3%	10%	11%	11%	3%	8%	7%	19%	9%	9%	8%	7%	14%	5%	8%
To meet consumer expectations of land management/gain market access	5%	3%	3%	6%	3%	7%	6%	2%	6%	3%	4%	8%		6%	5%	8%
To save time	2%		3%	2%	2%		2%	2%				5% ↑	4%		3%	
Other landholders in my area use these practices	1%		3%		1%		2%				2%					4%
Other	9%	17%	6%	8%	8%	13%	10%	5%	13%	18% ↑	4%	10%	18%	6%	8%	8%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.3 Challenges with using soil management practices

The main challenges or barriers to using the prompted soil management practices were:

- Weather and seasonal issues (56%)
- Financial (e.g. It costs too much, don't have the money, worried about reduced profitability, it's not worth the return on investment) (43%)
- Additional administrative work (e.g. Record keeping, office work) (22%).

17% were limited by the availability of contractors, 9% were concerned about production while 9% cited time constraints.

Sub-group findings

Commodity findings

Weather and seasonal issues were most commonly cited by graziers (61%) and sugarcane (61%) producers. Weather was less of an issue for grain producers, instead financial barriers (57%) or the limited availability of contractors (57%) were the most commonly noted challenges.

Funded program participation findings

Those who had participated in funded Reef water quality programs over the past 10 years were more likely than non-participants to nominate financial barriers (55%), not having enough information (8%) or not considering the practice will have a positive impact on the environment (8%) as a barrier to adopting soil management practices. Concerns about impacts on production (13%) were more commonly nominated by non-program participants (0 mentions among participants).

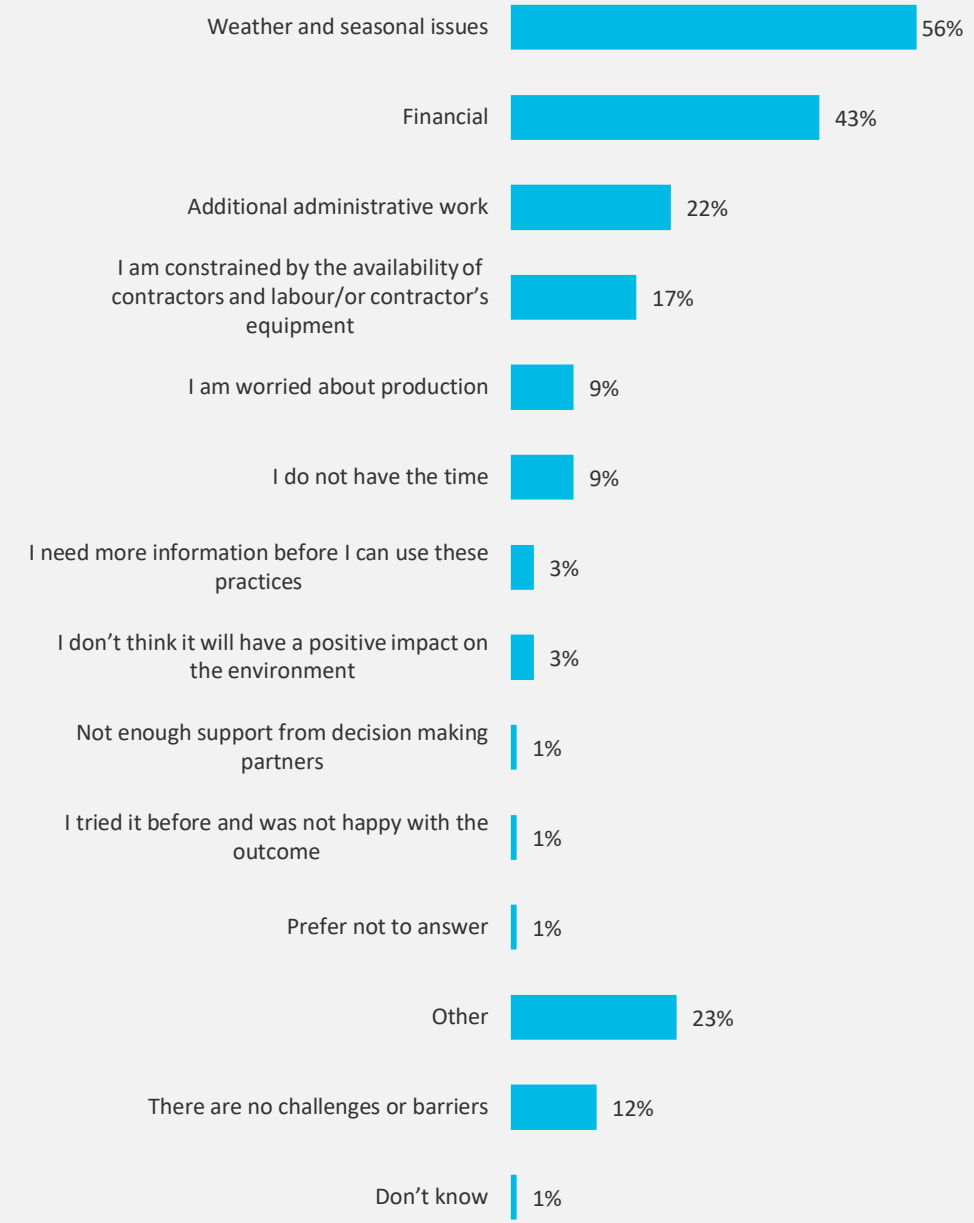
Other findings

Concerns about additional administrative work were most likely to be nominated by producers born in the 1960s or earlier (33%, 22% average). Males (12%) appeared more likely than females (0) to be worried about production.

Those with 101-500 hectares under production (58%) appeared more likely than others to consider financial reasons a barrier to using soil management practices.

Q9 - What are the THREE MAIN challenges or barriers to starting or continuing to use these soil management practices?

Base: All relevant commodity producers (n=127)



2.3 Challenges with using soil management practices by commodity type

Q9 - What are the THREE MAIN challenges or barriers to starting or continuing to use these soil management practices? by COMMODITY

Column %		COMMODITY				
	Total n = 127	Grazing n = 76	Sugarcane n = 23^	Bananas n = 3^	Grains n = 7^	Horticulture n = 18^
Weather and seasonal issues	56%	61%	61%	33%	29%	44%
Financial	43%	45%	35%	33%	57%	39%
Additional administrative work	22%	22%	30%	33%	14%	11%
I am constrained by the availability of contractors and labour/or contractor's equipment	17%	18%	13%		57%	6%
I am worried about production	9%	12%	9%			
I do not have the time	9%	8%		33%	29%	11%
I need more information before I can use these practices	3%	1%	4%			11%
I don't think it will have a positive impact on the environment	3%	3%	4%			6%
Not enough support from decision making partners	1%	1%				
I tried it before and was not happy with the outcome	1%		4%			
Prefer not to answer	1%	1%				
Other	23%	22%	22%	33%	14%	28%
There are no challenges or barriers	12%	9%	17%		14%	17%
Don't know	1%		4%			

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.3 Challenges with using soil management practices by region and reef program

Q9 - What are the THREE MAIN challenges or barriers to starting or continuing to use these soil management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 127	Cape York n = 2^	Wet Tropics n = 21^	Burdekin n = 24^	Mackay Whitsunday n = 14^	Fitzroy n = 24^	Burnett Mary n = 42	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Weather and seasonal issues	56%		48%	58%	64%	63%	55%	60%	54%	58%	48%	47%	67%	50%
Financial	43%	100%	38%	42%	29%	46%	45%	55%	37%	48%	52%	58%	44%	63%
Additional administrative work	22%	50%	19%	42%	36%	21%	7% ↓	28%	20%	33%	33%	37%	33%	25%
I am constrained by the availability of contractors and labour/or contractor's equipment	17%	50%	5%	17%	21%	38%	10%	15%	18%	12%	14%	16%	33%	25%
I am worried about production	9%			8%	14%	13%	10%		13% ↑					
I do not have the time	9%		10%	8%		17%	7%	10%	8%	6%	10%		11%	
I need more information before I can use these practices	3%				7%		7%	8%	1%	6%	5%	5%		13%
I don't think it will have a positive impact on the environment	3%		5%		7%	4%	2%	8%	1%	9%	5%	5%	11%	13%
Not enough support from decision making partners	1%					4%		3%		3%	5%	5%		
I tried it before and was not happy with the outcome	1%		5%					3%		3%				
Prefer not to answer	1%						2%		1%					
Other	23%		29%	29%	14%	21%	21%	23%	23%	24%	24%	21%	11%	38%
There are no challenges or barriers	12%		10%	4%	21%	4%	19%	8%	14%	9%	5%	11%	11%	
Don't know	1%				7%				1%					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.3 Challenges with using soil management practices by demographics

Q9 - What are the THREE MAIN challenges or barriers to starting or continuing to use these soil management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 127	1971 or later n = 29^	1961 to 1970 n = 31	1960 or earlier n = 64	Male n = 95	Female n = 30	School education n = 63	Certificate / Diploma /Advanced Diploma n = 42	Bachelor degree or above n = 16^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Weather and seasonal issues	56%	52%	55%	56%	55%	57%	56%	62%	44%	52%	57%	59%	39%	69%	59%	54%
Financial	43%	52%	48%	34%	43%	40%	40%	48%	44%	52%	44%	33%	29%	58% ↑	41%	42%
Additional administrative work	22%	7%	16%	33% ↑	21%	23%	27%	21%	13%	6% ↓	26%	31%	11%	22%	24%	33%
I am constrained by the availability of contractors and labour/or contractor's equipment	17%	21%	16%	14%	19%	13%	21%	17%	6%	18%	15%	21%	7%	28%	19%	13%
I am worried about production	9%	3%	10%	11%	12% ↑		10%	12%		3%	9%	13%	4%	6%	14%	13%
I do not have the time	9%	7%	16%	6%	7%	13%	11%	5%	13%	6%	11%	8%	7%	8%	11%	8%
I need more information before I can use these practices	3%	7%	3%	2%	3%	3%		7%	6%	6%	4%		7%	3%		4%
I don't think it will have a positive impact on the environment	3%	3%		3%	3%	3%	2%	5%		3%	4%	3%	11%	3%		
Not enough support from decision making partners	1%			2%	1%			2%		3%					3%	
I tried it before and was not happy with the outcome	1%				1%						2%			3%		
Prefer not to answer	1%			2%		3%	2%					3%				
Other	23%	31%	23%	20%	24%	20%	27%	17%	25%	24%	22%	23%	21%	8% ↓	32%	33%
There are no challenges or barriers	12%	7%	10%	16%	12%	13%	10%	10%	19%	9%	15%	8%	21%	11%	3%	13%
Don't know	1%			2%	1%		2%					3%	4%			

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.4 Expectations of positive result from soil management practices

96% of producers in our survey indicated they expect at least some positive result from using the prompted soil management practices (the remaining 4% were unable to say). 56% were expecting a large or very large positive result, 35% were anticipating a moderately positively result while 5% could envisage a small positive result.

Sub-group findings

Commodity findings

There were no significant differences by commodity, though it appears that those in horticulture (67%) or grain (86%) were the most likely to expect a large or very large positive result.

Funded program participation findings

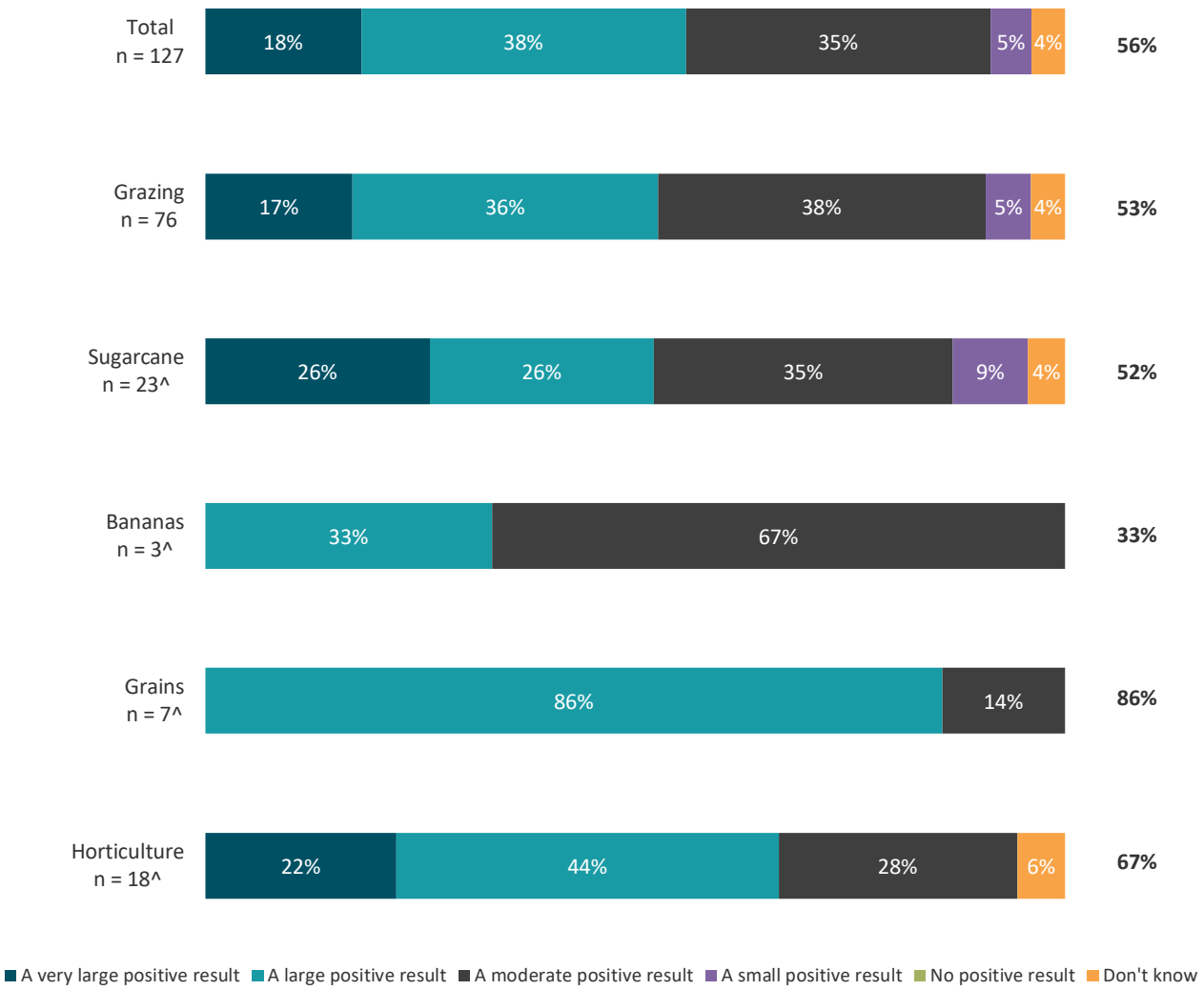
Views were consistent across program participants (55% expect large or very large positive result) and non-participants (56%).

Other findings

Newer entrants to the agricultural industry (30 years or less) were the most likely to expect large or very large positive results (73%), those with 31-50 years' experience were the least likely to do so (44%).

Q10 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these soil management practices?

Base: All relevant commodity producers



^ Caution small cell size

2.4 Expectations of positive result from soil management practices by region and reef program

Q10 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these soil management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 127	Cape York n = 2^	Wet Tropics n = 21^	Burdekin n = 24^	Mackay Whitsunday n = 14^	Fitzroy n = 24^	Burnett Mary n = 42	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
A very large positive result	18%		24%	21%	29%	4%	19%	18%	18%	18%	24%	21%	11%	25%
A large positive result	38%	50%	24%	33%	29%	58%	38%	38%	38%	33%	14%	42%	11%	25%
VERY LARGE/LARGE	56%	50%	48%	54%	57%	63%	57%	55%	56%	52%	38%	63%	22%	50%
A moderate positive result	35%	50%	38%	38%	29%	33%	36%	35%	36%	36%	48%	26%	78%	50%
A small positive result	5%		5%	8%	14%		2%	8%	3%	9%	14%	11%		
MODERATE/SMALL	40%	50%	43%	46%	43%	33%	38%	43%	39%	45%	62%	37%	78%	50%
NET POSITIVE	96%	100%	90%	100%	100%	96%	95%	98%	95%	97%	100%	100%	100%	100%
No positive result														
Don't know	4%		10%			4%	5%	3%	5%	3%				

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.4 Expectations of positive result from soil management practices by demographics

Q10 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these soil management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 127	1971 or later n = 29^	1961 to 1970 n = 31	1960 or earlier n = 64	Male n = 95	Female n = 30	School education n = 63	Certificate/ Diploma /Advanced Diploma n = 42	Bachelor degree or above n = 16^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
A very large positive result	18%	17%	26%	16%	17%	23%	19%	19%	13%	18%	17%	21%	21%	11%	19%	25%
A large positive result	38%	48%	23% ↓	41%	36%	43%	30%	50% ↑	44%	55% ↑	28% ↓	36%	43%	31%	41%	33%
VERY LARGE/LARGE	56%	66%	48%	56%	53%	67%	49%	69% ↑	56%	73% ↑	44% ↓	56%	64%	42%	59%	58%
A moderate positive result	35%	24%	39%	39%	38%	27%	41%	26%	38%	21% ↓	41%	41%	25%	53% ↑	30%	33%
A small positive result	5%	3%	10%	3%	6%		8%	2%		3%	7%	3%	4%	3%	5%	8%
MODERATE/SMALL	40%	28%	48%	42%	44%	27%	49% ↑	29%	38%	24% ↓	48%	44%	29%	56% ↑	35%	42%
NET POSITIVE	96%	93%	97%	98%	97%	93%	98%	98%	94%	97%	93%	100%	93%	97%	95%	100%
No positive result																
Don't know	4%	7%	3%	2%	3%	7%	2%	2%	6%	3%	7%		7%	3%	5%	

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.5 Confidence in ability to use soil management practices

96% of producers in our survey were confident in their ability to use the prompted soil management practices. 67% were very or extremely confident while 29% were moderately or somewhat confident in their abilities. No respondents indicated they were not at all confident, though 1% opted not to respond and 3% were unable to answer this question.

Sub-group findings

Commodity

Graziers were less likely than other commodity producers to indicate they were extremely confident in their ability to use soil management practices (14%, 64% very/extremely confident - sugarcane 70%, horticulture 67%, grain 71%, banana 100%).

Funded program participation findings

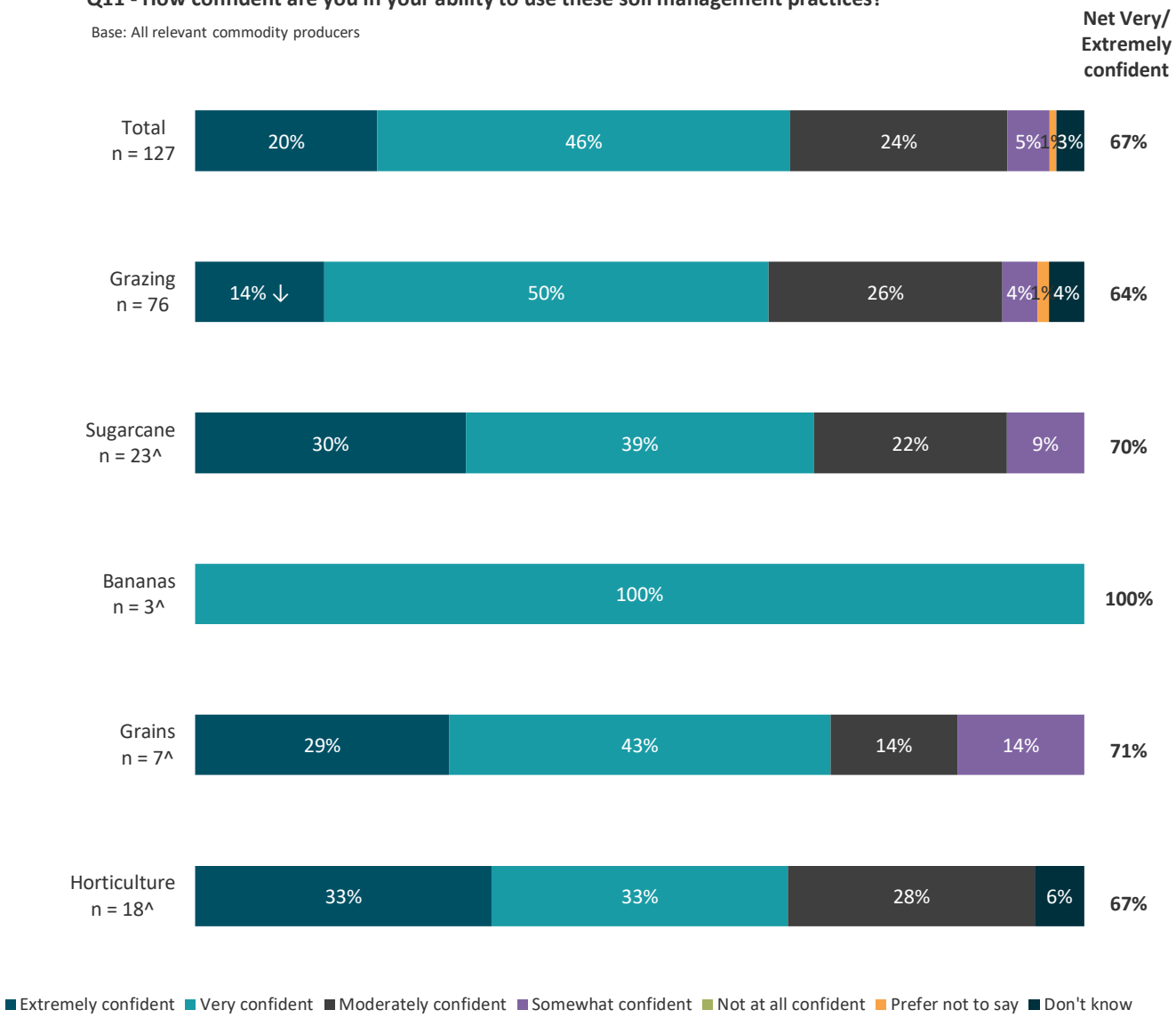
73% of funded Reef water quality program participants were very or extremely confident in their ability to use soil management practices, compared with 64% of non-participants.

Other findings

Confidence (very/extremely confident) appeared to increase with age: 55% among those born in 1971 or later, 61% among those born 1961 to 1970, 73% among those born in 1960 or earlier.

Q11 - How confident are you in your ability to use these soil management practices?

Base: All relevant commodity producers



^ Caution small cell size; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

2.5 Confidence in ability to use soil management practices by region and reef program

Q11 - How confident are you in your ability to use these soil management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 127	Cape York n = 2^	Wet Tropics n = 21^	Burdekin n = 24^	Mackay Whitsunday n = 14^	Fitzroy n = 24^	Burnett Mary n = 42	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Extremely confident	20%		19%	25%	29%	8%	24%	18%	22%	21%	19%	16%	44%	25%
Very confident	46%		52%	38%	50%	63%	40%	55%	43%	52%	48%	63%	22%	50%
EXTREMELY/VERY	67%		71%	63%	79%	71%	64%	73%	64%	73%	67%	79%	67%	75%
Moderately confident	24%	100%	19%	29%	14%	17%	29%	25%	24%	24%	29%	21%	33%	13%
Somewhat confident	5%		5%	4%	7%	4%	5%	3%	6%	3%	5%			13%
MODERATE/ SOMEWHAT	29%	100%	24%	33%	21%	21%	33%	28%	30%	27%	33%	21%	33%	25%
NET CONFIDENT	96%	100%	95%	96%	100%	92%	98%	100%	94%	100%	100%	100%	100%	100%
Not at all confident														
Prefer not to say	1%						2%		1%					
Don't know	3%		5%	4%		8%			5%					

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.5 Confidence in ability to use soil management practices by demographics

Q11 - How confident are you in your ability to use these soil management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 127	1971 or later n = 29^	1961 to 1970 n = 31	1960 or earlier n = 64	Male n = 95	Female n = 30	School education n = 63	Certificate/ Diploma /Advanced Diploma n = 42	Bachelor degree or above n = 16^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Extremely confident	20%	17%	26%	19%	19%	23%	19%	26%	6%	18%	24%	15%	32%	19%	8% ↓	25%
Very confident	46%	38%	35%	55%	48%	40%	44%	48%	56%	45%	39%	59%	32%	50%	59%	42%
EXTREMELY/VERY	67%	55%	61%	73%	67%	63%	63%	74%	63%	64%	63%	74%	64%	69%	68%	67%
Moderately confident	24%	31%	32%	19%	25%	23%	25%	24%	25%	27%	30%	15%	25%	22%	24%	29%
Somewhat confident	5%	10%	3%	3%	4%	7%	6%	2%	6%	6%	4%	5%	7%	8%		4%
MODERATE/ SOMEWHAT	29%	41%	35%	22%	29%	30%	32%	26%	31%	33%	33%	21%	32%	31%	24%	33%
NET CONFIDENT	96%	97%	97%	95%	97%	93%	95%	100%	94%	97%	96%	95%	96%	100%	92% ↓	100%
Not at all confident																
Prefer not to say	1%			2%		3%	2%					3%				
Don't know	3%	3%	3%	3%	3%	3%	3%		6%	3%	4%	3%	4%		8% ↑	

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.6 Respondent estimate other landholders using soil management practices

One in two producers in our survey felt that most or all landholders they know or know of are using at least one of the prompted soil management practices (46%). 34% felt that some or half were using these practices while 2% said none were and 8% were unsure or declined to answer.

Sub-group findings

Commodity findings

Soil management practices were most likely to be considered widespread by sugarcane producers (61% all/most) or grain producers (57%). 50% of those involved in horticulture believed soil management is practiced by most or all landholders, while 41% of graziers and 33% of banana growers believe the same.

Regional findings

Producers in the Wet Tropics region were the most likely regional segment to think that most or all landholders are using soil management practices (67%).

Producers with 501 to 10,000 hectares under production were the least likely to indicate that most or all landholders were using soil management practices (30%, 46% average).

Q12 - Thinking about the landholders you know, or know of, what proportion do you think are using these soil management practices?

Base: All relevant commodity producers

^ Caution small cell size

2.6 Respondent estimate of number of landholders using soil management practices by region and reef program

Q12 - Thinking about the landholders you know, or know of, what proportion do you think are using these soil management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 127	Cape York n = 2^	Wet Tropics n = 21^	Burdekin n = 24^	Mackay Whitsunday n = 14^	Fitzroy n = 24^	Burnett Mary n = 42	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
All	4%		10%		7%	4%	2%	8%	2%	9%	14%	11%	22%	13%
Most	43%	50%	57%	38%	50%	42%	36%	38%	45%	39%	38%	47%	44%	38%
SUB-TOTAL ALL/MOST	46%	50%	67%	38%	57%	46%	38%	45%	47%	48%	52%	58%	67%	50%
Half	16%	50%	5%	21%	14%	13%	19%	15%	16%	15%	14%	11%	11%	25%
Some	28%		19%	29%	29%	38%	29%	38%	24%	33%	33%	32%	22%	25%
None	2%		5%	4%			2%		3%					
Prefer not to say	2%			4%			2%	3%	1%	3%				
Don't know	6%		5%	4%		4%	10%		8%					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

2.6 Respondent estimate of number of landholders using soil management practices by demographics

Q12 - Thinking about the landholders you know, or know of, what proportion do you think are using these soil management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 127	1971 or later n = 29^	1961 to 1970 n = 31	1960 or earlier n = 64	Male n = 95	Female n = 30	School education n = 63	Certificate/ Diploma /Advanced Diploma n = 42	Bachelor degree or above n = 16^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
All	4%		3%	6%	4%	3%	6%	2%			6%	5%	4%	6%	5%	
Most	43%	45%	32%	45%	41%	43%	40%	43%	44%	45%	39%	46%	50%	53%	24% ↓	50%
SUB-TOTAL ALL/MOST	46%	45%	35%	52%	45%	47%	46%	45%	44%	45%	44%	51%	54%	58%	30% ↓	50%
Half	16%	24%	13%	14%	14%	23%	21%	14%	6%	21%	15%	10%	4%	11%	16%	33%
Some	28%	21%	45% ↑	23%	32%	20%	25%	31%	44%	27%	30%	28%	25%	22%	49% ↑	13%
None	2%			5%	3%		3%	2%			2%	5%	4%	3%		4%
Prefer not to say	2%	3%	3%		2%			5% ↑		3%	2%		4%	3%		
Don't know	6%	7%	3%	6%	4%	10%	5%	2%	6%	3%	7%	5%	11%	3%	5%	

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.0 Nutrient management

3.1 Nutrient management practices used

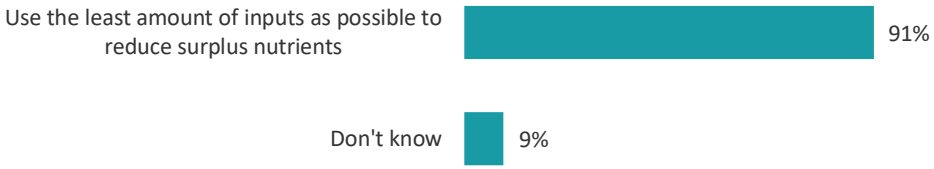
Overall 93% using prompted nutrient management practices

The vast majority of sugarcane (91%), horticulture (94%) and all three banana growers in our survey reported using at least one of the prompted nutrient management practices. A discussion of results is provided on the following page.

Q13. Thinking about your main commodity, which of the following nutrient management practices which can improve the quality of water in local waterways, do you use?

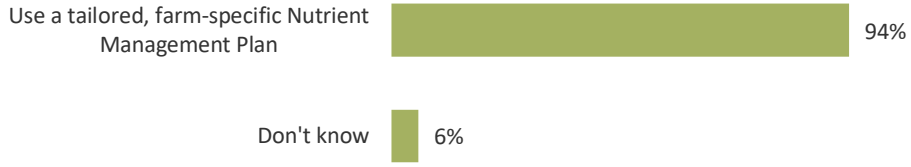
Sugarcane (n=23)

91% use



Horticulture (n=18)

94% use



Bananas (n=3)

100% use

^ Caution small cell size

3.1 Nutrient management practices used

Sugarcane	Horticulture	Bananas
91% of sugarcane producers reported that they use the least amount of inputs as possible to reduce surplus nutrients. 9% were unsure if they had used such practice.	94% of horticulture respondents indicated the use a tailored, farm-specific Nutrient Management Plan. 6% were unsure whether they were engaged in this practice.	All three banana growers stated that they ensure timing (frequency), placement and amount of fertiliser on crops is optimised to reduce surplus nutrients.
Funded Reef water quality program participation – impact on nutrient management practices used		
100% of funded program participants reported using the least amount of inputs as possible to reduce surplus nutrients, compared with 80% of non-participants.	Among funded program participants, 100% of horticulture growers reported using a tailored, farm-specific nutrient Management Plan, compared with 93% of non-participants.	Two of the three surveyed banana growers had participated in funded Reef water quality programs.

3.1 Nutrient management practices used by region and reef program

Q13 - Thinking about your main commodity, which of the following nutrient management practices which can improve the quality of water in local waterways, do you use? by Region & Reef Program

Column %			REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
		Total	Cape York	Wet Tropics	Burdekin	Mackay Whitsunday	Fitzroy	Burnett Mary	Yes	No /Not sure	Industry best mgt	Nutrient mgt	Sed. reduct./ gully remed.	Chemical improv't	Irrigation mgt
NET USE (n=44)		93%	100%	86%	100%	90%	100%	100%	100%	88%	100%	100%	100%	100%	100%
Sugarcane (n=23^)	Use the least amount of inputs as possible to reduce surplus nutrients	91%		89%	100%	89%		100%	100%	80%	100%	100%	100%	100%	100%
Bananas (n=3^)	Timing (frequency), placement and amount of fertiliser on crops is optimised to reduce surplus nutrients	100%		100%					100%	100%	100%	100%			
Horticulture (n=18^)	Use a tailored, farm-specific Nutrient Management Plan	94%	100%	50%	100%	100%	100%	100%	100%	93%	100%	100%	100%		100%
Do not use this practice but am planning to make changes															
Do not use this practice and am not planning to make any changes															
Don't know		7%		14%		10%				12%					

Results have been filtered by commodity (i.e. for sugarcane, percentages are based only on sugarcane respondents (n=23) etc)

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.1 Nutrient management practices used by demographics

Q13 - Thinking about your main commodity, which of the following nutrient management practices which can improve the quality of water in local waterways, do you use? by Demographics

Column %			AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
		Total	1971 or later	1961 to 1970	1960 or earlier	Male	Female	School education	Certificate / Diploma /Advanced Diploma	Bachelor degree or above	30 yrs or less	31-50 yrs	51+ yrs	100 or less	101-500	501-10,000	10,001+
NET USE (n=44)		93%	91%	100%	90%	92%	100%	94%	100%	83%	92%	96%	86%	90%	94%	100%	
Sugarcane (n=23^)	Use the least amount of inputs as possible to reduce surplus nutrients	91%	100%	100%	85%	89%	100%	90%	100%	67%	100%	92%	83%	80%	93%	100%	
Bananas (n=3^)	Timing (frequency), placement and amount of fertiliser on crops is optimised to reduce surplus nutrients	100%	100%	100%	100%	100%		100%	100%		100%	100%		100%	100%		
Horticulture (n=18^)	Use a tailored, farm-specific Nutrient Management Plan	94%	88%	100%	100%	93%	100%	100%	100%	100%	88%	100%	100%	92%	100%	100%	
Do not use this practice but am planning to make changes																	
Do not use this practice and am not planning to make any changes																	
Don't know		7%	9%		10%	8%		6%		17%	8%	4%	14%	10%	6%		

Results have been filtered by commodity (i.e. for sugarcane, percentages are based only on sugarcane respondents (n=23) etc)

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.2 Reasons for using nutrient management practices

The main reasons growers and producers do or would use the prompted nutrient management practices were:

- For financial reasons (57%)
- To maintain and/or improve productivity (43%)
- To improve soil health (34%)
- For the environment (30%).

25% were engaged in nutrient management practices for regulation compliance while 23% believed the practices would improve the farm for future land managers. Other reasons are displayed in the adjacent chart.

Sub-group findings

Commodity findings

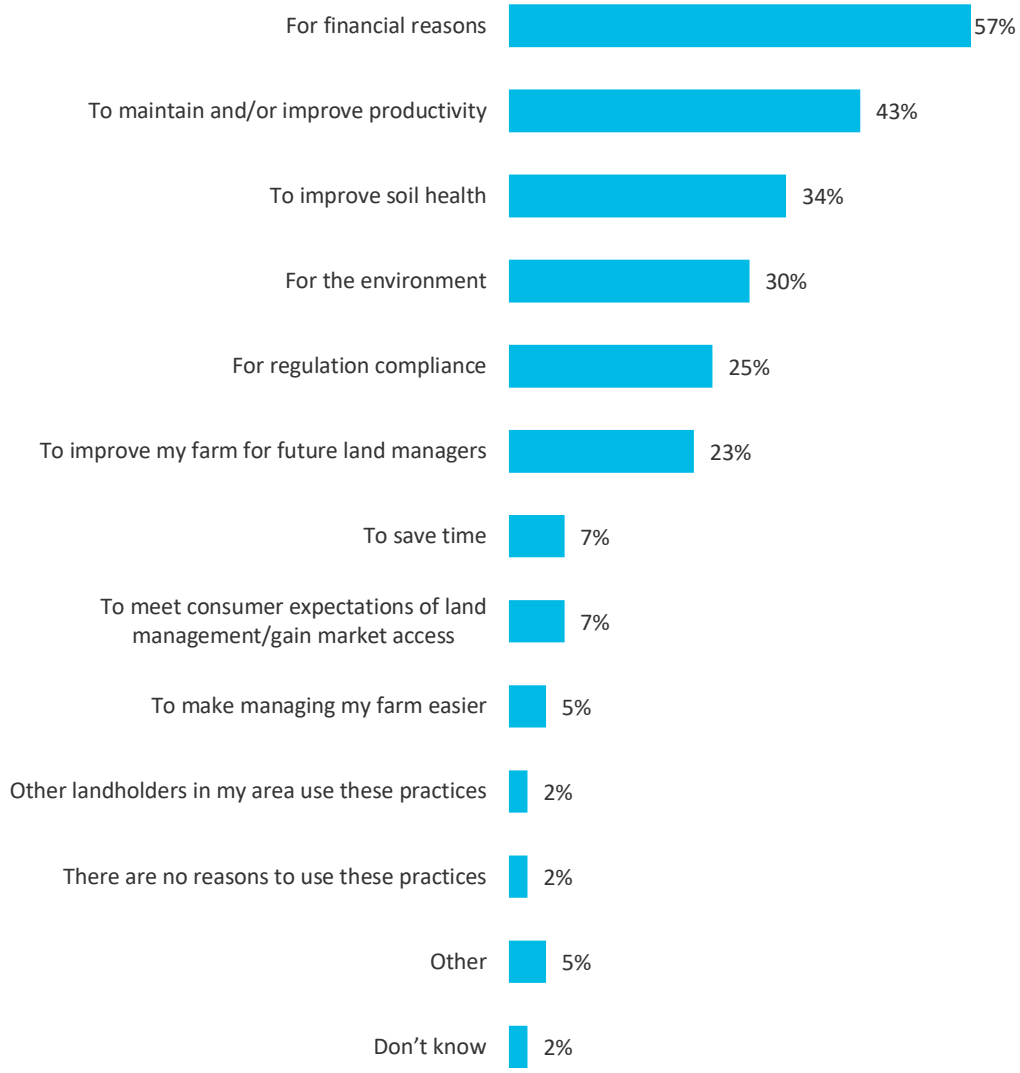
Regulation compliance was most commonly cited as a driver by sugarcane producers (35%) and banana producers (67%) (6% among horticulture growers).

Funded program participation findings

47% of funded program participants nominated regulation compliance as a reason for using nutrient management practices, compared to 8% among non-participants. Improving the farm for future land managers was most commonly mentioned among non-participants (32%, 11% among participants).

Q14 - What are the THREE MAIN reasons for why you would or do use these nutrient management practices?

Base: All relevant commodity producers (n=44)



3.2 Reasons for using nutrient management practices by commodity type

Q14 - What are the THREE MAIN reasons for why you would or do use these nutrient management practices? by COMMODITY

Column %		COMMODITY		
	Total n = 44	**Sugarcane n = 23^**	**Bananas n = 3^**	**Horticulture n = 18^**
For financial reasons	57%	65%		56%
To maintain and/or improve productivity	43%	35%	67%	50%
To improve soil health	34%	35%	67%	28%
For the environment	30%	22%	67%	33%
For regulation compliance	25%	35%	67%	6%
To improve my farm for future land managers	23%	26%	33%	17%
To save time	7%	9%		6%
To meet consumer expectations of land management/gain market access	7%	4%		11%
To make managing my farm easier	5%	9%		
Other landholders in my area use these practices	2%			6%
There are no reasons to use these practices	2%			6%
Other	5%	4%		6%
Don't know	2%			6%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.2 Reasons for using nutrient management practices by region and reef program

Q14 - What are the THREE MAIN reasons for why you would or do use these nutrient management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 44	Cape York n = 2^	Wet Tropics n = 14^	Burdekin n = 5^	Mackay Whitsunday n = 10^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 19^	No /Not sure n = 25^	Industry best mgt n = 19^	Nutrient mgt n = 12^	Sed. reduct./ gully remed. n = 6^	Chemical improv't n = 6^	Irrigation mgt n = 7^
For financial reasons	57%	100%	36%	80%	80%		50%	68%	48%	68%	58%	67%	67%	71%
To maintain and/or improve productivity	43%	50%	21%	80%	50%		50%	47%	40%	47%	42%	33%	50%	57%
To improve soil health	34%	50%	36%		40%		42%	32%	36%	32%	17%	17%		
For the environment	30%		36%	40%		100%	42%	32%	28%	32%	33%	33%		43%
For regulation compliance	25%		43%	20%	40%			47%	8%	47%	67%	33%	83%	29%
To improve my farm for future land managers	23%		14%	20%	40%		25%	11%	32%	11%	8%	17%	17%	29%
To save time	7%		14%	20%				5%	8%	5%				
To meet consumer expectations of land management/gain market access	7%		7%		10%		8%	5%	8%	5%	8%	17%	17%	
To make managing my farm easier	5%			20%	10%				8%					
Other landholders in my area use these practices	2%						8%		4%					
There are no reasons to use these practices	2%						8%		4%					
Other	5%				10%	100%		5%	4%	5%	8%	17%		14%
Don’t know	2%		7%						4%					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.2 Reasons for using nutrient management practices by demographics

Q14 - What are the THREE MAIN reasons for why you would or do use these nutrient management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 44	1971 or later n = 11^	1961 to 1970 n = 12^	1960 or earlier n = 20^	Male n = 36	Female n = 7^	School education n = 16^	Certificate/ Diploma /Advanced Diploma n = 19^	Bachelor degree or above n = 6^	30 yrs or less n = 13^	31-50 yrs n = 23^	51+ yrs n = 7^	100 or less n = 20^	101-500 n = 18^	501-10,000 n = 5^	10,001+ n = 0^
For financial reasons	57%	55%	67%	50%	61%	43%	50%	74%	33%	62%	65%	29%	50%	67%	60%	
To maintain and/or improve productivity	43%	55%	42%	40%	44%	43%	31%	58%	50%	62%	39%	29%	40%	50%	40%	
To improve soil health	34%	45%	25%	35%	36%	29%	25%	42%	33%	46%	30%	14%	30%	33%	40%	
For the environment	30%	36%	42%	15%	33%	14%	19%	32%	33%	38%	26%	29%	40%	22%	20%	
For regulation compliance	25%	9%	42%	25%	25%	14%	25%	32%	17%	15%	30%	29%	10%	39%	40%	
To improve my farm for future land managers	23%		33%	30%	22%	29%	31%	26%			30%	29%	30%	17%		
To save time	7%	9%		5%	8%		6%		17%		9%	14%		17%		
To meet consumer expectations of land management/gain market access	7%		17%	5%	8%		6%	11%			9%	14%	10%	6%		
To make managing my farm easier	5%			10%	3%	14%	6%	5%			9%			6%	20%	
Other landholders in my area use these practices	2%			5%	3%		6%				4%		5%			
There are no reasons to use these practices	2%			5%	3%		6%				4%		5%			
Other	5%	9%		5%	6%		6%		17%	8%		14%	5%		20%	
Don't know	2%	9%			3%					8%			5%			

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.3 Challenges with using nutrient management practices

The most commonly mentioned main challenges or barriers to using the prompted nutrient management practices were:

- Financial (48%)
- Weather and seasonal issues (43%)
- Additional administrative work (23%).

14% of respondents were limited by the availability of contractors or were concerned about production.

16% indicated there were no challenges of barriers to using nutrient management practices.

Sub-group findings

Commodity findings

Weather and seasonal issues was the top challenge among sugarcane producers (52%), while financial reasons was the most common challenge nominated by horticulture producers (56%).

Regional findings

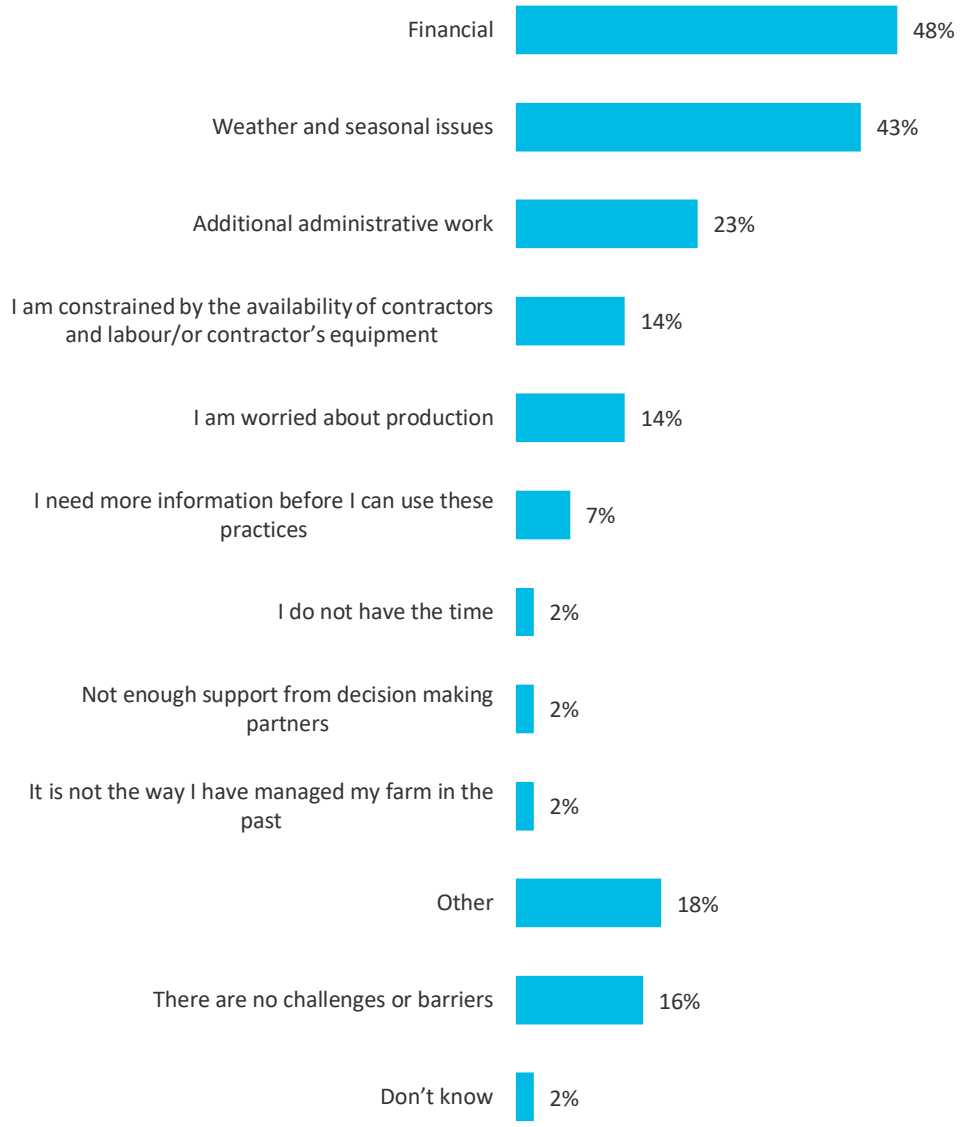
Weather barriers were most commonly mentioned by those in the Wet Tropics (50%) or Mackay Whitsunday (50%) regions.

Funded program participation findings

21% of funded Reef water quality program participants nominated concerns about production as a barrier to using nutrient management practices (compared to 8% among non-participants).

Q15 - What are the THREE MAIN challenges or barriers to starting or continuing to use these nutrient management practices?

Base: All relevant commodity producers (n=44)



3.3 Challenges with using nutrient management practices by commodity type

Q15 - What are the THREE MAIN challenges or barriers to starting or continuing to use these nutrient management practices? by COMMODITY

Column %		COMMODITY		
	Total n = 44	**Sugarcane n = 23^**	**Bananas n = 3^**	**Horticulture n = 18^**
Financial	48%	43%	33%	56%
Weather and seasonal issues	43%	52%	33%	33%
Additional administrative work	23%	17%	33%	28%
I am constrained by the availability of contractors and labour/or contractor's equipment	14%	22%		6%
I am worried about production	14%	17%	67%	
I need more information before I can use these practices	7%	4%		11%
I do not have the time	2%	4%		
Not enough support from decision making partners	2%	4%		
It is not the way I have managed my farm in the past	2%		33%	
Other	18%	26%		11%
There are no challenges or barriers	16%	17%		17%
Don't know	2%			6%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.3 Challenges with using nutrient management practices by region and reef program

Q15 - What are the THREE MAIN challenges or barriers to starting or continuing to use these nutrient management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 44	Cape York n = 2^	Wet Tropics n = 14^	Burdekin n = 5^	Mackay Whitsunday n = 10^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 19^	No /Not sure n = 25^	Industry best mgt n = 19^	Nutrient mgt n = 12^	Sed. reduct./ gully remed. n = 6^	Chemical improv't n = 6^	Irrigation mgt n = 7^
Financial	48%	100%	43%	20%	50%		58%	42%	52%	42%	42%	33%	50%	29%
Weather and seasonal issues	43%		50%	40%	50%		42%	53%	36%	53%	42%	17%	50%	43%
Additional administrative work	23%	50%	21%	40%	20%		17%	21%	24%	21%	25%		17%	14%
I am constrained by the availability of contractors and labour/or contractor's equipment	14%	50%	7%	20%	30%			16%	12%	16%	17%	17%	17%	14%
I am worried about production	14%		21%	20%	20%			21%	8%	21%	33%	17%	50%	29%
I need more information before I can use these practices	7%			20%			17%	5%	8%	5%				14%
I do not have the time	2%				10%				4%					
Not enough support from decision making partners	2%				10%			5%		5%	8%		17%	
It is not the way I have managed my farm in the past	2%		7%						4%					
Other	18%		21%	20%	20%	100%	8%	26%	12%	26%	25%	33%		29%
There are no challenges or barriers	16%		14%		20%		25%	16%	16%	16%	17%	50%	33%	14%
Don't know	2%		7%						4%					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.3 Challenges with using nutrient management practices by demographics

Q15 - What are the THREE MAIN challenges or barriers to starting or continuing to use these nutrient management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 44	1971 or later n = 11^	1961 to 1970 n = 12^	1960 or earlier n = 20^	Male n = 36	Female n = 7^	School education n = 16^	Certificate/ Diploma /Advanced Diploma n = 19^	Bachelor degree or above n = 6^	30 yrs or less n = 13^	31-50 yrs n = 23^	51+ yrs n = 7^	100 or less n = 20^	101-500 n = 18^	501-10,000 n = 5^	10,001+ n = 0^
Financial	48%	45%	42%	50%	50%	29%	38%	58%	50%	46%	52%	43%	50%	56%	20%	
Weather and seasonal issues	43%	45%	50%	35%	44%	29%	25%	53%	50%	46%	39%	57%	40%	50%	40%	
Additional administrative work	23%	36%	33%	10%	28%		25%	26%	17%	31%	17%	29%	10%	39%	20%	
I am constrained by the availability of contractors and labour/or contractor's equipment	14%	9%	25%	10%	14%	14%	13%	16%	17%	8%	17%	14%		22%	40%	
I am worried about production	14%		25%	15%	14%		25%	11%		8%	13%	29%	5%	28%		
I need more info-rmation before I can use these practices	7%	9%	8%	5%	8%			16%		15%	4%		15%			
I do not have the time	2%			5%	3%		6%					14%	5%			
Not enough support from decision making partners	2%			5%	3%			5%			4%			6%		
It is not the way I have managed my farm in the past	2%			5%	3%			5%			4%		5%			
Other	18%	18%	25%	15%	22%		19%	11%	50%	15%	17%	29%	15%	17%	40%	
There are no challenges or barriers	16%		17%	25%	11%	43%	19%	16%	17%	8%	13%	29%	20%	6%	20%	
Don't know	2%	9%			3%					8%			5%			

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.4 Expectations of positive result from nutrient management practices

91% of sugarcane, horticulture and banana producers in our survey indicated they expect at least some positive result from using the prompted nutrient management practices. 55% expect a large or very large result. 2% did not expect any positive outcomes while 7% were unable to say.

Sub-group findings

Commodity findings

There were no significant differences by commodity, though it appears that those in horticulture (78%) were the commodity segment most likely to expect a large or very large positive result (55% average).

Funded program participation findings

42% of program participants and 64% of non-participants were expecting a large or very large positive result.

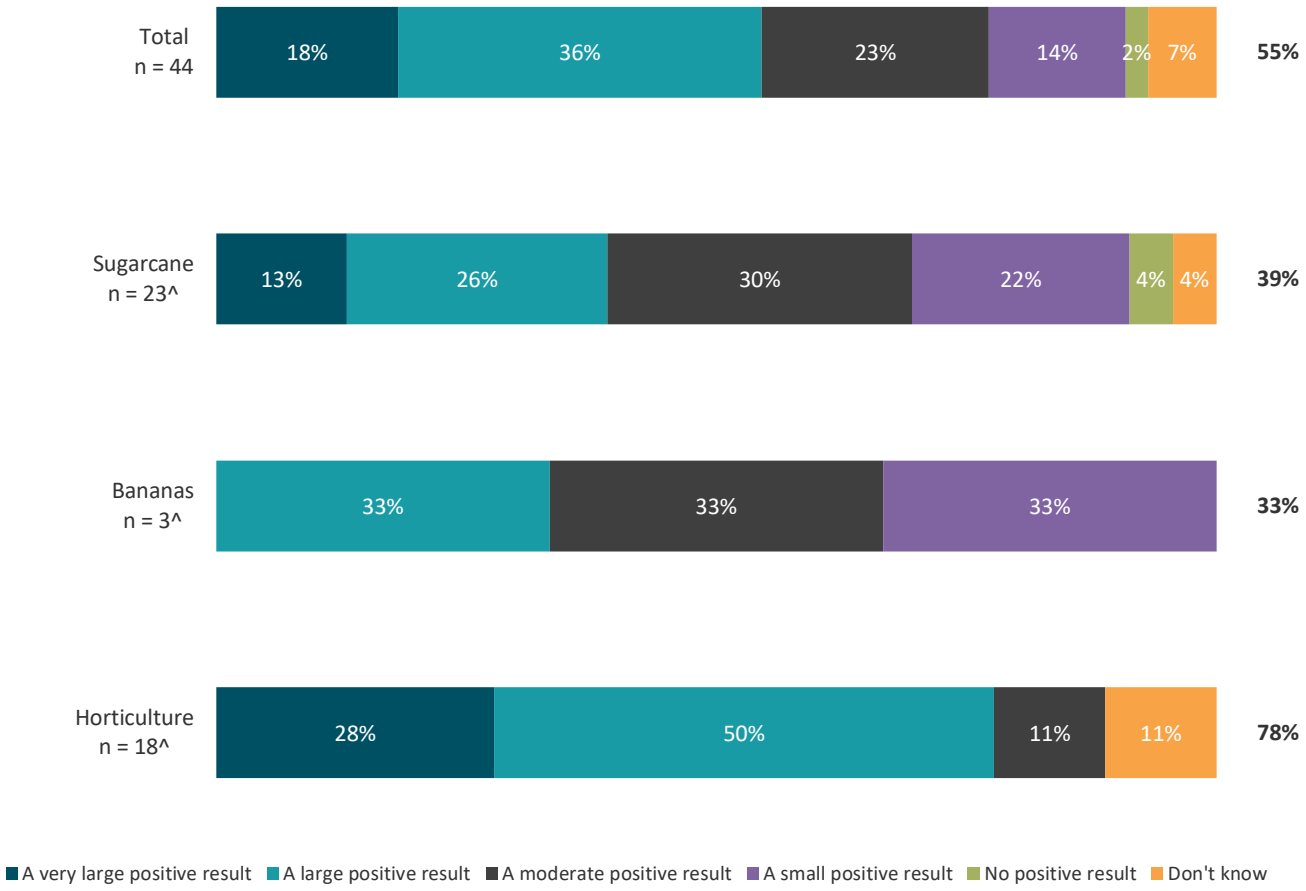
Other findings

Females (86%) appeared more likely than males (50%) to be anticipating a large or very large positive result from these nutrient management practices.

Expectations for a large or very large positive result appeared to decrease as the time spent in agriculture increased (62% among those operating for 30 years or less, 57% 31-50 years in operation, 29% 51 years or longer in operation).

Q16 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these nutrient management practices?

Base: All relevant commodity producers



^ Caution small cell size

3.4 Expectations of positive result from nutrient management practices by region and reef program

Q16 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these nutrient management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 44	Cape York n = 2^	Wet Tropics n = 14^	Burdekin n = 5^	Mackay Whitsunday n = 10^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 19^	No /Not sure n = 25^	Industry best mgt n = 19^	Nutrient mgt n = 12^	Sed. reduct./ gully remed. n = 6^	Chemical improv't n = 6^	Irrigation mgt n = 7^
A very large positive result	18%		7%	20%	10%		42%	16%	20%	16%				14%
A large positive result	36%	100%	29%	20%	30%		50%	26%	44%	26%	17%	33%	33%	29%
VERY LARGE/LARGE	55%	100%	36%	40%	40%		92%	42%	64%	42%	17%	33%	33%	43%
A moderate positive result	23%		29%	20%	30%	100%	8%	37%	12%	37%	58%	50%	50%	29%
A small positive result	14%		14%	20%	30%			11%	16%	11%	17%	17%	17%	14%
MODERATE/SMALL	36%		43%	40%	60%	100%	8%	47%	28%	47%	75%	67%	67%	43%
NET POSITIVE	91%	100%	79%	80%	100%	100%	100%	89%	92%	89%	92%	100%	100%	86%
No positive result	2%			20%				5%		5%	8%			14%
Don't know	7%		21%					5%	8%	5%				

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.4 Expectations of positive result from nutrient management practices by demographics

Q16 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these nutrient management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 44	1971 or later n = 11^	1961 to 1970 n = 12^	1960 or earlier n = 20^	Male n = 36	Female n = 7^	School education n = 16^	Certificate/ Diploma /Advanced Diploma n = 19^	Bachelor degree or above n = 6^	30 yrs or less n = 13^	31-50 yrs n = 23^	51+ yrs n = 7^	100 or less n = 20^	101-500 n = 18^	501-10,000 n = 5^	10,001+ n = 0^
A very large positive result	18%	9%	33%	15%	14%	43%	25%	21%		8%	26%	14%	25%	11%	20%	
A large positive result	36%	55%	8%	45%	36%	43%	31%	47%	17%	54%	30%	14%	40%	22%	60%	
VERY LARGE/LARGE	55%	64%	42%	60%	50%	86%	56%	68%	17%	62%	57%	29%	65%	33%	80%	
A moderate positive result	23%	18%	25%	25%	22%	14%	6%	26%	67%	23%	22%	29%	15%	33%	20%	
A small positive result	14%		25%	15%	17%		25%	5%	17%		13%	43%	10%	22%		
MODERATE/SMALL	36%	18%	50%	40%	39%	14%	31%	32%	83%	23%	35%	71%	25%	56%	20%	
NET POSITIVE	91%	82%	92%	100%	89%	100%	88%	100%	100%	85%	91%	100%	90%	89%	100%	
No positive result	2%	9%			3%		6%			8%				6%		
Don't know	7%	9%	8%		8%		6%			8%	9%		10%	6%		

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

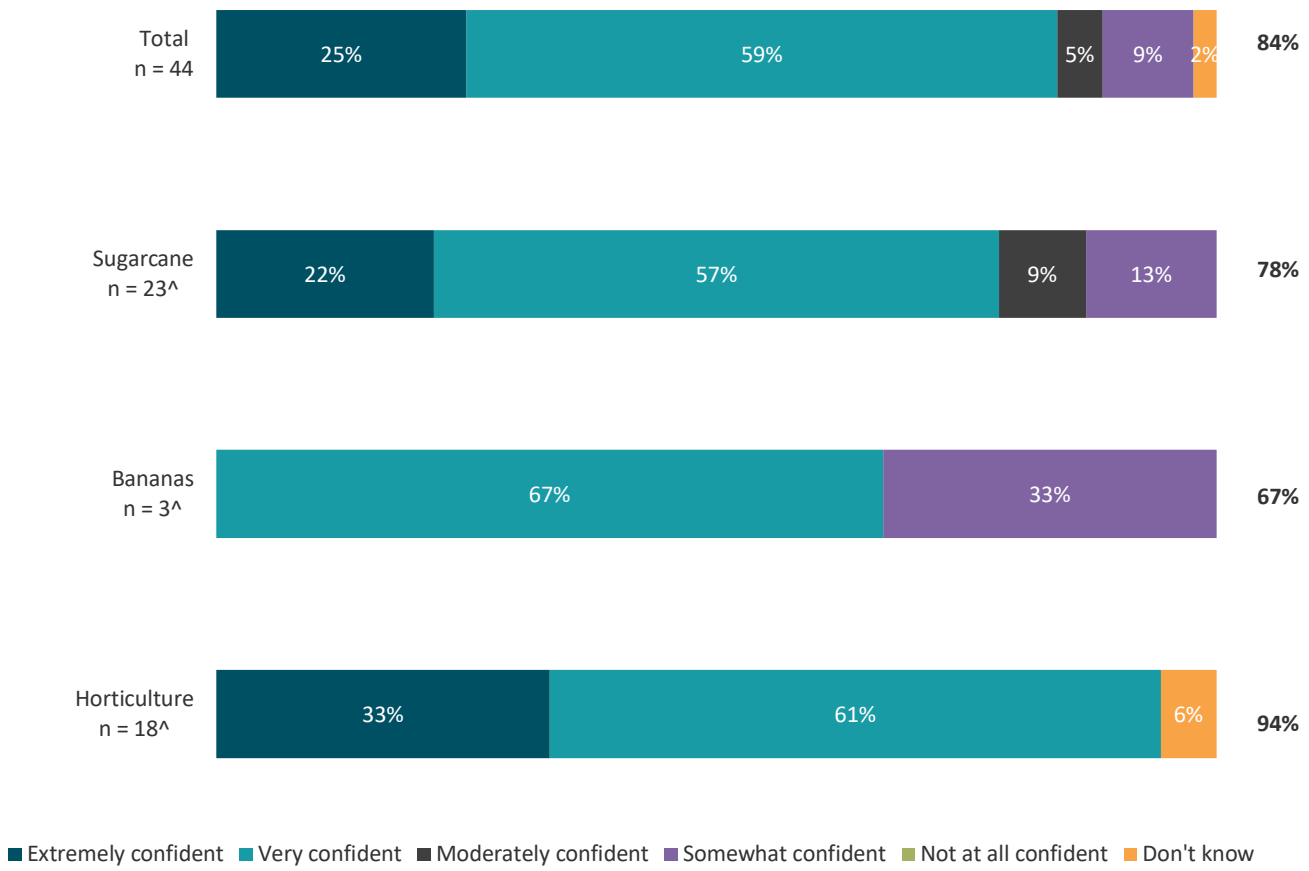
3.5 Confidence in ability to use nutrient management practices

98% of sugarcane, horticulture and banana producers in our survey were confident in their ability to use the prompted nutrient management practices. 84% were very or extremely confident while 14% were moderately or somewhat confident in their abilities. No respondents indicated they were not at all confident, 2% were unable to answer this question.

Sub-group findings
Findings were relatively consistent across sub-groups.

Q17 - How confident are you in your ability to use these nutrient management practices?

Base: All relevant commodity producers



^ Caution small cell size

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

3.5 Confidence in ability to use nutrient management practices by region and reef program

Q17 - How confident are you in your ability to use these nutrient management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 44	Cape York n = 2^	Wet Tropics n = 14^	Burdekin n = 5^	Mackay Whitsunday n = 10^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 19^	No /Not sure n = 25^	Industry best mgt n = 19^	Nutrient mgt n = 12^	Sed. reduct./ gully remed. n = 6^	Chemical improv't n = 6^	Irrigation mgt n = 7^
Extremely confident	25%	50%	29%		20%		33%	32%	20%	32%	25%	33%	50%	43%
Very confident	59%	50%	57%	40%	60%	100%	67%	53%	64%	53%	50%	67%	33%	29%
EXTREMELY/VERY	84%	100%	86%	40%	80%	100%	100%	84%	84%	84%	75%	100%	83%	71%
Moderately confident	5%			40%				11%		11%	17%		17%	29%
Somewhat confident	9%		7%	20%	20%			5%	12%	5%	8%			
MODERATE/ SOMEWHAT	14%		7%	60%	20%			16%	12%	16%	25%		17%	29%
NET CONFIDENT	98%	100%	93%	100%	100%	100%	100%	100%	96%	100%	100%	100%	100%	100%
Not at all confident														
Don't know	2%		7%						4%					

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.5 Confidence in ability to use nutrient management practices by demographics

Q17 - How confident are you in your ability to use these nutrient management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 44	1971 or later n = 11^	1961 to 1970 n = 12^	1960 or earlier n = 20^	Male n = 36	Female n = 7^	School education n = 16^	Certificate/ Diploma /Advanced Diploma n = 19^	Bachelor degree or above n = 6^	30 yrs or less n = 13^	31-50 yrs n = 23^	51+ yrs n = 7^	100 or less n = 20^	101-500 n = 18^	501-10,000 n = 5^	10,001+ n = 0^
Extremely confident	25%	18%	42%	15%	19%	43%	38%	21%		15%	26%	43%	25%	28%	20%	
Very confident	59%	64%	33%	75%	61%	57%	38%	68%	100%	62%	65%	29%	60%	50%	80%	
EXTREMELY/VERY	84%	82%	75%	90%	81%	100%	75%	89%	100%	77%	91%	71%	85%	78%	100%	
Moderately confident	5%	9%	8%		6%		6%	5%		15%				11%		
Somewhat confident	9%		17%	10%	11%		19%	5%			9%	29%	10%	11%		
MODERATE/ SOMEWHAT	14%	9%	25%	10%	17%		25%	11%		15%	9%	29%	10%	22%		
NET CONFIDENT	98%	91%	100%	100%	97%	100%	100%	100%	100%	92%	100%	100%	95%	100%	100%	
Not at all confident																
Don't know	2%	9%			3%					8%			5%			

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.6 Respondent estimate of number of landholders using nutrient management practices

55% of producers in our survey felt that most or all landholders they know or know of are using at least one of the prompted nutrient management practices. 30% felt that some or half are using such practices, while 16% declined to answer or were unsure.

Sub-group findings

Commodity findings

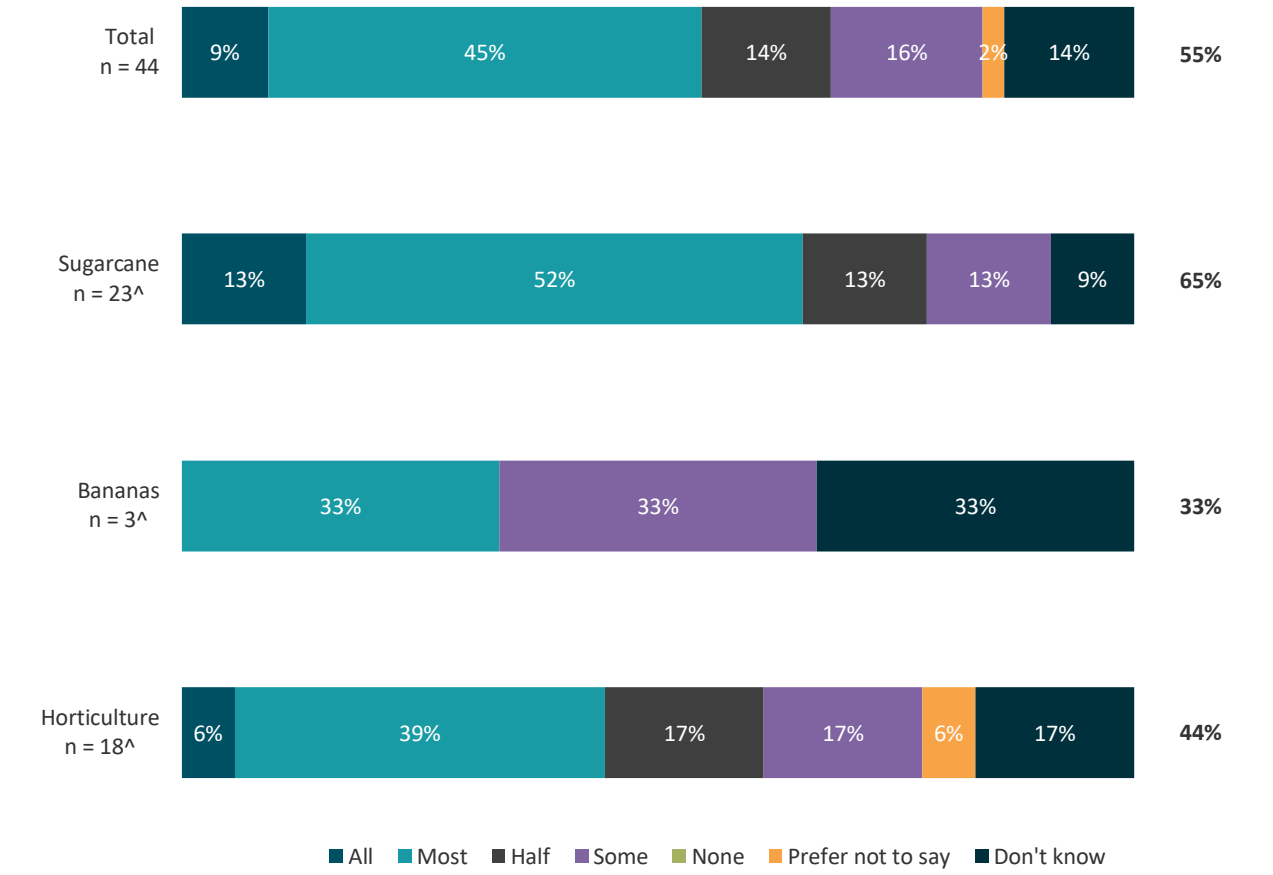
Nutrient management practices were most likely to be considered widespread by sugarcane producers (65%). 44% of those involved in horticulture and 33% of banana famers thought nutrient management was practiced by most or all landholders.

Regional findings

Producers in the Wet Tropics region were the most likely to think that most or all landholders are using soil management practices (71%).

Q18 - Thinking about the landholders you know, or know of, what proportion do you think are using these nutrient management practices?

Base: All relevant commodity producers



^ Caution small cell size

3.6 Respondent estimate of number of landholders using nutrient management practices by region and reef program

Q18 - Thinking about the landholders you know, or know of, what proportion do you think are using these nutrient management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 44	Cape York n = 2^	Wet Tropics n = 14^	Burdekin n = 5^	Mackay Whitsunday n = 10^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 19^	No /Not sure n = 25^	Industry best mgt n = 19^	Nutrient mgt n = 12^	Sed. reduct./ gully remed. n = 6^	Chemical improv't n = 6^	Irrigation mgt n = 7^
All	9%		7%	20%	20%			16%	4%	16%	25%	33%	33%	29%
Most	45%	50%	64%	40%	20%		50%	42%	48%	42%	33%	50%	33%	29%
ALL/MOST	55%	50%	71%	60%	40%		50%	58%	52%	58%	58%	83%	67%	57%
Half	14%	50%		40%	10%	100%	8%	16%	12%	16%	25%	17%	17%	29%
Some	16%		7%		40%		17%	21%	12%	21%	17%		17%	14%
None														
Prefer not to say	2%						8%	5%		5%				
Don't know	14%		21%		10%		17%		24%					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

3.6 Respondent estimate of number of landholders using nutrient management practices by demographics

Q18 - Thinking about the landholders you know, or know of, what proportion do you think are using these nutrient management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 44	1971 or later n = 11^	1961 to 1970 n = 12^	1960 or earlier n = 20^	Male n = 36	Female n = 7^	School education n = 16^	Certificate/ Diploma /Advanced Diploma n = 19^	Bachelor degree or above n = 6^	30 yrs or less n = 13^	31-50 yrs n = 23^	51+ yrs n = 7^	100 or less n = 20^	101-500 n = 18^	501-10,000 n = 5^	10,001+ n = 0^
All	9%	9%	17%	5%	11%		19%	5%		8%	13%		5%	17%		
Most	45%	45%	33%	50%	44%	43%	50%	42%	33%	46%	39%	57%	45%	44%	40%	
ALL/MOST	55%	55%	50%	55%	56%	43%	69%	47%	33%	54%	52%	57%	50%	61%	40%	
Half	14%	18%	17%	10%	11%	29%	6%	16%	33%	23%	13%		5%	17%	40%	
Some	16%	9%	25%	15%	17%	14%	13%	26%		8%	17%	29%	20%	11%	20%	
None																
Prefer not to say	2%	9%			3%			5%		8%				6%		
Don't know	14%	9%	8%	20%	14%	14%	13%	5%	33%	8%	17%	14%	25%	6%		

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.0 Irrigation management

4.1 Irrigation management practices used

All horticulture growers and 80% of sugarcane growers (who irrigate *) reported using at least one of the irrigation management practices.

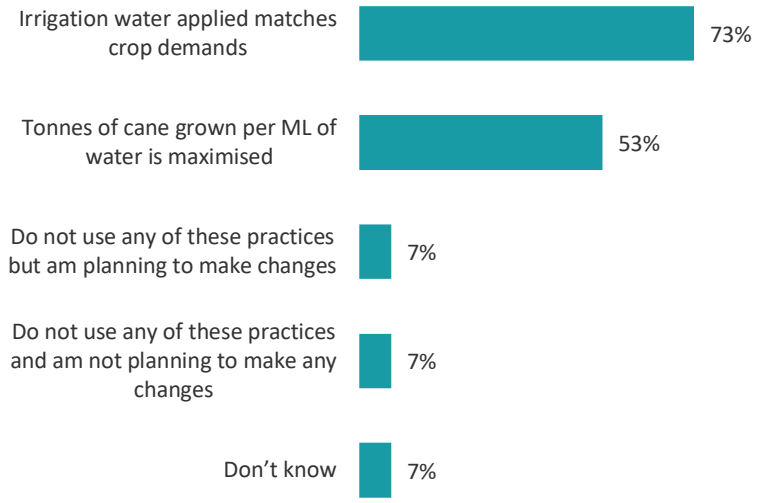
* Those who do not irrigate could select 'not applicable' and were removed from the analysis on these questions.

Overall 91% using prompted irrigation management practices

Q19. Thinking about your main commodity, which of the following irrigation management practices which can improve the quality of water in local waterways, do you use?

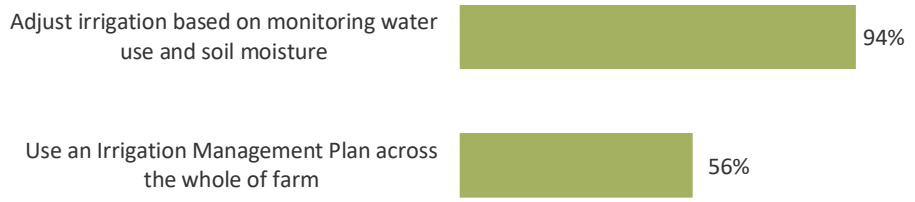
Sugarcane (n=15^)

80% use



Horticulture (n=18^)

100% use



35% of sugarcane producers did not consider irrigation management applicable. These respondents were removed from the irrigation management results.
^ Caution small cell size

4.1 Irrigation management practices used

Sugarcane	Horticulture
73% of sugarcane producers reported they ensure that irrigation water applied matches crop demands. 53% indicated they maximise the tonnes of cane grown per ML. 7% were not using any of the prompted practice, but were planning to make changes, while 7% were not employing the practice and not planning to make changes.	94% of horticulture respondents reported that they adjust irrigation based on monitoring water use and soil moisture. 56% agreed that they use an Irrigation Management Plan across the whole of farm.
Funded Reef water quality program participation – impact on irrigation management practices used	
Findings were relatively consistent when analysing program participants and non-participants.	Findings were relatively consistent when analysing program participants and non-participants.

4.1 Irrigation management practices used by region and reef program

Q19 - Thinking about your main commodity, which of the following irrigation management practices which can improve the quality of water in local waterways, do you use? by Region & Reef Program

Column %			REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
		Total	Cape York	Wet Tropics	Burdekin	Mackay Whitsunday	Fitzroy	Burnett Mary	Yes	No /Not sure	Industry best mgt	Nutrient mgt	Sed. reduct./ gully remed.	Chemical improv't	Irrigation mgt
NET USE (n=33)		91%	100%	50%	100%	89%	100%	100%	77%	100%	77%	83%	100%	100%	100%
Sugarcane (n=15^)	Irrigation water applied matches crop demands	73%			100%	75%		100%	67%	83%	67%	80%	100%	100%	100%
	Tonnes of cane grown per ML of water is maximised	53%			75%	50%		100%	44%	67%	44%	40%	67%	67%	33%
Horticulture (n=18^)	Adjust irrigation based on monitoring water use and soil moisture	94%	50%	100%	100%	100%	100%	100%	100%	93%	100%	100%	100%		100%
	Use an Irrigation Management Plan across the whole of farm	56%	100%	50%			100%	55%	50%	57%	50%	100%	100%		67%
Do not use any of these practices but am planning to make changes		3%				11%			8%		8%	17%			
Do not use any of these practices and am not planning to make any changes		3%		25%					8%		8%				
Don't know		3%		25%					8%		8%				

Results have been filtered by commodity (i.e. for sugarcane, percentages are based only on sugarcane respondents (n=15) etc)

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.1 Irrigation management practices used by demographics

Q19 - Thinking about your main commodity, which of the following irrigation management practices which can improve the quality of water in local waterways, do you use? by Demographics

Column %			AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
		Total	1971 or later	1961 to 1970	1960 or earlier	Male	Female	School education	Certificate/ Diploma /Advanced Diploma	Bachelor degree or above	30 yrs or less	31-50 yrs	51+ yrs	100 or less	101-500	501-10,000	10,001+
NET USE (n=33)		91%	100%	80%	100%	89%	100%	92%	94%	100%	100%	84%	100%	100%	75%	100%	
Sugarcane (n=15^)	Irrigation water applied matches crop demands	73%	100%	67%	86%	71%	100%	71%	86%		100%	70%	50%	100%	56%	100%	
	Tonnes of cane grown per ML of water is maximised	53%		50%	71%	50%	100%	43%	71%		67%	50%	50%	75%	33%	100%	
Horticulture (n=18^)	Adjust irrigation based on monitoring water use and soil moisture	94%	88%	100%	100%	100%	75%	100%	89%	100%	88%	100%	100%	92%	100%	100%	
	Use an Irrigation Management Plan across the whole of farm	56%	75%	25%	50%	64%	25%	20%	78%	33%	88%	22%	100%	54%	33%	100%	
Do not use any of these practices but am planning to make changes		3%		10%		4%			6%			5%			8%		
Do not use any of these practices and am not planning to make any changes		3%		10%		4%		8%				5%			8%		
Don't know		3%				4%						5%			8%		

Results have been filtered by commodity (i.e. for sugarcane, percentages are based only on sugarcane respondents (n=15) etc)
^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.2 Reasons for using irrigation management practices

The main reasons growers and producers do or would use the prompted irrigation management practices were:

- For financial reasons (64%)
- To maintain and/or improve productivity (48%)
- To improve soil health (30%)
- For the environment (24%).

15% felt irrigation management practices would make managing the farm easier. 12% were engaged in irrigation management practices for regulation compliance while 12% believed the practices would improve the farm for future land managers. Other reasons are displayed in the adjacent chart.

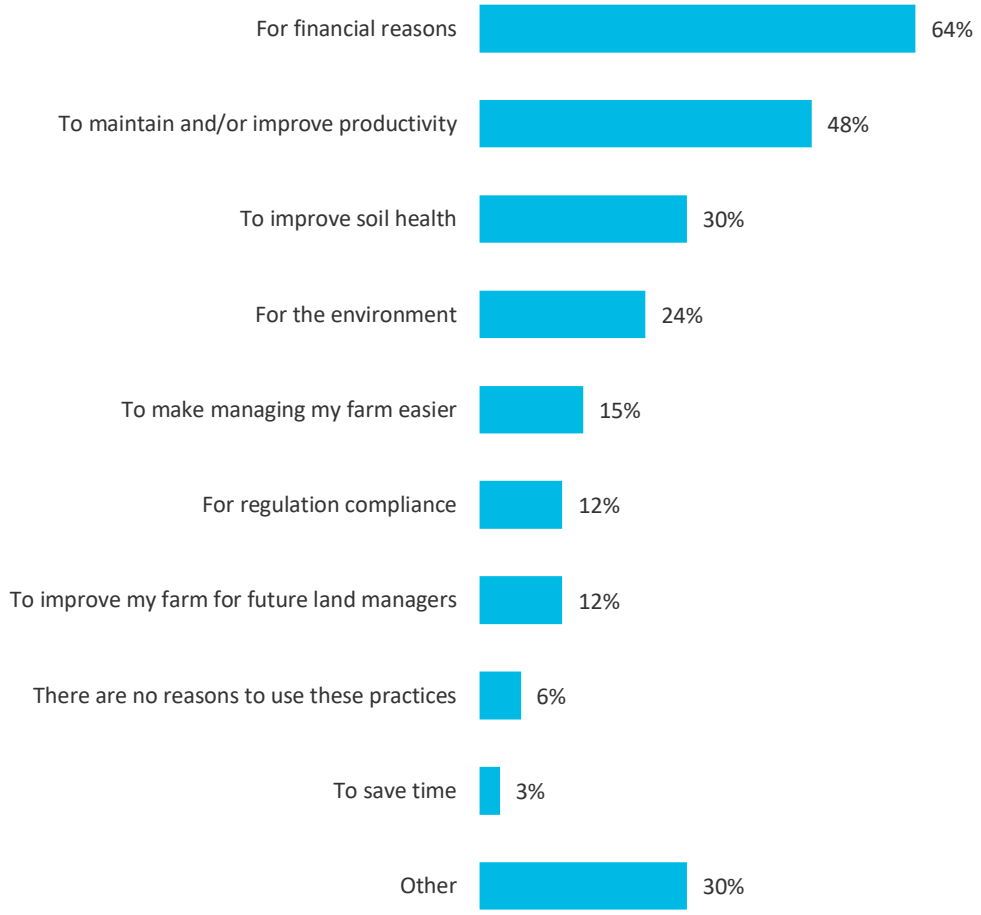
Sub-group findings

Commodity findings

Financial reasons were most commonly cited as a driver by sugarcane producers (73%) (56% among horticulture). 33% of horticulture growers rated the environment as a driver to using irrigation management practices (in comparison to 13% among sugarcane producers).

Q20 - What are the THREE MAIN reasons for why you would or do use these irrigation management practices?

Base: All relevant commodity producers (n=33)



4.2 Reasons for using irrigation management practices by commodity type

Q20 - What are the THREE MAIN reasons for why you would or do use these irrigation management practices? by COMMODITY

Column %		COMMODITY	
	Total n = 33	Sugarcane n = 15^	Horticulture n = 18^
For financial reasons	64%	73%	56%
To maintain and/or improve productivity	48%	47%	50%
To improve soil health	30%	33%	28%
For the environment	24%	13%	33%
To make managing my farm easier	15%	13%	17%
For regulation compliance	12%	20%	6%
To improve my farm for future land managers	12%	13%	11%
There are no reasons to use these practices	6%	13%	
To save time	3%	7%	
Other	30%	20%	39%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.2 Reasons for using irrigation management practices by region and reef program

Q20 - What are the THREE MAIN reasons for why you would or do use these irrigation management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 33	Cape York n = 2^	Wet Tropics n = 4^	Burdekin n = 5^	Mackay Whitsunday n = 9^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 13^	No /Not sure n = 20^	Industry best mgt n = 13^	Nutrient mgt n = 6^	Sed. reduct./ gully remed. n = 4^	Chemical improv't n = 3^	Irrigation mgt n = 6^
For financial reasons	64%	50%	50%	80%	78%		58%	69%	60%	69%	83%	75%	100%	67%
To maintain and/or improve productivity	48%	50%		40%	67%		58%	54%	45%	54%	33%	50%	67%	67%
To improve soil health	30%	100%			44%		33%	23%	35%	23%	33%	25%	33%	
For the environment	24%	50%		20%	22%		33%	23%	25%	23%	17%			33%
To make managing my farm easier	15%		25%		22%		17%	8%	20%	8%	17%	25%	33%	17%
For regulation compliance	12%		25%	40%	11%			15%	10%	15%	33%	25%	67%	17%
To improve my farm for future land managers	12%				22%		17%	8%	15%	8%				17%
There are no reasons to use these practices	6%		50%					15%		15%				
To save time	3%			20%					5%					
Other	30%		25%	40%	22%	100%	33%	15%	40%	15%	17%	50%		17%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.2 Reasons for using irrigation management practices by demographics

Q20 - What are the THREE MAIN reasons for why you would or do use these irrigation management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 33	1971 or later n = 9^	1961 to 1970 n = 10^	1960 or earlier n = 13^	Male n = 28^	Female n = 5^	School education n = 12^	Certificate/ Diploma /Advanced Diploma n = 16^	Bachelor degree or above n = 3^	30 yrs or less n = 11^	31-50 yrs n = 19^	51+ yrs n = 3^	100 or less n = 17^	101-500 n = 12^	501-10,000 n = 4^	10,001+ n = 0^
For financial reasons	64%	78%	60%	62%	68%	40%	75%	69%		82%	58%	33%	47%	83%	75%	
To maintain and/or improve productivity	48%	44%	50%	54%	43%	80%	33%	63%	67%	64%	42%	33%	47%	42%	75%	
To improve soil health	30%	33%	20%	38%	29%	40%	17%	44%	33%	27%	37%		24%	33%	50%	
For the environment	24%	22%	40%	15%	21%	40%		44%	33%	18%	26%	33%	41%	8%		
To make managing my farm easier	15%		30%	15%	11%	40%	33%		33%		21%	33%	18%	17%		
For regulation compliance	12%		30%	8%	14%		8%	19%		9%	16%		12%	17%		
To improve my farm for future land managers	12%		20%	15%	11%	20%	17%	13%			11%	67%	18%	8%		
There are no reasons to use these practices	6%		10%		7%		8%				11%			17%		
To save time	3%		10%		4%			6%			5%		6%			
Other	30%	33%	10%	46%	32%	20%	33%	25%	33%	36%	21%	67%	41%	8%	50%	

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.3 Challenges with using irrigation management practices

The main challenges or barriers to using the prompted irrigation management practices were:

- Financial (48%)
- Weather and seasonal issues (30%)
- Constraints related to availability of contractors/equipment (18%).

12% of respondents were concerned about production.

24% indicated there were no challenges of barriers to using irrigation management practices.

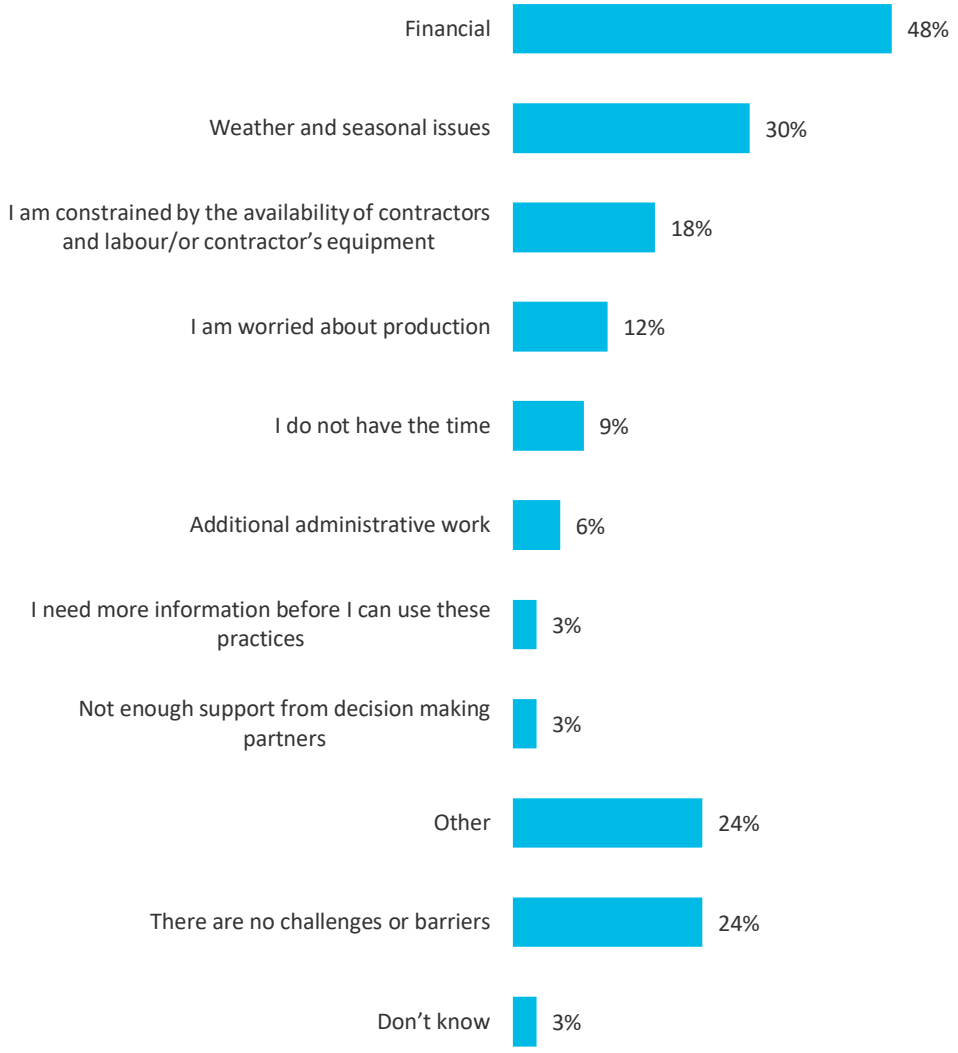
Sub-group findings

Commodity findings

Concerns about production (27%) or not having the time (20%) were only indicated by sugarcane producers.

Q21 - What are the THREE MAIN challenges or barriers to starting or continuing to use these irrigation management practices?

Base: All relevant commodity producers (n=33)



4.3 Challenges with using irrigation management practices by commodity type

Q21 - What are the THREE MAIN challenges or barriers to starting or continuing to use these irrigation management practices? by COMMODITY

Column %		COMMODITY	
	Total n = 33	Sugarcane n = 15^	Horticulture n = 18^
Financial	48%	47%	50%
Weather and seasonal issues	30%	33%	28%
I am constrained by the availability of contractors and labour/or contractor's equipment	18%	27%	11%
I am worried about production	12%	27%	
I do not have the time	9%	20%	
Additional administrative work	6%	7%	6%
I need more information before I can use these practices	3%		6%
Not enough support from decision making partners	3%		6%
Other	24%	13%	33%
There are no challenges or barriers	24%	27%	22%
Don't know	3%		6%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.3 Challenges with using irrigation management practices by region and reef program

Q21 - What are the THREE MAIN challenges or barriers to starting or continuing to use these irrigation management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 33	Cape York n = 2^	Wet Tropics n = 4^	Burdekin n = 5^	Mackay Whitsunday n = 9^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 13^	No /Not sure n = 20^	Industry best mgt n = 13^	Nutrient mgt n = 6^	Sed. reduct./ gully remed. n = 4^	Chemical improv't n = 3^	Irrigation mgt n = 6^
Financial	48%	100%	25%	40%	44%	100%	50%	46%	50%	46%	67%	50%	67%	67%
Weather and seasonal issues	30%	50%	25%	20%	56%		17%	38%	25%	38%	33%	50%	33%	33%
I am constrained by the availability of contractors and labour/or contractor's equipment	18%	50%		20%	33%		8%	15%	20%	15%	17%			
I am worried about production	12%			40%	22%			15%	10%	15%	33%	25%	67%	33%
I do not have the time	9%			20%	22%			8%	10%	8%	17%		33%	17%
Additional administrative work	6%				11%		8%	8%	5%	8%				
I need more information before I can use these practices	3%						8%	8%		8%				17%
Not enough support from decision making partners	3%						8%	8%		8%				17%
Other	24%		25%	20%	22%	100%	25%	23%	25%	23%	17%	50%		17%
There are no challenges or barriers	24%		50%	20%	11%		33%	31%	20%	31%	33%	25%	33%	17%
Don't know	3%		25%						5%					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.3 Challenges with using irrigation management practices by demographics

Q21 - What are the THREE MAIN challenges or barriers to starting or continuing to use these irrigation management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 33	1971 or later n = 9^	1961 to 1970 n = 10^	1960 or earlier n = 13^	Male n = 28^	Female n = 5^	School education n = 12^	Certificate/ Diploma /Advanced Diploma n = 16^	Bachelor degree or above n = 3^	30 yrs or less n = 11^	31-50 yrs n = 19^	51+ yrs n = 3^	100 or less n = 17^	101-500 n = 12^	501-10,000 n = 4^	10,001+ n = 0^
Financial	48%	56%	60%	38%	50%	40%	33%	63%	67%	64%	47%		47%	42%	75%	
Weather and seasonal issues	30%	22%	50%	23%	29%	40%	25%	38%	33%	27%	32%	33%	29%	42%		
I am constrained by the availability of contractors and labour/or contractor's equipment	18%	11%	20%	23%	18%	20%	8%	31%		18%	21%		6%	25%	50%	
I am worried about production	12%		30%	8%	14%		17%	13%		9%	11%	33%	6%	25%		
I do not have the time	9%		10%	15%	11%		8%	13%		9%	5%	33%	6%	17%		
Additional administrative work	6%	11%		8%	7%		8%	6%		9%		33%		17%		
I need more information before I can use these practices	3%	11%			4%			6%		9%			6%			
Not enough support from decision making partners	3%	11%			4%			6%		9%			6%			
Other	24%	22%	20%	31%	25%	20%	25%	19%	67%	18%	32%		29%	8%	50%	
There are no challenges or barriers	24%	11%	30%	23%	25%	20%	33%	13%	33%	9%	32%	33%	24%	33%		
Don't know	3%	11%			4%					9%			6%			

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.4 Expectations of positive result from irrigation management practices

91% of sugarcane and horticulture producers in our survey indicated they expect at least some positive result from using the prompted irrigation management practices (70% were expecting a large or very large positive result). The remainder (9%) were unable to answer this question.

Among sugarcane producers, 80% expected a positive result, the remaining 20% were unsure. All those involved in horticulture expected at least a moderately positive result overall.

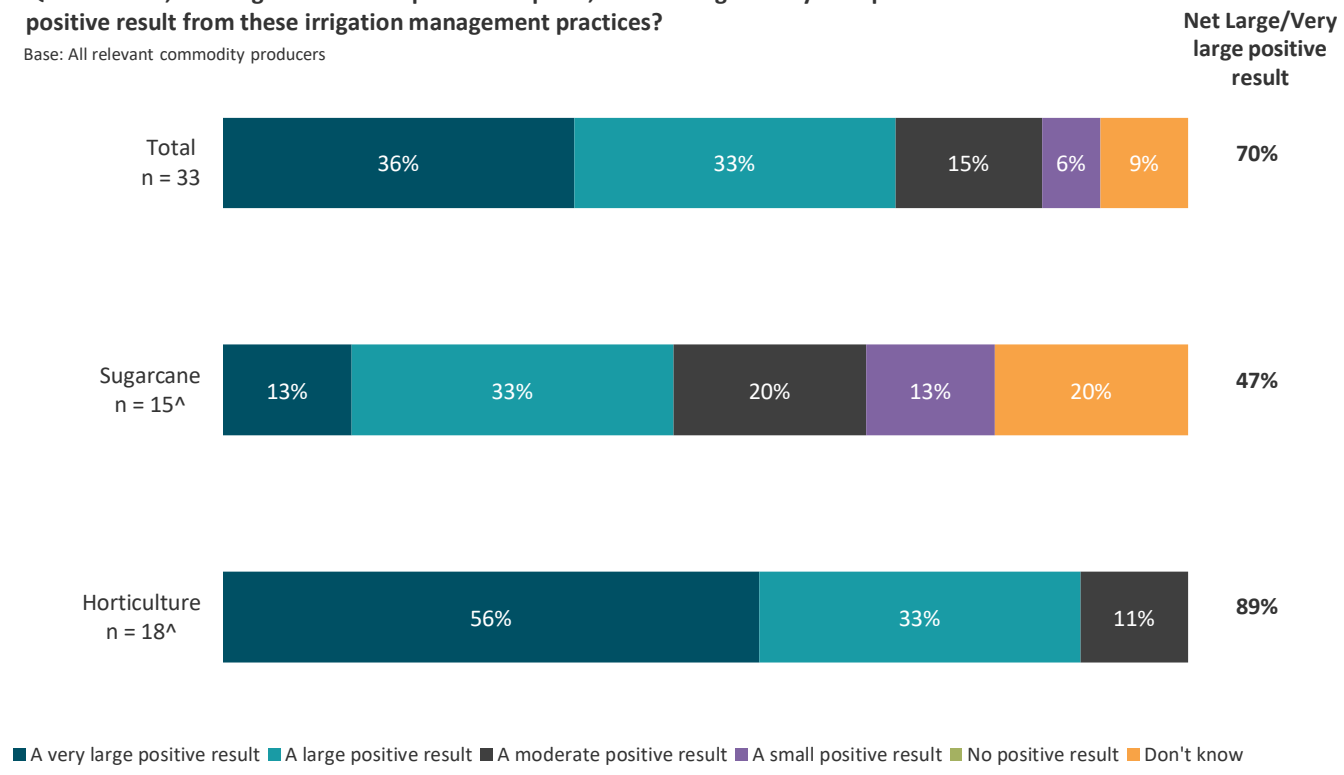
Sub-group findings

Commodity findings

Those operating in horticulture (56%) appeared more likely than sugarcane producers (13%) to expect a very large positive result.

Q22 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these irrigation management practices?

Base: All relevant commodity producers



^ Caution small cell size

4.4 Expectations of positive result from irrigation management practices by region and reef program

Q22 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these irrigation management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 33	Cape York n = 2^	Wet Tropics n = 4^	Burdekin n = 5^	Mackay Whitsunday n = 9^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 13^	No /Not sure n = 20^	Industry best mgt n = 13^	Nutrient mgt n = 6^	Sed. reduct./ gully remed. n = 4^	Chemical improv't n = 3^	Irrigation mgt n = 6^
A very large positive result	36%		25%	40%	11%		67%	23%	45%	23%				33%
A large positive result	33%	100%			56%	100%	25%	38%	30%	38%	50%	75%	33%	33%
VERY LARGE/LARGE	70%	100%	25%	40%	67%	100%	92%	62%	75%	62%	50%	75%	33%	67%
A moderate positive result	15%		25%	20%	22%		8%	15%	15%	15%	33%	25%	67%	17%
A small positive result	6%			20%	11%				10%					
MODERATE/SMALL	21%		25%	40%	33%		8%	15%	25%	15%	33%	25%	67%	17%
NET POSITIVE	91%	100%	50%	80%	100%	100%	100%	77%	100%	77%	83%	100%	100%	83%
No positive result														
Prefer not to say														
Don't know	9%		50%	20%				23%		23%	17%			17%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.4 Expectations of positive result from irrigation management practices by demographics

Q22 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these irrigation management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 33	1971 or later n = 9^	1961 to 1970 n = 10^	1960 or earlier n = 13^	Male n = 28^	Female n = 5^	School education n = 12^	Certificate/ Diploma /Advanced Diploma n = 16^	Bachelor degree or above n = 3^	30 yrs or less n = 11^	31-50 yrs n = 19^	51+ yrs n = 3^	100 or less n = 17^	101-500 n = 12^	501-10,000 n = 4^	10,001+ n = 0^
A very large positive result	36%	44%	40%	31%	32%	60%	50%	38%		27%	42%	33%	47%	17%	50%	
A large positive result	33%	33%	30%	38%	36%	20%	25%	38%	67%	45%	26%	33%	29%	33%	50%	
VERY LARGE/LARGE	70%	78%	70%	69%	68%	80%	75%	75%	67%	73%	68%	67%	76%	50%	100%	
A moderate positive result	15%	11%	10%	23%	14%	20%		19%	33%	18%	16%		12%	25%		
A small positive result	6%		10%	8%	7%		8%	6%			5%	33%	12%			
MODERATE/SMALL	21%	11%	20%	31%	21%	20%	8%	25%	33%	18%	21%	33%	24%	25%		
NET POSITIVE	91%	89%	90%	100%	89%	100%	83%	100%	100%	91%	89%	100%	100%	75%	100%	
No positive result																
Don't know	9%	11%	10%		11%		17%			9%	11%			25%		

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.5 Confidence in ability to use irrigation management practices

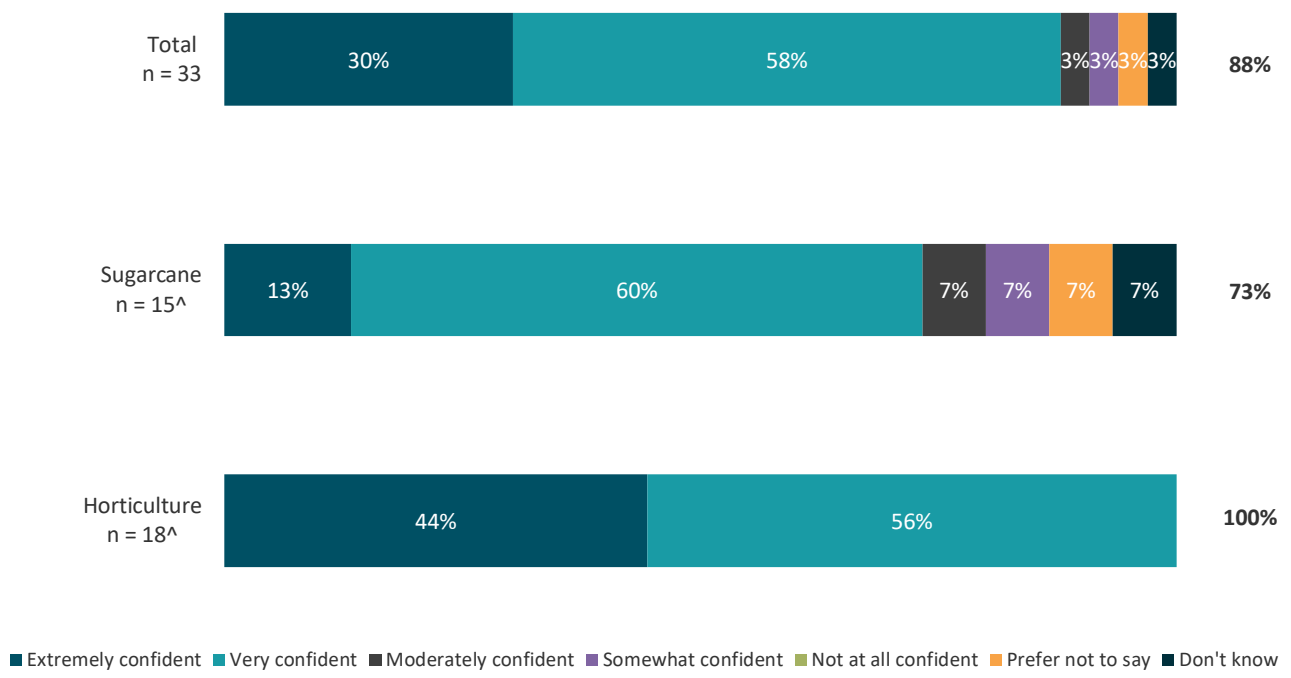
94% of sugarcane and horticulture producers in our survey were confident in their ability to use the prompted irrigation management practices. 88% were very or extremely confident while 6% were moderately or somewhat confident in their abilities. No respondents indicated they were not at all confident, 6% declined to or were unable to answer this question.

Sub-group findings

87% of sugarcane producers and 100% of horticulture producers were confident.

Q23 - How confident are you in your ability to use these irrigation management practices?

Base: All relevant commodity producers



^ Caution small cell size

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

4.5 Confidence in ability to use irrigation management practices by region and reef program

Q23 - How confident are you in your ability to use these irrigation management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 33	Cape York n = 2^	Wet Tropics n = 4^	Burdekin n = 5^	Mackay Whitsunday n = 9^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 13^	No /Not sure n = 20^	Industry best mgt n = 13^	Nutrient mgt n = 6^	Sed. reduct./ gully remed. n = 4^	Chemical improv't n = 3^	Irrigation mgt n = 6^
Extremely confident	30%	50%	50%		22%		42%	23%	35%	23%	17%	25%	33%	33%
Very confident	58%	50%		80%	67%	100%	58%	54%	60%	54%	67%	75%	33%	50%
EXTREMELY/VERY	88%	100%	50%	80%	89%	100%	100%	77%	95%	77%	83%	100%	67%	83%
Moderately confident	3%			20%				8%		8%	17%		33%	17%
Somewhat confident	3%				11%				5%					
MODERATE/ SOMEWHAT	6%			20%	11%			8%	5%	8%	17%		33%	17%
NET CONFIDENT	94%	100%	50%	100%	100%	100%	100%	85%	100%	85%	100%	100%	100%	100%
Not at all confident														
Prefer not to say	3%		25%					8%		8%				
Don't know	3%		25%					8%		8%				

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.5 Confidence in ability to use irrigation management practices by demographics

Q23 - How confident are you in your ability to use these irrigation management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 33	1971 or later n = 9^	1961 to 1970 n = 10^	1960 or earlier n = 13^	Male n = 28^	Female n = 5^	School education n = 12^	Certificate/ Diploma /Advanced Diploma n = 16^	Bachelor degree or above n = 3^	30 yrs or less n = 11^	31-50 yrs n = 19^	51+ yrs n = 3^	100 or less n = 17^	101-500 n = 12^	501-10,000 n = 4^	10,001+ n = 0^
Extremely confident	30%	44%	40%	15%	32%	20%	33%	31%		36%	26%	33%	35%	25%	25%	
Very confident	58%	56%	40%	77%	54%	80%	50%	63%	100%	55%	63%	33%	59%	50%	75%	
EXTREMELY/VERY	88%	100%	80%	92%	86%	100%	83%	94%	100%	91%	89%	67%	94%	75%	100%	
Moderately confident	3%		10%		4%			6%		9%				8%		
Somewhat confident	3%			8%	4%		8%					33%	6%			
MODERATE/ SOMEWHAT	6%		10%	8%	7%		8%	6%		9%		33%	6%	8%		
NET CONFIDENT	94%	100%	90%	100%	93%	100%	92%	100%	100%	100%	89%	100%	100%	83%	100%	
Not at all confident																
Prefer not to say	3%				4%						5%			8%		
Don't know	3%		10%		4%		8%				5%			8%		

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.6 Respondent estimate of number of landholders using irrigation management practices

45% of sugarcane and horticulture producers in our survey felt that most or all landholders they know or know of were using at least one of the prompted irrigation management practices. 36% felt that some or half were using such practices, while 18% declined to answer or were unsure.

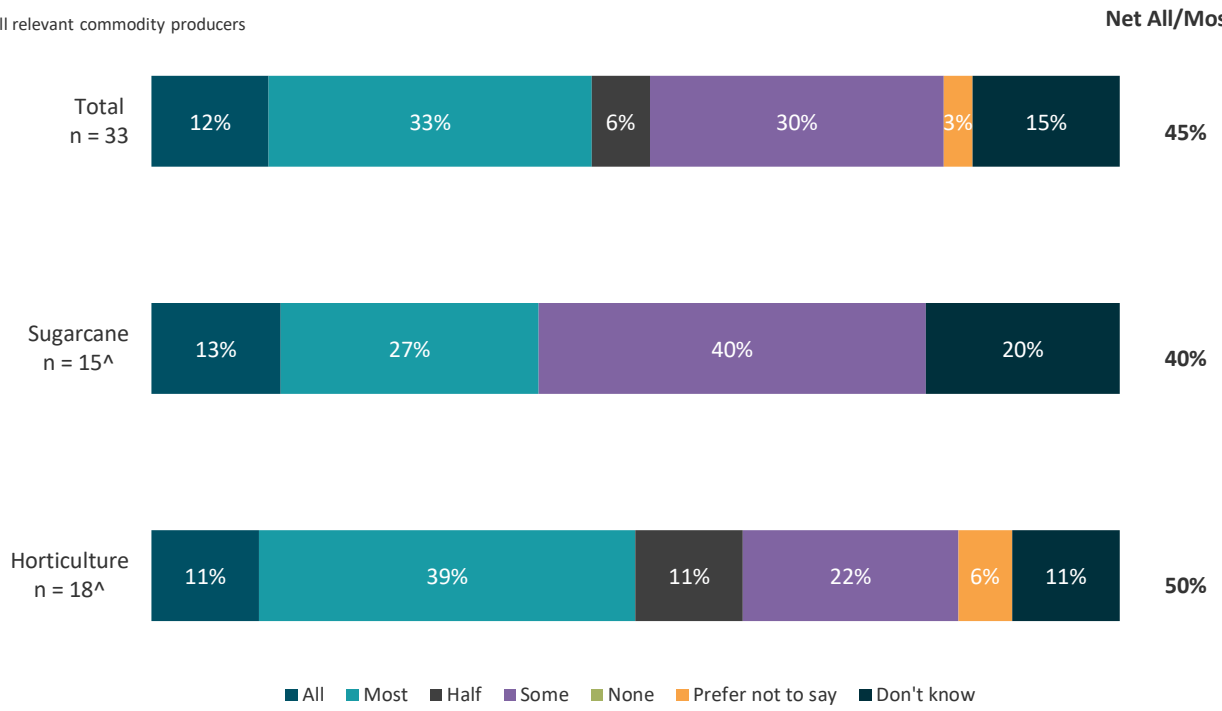
Sub-group findings

Commodity findings

40% of sugarcane and 50% of horticulture producers felt that most or all landholders are engaged in irrigation management practices.

Q24 - Thinking about the landholders you know, or know of, what proportion do you think are using these irrigation management practices?

Base: All relevant commodity producers



^ Caution small cell size

4.6 Respondent estimate of number of landholders using irrigation management practices by region and reef program

Q24 - Thinking about the landholders you know, or know of, what proportion do you think are using these irrigation management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 33	Cape York n = 2^	Wet Tropics n = 4^	Burdekin n = 5^	Mackay Whitsunday n = 9^	Fitzroy n = 1^	Burnett Mary n = 12^	Yes n = 13^	No /Not sure n = 20^	Industry best mgt n = 13^	Nutrient mgt n = 6^	Sed. reduct./ gully remed. n = 4^	Chemical improv't n = 3^	Irrigation mgt n = 6^
All	12%		25%	20%	11%		8%	23%	5%	23%	33%	25%	33%	33%
Most	33%	50%	25%		33%	100%	42%	15%	45%	15%	33%	50%	33%	33%
ALL/MOST	45%	50%	50%	20%	44%	100%	50%	38%	50%	38%	67%	75%	67%	67%
Half	6%	50%					8%		10%					
Some	30%			80%	44%		17%	38%	25%	38%	33%	25%	33%	33%
None														
Prefer not to say	3%						8%	8%		8%				
Don't know	15%		50%		11%		17%	15%	15%	15%				

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

4.6 Respondent estimate of number of landholders using irrigation management practices by demographics

Q24 - Thinking about the landholders you know, or know of, what proportion do you think are using these irrigation management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 33	1971 or later n = 9^	1961 to 1970 n = 10^	1960 or earlier n = 13^	Male n = 28^	Female n = 5^	School education n = 12^	Certificate/ Diploma /Advanced Diploma n = 16^	Bachelor degree or above n = 3^	30 yrs or less n = 11^	31-50 yrs n = 19^	51+ yrs n = 3^	100 or less n = 17^	101-500 n = 12^	501-10,000 n = 4^	10,001+ n = 0^
All	12%	22%	10%	8%	14%		17%	13%		18%	11%		12%	17%		
Most	33%	44%	10%	46%	36%	20%	33%	31%	33%	45%	26%	33%	35%	25%	50%	
ALL/MOST	45%	67%	20%	54%	50%	20%	50%	44%	33%	64%	37%	33%	47%	42%	50%	
Half	6%	11%		8%	7%		8%	6%		9%	5%		6%	8%		
Some	30%	11%	60%	23%	25%	60%	17%	44%	33%	18%	37%	33%	29%	25%	50%	
None																
Prefer not to say	3%	11%			4%			6%		9%				8%		
Don't know	15%		20%	15%	14%	20%	25%		33%		21%	33%	18%	17%		

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.0 Pesticide management

5.1 Pesticide management practices used

Overall 91% using prompted pesticide management practices

Sugarcane

91% of sugarcane producers reported selecting lower risk pesticides to improve the quality of water in local waterways.

4% were not using this practice but were planning to make changes, while a further 4% were not employing the practice and not planning change.

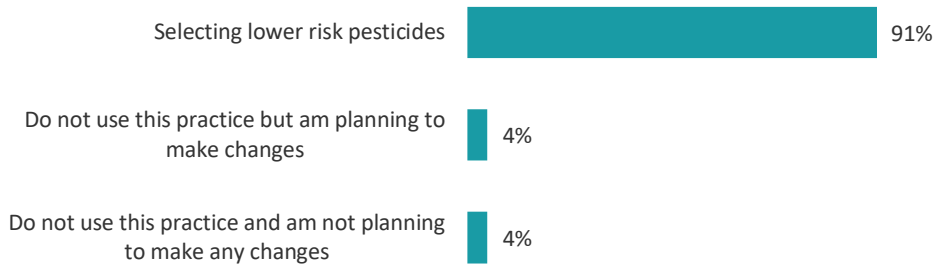
Funded Reef water quality program participation – impact on irrigation management practices used

100% of funded program participants reported selecting lower risk pesticides, compared to 80% of non-participants.

Q25. Which of the following pesticide management practices which can improve the quality of water in local waterways, do you use?

91% use

Sugarcane (n=23^)



^ Caution small cell size

5.1 Pesticide management practices used by region and reef program

Q25 - Thinking about your main commodity, which of the following pesticide management practices which can improve the quality of water in local waterways, do you use? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 23^	Cape York n = 0^	Wet Tropics n = 9^	Burdekin n = 4^	Mackay Whitsunday n = 9^	Fitzroy n = 0^	Burnett Mary n = 1^	Yes n = 13^	No /Not sure n = 10^	Industry best mgt n = 13^	Nutrient mgt n = 9^	Sed. reduct./ gully remed. n = 5^	Chemical improv't n = 6^	Irrigation mgt n = 4^
NET USE	91%		78%	100%	100%		100%	100%	80%	100%	100%	100%	100%	100%
Selecting lower risk pesticides	91%		78%	100%	100%		100%	100%	80%	100%	100%	100%	100%	100%
Do not use this practice but am planning to make changes	4%		11%						10%					
Do not use this practice and am not planning to make any changes	4%		11%						10%					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.1 Pesticide management practices used by demographics

Q25 - Thinking about your main commodity, which of the following pesticide management practices which can improve the quality of water in local waterways, do you use? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 23^	1971 or later n = 2^	1961 to 1970 n = 7^	1960 or earlier n = 13^	Male n = 19^	Female n = 3^	School education n = 10^	Certificate/ Diploma /Advanced Diploma n = 8^	Bachelor degree or above n = 3^	30 yrs or less n = 4^	31-50 yrs n = 12^	51+ yrs n = 6^	100 or less n = 5^	101-500 n = 14^	501-10,000 n = 3^	10,001+ n = 0^
NET USE	91%	50%	100%	92%	89%	100%	100%	100%	67%	75%	92%	100%	100%	86%	100%	
Selecting lower risk pesticides	91%	50%	100%	92%	89%	100%	100%	100%	67%	75%	92%	100%	100%	86%	100%	
Do not use this practice but am planning to make changes	4%			8%	5%				33%		8%			7%		
Do not use this practice and am not planning to make any changes	4%	50%			5%					25%				7%		

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.2 Reasons for using pesticide management practices

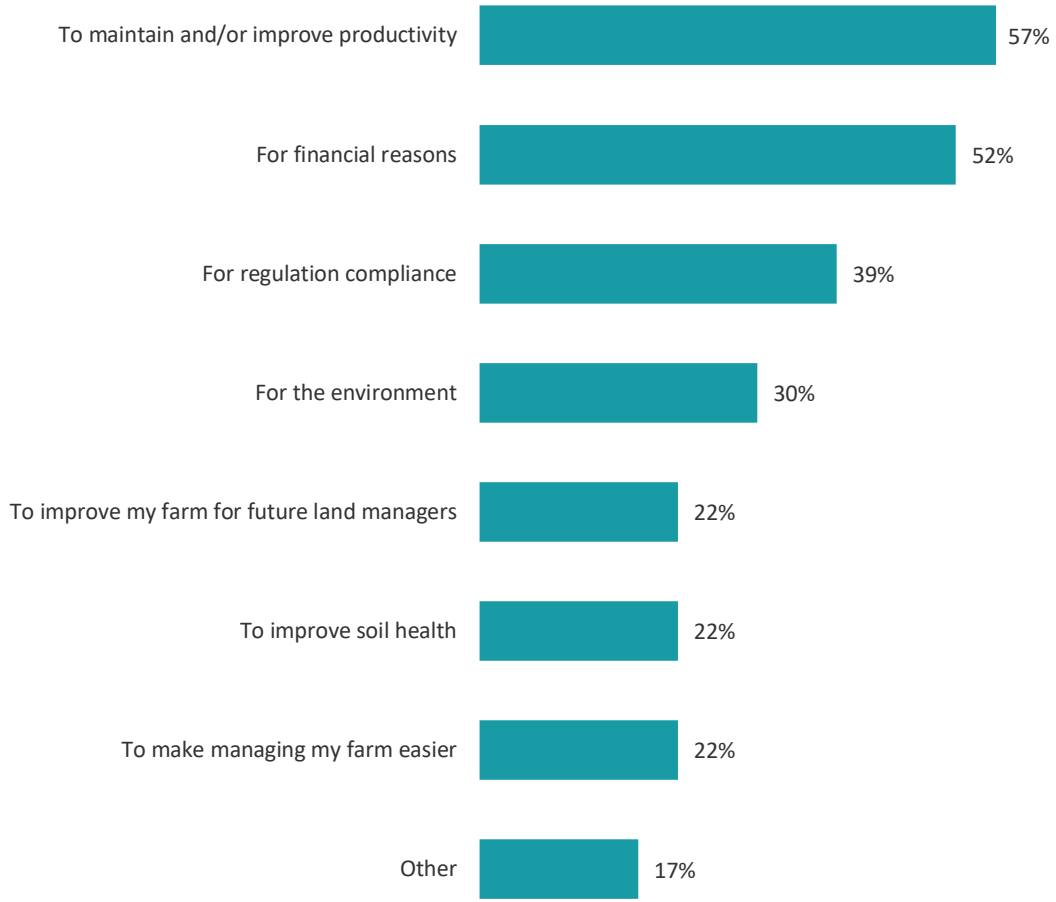
The main reasons sugarcane producers do or would use the prompted pesticide management practices were:

- To maintain and/or improve productivity (57%)
- For financial reasons (52%)
- For regulation compliance (39%)
- For the environment (30%).

Other reasons are displayed in the adjacent chart.

Q26 - What are the THREE MAIN reasons for why you would or do use these pesticide management practices?

Base: All sugarcane respondents (n=23^)



^ Caution small cell size

5.2 Reasons for using pesticide management practices by region and reef program

Q26 - What are the THREE MAIN reasons for why you would or do use these pesticide management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 23^	Cape York n = 0^	Wet Tropics n = 9^	Burdekin n = 4^	Mackay Whitsunday n = 9^	Fitzroy n = 0^	Burnett Mary n = 1^	Yes n = 13^	No /Not sure n = 10^	Industry best mgt n = 13^	Nutrient mgt n = 9^	Sed. reduct./ gully remed. n = 5^	Chemical improv't n = 6^	Irrigation mgt n = 4^
To maintain and/or improve productivity	57%		44%	75%	67%			62%	50%	62%	78%	80%	100%	100%
For financial reasons	52%		44%	50%	56%		100%	69%	30%	69%	78%	40%	83%	75%
For regulation compliance	39%		33%		67%			62%	10%	62%	56%	60%	67%	25%
For the environment	30%		22%	50%	22%		100%	31%	30%	31%	22%	20%		25%
To improve my farm for future land managers	22%		11%	25%	22%		100%	8%	40%	8%	11%	20%	17%	25%
To improve soil health	22%		11%	25%	33%			15%	30%	15%	11%			
To make managing my farm easier	22%		22%	25%	22%			23%	20%	23%	11%	20%	17%	25%
Other	17%		44%					15%	20%	15%	11%	20%		

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.2 Reasons for using pesticide management practices by demographics

Q26 - What are the THREE MAIN reasons for why you would or do use these pesticide management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 23^	1971 or later n = 2^	1961 to 1970 n = 7^	1960 or earlier n = 13^	Male n = 19^	Female n = 3^	School education n = 10^	Certificate/ Diploma /Advanced Diploma n = 8^	Bachelor degree or above n = 3^	30 yrs or less n = 4^	31-50 yrs n = 12^	51+ yrs n = 6^	100 or less n = 5^	101-500 n = 14^	501-10,000 n = 3^	10,001+ n = 0^
To maintain and/or improve productivity	57%	50%	43%	69%	53%	67%	60%	75%	33%	75%	42%	67%	40%	64%	33%	
For financial reasons	52%	50%	57%	46%	58%		50%	63%	33%	50%	67%	33%	20%	79%		
For regulation compliance	39%		29%	46%	37%	33%	30%	63%		25%	42%	50%	40%	36%	67%	
For the environment	30%	50%	43%	23%	32%	33%	50%	13%	33%	25%	33%	33%	60%	14%	67%	
To improve my farm for future land managers	22%		29%	23%	21%	33%	40%	13%			25%	17%	40%	14%		
To improve soil health	22%		43%	15%	21%	33%	10%	50%			33%		20%	14%	33%	
To make managing my farm easier	22%		29%	23%	26%		20%	25%	33%	50%	8%	33%	20%	29%		
Other	17%	50%	14%	8%	21%				67%	25%	17%	17%	20%	21%		

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.3 Challenges with using pesticide management practices

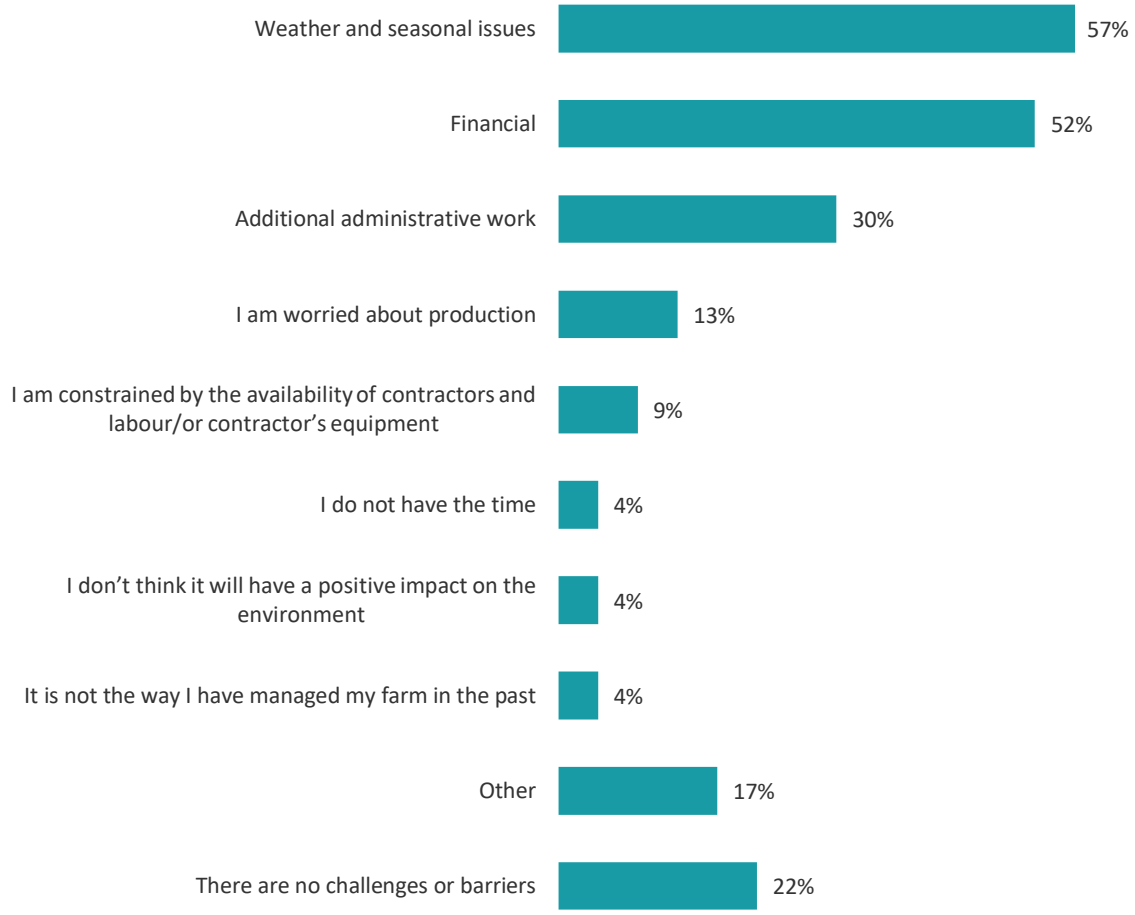
The most commonly noted main challenges or barriers to selecting lower risk pesticides were:

- Weather and seasonal issues (57%)
- Financial reasons (52%)
- Additional administrative work (30%).

22% of sugarcane producers indicated there were no challenges of barriers to using pesticide management practices.

Q27 - What are the THREE MAIN challenges or barriers to starting or continuing to use these pesticide management practices?

Base: All sugarcane respondents (n=23^)



^ Caution small cell size

5.3 Challenges with using pesticide management practices by region and reef program

Q27 - What are the THREE MAIN challenges or barriers to starting or continuing to use these pesticide management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 23^	Cape York n = 0^	Wet Tropics n = 9^	Burdekin n = 4^	Mackay Whitsunday n = 9^	Fitzroy n = 0^	Burnett Mary n = 1^	Yes n = 13^	No /Not sure n = 10^	Industry best mgt n = 13^	Nutrient mgt n = 9^	Sed. reduct./ gully remed. n = 5^	Chemical improv't n = 6^	Irrigation mgt n = 4^
Weather and seasonal issues	57%		44%	25%	78%		100%	62%	50%	62%	44%	40%	50%	25%
Financial	52%		44%	50%	56%		100%	62%	40%	62%	56%	40%	50%	75%
Additional administrative work	30%		22%	50%	33%			23%	40%	23%	22%	40%	33%	50%
I am worried about production	13%			50%	11%			15%	10%	15%	22%	20%	33%	50%
I am constrained by the availability of contractors and labour/or contractor's equipment	9%				22%			15%		15%	11%			
I do not have the time	4%				11%				10%					
I don't think it will have a positive impact on the environment	4%			25%				8%		8%	11%			25%
It is not the way I have managed my farm in the past	4%		11%					8%		8%	11%	20%	17%	25%
Other	17%		22%		22%			15%	20%	15%				
There are no challenges or barriers	22%		33%	25%	11%			15%	30%	15%	22%	40%	17%	

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.3 Challenges with using pesticide management practices by demographics

Q27 - What are the THREE MAIN challenges or barriers to starting or continuing to use these pesticide management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 23^	1971 or later n = 2^	1961 to 1970 n = 7^	1960 or earlier n = 13^	Male n = 19^	Female n = 3^	School education n = 10^	Certificate/ Diploma /Advanced Diploma n = 8^	Bachelor degree or above n = 3^	30 yrs or less n = 4^	31-50 yrs n = 12^	51+ yrs n = 6^	100 or less n = 5^	101-500 n = 14^	501-10,000 n = 3^	10,001+ n = 0^
Weather and seasonal issues	57%		71%	54%	63%		50%	75%	33%	25%	75%	50%	60%	64%	33%	
Financial	52%	50%	57%	46%	63%		50%	50%	67%	75%	58%	33%	40%	71%		
Additional administrative work	30%		29%	38%	32%	33%	30%	38%	33%	50%	8%	67%	60%	21%	33%	
I am worried about production	13%		43%		16%		10%	25%		25%	17%		20%	14%		
I am constrained by the availability of contractors and labour/or contractor's equipment	9%		29%		11%			25%			17%			7%	33%	
I do not have the time	4%			8%	5%		10%					17%	20%			
I don't think it will have a positive impact on the environment	4%	50%			5%		10%			25%				7%		
It is not the way I have managed my farm in the past	4%			8%		33%	10%					17%			33%	
Other	17%		14%	15%	21%			25%	33%		33%			21%	33%	
There are no challenges or barriers	22%	50%	14%	23%	16%	67%	20%	13%	33%	25%	17%	17%	20%	14%	33%	

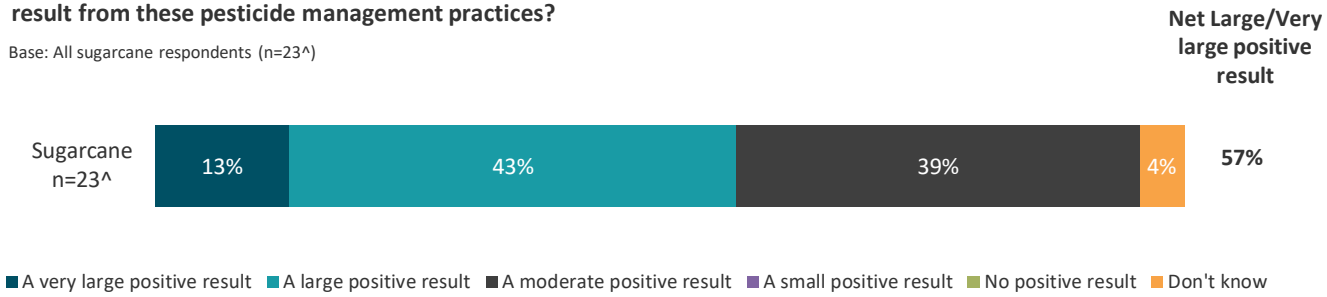
^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.4 Expectations of positive result from pesticide management practices

96% of sugarcane producers in our survey indicated they expect at least some positive result from using the prompted pesticide management practices (57% large/verge result - 13% very large, 43% large). 39% expected a moderate positive result. The remainder (4%) were unable to answer this question.

Q28 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these pesticide management practices?

Base: All sugarcane respondents (n=23^)



^ Caution small cell size

5.4 Expectations of positive result from pesticide management practices by region and reef program

Q28 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these pesticide management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 23^	Cape York n = 0^	Wet Tropics n = 9^	Burdekin n = 4^	Mackay Whitsunday n = 9^	Fitzroy n = 0^	Burnett Mary n = 1^	Yes n = 13^	No /Not sure n = 10^	Industry best mgt n = 13^	Nutrient mgt n = 9^	Sed. reduct./ gully remed. n = 5^	Chemical improv't n = 6^	Irrigation mgt n = 4^
A very large positive result	13%		22%				100%	15%	10%	15%	11%	20%	17%	25%
A large positive result	43%		33%	25%	67%			54%	30%	54%	44%	60%	33%	
VERY LARGE/LARGE	57%		56%	25%	67%		100%	69%	40%	69%	56%	80%	50%	25%
A moderate positive result	39%		44%	50%	33%			23%	60%	23%	33%	20%	50%	50%
A small positive result														
MODERATE/SMALL	39%		44%	50%	33%			23%	60%	23%	33%	20%	50%	50%
NET POSITIVE	96%		100%	75%	100%		100%	92%	100%	92%	89%	100%	100%	75%
No positive result														
Don't know	4%			25%				8%		8%	11%			25%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.4 Expectations of positive result from pesticide management practices by demographics

Q28 - Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these pesticide management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 23^	1971 or later n = 2^	1961 to 1970 n = 7^	1960 or earlier n = 13^	Male n = 19^	Female n = 3^	School education n = 10^	Certificate/ Diploma /Advanced Diploma n = 8^	Bachelor degree or above n = 3^	30 yrs or less n = 4^	31-50 yrs n = 12^	51+ yrs n = 6^	100 or less n = 5^	101-500 n = 14^	501-10,000 n = 3^	10,001+ n = 0^
A very large positive result	13%		14%	15%	11%	33%	30%				17%	17%	20%	7%	33%	
A large positive result	43%		43%	46%	42%	67%	20%	75%	33%	25%	58%	17%	40%	36%	67%	
VERY LARGE/LARGE	57%		57%	62%	53%	100%	50%	75%	33%	25%	75%	33%	60%	43%	100%	
A moderate positive result	39%	50%	43%	38%	42%		40%	25%	67%	50%	25%	67%	40%	50%		
A small positive result																
MODERATE/SMALL	39%	50%	43%	38%	42%		40%	25%	67%	50%	25%	67%	40%	50%		
NET POSITIVE	96%	50%	100%	100%	95%	100%	90%	100%	100%	75%	100%	100%	100%	93%	100%	
No positive result																
Don't know	4%	50%			5%		10%			25%				7%		

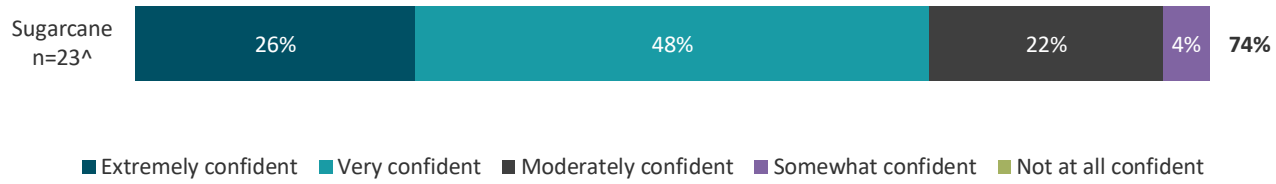
^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.5 Confidence in ability to use pesticide management practices

100% of sugarcane producers in our survey were confident in their ability to use the prompted pesticide management practices. 74% were very or extremely confident while 26% were moderately or somewhat confident in their abilities.

Q29 - How confident are you in your ability to use these pesticide management practices?

Base: All sugarcane respondents (n=23^)



^ Caution small cell size

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

5.5 Confidence in ability to use pesticide management practices by region and reef program

Q29 - How confident are you in your ability to use these pesticide management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 23^	Cape York n = 0^	Wet Tropics n = 9^	Burdekin n = 4^	Mackay Whitsunday n = 9^	Fitzroy n = 0^	Burnett Mary n = 1^	Yes n = 13^	No /Not sure n = 10^	Industry best mgt n = 13^	Nutrient mgt n = 9^	Sed. reduct./ gully remed. n = 5^	Chemical improv't n = 6^	Irrigation mgt n = 4^
Extremely confident	26%		33%	25%	11%		100%	23%	30%	23%	33%	40%	50%	50%
Very confident	48%		44%	50%	56%			62%	30%	62%	44%	40%	33%	25%
EXTREMELY/VERY	74%		78%	75%	67%		100%	85%	60%	85%	78%	80%	83%	75%
Moderately confident	22%		22%	25%	22%			15%	30%	15%	22%	20%	17%	25%
Somewhat confident	4%				11%				10%					
MODERATE/SOMEWHAT	26%		22%	25%	33%			15%	40%	15%	22%	20%	17%	25%
NET CONFIDENT	100%		100%	100%	100%		100%	100%	100%	100%	100%	100%	100%	100%
Not at all confident														

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.5 Confidence in ability to use pesticide management practices by demographics

Q29 - How confident are you in your ability to use these pesticide management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 23^	1971 or later n = 2^	1961 to 1970 n = 7^	1960 or earlier n = 13^	Male n = 19^	Female n = 3^	School education n = 10^	Certificate/ Diploma /Advanced Diploma n = 8^	Bachelor degree or above n = 3^	30 yrs or less n = 4^	31-50 yrs n = 12^	51+ yrs n = 6^	100 or less n = 5^	101-500 n = 14^	501-10,000 n = 3^	10,001+ n = 0^
Extremely confident	26%		14%	38%	11%	100%	60%				25%	33%	20%	14%	67%	
Very confident	48%	50%	57%	38%	58%		20%	75%	67%	50%	67%	17%	40%	57%	33%	
EXTREMELY/VERY	74%	50%	71%	77%	68%	100%	80%	75%	67%	50%	92%	50%	60%	71%	100%	
Moderately confident	22%	50%	29%	15%	26%		10%	25%	33%	50%	8%	33%	20%	29%		
Somewhat confident	4%			8%	5%		10%					17%	20%			
MODERATE/ SOMEWHAT	26%	50%	29%	23%	32%		20%	25%	33%	50%	8%	50%	40%	29%		
NET CONFIDENT	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Not at all confident																

The online and telephone surveys labelled each point on the scale (including the mid-point as moderately confident). The hardcopy survey only labelled the anchors (e.g. Extremely confident and Not at all confident).

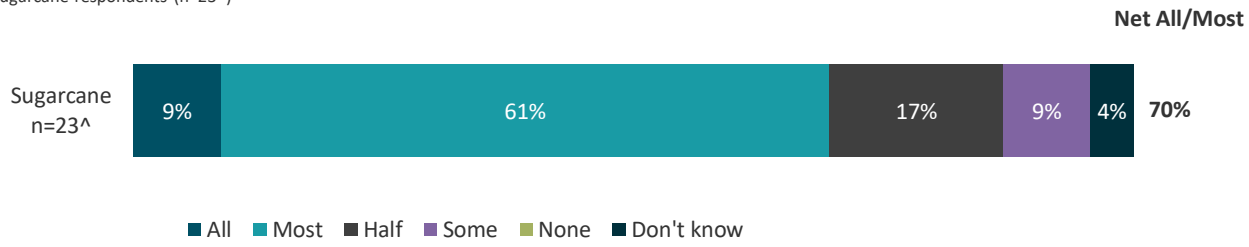
^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.6 Respondent estimate of number of landholders using pesticide management practices

70% of sugarcane producers in our survey felt that most or all landholders they know or know of were using at least one of the prompted pesticide management practices. 26% felt that some or half were using such practices, while 4% were unsure.

Q30 - Thinking about the landholders you know, or know of, what proportion do you think are using these pesticide management practices?

Base: All sugarcane respondents (n=23^)



^ Caution small cell size

5.6 Respondent estimate of number of landholders using pesticide management practices by region and reef program

Q30 - Thinking about the landholders you know, or know of, what proportion do you think are using these pesticide management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 23^	Cape York n = 0^	Wet Tropics n = 9^	Burdekin n = 4^	Mackay Whitsunday n = 9^	Fitzroy n = 0^	Burnett Mary n = 1^	Yes n = 13^	No /Not sure n = 10^	Industry best mgt n = 13^	Nutrient mgt n = 9^	Sed. reduct./ gully remed. n = 5^	Chemical improv't n = 6^	Irrigation mgt n = 4^
All	9%			25%	11%			15%		15%	22%	20%	17%	25%
Most	61%		78%	50%	44%		100%	62%	60%	62%	56%	80%	67%	75%
ALL/MOST	70%		78%	75%	56%		100%	77%	60%	77%	78%	100%	83%	100%
Half	17%		11%	25%	22%			15%	20%	15%	22%		17%	
Some	9%				22%			8%	10%	8%				
None														
Don't know	4%		11%						10%					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

5.6 Respondent estimate of number of landholders using pesticide management practices by demographics

Q30 - Thinking about the landholders you know, or know of, what proportion do you think are using these pesticide management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 23^	1971 or later n = 2^	1961 to 1970 n = 7^	1960 or earlier n = 13^	Male n = 19^	Female n = 3^	School education n = 10^	Certificate/ Diploma /Advanced Diploma n = 8^	Bachelor degree or above n = 3^	30 yrs or less n = 4^	31-50 yrs n = 12^	51+ yrs n = 6^	100 or less n = 5^	101-500 n = 14^	501-10,000 n = 3^	10,001+ n = 0^
All	9%	50%		8%	11%		10%	13%		25%	8%			14%		
Most	61%	50%	71%	54%	63%	33%	60%	50%	67%	75%	50%	83%	80%	64%	33%	
ALL/MOST	70%	100%	71%	62%	74%	33%	70%	63%	67%	100%	58%	83%	80%	79%	33%	
Half	17%		14%	23%	11%	67%	20%	25%			25%			14%	33%	
Some	9%		14%	8%	11%		10%	13%			8%	17%	20%		33%	
None																
Don't know	4%			8%	5%				33%		8%			7%		

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.0 Land management practices

6.1 Support from industry groups

61% of all survey respondents considered that the amount of support and advice provided by industry groups and/or peak bodies about land management practice was 'about right'. 26% felt there was not enough support and advice provided, while 5% received too much. 9% of respondents declined to or were unable to answer this question.

Sub-group findings

Commodity findings

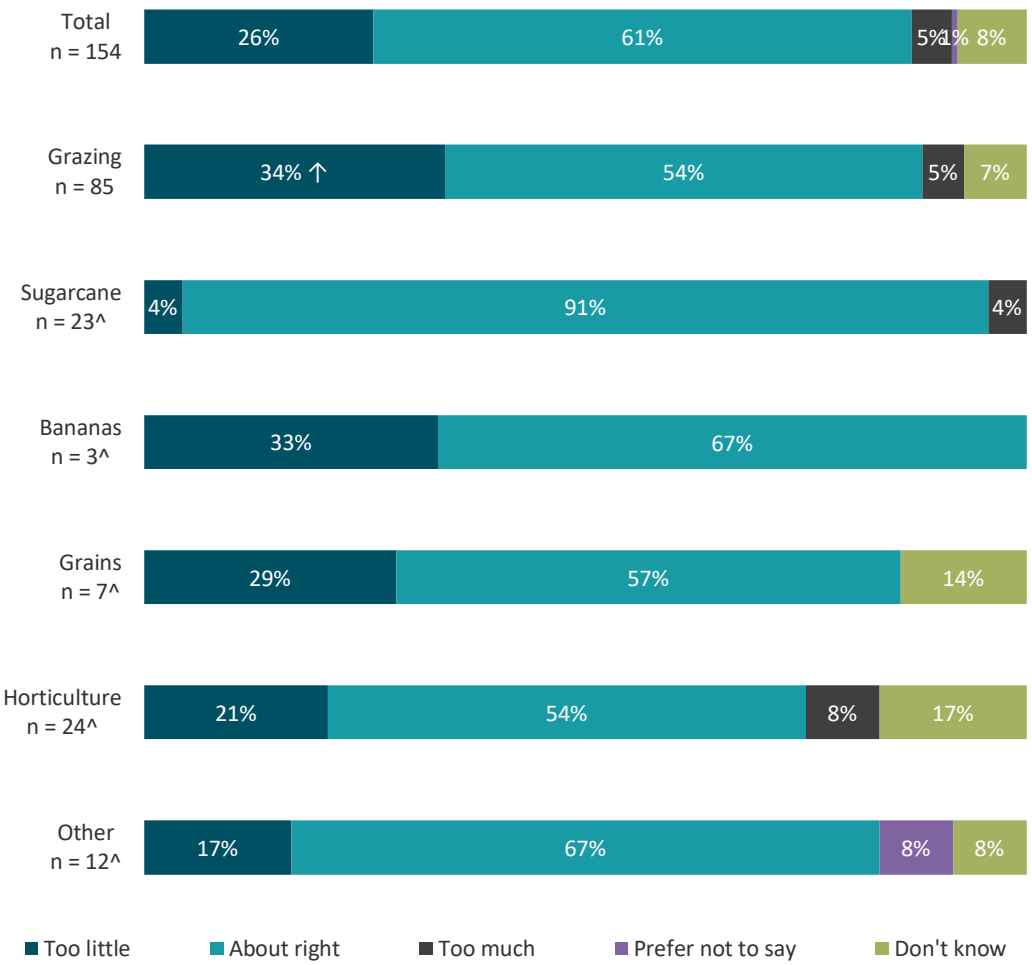
Graziers (34%) or those operating in the Burnett Mary region (38%) were significantly more likely than other segments (average 26%) to indicate the amount of support and advice provided was insufficient.

Other findings

Those whose highest level of education was school (8%) were more likely than average (5%) to feel there was too much advice and support provided.

Q31 - Generally, would you say the amount of support and advice provided by industry groups and/or peak bodies about land management practices is...?

Base: All respondents (n=154)



^ Caution small cell size; Arrows indicate a significant difference from other sub-groups at the 95% confidence interval

6.1 Support from industry groups by region and reef program

Q31 - Generally, would you say the amount of support and advice provided by industry groups and/or peak bodies about land management practices is...? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Too little	26%		29%	15%	7%	26%	38% ↑	28%	30%	21%	19%	21%	11%	13%
About right	61%	75%	64%	58%	93%	62%	50%	70%	55%	76%	76%	79%	89%	75%
Too much	5%	25%	4%	12%		6%		3%	3%	3%	5%			13%
Prefer not to say	1%					3%								
Don't know	8%		4%	15%		3%	13%		11% ↑					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.1 Support from industry groups by demographics

Q31 - Generally, would you say the amount of support and advice provided by industry groups and/or peak bodies about land management practices is...? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Too little	26%	22%	26%	26%	28%	21%	23%	27%	33%	30%	30%	28%	25%	25%	35%	33%
About right	61%	61%	66%	60%	60%	62%	59%	63%	67%	61%	57%	62%	64%	64%	59%	50%
Too much	5%	5%		7%	5%	3%	8% ↑	2%		6%	2%	3%	4%	3%		8%
Prefer not to say	1%			1%		3%		2%								
Don't know	8%	12%	8%	6%	6%	13%	11%	6%		3%	11%	8%	7%	8%	5%	8%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.2 Clarity of information from industry groups

46% of respondents felt the information provided by industry groups and/or peak bodies about land management practices was either somewhat clear or very clear. 34% rated the clarity of information as average/mid-point of scale*. 14% of producers believed the information provided was unclear. 6% either declined or were unable to answer.

Sub-group findings

Commodity findings

There were no statistically significant differences by commodity, though sugarcane producers (65%) were the most likely commodity segment to rate the information provided as clear, while those involved in horticulture (38%) or 'other' commodities (25%) registered the lowest scores.

Regional findings

In terms of region, highest ratings for information clarity were registered by Mackay Whitsunday producers (64%), while the lowest scores were observed among producers in the Burnett Mary (35%) and Wet Tropics (39%) regions.

Other findings

Those who had participated in funded Reef water quality programs over the last 10 years (60%) were more likely than those who had not (39%) to rate the information provided as clear.

Respondents born in 1960 or earlier were significantly less likely to feel the information provided was clear (38%, 46% average).

Q32 - Generally, is the information provided by industry groups and/or peak bodies about land management practices ...?

Base: All respondents (n=154)

^ Caution small cell size

* The online and telephone surveys labelled each point on the scale (including the mid-point as average). The hardcopy survey only labelled the anchors (e.g. very unclear and very clear).

6.2 Clarity of information from industry groups by region and reef program

Q32 - Generally, is the information provided by industry groups and/or peak bodies about land management practices ...? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Very clear	18%	25%	18%	15%	36%	15%	17%	28% ↑	13% ↓	30%	33%	26%	33%	25%
Somewhat clear	28%	25%	21%	42%	29%	35%	19%	33%	26%	36%	38%	42%	22%	38%
NET 'CLEAR'	46%	50%	39%	58%	64%	50%	35%	60% ↑	39% ↓	67%	71%	68%	56%	63%
Average/Midpoint	34%	25%	32%	27%	36%	38%	38%	28%	40%	24%	14%	21%	44%	13%
Somewhat unclear	12%		21%			9%	19%	5%	14%	3%		5%		13%
Very unclear	2%	25%	4%	4%				3%	2%	3%	5%	5%		
NET 'UNCLEAR'	14%	25%	25%	4%		9%	19%	8%	16%	6%	5%	11%		13%
Prefer not to say	1%						2%							
Don't know	5%		4%	12%		3%	6%	5%	5%	3%	10%			13%

The online and telephone surveys labelled each point on the scale (including the mid-point as average). The hardcopy survey only labelled the anchors (e.g. very unclear and very clear).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.2 Clarity of information from industry groups by demographics

Q32 - Generally, is the information provided by industry groups and/or peak bodies about land management practices ...? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Very clear	18%	10%	29% ↑	18%	19%	15%	19%	17%	19%	18%	19%	15%	11%	25%	22%	8%
Somewhat clear	28%	41% ↑	29%	19% ↓	30%	21%	23%	37%	29%	39%	26%	23%	25%	28%	30%	33%
NET 'CLEAR'	46%	51%	58%	38% ↓	49%	36%	41%	54%	48%	58%	44%	38%	36%	53%	51%	42%
Average/Midpoint	34%	24%	24%	46% ↑	34%	38%	40%	23% ↓	38%	24%	37%	44%	36%	33%	30%	46%
Somewhat unclear	12%	12%	11%	11%	12%	10%	8%	17%	14%	9%	9%	15%	18%	6%	16%	4%
Very unclear	2%	2%	3%	1%	2%	3%	3%	2%		3%	4%		7%			4%
NET 'UNCLEAR'	14%	15%	13%	13%	14%	13%	11%	19%	14%	12%	13%	15%	25%	6%	16%	8%
Prefer not to say	1%	2%				3%	1%									
Don't know	5%	7%	5%	4%	4%	10%	7%	4%		6%	6%	3%	4%	8%	3%	4%

The online and telephone surveys labelled each point on the scale (including the mid-point as average). The hardcopy survey only labelled the anchors (e.g. very unclear and very clear).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.3 Information sources for land management practices

Respondents were most likely to say they sourced information on land management practices from other growers and producers whose opinions they value (57%).

After this a range of sources were used, most commonly:

- Natural Resource Management groups (40%)
- Industry peak bodies (37%)
- Qualified private agronomists (35%)
- Research institutions (34%)
- Department of Agriculture and Fisheries extension officers (32%)
- Friends and family (31%).

Results for other sources of information are presented in the adjacent chart.

Sub-group findings

Commodity finding

Sugarcane growers (70%) were the most likely commodity segment to consult other growers or producers.

Graziers (48%) were more likely than others (40%) to seek information from Natural Resource Management groups. Graziers were less likely than average to get information from industry peak bodies (25%), qualified private agronomists (28%), productivity groups (15%) or the Federal Government (2%).

Regional findings

Sourcing information from other growers and producers was most widespread among respondents located in the Mackay Whitsunday region (100%) and least common in the Burnett Mary (42%) or Cape York (25%) regions.

Funded program participation findings

Participants in funded Reef water quality programs were more likely than non-participants to source information via the following sources:

- Natural Resource Management groups (60%)
- Research institutions (55%)
- Productivity groups (40%)
- Federal Government (15%).

Other findings

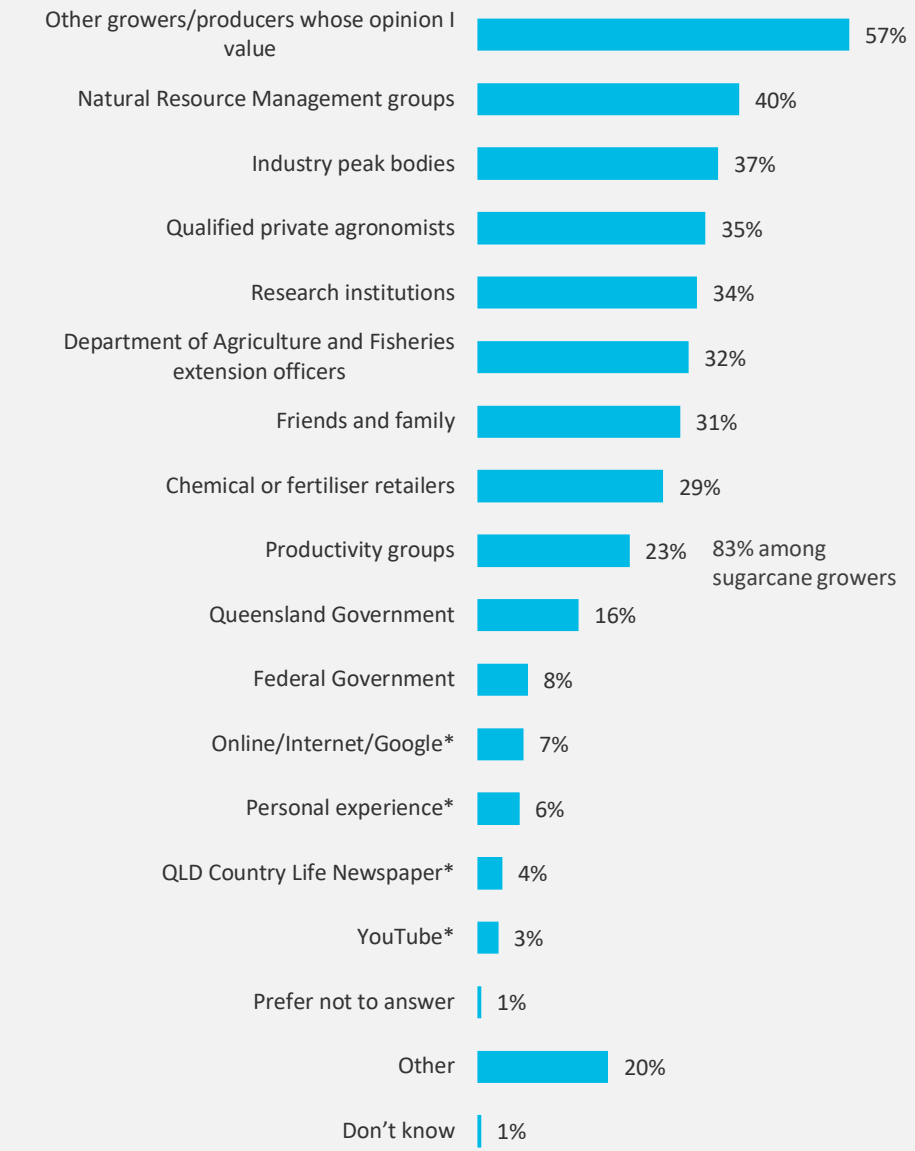
Younger producers (born 1971 or later) (12%) were less likely than their older peers to source information from productivity groups. Females appeared less likely than males to gather information from other growers (44%, males 61%) or productivity groups (13%, males 27%).

Those with 101-500 hectares under production (42%) were more likely than average (29%) to use chemical or fertiliser retailers as a source of information on land management practices.

Those with 501-10,000 hectares under production (76%) were more likely than average (57%) to source information from other growers.

Q33 - Where do you get your information on land management practices?

Base: All respondents (n=154)



* Online/Internet/Google, Personal experience, QLD Country Life Newspaper and YouTube were not prompted codes (they were entered as 'other' but coded during analysis given the frequency of response)

6.3 Information sources for land management practices by commodity type

Q33 - Where do you get your information on land management practices? by COMMODITY

Column %		COMMODITY					
	Total n = 154	Grazing n = 85	Sugarcane n = 23^	Bananas n = 3^	Grains n = 7^	Horticulture n = 24^	Other n = 12^
Other growers/producers whose opinion I value	57%	61%	70%	33%	57%	29%	67%
Natural Resource Management groups	40%	48% ↑	43%		29%	25%	25%
Industry peak bodies	37%	25% ↓	70%	33%	29%	50%	42%
Qualified private agronomists	35%	28% ↓	43%	33%	57%	38%	50%
Research institutions	34%	35%	65%		29%	13%	17%
Department of Agriculture and Fisheries extension officers	32%	38%	17%	67%	29%	21%	42%
Friends and family	31%	38%	35%		29%	13%	25%
Chemical or fertiliser retailers	29%	22%	52%		14%	33%	33%
Productivity groups	23%	15% ↓	83%			13%	8%
Queensland Government	16%	13%	22%			25%	17%
Federal Government	8%	2% ↓	17%			17%	17%
Online/Internet/Google*	7%	9%				8%	8%
Personal experience*	6%	7%			14%	8%	8%
QLD Country Life Newspaper*	4%	7% ↑					
YouTube*	3%	6% ↑					
Prefer not to answer	1%					4%	
Other	20%	20%	17%	67%		21%	25%
Don't know	1%					4%	

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

* Online/Internet/Google, Personal experience, QLD Country Life Newspaper and YouTube were not prompted codes (were entered as 'other' but separated out due to number of respondents mentioning each channel

6.3 Information sources for land management practices by region and reef program

Q33 - Where do you get your information on land management practices? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Other growers/producers whose opinion I value	57%	25%	57%	54%	100%	68%	42% ↓	63%	60%	61%	67%	63%	78%	63%
Natural Resource Management groups	40%	25%	36%	50%	43%	50%	31%	60% ↑	33% ↓	52%	43%	63%	56%	63%
Industry peak bodies	37%	50%	43%	15%	64%	41%	33%	48%	31%	55%	62%	47%	89%	88%
Qualified private agronomists	35%	50%	25%	15%	71%	44%	33%	33%	37%	36%	33%	26%	33%	50%
Research institutions	34%		29%	46%	71%	32%	23%	55% ↑	30% ↓	61%	52%	53%	67%	63%
Department of Agriculture and Fisheries extension officers	32%	25%	29%	42%	36%	41%	23%	30%	29%	33%	19%	37%	11%	25%
Friends and family	31%		32%	31%	36%	47% ↑	21%	35%	33%	33%	38%	26%	33%	38%
Chemical or fertiliser retailers	29%	25%	25%	31%	71%	15% ↓	27%	38%	24%	42%	52%	42%	67%	50%
Productivity groups	23%		32%	31%	86%	9% ↓	8% ↓	40% ↑	22% ↓	48%	48%	32%	67%	63%
Queensland Government	16%		14%	27%	21%	9%	15%	20%	14%	24%	19%	16%	11%	38%
Federal Government	8%		4%	4%	29%	12%	4%	15% ↑	3% ↓	15%	10%	11%	11%	38%
Online/Internet/Google*	7%		7%	8%		9%	8%	3%	10%	3%	5%	5%		
Personal experience*	6%	25%	4%	4%		6%	10%	5%	7%	3%		5%	11%	13%
QLD Country Life Newspaper*	4%			8%		6%	4%		6%					
YouTube*	3%			4%		3%	6%	3%	3%	3%				
Prefer not to answer	1%		4%						1%					
Other	20%	25%	25%	15%	14%	21%	21%	13%	21%	15%	10%	5%		
Don't know	1%						2%		1%					

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

* Online/Internet/Google, Personal experience, QLD Country Life Newspaper and YouTube were not prompted codes (were entered as 'other' but separated out due to number of respondents mentioning each channel

6.3 Information sources for land management practices by demographics

Q33 - Where do you get your information on land management practices? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Other growers/ producers	57%	46%	63%	61%	61%	44% ↓	59%	63%	38%	58%	57%	69%	39%	67%	76% ↑	58%
Natural Resource Management groups	40%	44%	39%	38%	42%	38%	35%	42%	57%	42%	39%	44%	18%	42%	51%	54%
Industry peak bodies	37%	46%	37%	33%	38%	33%	25% ↓	48% ↑	48%	39%	31%	38%	39%	44%	41%	13%
Qualified private agronomists	35%	29%	47%	33%	34%	38%	32%	42%	38%	33%	37%	33%	43%	28%	46%	21%
Research institutions	34%	22%	39%	39%	37%	23%	33%	42%	19%	30%	37%	46%	21%	42%	43%	46%
Dept of Ag. and Fisheries extension officers	32%	29%	24%	39%	34%	28%	35%	35%	24%	30%	22%	36%	14%	28%	32%	42%
Friends and family	31%	34%	34%	28%	34%	23%	29%	35%	29%	39%	31%	33%	18%	44%	32%	42%
Chemical or fertiliser retailers	29%	29%	18%	35%	29%	23%	28%	35%	24%	24%	28%	33%	25%	42% ↑	14% ↓	33%
Productivity groups	23%	12% ↓	26%	29%	27%	13%	21%	31%	14%	21%	31%	26%	21%	36%	27%	21%
Queensland Government	16%	17%	18%	13%	18%	10%	11%	21%	19%	18%	20%	8%	18%	11%	19%	17%
Federal Government	8%	12%	13%	3% ↓	8%	8%	7%	12%	5%	9%	11%		7%	6%	14%	
Online/Internet/Google*	7%	7%	5%	7%	7%	8%	8%	4%	10%	12%	4%	10%	4%	8%	11%	8%
Personal experience*	6%	7%	8%	6%	4% ↓	15% ↑	5%	6%	10%	12%	2%	8%	11%	3%	5%	8%
QLD Country Life Newspaper*	4%	2%		7%	4%	3%	7%	2%		3%		10% ↑		3%	5%	8%
YouTube*	3%	5%	5%	1%	2%	8%		6%	10%	9% ↑	2%		7%		5%	
Prefer not to answer	1%		3%		1%		1%				2%		4%			
Other	20%	12%	21%	24%	19%	23%	21%	15%	29%	12%	22%	18%	25%	19%	16%	13%
Don't know	1%		3%			3%	1%				2%		4%			

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

* Online/Internet/Google, Personal experience, QLD Country Life Newspaper and YouTube were not prompted codes (were entered as 'other' but separated out due to number of respondents mentioning each channel

6.4 Trustworthiness of information sources

Respondents were asked to indicate the extent to which they *trust* a range of sources on information or advice about land management practices.

Other growers and producers were the most widely trusted source of information (92%). After this:

- Qualified private agronomists (78%)
- Friends and family (75%)
- Research institutions (71%).

Government was the least widely trusted source of information (25% Queensland Government, 25% Federal Government).

Sub-group findings

Commodity findings

Graziers were less likely than others to trust chemical or fertiliser retailers (49%, 57% average) and more likely to trust friends and family (82%, 75% average).

Regional findings

Compared with respondents in other regions, those in the Burnett Mary were less likely than average to trust private agronomists (67%, 78% average) or productivity groups (40%, 54% average).

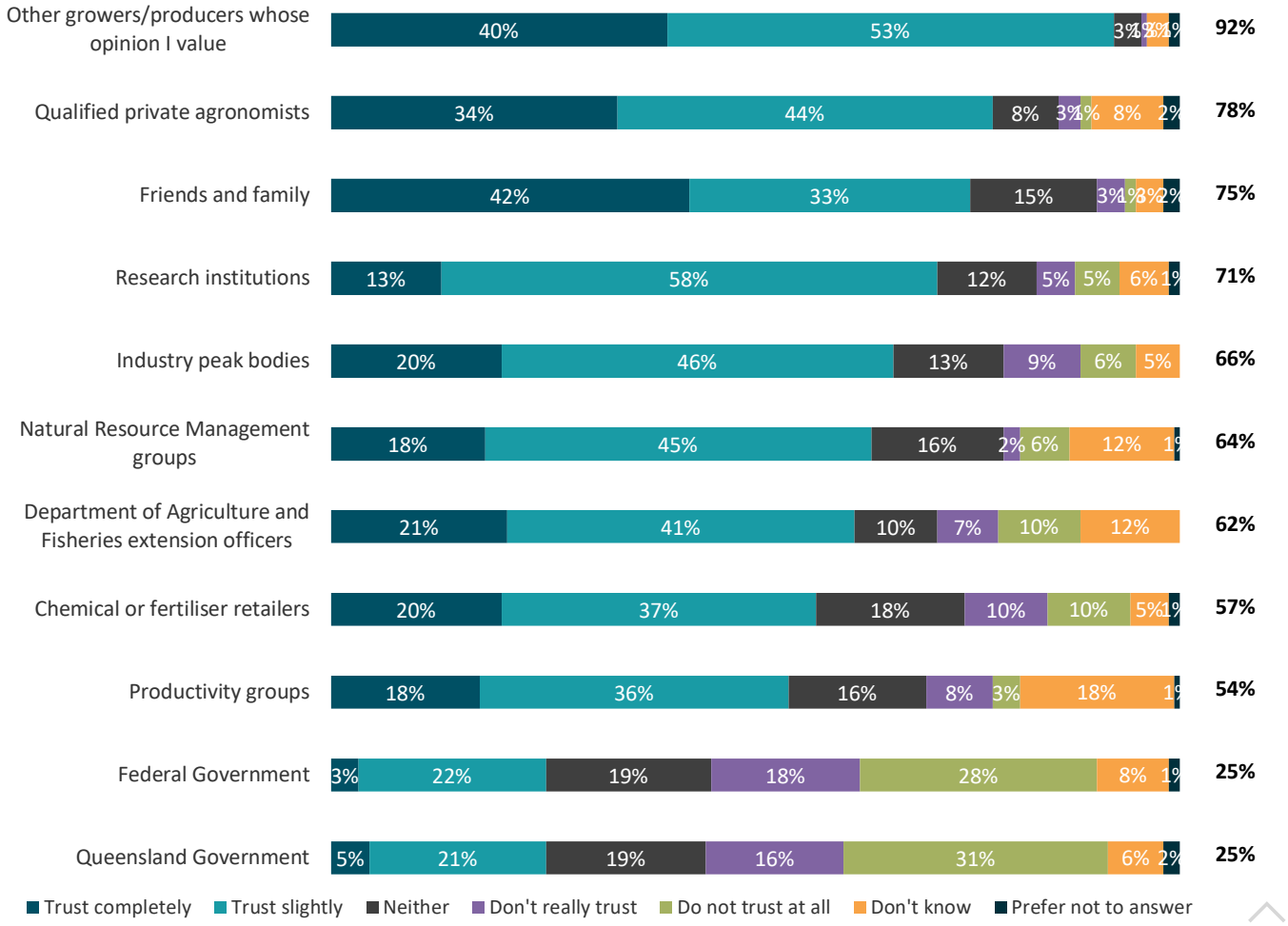
Other findings

Trust of government information sources was higher than average among producers born in 1971 or later (46% Federal, 41% Queensland Government – 25% average for both)

There were no statistically significant differences between program participants and non-participants.

Q34 - To what extent do you trust each of the following sources for information or advice on land management practices?

Base: All respondents (n=154)



^ Caution small cell size

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Completely trustworthy and completely untrustworthy).

6.4 Trustworthiness of information sources by commodity type

Q34 - To what extent do you trust each of the following sources for information or advice on land management practices? NET TRUST by COMMODITY

Column %		COMMODITY					
	Total n = 154	Grazing n = 85	Sugarcane n = 23^	Bananas n = 3^	Grains n = 7^	Horticulture n = 24^	Other n = 12^
Other growers/producers whose opinion I value	92%	95%	96%	100%	86%	92%	67%
Qualified private agronomists	78%	79%	78%	67%	86%	79%	67%
Friends and family	75%	82% ↑	70%	67%	86%	50%	83%
Research institutions	71%	73%	61%	100%	57%	83%	58%
Industry peak bodies	66%	64%	65%	67%	86%	75%	58%
Natural Resource Management groups	64%	67%	52%	67%	71%	67%	50%
Department of Agriculture and Fisheries extension officers	62%	65%	48%	100%	57%	67%	50%
Chemical or fertiliser retailers	57%	49% ↓	78%	67%	29%	75%	50%
Productivity groups	54%	48%	87%	33%	57%	50%	42%
Federal Government	25%	20%	22%	33%		54%	25%
Queensland Government	25%	22%	17%	33%		50%	25%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Completely trustworthy and completely untrustworthy).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.4 Trustworthiness of information sources by region and reef program

Q34 - To what extent do you trust each of the following sources for information or advice on land management practices? NET TRUST by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Other growers/producers whose opinion I value	92%	100%	93%	96%	100%	88%	90%	100%	92%	100%	100%	100%	100%	100%
Qualified private agronomists	78%	100%	75%	88%	79%	85%	67% ↓	73%	79%	76%	76%	74%	56%	88%
Friends and family	75%	75%	79%	77%	71%	88% ↑	65% ↓	83%	71%	79%	81%	84%	67%	88%
Research institutions	71%	75%	61%	69%	71%	79%	73%	73%	71%	73%	76%	74%	67%	88%
Industry peak bodies	66%	100%	54%	69%	86%	71%	60%	78%	61%	82%	81%	84%	89%	100%
Natural Resource Management groups	64%	75%	57%	58%	71%	65%	67%	68%	60%	64%	57%	79%	44%	63%
Department of Agriculture and Fisheries extension officers	62%	75%	54%	50%	71%	68%	65%	53%	64%	52%	48%	63%	33%	63%
Chemical or fertiliser retailers	57%	75%	61%	62%	71%	35% ↓	63%	58%	56%	64%	67%	68%	78%	88%
Productivity groups	54%	50%	61%	58%	93%	50%	40% ↓	58%	54%	61%	52%	63%	78%	75%
Federal Government	25%	25%	32%	23%	36%	12% ↓	29%	20%	23%	24%	24%	21%	11%	38%
Queensland Government	25%	25%	29%	23%	36%	15%	29%	23%	23%	27%	29%	26%	11%	38%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Completely trustworthy and completely untrustworthy).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.4 Trustworthiness of information sources by demographics

Q34 - To what extent do you trust each of the following sources for information or advice on land management practices? NET TRUST by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Other growers/ producers whose opinion I value	92%	93%	97%	89%	94%	87%	92%	94%	90%	100%	96%	90%	93%	94%	95%	100%
Qualified private agronomists	78%	85%	76%	76%	79%	77%	79%	81%	67%	82%	78%	72%	75%	72%	81%	83%
Friends and family	75%	76%	82%	71%	76%	72%	84% ↑	69%	67%	70%	74%	82%	43%	81%	86%	88%
Research institutions	71%	78%	66%	72%	75%	59% ↓	63% ↓	85% ↑	76%	82%	70%	67%	68%	67%	84%	71%
Industry peak bodies	66%	76%	71%	58%	68%	59%	59%	85% ↑	57%	79%	63%	59%	64%	61%	73%	67%
Natural Resource Management groups	64%	71%	66%	58%	62%	69%	59%	71%	71%	70%	59%	59%	61%	50%	70%	67%
Department of Agriculture and Fisheries extension officers	62%	66%	53%	64%	65%	49%	61%	63%	62%	64%	54%	67%	54%	58%	68%	58%
Chemical or fertiliser retailers	57%	56%	61%	58%	57%	59%	57%	60%	57%	61%	59%	51%	61%	61%	49%	58%
Productivity groups	54%	46%	68% ↑	51%	56%	46%	49%	63%	43%	52%	54%	59%	61%	56%	49%	58%
Federal Government	25%	46% ↑	24%	15% ↓	28%	18%	17% ↓	35%	24%	42% ↑	17%	13%	29%	19%	24%	17%
Queensland Government	25%	41% ↑	21%	18%	28%	18%	17% ↓	35%	24%	42% ↑	17%	15%	32%	22%	19%	21%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Completely trustworthy and completely untrustworthy).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

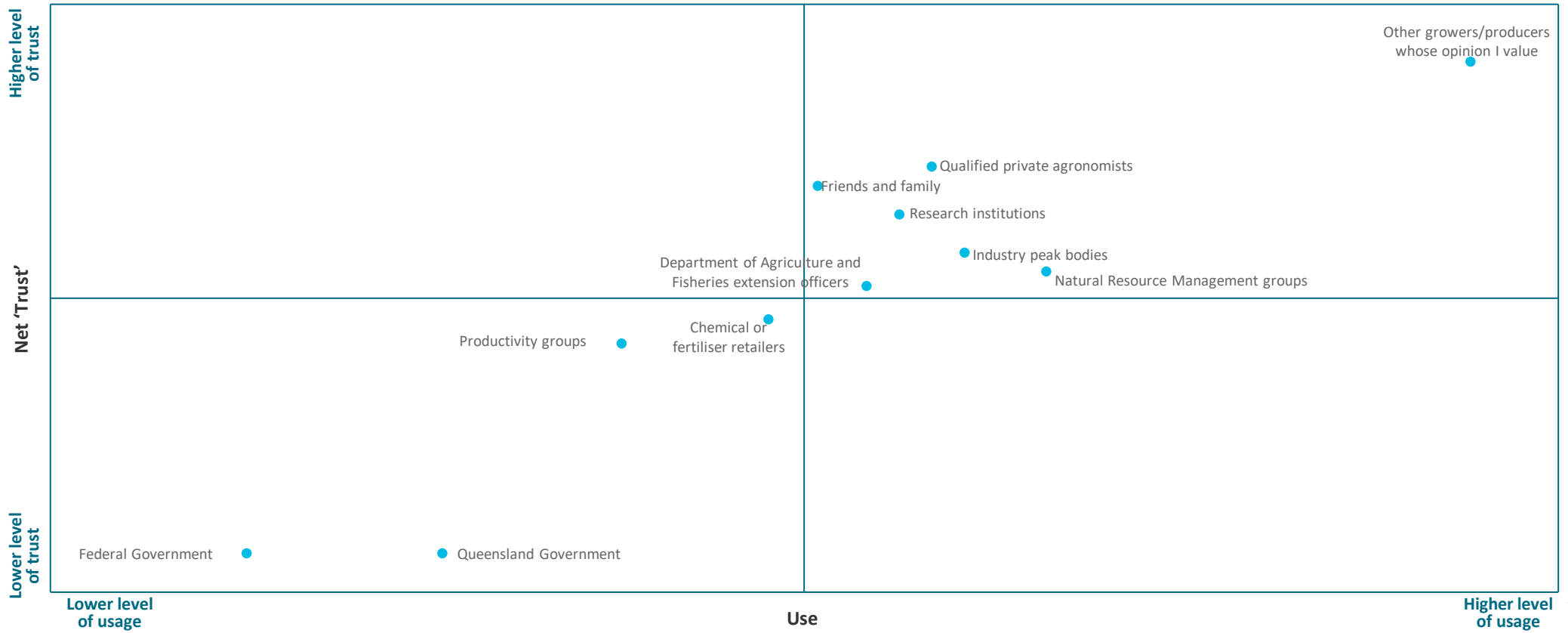
6.4 Trustworthiness of information sources by usage levels

The most commonly used information sources also received the highest ratings of trustworthiness:

- Other growers/ producers
- Natural Resource Management groups
- Qualified private agronomists
- Industry peak bodies
- Research institutions
- Friends and family
- Department of Agriculture and Fisheries extension officers.

Information sources that were less commonly used were less likely to be viewed as trustworthy:

- Chemical or fertiliser retailers
- Productivity groups
- Queensland Government
- Federal Government.



6.4 Field days, workshops, grower events and shed meetings

69% of respondents agreed that field days, workshops, grower events or shed meetings run in their area were well worth the effort of attending. 57% felt that such events were usually well attended by producers or growers. 38% indicated these opportunities were regularly available in their area.

Sub-group findings

Commodity findings

Graziers were less likely than others agree that field days, workshops, grower events or shed meetings run in their area were run on a regular basis (28%, average 38%). Sugarcane (83%) and grain (86%) producers appeared the most likely to consider such events worthwhile. Sugarcane producers appeared most likely to agree the events were well attended (74%) and regularly run (78%).

Regional findings

Those operating in the Fitzroy region (18%) were the least likely to agree such events were regularly run in their area.

Funded program participation findings

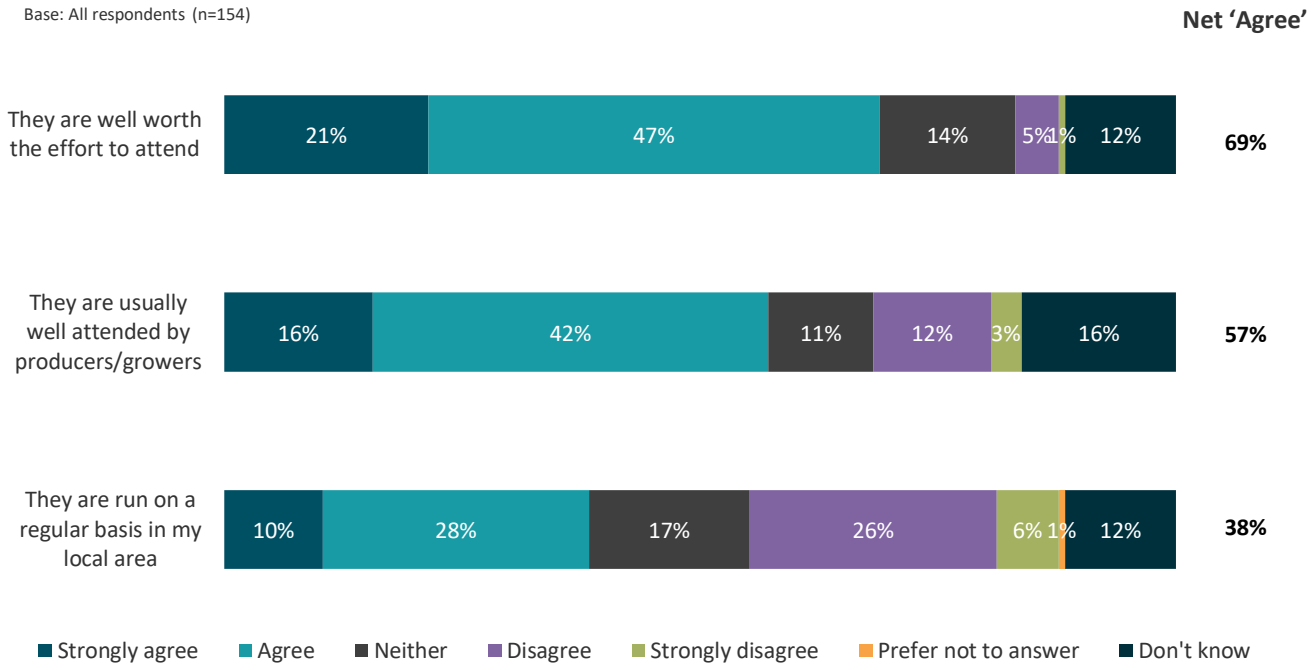
The views of program participants and non-participants were consistent in terms of considering these events to be worthwhile, well attended and regularly run.

Other findings

Males appeared more likely than females to consider these events to be worthwhile and well attended.

Q35 - How strongly do you agree with the following statements about field days, workshops, grower events or shed meetings that are run in your area for your main commodity?

Base: All respondents (n=154)



^ Caution small cell size

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strongly agree and strongly disagree).

6.4 Field days, workshops, grower events and shed meetings by commodity type

Q35 - How strongly do you agree with the following statements about field days, workshops, grower events or shed meetings that are run in your area for your main commodity? NET AGREE by COMMODITY

Column %		COMMODITY					
	Total n = 154	Grazing n = 85	Sugarcane n = 23^	Bananas n = 3^	Grains n = 7^	Horticulture n = 24^	Other n = 12^
They are well worth the effort to attend	69%	69%	83%	67%	86%	54%	58%
They are usually well attended by producers/growers	57%	54%	74%	33%	71%	54%	50%
They are run on a regular basis in my local area	38%	28% ↓	78%	33%	57%	38%	25%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strongly agree and strongly disagree).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.4 Field days, workshops, grower events and shed meetings by region and reef program

Q35 - How strongly do you agree with the following statements about field days, workshops, grower events or shed meetings that are run in your area for your main commodity? NET AGREE by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
They are well worth the effort to attend	69%	75%	71%	65%	79%	71%	65%	68%	70%	70%	71%	47%	89%	75%
They are usually well attended by producers/growers	57%	75%	61%	42%	71%	62%	54%	58%	57%	64%	67%	58%	78%	88%
They are run on a regular basis in my local area	38%	100%	46%	38%	71%	18% ↓	33%	50%	36%	58%	62%	53%	67%	75%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strongly agree and strongly disagree).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.4 Field days, workshops, grower events and shed meetings by demographics

Q35 - How strongly do you agree with the following statements about field days, workshops, grower events or shed meetings that are run in your area for your main commodity? NET AGREE by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
They are well worth the effort to attend	69%	66%	76%	68%	71%	64%	65%	69%	76%	76%	65%	69%	64%	78%	70%	58%
They are usually well attended by producers/growers	57%	61%	61%	54%	59%	49%	49%	60%	76%	64%	56%	54%	61%	56%	65%	46%
They are run on a regular basis in my local area	38%	41%	42%	35%	39%	36%	35%	48%	24%	48%	39%	33%	46%	50%	32%	29%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strongly agree and strongly disagree).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.5 Number of field days, workshops, grower events and shed meetings

Opinions were divided as to whether the number of field days, workshops, grower events or shed meetings run in their area for their main commodity were about right (47%) or too few (43%). Only 1% felt there were too many events, while 10% were unable to answer on this issue.

Sub-group findings

Commodity findings

Graziers (48%), horticulturalists (42%) and other growers (42%) were the commodity segments most likely to rate the number of field days, workshops, grower events or shed meetings as being too few.

Regional findings

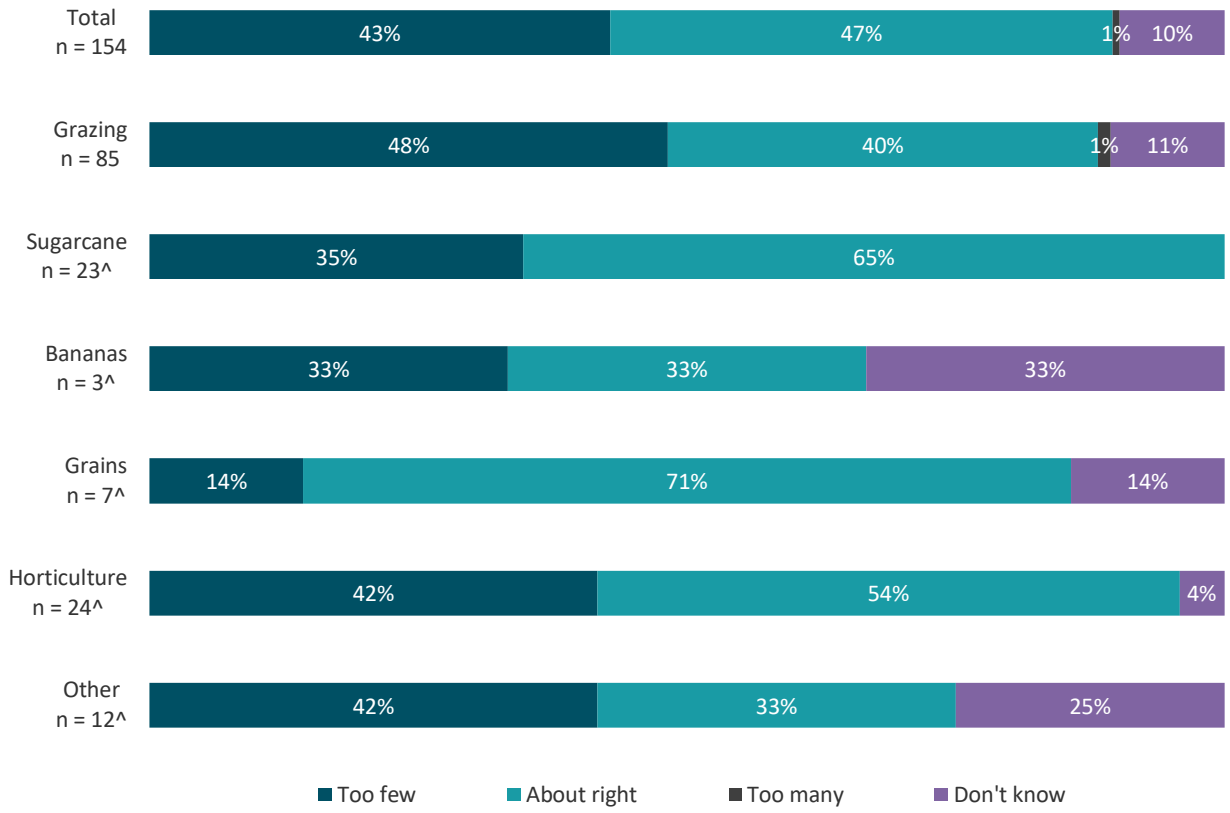
Those operating in the Fitzroy (15%) or Burnett Mary (13%) regions were the most likely regional groups to be unsure about the number of events on offer.

Other findings

55% of funded program participants felt the number of events on offer was about right, compared to 45% among non-participants.

Q36 - Thinking about the number of field days, workshops, grower events or shed meetings that are run in your area for your main commodity, are there…?

Base: All respondents (n=154)



^ Caution small cell size

6.5 Number of field days, workshops, grower events and shed meetings by region and reef program

Q36 - Thinking about the number of field days, workshops, grower events or shed meetings that are run in your area for your main commodity, are there…? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Too few	43%	25%	43%	46%	36%	47%	42%	40%	44%	39%	38%	26%	33%	13%
About right	47%	75%	50%	46%	64%	38%	44%	55%	45%	61%	62%	63%	67%	88%
Too many	1%						2%	3%				5%		
Don't know	10%		7%	8%		15%	13%	3%	11%			5%		

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

6.5 Number of field days, workshops, grower events and shed meetings by demographics

Q36 - Thinking about the number of field days, workshops, grower events or shed meetings that are run in your area for your main commodity, are there…? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Too few	43%	34%	50%	43%	47%	33%	45%	37%	48%	39%	44%	44%	39%	47%	35%	54%
About right	47%	51%	42%	47%	44%	51%	43%	54%	43%	55%	39%	54%	54%	47%	49%	38%
Too many	1%	2%				3%			5%		2%					4%
Don't know	10%	12%	8%	10%	9%	13%	12%	10%	5%	6%	15% ↑	3%	7%	6%	16%	4%

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

7.0 Actions that impact the Great Barrier Reef

7.1 Trustworthiness of science about the Great Barrier Reef

29% of respondents felt that science about the Great Barrier Reef water quality was trustworthy (4% completely, 25% somewhat). 46% believed the science to be untrustworthy (23% completely, 23% somewhat). 19% were neutral while 6% did not or could not answer.

Sub-group findings

Commodity findings

27% of graziers and 22% of sugarcane producers considered the science to be trustworthy, compared to 38% among horticulture growers and 50% among 'other' producers. No grain producers in our survey rated the science as trustworthy – 43% rated the science as untrustworthy, 29% were neutral while 29% did not answer. Mixed views were expressed by the three Banana producers in the survey (one rated the science as trustworthy, one was neutral and one somewhat untrustworthy).

Regional findings

Producers in the Burnett Mary region (42%) were more likely than others (29%) to consider the science to be trustworthy.

Funded program participation findings

25% of funded program participants and 26% of non-participants rated the science as trustworthy.

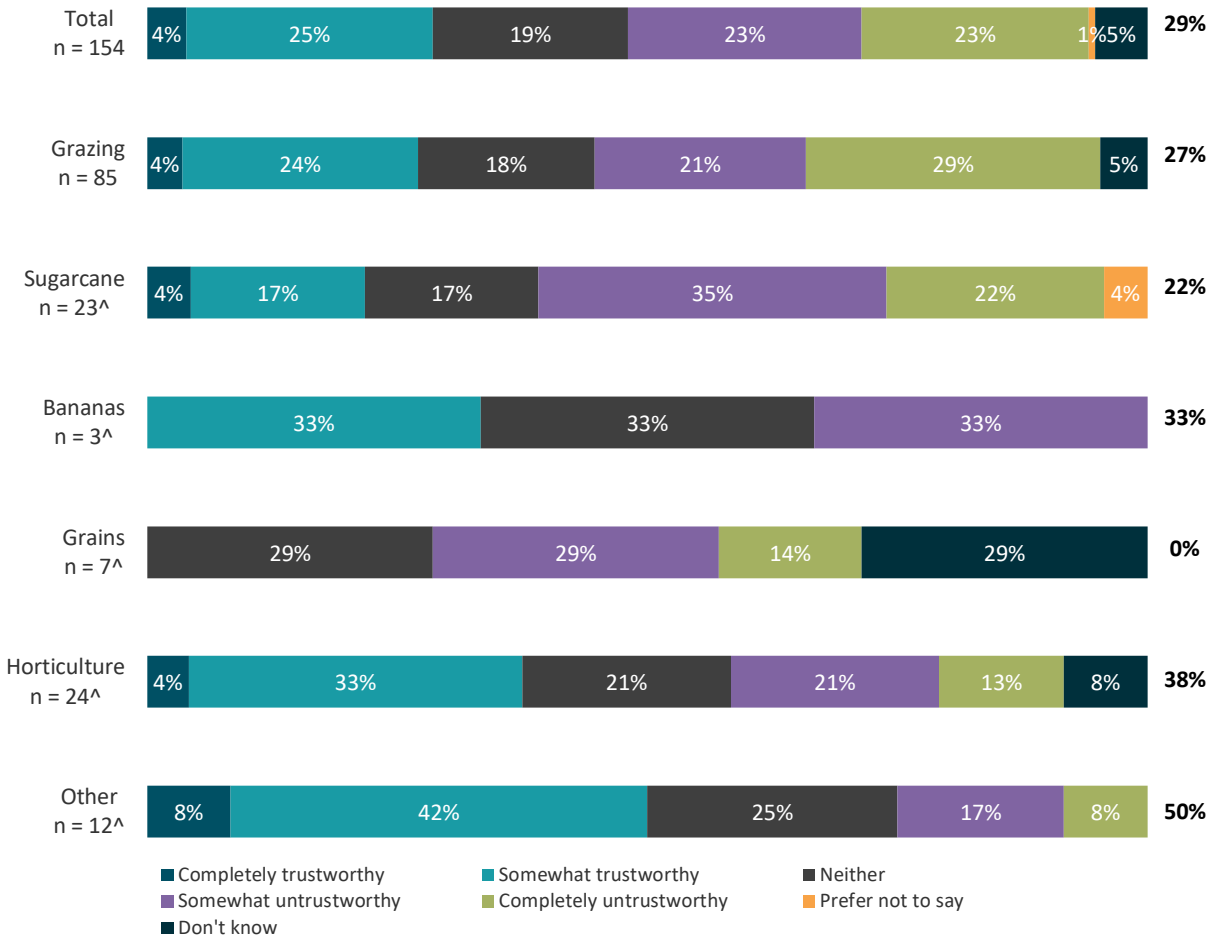
Other findings

Perceptions of trustworthiness appeared to decrease as age increased (37% rated as untrustworthy for those born in 1971 or later, 47% for those born in 1961-1970, 49% among those born in 1960 or earlier).

Those with higher levels of education (bachelor degree 57%) were more likely than those with a school level education (20%) to rate the science about Reef water quality as trustworthy.

Q37 - Would you say that science about the Great Barrier Reef water quality is…?

Base: All respondents (n=154)



^ Caution small cell size

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Completely trustworthy and completely untrustworthy).

7.1 Trustworthiness of science about the Great Barrier Reef by region and reef program

Q37 - Would you say that science about the Great Barrier Reef water quality is…? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Completely trustworthy	4%				14%	3%	6%	5%	3%	6%				
Somewhat trustworthy	25%	25%	18%	19%	21%	21%	35% ↑	20%	23%	21%	24%	21%		38%
NET TRUSTWORTHY	29%	25%	18%	19%	36%	24%	42% ↑	25%	26%	27%	24%	21%		38%
Neither	19%	25%	25%	15%	21%	24%	15%	18%	21%	21%	14%	26%	22%	
Somewhat untrustworthy	23%		43%	15%	29%	21%	19%	28%	22%	27%	33%	16%	44%	25%
Completely untrustworthy	23%	50%	11%	46%	14%	24%	17%	30%	21%	24%	29%	37%	33%	38%
NET UNTRUSTWORTHY	46%	50%	54%	62%	43%	44%	35%	58%	43%	52%	62%	53%	78%	63%
Prefer not to say	1%						2%		1%					
Don't know	5%		4%	4%		9%	6%		9% ↑					

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Completely trustworthy and completely untrustworthy).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

7.1 Trustworthiness of science about the Great Barrier Reef by demographics

Q37 - Would you say that science about the Great Barrier Reef water quality is…? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Completely trustworthy	4%		3%	7%	4%	5%	1%	8%	5%	9%	4%		7%	6%	3%	
Somewhat trustworthy	25%	29%	29%	21%	25%	26%	19%	25%	52%	27%	19%	23%	36%	19%	22%	13%
NET TRUSTWORTHY	29%	29%	32%	28%	28%	31%	20% ↓	33%	57%	36%	22%	23%	43%	25%	24%	13%
Neither	19%	29%	13%	18%	21%	10%	17%	27%	10%	27%	15%	21%	14%	19%	24%	21%
Somewhat untrustworthy	23%	20%	29%	22%	22%	28%	23%	25%	19%	15%	26%	26%	14%	31%	24%	17%
Completely untrustworthy	23%	17%	18%	26%	22%	26%	32% ↑	13%	5%	15%	30%	23%	14%	22%	19%	46%
NET UNTRUSTWORTHY	46%	37%	47%	49%	44%	54%	55% ↑	38%	24%	30% ↓	56%	49%	29%	53%	43%	63%
Prefer not to say	1%			1%	1%		1%				2%		4%			
Don't know	5%	5%	8%	4%	5%	5%	7%	2%	10%	6%	6%	8%	11%	3%	8%	4%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Completely trustworthy and completely untrustworthy).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

7.2 Perceptions of Government regulations being evidence based

32% of respondents agreed that the Government's regulations for protecting the Reef's water quality are based on at least some evidence (some evidence 27%, strong evidence 5%). 47% felt the evidence is weak or non-existent (40% weak, 7% no evidence). 4% are unsure or declined to answer.

Sub-group findings

Commodity findings

Sugarcane (61%) and grain (57%) producers are the commodity segments most likely to consider regulations are based on weak evidence.

Funded program participation findings

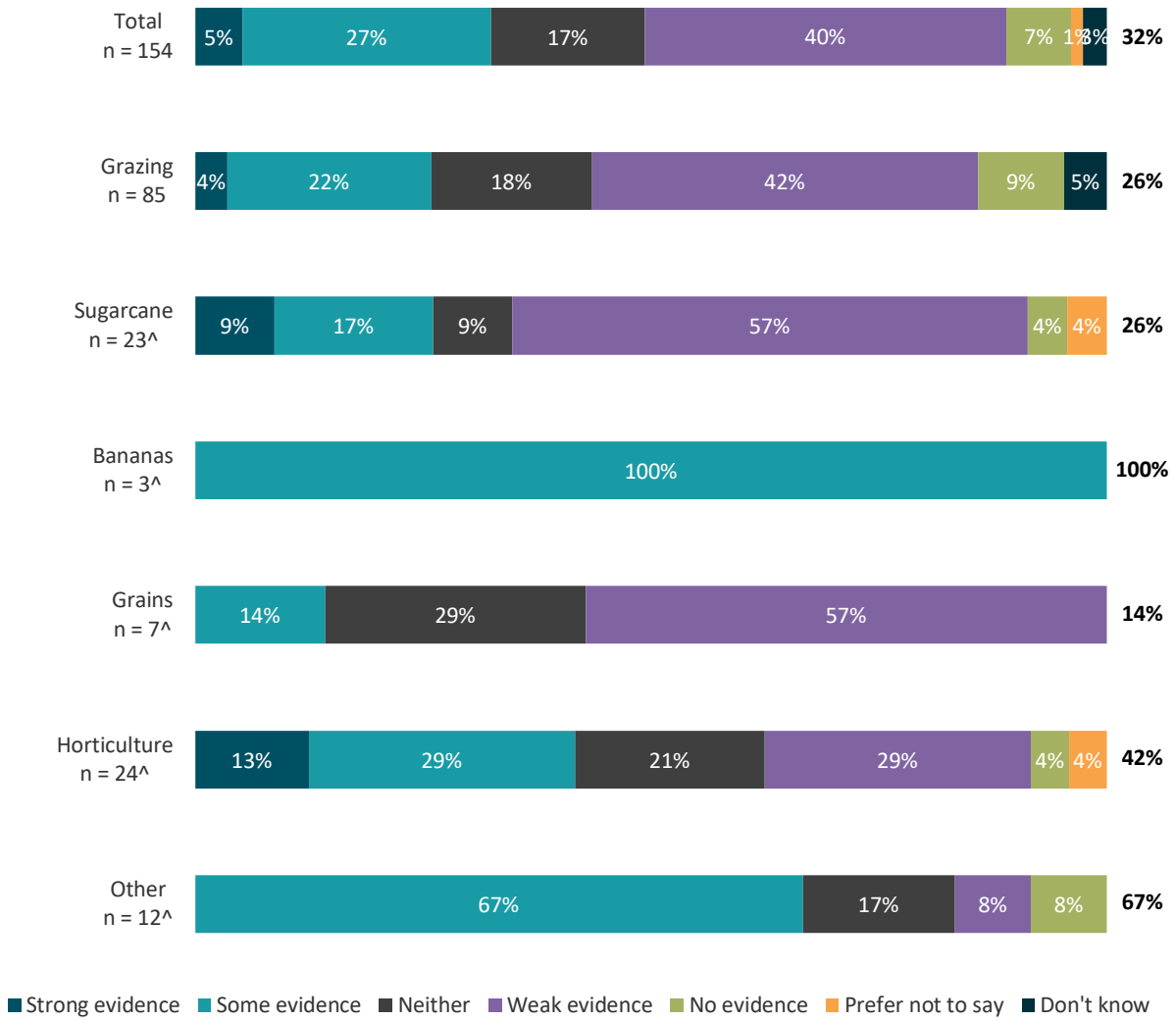
Funded program participants (53%) and non-participants (48%) are equally likely to consider regulations are based on weak evidence.

Other findings

Younger producers (born in 1971 or later 39%) appeared less likely than their older counterparts (1961-1970 50%, 1960 or earlier 47%) to rate the evidence as weak.

Q38 - Would you say that the Government's regulations for protecting the Reef's water quality are based on…?

Base: All respondents (n=154)



^ Caution small cell size

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strong evidence and completely no evidence).

7.2 Perceptions of Government regulations being evidence based by region and reef program

Q38 - Would you say that the Government's regulations for protecting the Reef's water quality are based on…? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
Strong evidence	5%			8%	21%		6%	8%	6%	9%	5%			
Some evidence	27%	25%	36%	23%	21%	26%	27%	25%	24%	30%	38%	26%	11%	25%
NET 'STRONG/SOME EVIDENCE'	32%	25%	36%	31%	43%	26%	33%	33%	30%	39%	43%	26%	11%	25%
Neither	17%	25%	21%	12%	21%	12%	19%	15%	16%	12%	10%	16%	11%	13%
Weak evidence	40%	25%	39%	42%	29%	44%	40%	40%	45%	36%	33%	42%	44%	38%
No evidence	7%	25%	4%	12%	7%	9%	4%	13%	3%	12%	14%	16%	33%	25%
NET 'WEAK/NO EVIDENCE'	47%	50%	43%	54%	36%	53%	44%	53%	48%	48%	48%	58%	78%	63%
Prefer not to say	1%						4% ↑		2%					
Don't know	3%			4%		9% ↑			3%					

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strong evidence and completely no evidence).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

7.2 Perceptions of Government regulations being evidence based by demographics

Q38 - Would you say that the Government's regulations for protecting the Reef's water quality are based on…? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
Strong evidence	5%	2%	11%	4%	5%	5%	4%	6%	10%	6%	11%		11%	8%	5%	
Some evidence	27%	34%	21%	28%	29%	23%	23%	33%	33%	39% ↑	19%	21%	36%	25%	19%	21%
NET 'STRONG/SOME EVIDENCE'	32%	37%	32%	32%	35%	28%	27%	38%	43%	45% ↑	30%	21%	46%	33%	24%	21%
Neither	17%	22%	16%	15%	18%	10%	17%	21%	5%	21%	6% ↓	26% ↑	4%	19%	16%	25%
Weak evidence	40%	32%	45%	39%	38%	46%	41%	33%	43%	27% ↓	52%	44%	36%	47%	51%	29%
No evidence	7%	7%	5%	8%	7%	8%	11%	4%	5%	6%	7%	5%	7%		5%	17%
NET 'WEAK/NO EVIDENCE'	47%	39%	50%	47%	45%	54%	52%	37%	48%	33% ↓	59%	49%	43%	47%	57%	46%
Prefer not to say	1%			3%	1%	3%	1%		5%		4%		7%			
Don't know	3%	2%	3%	3%	2%	5%	3%	4%			2%	5%			3%	8%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strong evidence and completely no evidence).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

7.3 Perceptions of the impact of water run-off on the Great Barrier Reef

Most respondents (83%) felt that the quality of water that runs off the land into waterways has at least some impact on the Great Barrier Reef. 19% noted the impact was large or very large, while 64% believed the impact to be only small or moderate. 8% felt the Reef was not impacted by the quality of water run-off. 9% were unable to or declined to make comment.

Sub-group findings

Commodity findings

While differences cannot be declared as statistically significant, the highest proportions rating the impact of water run-off as large or very large were noted among the following segments:

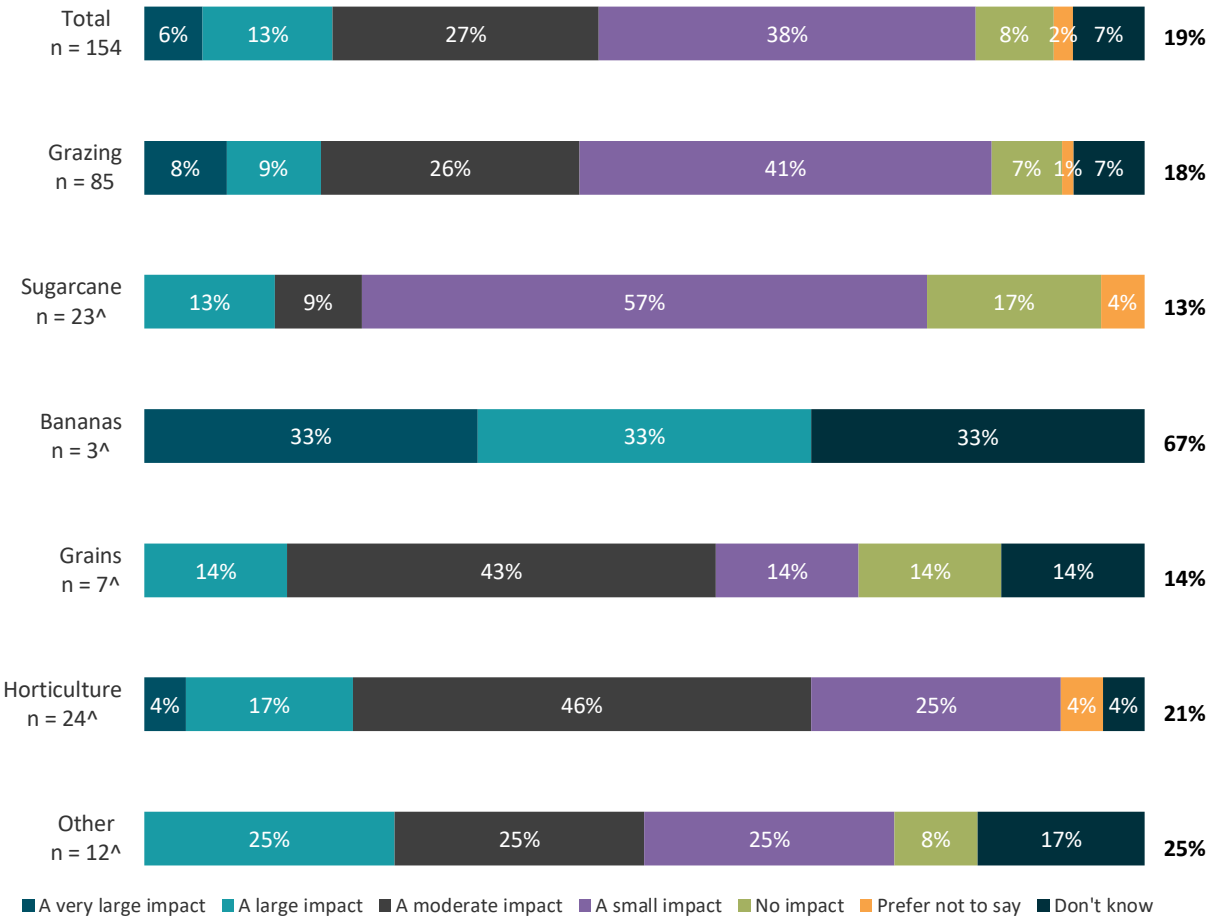
- Banana growers (67%), 'Other' producers (25%) and Horticultural growers (21%)
- Those operating in the Mackay Whitsunday (29%), Cape York (25%) or Burnett Mary (25%) regions.

Funded program participation findings

10% of funded program participants felt water run-off had no impact on the Reef, compared to 6% among non-participants.

Q39 - To what extent is the Great Barrier Reef impacted by the quality of water that runs off the land into waterways?

Base: All respondents (n=154)



^ Caution small cell size

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. A very large impact and no impact).

7.3 Perceptions of the impact of water run-off on the Great Barrier Reef by region and reef program

Q39 - To what extent is the Great Barrier Reef impacted by the quality of water that runs off the land into waterways? by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
A very large impact	6%		4%		7%	6%	10%	8%	7%	9%	5%	5%		
A large impact	13%	25%	14%	8%	21%	9%	15%	13%	11%	15%	10%			25%
VERY LARGE/LARGE	19%	25%	18%	8%	29%	15%	25%	20%	18%	24%	14%	5%		25%
A moderate impact	27%	25%	18%	31%	14%	29%	31%	20%	29%	21%	19%	42%		13%
A small impact	38%	25%	46%	35%	57%	29%	35%	48%	36%	42%	52%	47%	89%	50%
MODERATE/SMALL	64%	50%	64%	65%	71%	59%	67%	68%	64%	64%	71%	89%	89%	63%
NET 'IMPACT'	83%	75%	82%	73%	100%	74%	92%	88%	83%	88%	86%	95%	89%	88%
No impact	8%	25%	11%	19%		9%		10%	6%	9%	10%	5%	11%	13%
Prefer not to say	2%		4%				4%		3%					
Don't know	7%		4%	8%		18% ↑	4%	3%	8%	3%	5%			

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. A very large impact and no impact).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

7.3 Perceptions of the impact of water run-off on the Great Barrier Reef by demographics

Q39 - To what extent is the Great Barrier Reef impacted by the quality of water that runs off the land into waterways? by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
A very large impact	6%		3%	11% ↑	5%	8%	3%	10%	10%	15% ↑	4%	5%	14%	8%	3%	4%
A large impact	13%	15%	24% ↑	7% ↓	12%	15%	5% ↓	21% ↑	24%	18%	15%	3% ↓	21%	8%	14%	4%
VERY LARGE/LARGE	19%	15%	26%	18%	18%	23%	8% ↓	31% ↑	33%	33% ↑	19%	8% ↓	36%	17%	16%	8%
A moderate impact	27%	37%	18%	25%	27%	26%	27%	23%	33%	30%	19%	33%	25%	22%	27%	33%
A small impact	38%	37%	37%	39%	38%	36%	43%	40%	19%	30%	41%	44%	29%	44%	43%	38%
MODERATE/SMALL	64%	73%	55%	64%	65%	62%	69%	63%	52%	61%	59%	77%	54%	67%	70%	71%
NET 'IMPACT'	83%	88%	82%	82%	82%	85%	77%	94% ↑	86%	94%	78%	85%	89%	83%	86%	79%
No impact	8%	7%	8%	7%	9%	5%	12%		5%	6%	9%	5%		8%	8%	13%
Prefer not to say	2%		3%	3%	2%	3%	4%				4%	3%	7%			
Don't know	7%	5%	8%	8%	7%	8%	7%	6%	10%		9%	8%	4%	8%	5%	8%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. A very large impact and no impact).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

7.4 Perceptions of community actions and responsibility

Respondents were asked to reflect on their perceptions of community actions and responsibility more broadly.

Most respondents agreed with the following statements:

- It is the responsibility of everyone in my local area to try to reduce their impacts on the Great Barrier Reef (88%)
- I feel morally obligated to reduce any impacts I might personally have on the Great Barrier Reef (82%)
- Most people in my local area try to reduce any impacts they might have on the Great Barrier Reef (68%).

31% agreed that they cannot make a personal difference in improving the health of the Great Barrier Reef (55% disagreed, that is, they felt that they could personally make a difference).

Sub-group findings

Funded program participation findings

Funded program participants were more likely than non-participants to agree that most people in their area try to reduce any impacts they might have on the Reef (88% participants, 61% non-participants). Program participants (20%) were less likely than non-participants (39%) to agree that they cannot personally make a difference to improving the Reef's health.

Other findings

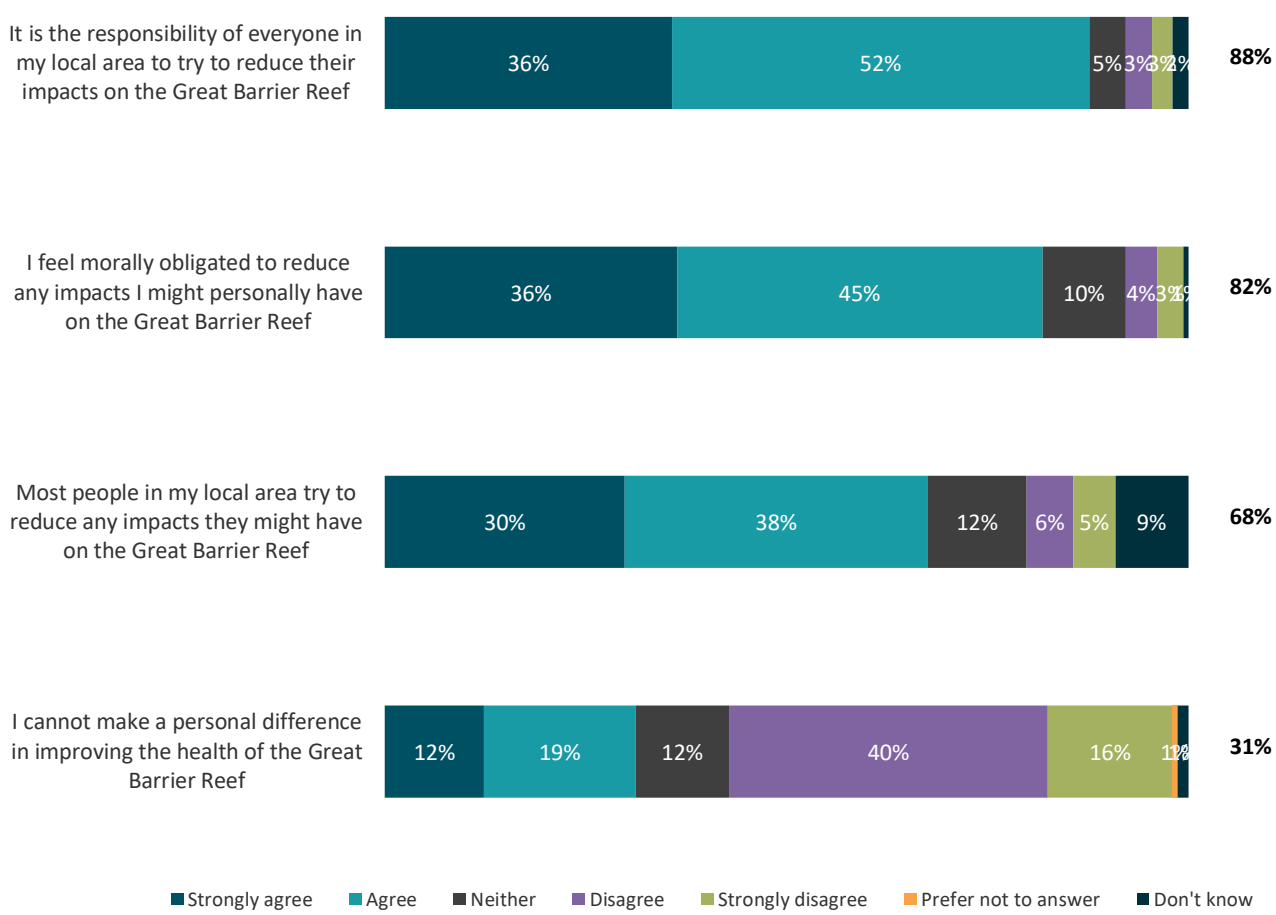
Growers in the Burnett Mary region (56%) were less likely than others (68%) to agree most people in their local area try to reduce any impacts they might have on the Great Barrier Reef.

Producers born in 1971 or later (78%) were less likely than their older counterparts (1961-1970 97%) to agree it is the responsibility of everyone in the local area to try to reduce their impacts on the Great Barrier Reef.

Those who completed school as their highest level of education (71%) were less likely than others (average 82%) to feel morally obligated to reduce any impacts they might personally have on the Great Barrier Reef.

Q40 - The following statements relate to the broader community in your local area (not just growers/producers) and yourself. Please rate your level of agreement with the following statements.

Base: All respondents (n=154)



The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strongly agree and strongly disagree).

7.4 Perceptions of community actions and responsibility by commodity type

Q40 - The following statements relate to the broader community in your local area (not just growers/producers) and yourself. Please rate your level of agreement with the following statements NET AGREE by COMMODITY

Column %		COMMODITY					
	Total n = 154	Grazing n = 85	Sugarcane n = 23^	Bananas n = 3^	Grains n = 7^	Horticulture n = 24^	Other n = 12^
It is the responsibility of everyone in my local area to try to reduce their impacts on the Great Barrier Reef	88%	87%	91%	100%	57%	92%	92%
I feel morally obligated to reduce any impacts I might personally have on the Great Barrier Reef	82%	76%	83%	100%	86%	92%	92%
Most people in my local area try to reduce any impacts they might have on the Great Barrier Reef	68%	65%	91%	67%	57%	58%	67%
I cannot make a personal difference in improving the health of the Great Barrier Reef	31%	36%	39%		14%	21%	17%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strongly agree and strongly disagree).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

7.4 Perceptions of community actions and responsibility by region and reef program

Q40 - The following statements relate to the broader community in your local area (not just growers/producers) and yourself. Please rate your level of agreement with the following statements NET AGREE by Region & Reef Program

Column %		REGION						PROGRAM PARTICIPANT (Q6)		REEF WATER QUALITY PROGRAMS PARTICIPATED IN (Q6a)				
	Total n = 154	Cape York n = 4^	Wet Tropics n = 28^	Burdekin n = 26^	Mackay Whitsunday n = 14^	Fitzroy n = 34	Burnett Mary n = 48	Yes n = 40	No /Not sure n = 87	Industry best mgt n = 33	Nutrient mgt n = 21^	Sed. reduct./ gully remed. n = 19^	Chemical improv't n = 9^	Irrigation mgt n = 8^
It is the responsibility of everyone in my local area to try to reduce their impacts on the Great Barrier Reef	88%	100%	82%	92%	100%	88%	83%	93%	84%	94%	100%	100%	89%	100%
I feel morally obligated to reduce any impacts I might personally have on the Great Barrier Reef	82%	100%	89%	77%	79%	85%	77%	88%	78%	88%	86%	89%	78%	75%
Most people in my local area try to reduce any impacts they might have on the Great Barrier Reef	68%	100%	68%	81%	86%	62%	56% ↓	88% ↑	61% ↓	91%	90%	84%	89%	88%
I cannot make a personal difference in improving the health of the Great Barrier Reef	31%	25%	21%	38%	43%	32%	29%	20% ↓	39% ↑	15%	14%	32%	33%	

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strongly agree and strongly disagree).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

7.4 Perceptions of community actions and responsibility by demographics

Q40 - The following statements relate to the broader community in your local area (not just growers/producers) and yourself. Please rate your level of agreement with the following statements
NET AGREE by Demographics

Column %		AGE			GENDER		EDUCATION LEVEL			TIME IN AGRICULTURE INDUSTRY			HECTARES UNDER PRODUCTION			
	Total n = 154	1971 or later n = 41	1961 to 1970 n = 38	1960 or earlier n = 72	Male n = 113	Female n = 39	School education n = 75	Certificate/ Diploma /Advanced Diploma n = 52	Bachelor degree or above n = 21^	30 yrs or less n = 33	31-50 yrs n = 54	51+ yrs n = 39	100 or less n = 28^	101-500 n = 36	501-10,000 n = 37	10,001+ n = 24^
It is the responsibility of everyone in my local area to try to reduce their impacts on the Great Barrier Reef	88%	78% ↓	97% ↑	89%	89%	82%	85%	94%	90%	85%	91%	82%	96%	86%	84%	83%
I feel morally obligated to reduce any impacts I might personally have on the Great Barrier Reef	82%	78%	89%	79%	84%	74%	71% ↓	92% ↑	90%	88%	83%	74%	96%	86%	78%	67%
Most people in my local area try to reduce any impacts they might have on the Great Barrier Reef	68%	63%	66%	71%	69%	62%	65%	75%	57%	70%	70%	67%	75%	72%	65%	67%
I cannot make a personal difference in improving the health of the Great Barrier Reef	31%	27%	21%	39%	32%	28%	35%	27%	29%	18% ↓	39%	38%	29%	42%	27%	38%

The online and telephone surveys labelled each point on the scale (including the mid-point as neither). The hardcopy survey only labelled the anchors (e.g. Strongly agree and strongly disagree).

^ Caution small cell size; Blank cells indicate no response; 0% indicates less than 1%; Total sample; Arrows or figures in red/blue indicate a significant difference from other sub-groups at the 95% confidence interval

Appendices

A: Other responses

Q2 - Which type of agricultural commodity do you MAINLY farm or produce? Horticulture (other than bananas) Please specify crop:
• Avocados (2 mentions) • Macadamias (2 mentions) • Small crops, beans, tomatoes • Capsicums, tomatoes • Avocado & Mango • Avocado and Macadamia • Mangos, Lychees, Longan • Peanuts • Ginger, Turmeric, Garlic • Watermelon and honeydew • Citrus • Blueberries • Sweet Potatoes and Macadamia nuts • Palms • Limes • Mangoes & avocados • Zucchini, Watermelon, Pumpkin, Macadamia • Berries • Strawberries • Lychees and Mangoes • Watermelons and pumpkins • Sweetcorn

A: Other responses (continued)

Q6b - You answered 'No' to having participated in funded Reef water quality programs for your main commodity since 2013. Which of the following best describes your situation? OTHER

- Have practices in place that exceed industry best practice therefore we have not been eligible for funding. We have had to fund all own R & D
- Have only farmed here for 2 years
- The only chemical is tick control stuff for cattle

Q8 - What are the THREE MAIN reasons for why you would or do use these soil management practices? OTHER

- Cover for weeds
- In a soil carbon credit scheme
- Save water, save chemical application
- Prevent run off
- How we approach our business
- Look after animals
- Don't use soil management practices, since crops are grown in pots.
- I've always done it that way
- Common sense
- Irrigation
- Retention of fertilisers
- Pasture retention

Q9 - What are the THREE MAIN challenges or barriers to starting or continuing to use these soil management practices? OTHER

- Government, media and all the crap they put on the farmers
- Engaging employees in practice change
- Interferes with planting windows for sugarcane, so makes the sugarcane late so you don't get as good as a cane prop, also the biomass from the crop is an issue for the next set of crops
- We started changing in 1998. There were lots of losses in the beginning. You need product premiums. You need total commitment to long term gains and not the short term losses
- Government interest rates
- Tree regrowth can be a barrier to our draft cover, gives us limited management of water flow
- Impact of exotic weeds and feral animals, poor state government
- Not relevant
- Sick of giving and not receiving
- Keeping the water ways clean and trying to get more water going into the ground instead of running off water ways
- It takes a little bit more time but it does pay off, results are slow at the start but they start building up as you continue.
- Government regulations don't understand the environment and seasonal variabilities. Government bodies are completely out of touch with agriculture - they are too political and not practical
- Red tape
- Invasive weeds
- Rotation of stock as well as infrastructure
- Country doesn't get flogged out and lose the grass., and erosion
- Feral Pigs
- Government regulations
- Unique crop requirements
- Too much regulation
- Government Regulations
- Government legislation/regulation

Q14 - What are the THREE MAIN reasons for why you would or do use these nutrient management practices? OTHER

- Reduce waste and run-off, some efficiencies as well
- Get the advice from my area rep and I just do what they say

Q15 - What are the THREE MAIN challenges or barriers to starting or continuing to use these nutrient management practices? OTHER

- Engaging employees in practice change
- Don't put too little on so that you don't grow an unviable crop
- Regulation not very practical for how the soil testing is required, could make improvements in the soil testing requirements for cane-growing
- When starting it, infrastructure is a big issue
- My age
- Keep shifting the bar, regulations and requirements
- Trees need to be looked after as a long-term investment

Q20 - What are the THREE MAIN reasons for why you would or do use these irrigation management practices? OTHER

- Part of Teemburra scheme. Pay for water irrespective of use
- Conserve water
- To keep the water on our farm
- Save the amount of water were using
- Water efficiency
- Don't get disease for my plants including fungus (to control this)
- Manage disease
- In dry seasons, its to keep it alive and get it going
- Water is carefully distributed throughout the orchard, it's sustainable in a dry climate
- Save water

A: Other responses (continued)

Q21 - What are the THREE MAIN challenges or barriers to starting or continuing to use these irrigation management practices? OTHER

- Short of water
- Water insecurity - Paradise Dam uncertainty
- Biggest concern is not getting 100% of our allocation, tied to a number of megalitres for the farm, the paradise farm is reduced to half of its capacity, so availability of water is a concern in this
- Poor moisture probes

Q26 - What are the THREE MAIN reasons for why you would or do use these pesticide management practices? OTHER

- For weeds
- Do it according to the label, the number of times you use it and the placement of the insecticide is important, it's the only option we've got
- Safety of use

Q27 - What are the THREE MAIN challenges or barriers to starting or continuing to use these pesticide management practices? OTHER

- Engaging employees in practice change
- Using the wrong chemical
- Government regulation

Q33 - Where do you get your information on land management practices? OTHER

- Reading (4 mentions)
- Generational knowledge (3 mentions)
- Media (2 mentions)
- Own research (2 mentions)
- Workshops (2 mentions)
- Farm Field Days (2 mentions)
- Certifiers in Organic organisations
- Self funded R&D
- Tertiary education
- Auditors
- Land Care Groups, MLA
- Department on primary industries website
- Terrain, Wet - Group of Farmers - Not for profit
- Area reps
- Flyers in the email, attending seminars
- Department of Environment, Resources and Mines
- AGFORCE, Rural Fire Service, Wildlife Services
- Radio
- Council - local government
- Fitzroy Development Association
- MLA
- Cattle reps
- Originally from the department of industries a while ago
- Landline (ABC TV)
- RDC
- Groundcover magazine

B: Sampling error chart

All sample surveys and polls, whether or not they use probability sampling, are subject to multiple sources of error which are most often not possible to quantify or estimate, including sampling error, coverage error, error associated with non-response, error associated with question wording and response options and post survey weighting and adjustments. Therefore MCR avoids the words “margin of error” as they are not able to be verified. All that can be calculated are different possible sampling errors with different probabilities of pure, unweighted, random samples with 100 response rates. These are only theoretical because no published surveys come close to this ideal. At the absolute minimum, sampling error based on various cell sizes for this survey could fall within the following ranges.

(at the 95 confidence level)

Sample size	10/90	20/80	30/70	40/60	50/50
100	±6.0	±8.0	±9.2	±9.8	±10.0
200	±4.2	±5.6	±6.5	±6.9	±7.0
300	±3.5	±4.6	±5.3	±5.7	±5.8
400	±3.0	±4.0	±4.6	±4.9	±5.0
500	±2.7	±3.6	±4.1	±4.4	±4.5
600	±2.4	±3.3	±3.7	±4.0	±4.1
700	±2.3	±3.0	±3.5	±3.7	±3.8
800	±2.1	±2.8	±3.2	±3.5	±3.5
900	±2.0	±2.4	±3.1	±3.3	±3.3
1000	±1.9	±2.5	±2.9	±3.1	±3.2
1100	±1.8	±2.4	±2.7	±2.9	±3.0
1200	±1.7	±2.3	±2.6	±2.8	±2.8
1300	±1.6	±2.2	±2.5	±2.7	±2.7
1400	±1.6	±2.1	±2.4	±2.6	±2.6
1500	±1.5	±2.0	±2.3	±2.5	±2.5
1600	±1.5	±2.0	±2.3	±2.4	±2.5
1700	±1.4	±1.9	±2.2	±2.3	±2.4
1800	±1.4	±1.9	±2.1	±2.3	±2.3
1900	±1.4	±1.8	±2.1	±2.2	±2.3
2000	±1.3	±1.8	±2.0	±2.2	±2.2
2100	±1.3	±1.7	±2.0	±2.1	±2.1
2200	±1.3	±1.7	±1.9	±2.1	±2.1
2300	±1.2	±1.6	±1.9	±2.0	±2.0
2400	±1.2	±1.6	±1.8	±2.0	±2.0
2500	±1.2	±1.6	±1.8	±1.9	±2.0

C: Questionnaire and primary approach letter

<<BARCODE_ID>>

<<CONTACT_NAME>>
<<TRADE_NAME>>
<<ADDRESS1>>
<<ADDRESS2>>
<<SUBURB>> <<STATE>> <<PCODE>>

<<DATE>>
Project Ref: 4970
Project ID: <<WID>>

Dear <<CONTACT_NAME>>,

Land management through your eyes.

We invite you to share with us your thoughts on land management practices as a primary producer or grower operating in the Great Barrier Reef catchment area. This important research will help the Queensland Government, through the Department of Environment and Science, to improve our understanding of agricultural industries and to inform current and future agricultural support programs.

Wallis Social Research (Wallis) and Market & Communications Research are conducting this survey on behalf of the Queensland Government.

To complete the survey, you have three options

- Complete the survey **online** by visiting: **go.wallis.social/XXX<<WIDNOD>>** or scan the QR code on this letter. You can complete it any time from now until 23 May 2023.
- Complete the attached **paper** questionnaire and return it in the reply paid envelope provided.
- Complete the survey over the **phone** by calling 1800 113 444 to arrange a time that suits you over the next couple of weeks.

Scan to complete the survey

QR CODE

Project Ref: 4970
ID Number: <<WID>>

This is not an audit – all your answers will remain confidential.

Participation is voluntary and you can stop taking part at any time without explanation or prejudice. The data you provide does not identify you in any way, and your responses are compiled anonymously. This aggregated, de-identified data may be used in publications and reports.

Your personal information will be handled in accordance with the Information Privacy Act 2009. Wallis' Privacy Policy can be viewed at **www.wallis.social/privacy**.

Please pass this information onto any other producers or growers you know in the Great Barrier Reef catchment area.

If you have any questions about the survey, contact Wallis on **1800 113 444** or email **reefsurvey@wallis.social**.

Thank you for your time and participation.

wallis. Social Research
MCR Market & Communications Research

The project is funded through the Queensland Government's Queensland Reef Water Quality Program

Queensland Government

Thank you for taking the time to complete this survey. Please note that only some questions will be applicable to you.

There are no right or wrong answers to any of the questions, your honest opinion and perspective is what is of interest. All responses are confidential.

Section 1: Farm Characteristics

First, we would like to know a little bit about your primary production business and land management practices.

Q1 In which region do you **mainly** operate? *Please tick **one** box only*

01 Cape York	04 Mackay Whitsunday	99 Unsure *(please specify postcode)*
02 Wet Tropics	05 Fitzroy	.....
03 Burdekin	06 Burnett Mary	97 None of these ▶ **End survey**

Q2 Which type of agricultural commodity do you **mainly** farm or produce? *Please tick **one** box only*

01 Grazing	03 Bananas
02 Sugarcane	04 Grains (Broadacre cropping)
05 Horticulture, other than bananas *(please specify crop)*	
95 Other *(please specify)* ..... ▶ **Go to Section 6**	
97 None of the above ▶ **End survey**	

Q3 Thinking about the commodity you **mainly** farm and including all properties currently under production/grazing, **how many hectares of land** would this involve?

*Please **write** in the space provided*

95 ..... hectares

Q4 How long have you been in the agricultural industry? *Please tick **one** box only*

01 Less than 1 year	04 21 – 30 years	07 Greater than 50 years
02 1 – 10 years	05 31 – 40 years	99 Don't know
03 11 – 20 years	06 41 – 50 years	

Q5 How likely are **you** to be actively involved in operating your business for the next 5-10 years?

*Please tick **one** box only*

Not at all likely **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Extremely likely | 98 Prefer not to say | 99 Don't know

For the remainder of this survey please think about the main commodity you grow or produce.

Q6 Have you participated in any **funded** Reef water quality programs for your main commodity since 2013?
Please see examples of funded programs over the page at Q6A.

*Please tick **one** box only*

01 Yes ▶ **Go to Question 6A**	98 Prefer not to say ▶ **Go to Section 2**
02 No ▶ **Go to Question 6B**	99 Don't know ▶ **Go to Section 2**

Q6A You answered **'Yes'** to having participated in funded Reef water quality programs for your main commodity since 2013. Which of the following programs have you participated in?

*Please tick **all** that apply*

- 01 Industry best management practice programs *(e.g. Smartcane BMP, Banana BMP, Grazing BMP, Grains BMP, Hort360 GBR BMP, Freshcare, etc.)*
- 02 Nutrient management planning programs *(e.g. RP161, Reef Trust Repeated Tenders, WTSIP nutrient management planning, etc.)*
- 03 Sediment reduction or gully remediation programs *(e.g. GRASS, Grassroots, Project Pioneer, Landholders Driving Change, etc.)*
- 04 Chemical improvement programs *(e.g. Project Bluewater, Sandy Creek, Janes Creek, etc.)*
- 05 Irrigation management programs *(e.g. Burdekin Irrigation Project, etc.)*
- 95 Other *(please specify)* .....
- 99 Don't know

Q6B You answered **'No'** to having participated in funded Reef water quality programs for your main commodity since 2013. Which of the following best describes your situation?

*Please tick **all** that apply*

- 01 **Do use** practices to reduce pollutant loss in run-off *(e.g. chemicals, sediments or nutrients)*
- 02 **Do not use** practices to reduce pollutant loss in run-off *(e.g. chemicals, sediments or nutrients)*
- 95 Other *(please specify)* .....
- 99 Don't know

Section 2: Soil Management

If your main commodity is **not** grazing, sugarcane, bananas, grains (broadacre cropping) or horticulture (based on your response at Q2) **Go to Section 6**

Q7 Thinking about your main commodity, which of the following **soil management practices** that can improve the quality of water in local waterways do you use?

*Please tick **all** that apply to your **main** commodity (based on your response at Q2). You do **not** need to answer for other commodities.*

Grazing
- 01 Have a high amount of forage left in the paddock at the end of the dry season
- 02 Manage areas of poor land condition so they can recover
- 03 Areas close to streams are managed to have higher levels of ground cover

Sugarcane
- 01 Maintain high ground cover during the wet season, especially in fallows

Bananas
- 01 Maintain high covered ground on the inter-rows
- 02 Fallow areas maintain high cover
- 03 Areas greater than 3% slope are contour planted or have contour banks

Grains (Broadacre cropping)
- 01 Use controlled traffic farming practices
- 02 Maintain more high ground cover between October to March
- 03 Have correctly designed and functional contour banks on areas with more than 1% slope

Question 7 *continues on the next page*

Question 7 *continues from the previous page*

Horticulture

- 01 Maintain high ground cover on the inter-rows (tree crops)
- 02 Maintain high ground cover on fallow areas
- 03 Use controlled traffic

*Please select **one** of these options if you did not tick any of the other boxes for Q7*

- 04 Do not use any of these practices but am planning to make changes
- 05 Do not use any of these practices and am **not** planning to make any changes
- 99 Unsure

You can answer the following questions thinking generally about the soil management practices noted above for your main commodity.

Q8 What are the **three main** reasons for why you would or do use these **soil management practices**?

*Please tick **up to 3** boxes*

- 01 For financial reasons *(e.g. increased profitability, save money, etc.)*
- 02 To maintain and/or improve productivity
- 03 To save time
- 04 For regulation compliance
- 05 For the environment
- 06 To improve my farm for future land managers
- 07 Other landholders in my area use these practices
- 08 To meet consumer expectations of land management/gain market access
- 09 To improve soil health
- 10 To make managing my farm easier
- 95 Other *(please specify)* .....
- 97 There are no reasons to use these practices
- 98 Prefer not to answer
- 99 Don't know

Q9 What are the **three main** challenges or barriers to starting or continuing to use these **soil management practices**?

*Please tick **up to 3** boxes*

- 01 Financial *(e.g. costs too much, don't have the money, worried about reduced profitability, not worth the return on investment)*
- 02 I am worried about production
- 03 I do not have the time
- 04 I need more information before I can use these practices
- 05 I don't think it will have a positive impact on the environment
- 06 It is not the way I have managed my farm in the past
- 07 Weather and seasonal issues
- 08 Not enough support from decision making partners *(e.g. family, business partners, etc.)*
- 09 I tried it before and was not happy with the outcome
- 10 I am constrained by the availability of contractors and labour/or contractor's equipment.
- 11 No one else is doing it
- 12 Additional administrative work *(e.g. record keeping, office work)*
- 95 Other *(please specify)* .....
- 97 There are no challenges or barriers
- 98 Prefer not to answer
- 99 Don't know

Q10 Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these **soil management practices**?

*Please tick **one** box only*

No positive result **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Very large positive result

98 Prefer not to say 99 Don't know

Q11 How confident are you in your ability to use these **soil management practices**?

*Please tick **one** box only*

Not at all confident **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Extremely confident | 98 Prefer not to say | 99 Don't know

Q12 Thinking about the landholders you know, or know of, what proportion do you think are using these **soil management practices**?

*Please tick **one** box only*

01 None | 02 Some | 03 Half | 04 Most | 05 All | 98 Prefer not to say | 99 Don't know

Section 3: Nutrient Management

If your main commodity is **grazing** or **grains** (based on your response at Q2) ➧ **Go to Section 6**

Q13 Thinking about your main commodity, which of the following **nutrient management practices** that can improve the quality of water in local waterways do you use?

*Please tick **all** that apply to your **main** commodity (based on your response at Q2). You do **not** need to answer for other commodities.*

Sugarcane	01 Use the least amount of inputs as possible to reduce surplus nutrients
Bananas	01 Timing (frequency), placement and amount of fertiliser used on crops is optimised to reduce surplus nutrients
Horticulture	01 Use a tailored, farm-specific Nutrient Management Plan
*Please select **one** of these options if you did **not** tick any of the above boxes*	04 Do not use any of these practices but am planning to make changes 05 Do not use any of these practices and am **not** planning to make any changes 99 Unsure

You can answer the following questions <u>thinking generally about the nutrient management practices noted above</u> for your main commodity.

Q14 What are the **<u>three main</u>** reasons for why you would or do use these **nutrient management practices**?

*Please tick **up to 3** boxes*

01 For financial reasons *(e.g. increased profitability, save money, etc.)*	06 To improve my farm for future land managers
02 To maintain and/or improve productivity	07 Other landholders in my area use these practices
03 To save time	08 To meet consumer expectations of land management/gain market access
04 For regulation compliance	09 To improve soil health
05 For the environment	10 To make managing my farm easier
95 Other *(please specify)*	
97 There are no reasons to use these practices	98 Prefer not to answer | 99 Don't know

Q15 What are the **<u>three main</u>** challenges or barriers to starting or continuing to use these **nutrient management practices**?

*Please tick **up to 3** boxes*

01	Financial *(e.g. costs too much, don't have the money, worried about reduced profitability, not worth the return on investment)*	07	Weather and seasonal issues
02	I am worried about production	08	Not enough support from decision making partners *(e.g. family, business partners, etc.)*
03	I do not have the time	09	I tried it before and was not happy with the outcome
04	I need more information before I can use these practices	10	I am constrained by the availability of contractors and labour/or contractor's equipment.
05	I don't think it will have a positive impact on the environment	11	No one else is doing it
06	It is not the way I have managed my farm in the past	12	Additional administrative work *(e.g. record keeping, office work)*
95	Other *(please specify)*		
97	There are no challenges or barriers	98	Prefer not to answer
		99	Don't know

Q16 Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these **nutrient management practices**?

*Please tick **one** box only*

No positive result **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Very large positive result | 98 Prefer not to say | 99 Don't know

Q17 How confident are you in your ability to use these **nutrient management practices**?

*Please tick **one** box only*

Not at all confident **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Extremely confident | 98 Prefer not to say | 99 Don't know

Q18 Thinking about the landholders you know, or know of, what proportion do you think are using these **nutrient management practices**?

*Please tick **one** box only*

01 None | 02 Some | 03 Half | 04 Most | 05 All | 98 Prefer not to say | 99 Don't know

Section 4: Irrigation Management

If your main commodity is **grazing**, **bananas** or **grains** (based on your response at Q2) **Go to Section 6**

Q19 Thinking about your main commodity, which of the following **irrigation management practices** that can improve the quality of water in local waterways do you use?

*Please tick **all** that apply to your **main** commodity (based on your response at Q2). You do **not** need to answer for other commodities.*

Sugarcane

01	Irrigation water applied matches crop demands
02	Tonnes of cane grown per ML of water is maximised

Horticulture

01	Use an Irrigation Management Plan across the whole of farm
02	Adjust irrigation based on monitoring water use and soil moisture.

Question 19 *continues on the next page*

Question 19 *continues from the previous page*

*Please select **one** of these options if you did not tick any of the other boxes for Q19*

- [ ] 03 Do not use any of these practices but am planning to make changes
- [ ] 04 Do not use any of these practices and am **not** planning to make any changes
- [ ] 97 Not applicable *(please only select if you do not irrigate)* ▶ **Go to Section 5**
- [ ] 99 Unsure

You can answer the following questions thinking generally about the irrigation management practices noted above for your main commodity.

Q20 What are the **three main** reasons for why you would or do use these **irrigation management practices**?

*Please tick **up to 3** boxes*

- [ ] 01 For financial reasons *(e.g. increased profitability, save money, etc.)*
- [ ] 02 To maintain and/or improve productivity
- [ ] 03 To save time
- [ ] 04 For regulation compliance
- [ ] 05 For the environment
- [ ] 06 To improve my farm for future land managers
- [ ] 07 Other landholders in my area use these practices
- [ ] 08 To meet consumer expectations of land management/gain market access
- [ ] 09 To improve soil health
- [ ] 10 To make managing my farm easier
- [ ] 95 Other *(please specify)* .....
- [ ] 97 There are no reasons to use these practices
- [ ] 98 Prefer not to answer
- [ ] 99 Don't know

Q21 What are the **three main** challenges or barriers to starting or continuing to use these **irrigation management practices**?

*Please tick **up to 3** boxes*

- [ ] 01 Financial *(e.g. costs too much, don't have the money, worried about reduced profitability, not worth the return on investment)*
- [ ] 02 I am worried about production
- [ ] 03 I do not have the time
- [ ] 04 I need more information before I can use these practices
- [ ] 05 I don't think it will have a positive impact on the environment
- [ ] 06 It is not the way I have managed my farm in the past
- [ ] 07 Weather and seasonal issues
- [ ] 08 Not enough support from decision making partners *(e.g. family, business partners, etc.)*
- [ ] 09 I tried it before and was not happy with the outcome
- [ ] 10 I am constrained by the availability of contractors and labour/or contractor's equipment.
- [ ] 11 No one else is doing it
- [ ] 12 Additional administrative work *(e.g. record keeping, office work)*
- [ ] 95 Other *(please specify)* .....
- [ ] 97 There are no challenges or barriers
- [ ] 98 Prefer not to answer
- [ ] 99 Don't know

Q22 Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these **irrigation management practices**?

*Please tick **one** box only*

No positive result **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Very large positive result

- [ ] 98 Prefer not to say
- [ ] 99 Don't know

Q23 How confident are you in your ability to use these **irrigation management practices**?

*Please tick **one** box only*

Not at all confident **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Extremely confident

- [ ] 98 Prefer not to say
- [ ] 99 Don't know

Q24 Thinking about the landholders you know, or know of, what proportion do you think are using these **irrigation management practices**?

*Please tick **one** box only*

01 None	02 Some	03 Half	04 Most	05 All	98 Prefer not to say	99 Don't know

Section 5: Pesticide Management

If your main commodity is **grazing**, **bananas, grains** or **horticulture** (based on your response at Q2) **Go to Section 6**

Q25 Thinking about your main commodity, which of the following **pesticide management practices** that can improve the quality of water in local waterways do you use?

*Please tick **all** that apply to your **main** commodity (based on your response at Q2). You do **not** need to answer for other commodities.*

Sugarcane

- 01 Selecting lower risk pesticides

*Please select **one** of these options if you did not tick the above box*

- 02 Do not use any of these practices but am planning to make changes
- 03 Do not use any of these practices and am **not** planning to make any changes
- 99 Don't know

You can answer the following questions <u>thinking generally about the pesticide management practices noted above</u> for your main commodity.

Q26 What are the **<u>three main</u>** reasons for why you would or do use these **pesticide management practices**?

*Please tick **up to 3** boxes*

- 01 For financial reasons *(e.g. increased profitability, save money, etc.)*
- 02 To maintain and/or improve productivity
- 03 To save time
- 04 For regulation compliance
- 05 For the environment
- 06 To improve my farm for future land managers
- 07 Other landholders in my area use these practices
- 08 To meet consumer expectations of land management/gain market access
- 09 To improve soil health
- 10 To make managing my farm easier
- 95 Other *(please specify)* .....
- 97 There are no reasons to use these practices
- 98 Prefer not to answer
- 99 Don't know

Q27 What are the **<u>three main</u>** challenges or barriers to starting or continuing to use these **pesticide management practices**?

*Please tick **up to 3** boxes*

- 01 Financial *(e.g. costs too much, don't have the money, worried about reduced profitability, not worth the return on investment)*
- 02 I am worried about production
- 03 I do not have the time
- 04 I need more information before I can use these practices
- 05 I don't think it will have a positive impact on the environment
- 06 It is not the way I have managed my farm in the past
- 07 Weather and seasonal issues
- 08 Not enough support from decision making partners *(e.g. family, business partners, etc.)*
- 09 I tried it before and was not happy with the outcome
- 10 I am constrained by the availability of contractors and labour/or contractor's equipment.
- 11 No one else is doing it
- 12 Additional administrative work *(e.g. record keeping, office work)*
- 95 Other *(please specify)* .....
- 97 There are no challenges or barriers
- 98 Prefer not to answer
- 99 Don't know

Q28 Overall, thinking about all the possible impacts, to what degree do you expect a positive result from these **pesticide management practices**?

*Please tick **one** box only*

No positive result **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Very large positive result | 98 Prefer not to say | 99 Don't know

Q29 How confident are you in your ability to use these **pesticide management practices**?

*Please tick **one** box only*

Not at all confident **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Extremely confident | 98 Prefer not to say | 99 Don't know

Q30 Thinking about the landholders you know, or know of, what proportion do you think are using these **pesticide management practices**?

*Please tick **one** box only*

01 None | 02 Some | 03 Half | 04 Most | 05 All | 98 Prefer not to say | 99 Don't know

Section 6: All Land Management Practices

The next set of questions are in relation to land management practices broadly for your main commodity that can improve the quality of water in local waterways. *Land management practices include soil, nutrient, irrigation, and pesticide management.*

Q31 Generally, would you say the amount of **support and advice provided by industry groups and/or peak bodies** about land management practices is…?

*Please tick **one** box only*

01 Too little | 02 About right | 05 Too much | 98 Prefer not to say | 99 Don't know

Q32 Generally, would you say the **information provided by industry groups and/or peak bodies** about land management practices is….?

*Please tick **one** box only*

Very unclear **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Very clear | 98 Prefer not to say | 99 Don't know

Q33 Where do you get your information on land management practices?

*Please tick **all** that apply*

- 01 Productivity groups *(e.g. Mackay Area Productivity Services, Burdekin Productivity Services, Herbert Cane Productivity Services, etc.)*
- 02 Qualified private agronomists *(e.g. Farmacist, Resource Consulting Services, etc.)*
- 03 Chemical or fertiliser retailers
- 04 Natural Resource Mgmt groups *(e.g. Burnett Mary Regional Group, Cape York NRM, Fitzroy Basin Association, NQ Dry Tropics, Reef Catchments, Terrain, etc.)*
- 05 Department of Agriculture and Fisheries extension officers
- 06 Industry peak bodies *(e.g. CANEGROWERS, GROWCOM, Australian Banana Growers Council, etc.)*
- 07 Queensland Government
- 08 Federal Government
- 09 Friends and family
- 10 Other growers/producers whose opinion I value
- 11 Research institutions *(e.g. CSIRO, universities, SRA, etc.)*
- 95 Other *(please specify)* .....
- 98 Prefer not to answer
- 99 Don't know

Q34 To what extent do you trust each of the following sources for information or advice on land management practices?

*Please tick **one** box per row*

		Do not trust at all	Don't really trust	Neither	Trust slightly	Trust completely	Prefer not to answer	Don't know
A	Productivity groups	01	02	03	04	05	98	97
B	Qualified private agronomists	01	02	03	04	05	98	97
C	Chemical or fertiliser retailers	01	02	03	04	05	98	97
D	Natural Resource Management groups	01	02	03	04	05	98	97
E	Department of Agriculture and Fisheries extension officers	01	02	03	04	05	98	97
F	Industry peak bodies	01	02	03	04	05	98	97
G	Queensland Government	01	02	03	04	05	98	97
H	Federal Government	01	02	03	04	05	98	97
I	Friends and family	01	02	03	04	05	98	97
J	Other growers/producers whose opinion I value	01	02	03	04	05	98	97
K	Research institutions	01	02	03	04	05	98	97

Q35 How strongly do you agree with the following statements about field days, workshops, grower events or shed meetings that are run in your area for your main commodity?

*Please tick **one** box per row*

		Strongly disagree	Disagree	Neither	Agree	Strongly Agree	Prefer not to answer	Don't know
A	They are run on a regular basis in my local area	01	02	03	04	05	98	97
B	They are usually well attended by producers/growers	01	02	03	04	05	98	97
C	They are well worth the effort to attend	01	02	03	04	05	98	97

Q36 Thinking about the number of **field days, workshops, grower events or shed meetings** that are run in your area for your main commodity, are there…?

*Please tick **one** box only*

01 Too few | 02 About right | 03 Too many | 98 Prefer not to say | 99 Don't know

Section 7: Actions that Impact Great Barrier Reef

The following questions are about your thoughts on actions that impact on the Great Barrier Reef. The Great Barrier Reef includes a range of connected ecosystems, from coastal wetlands and estuaries, to inshore seagrass meadows, to the coral reefs. Please complete the following questions with the responses that best describe your opinion.

Q37 Would you say that science about the Great Barrier Reef water quality is…?

*Please tick **one** box only*

Completely untrustworthy **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Completely trustworthy | 98 Prefer not to say | 99 Don't know

Q38 Would you say that the Government's regulations for protecting the Reef's water quality are based on…?

*Please tick **one** box only*

No evidence **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Strong evidence | 98 Prefer not to say | 99 Don't know

Q39 To what extent is the Great Barrier Reef impacted by the quality of water that runs off the land into waterways?

*Please tick **one** box only*

No impact **01** ◄ 01 — 02 — 03 — 04 — 05 ► **05** Very large impact | 98 Prefer not to say | 99 Don't know

Q40 The following statements relate to the broader community in your local area (not just growers/producers) and yourself. Please rate your level of agreement with the following statements.

*Please tick **one** box per row*

		Strongly disagree	Disagree	Neither	Agree	Strongly Agree	Prefer not to answer	Don't know
A	Most people in my local area try to reduce any impacts they might have on the Great Barrier Reef	01	02	03	04	05	98	97
B	It is the responsibility of everyone in my local area to try to reduce their impacts on the Great Barrier Reef	01	02	03	04	05	98	97
C	I feel morally obligated to reduce any impacts I might personally have on the Great Barrier Reef	01	02	03	04	05	98	97
D	I cannot make a personal difference in improving the health of the Great Barrier Reef	01	02	03	04	05	98	97

Section 8: Demographics

The following set of questions help us ensure we are collecting data from a wide range of primary producers. There is an option if you would prefer not to answer of these questions.

Q41 In which decade were you born? *Please tick **one** box only*

01	Prior to 1941	05	1971 – 1980	98	Prefer not to answer
02	1941 – 1950	06	1981 – 1990		
03	1951 – 1960	07	1991 – 2000		
04	1961 – 1970	08	After 2001		

Q42 How do you describe your gender? *Please tick **one** box only*

01	Man or male	98	Prefer not to answer
02	Woman or female		
03	Other / Non-binary		

Q43 Do you identify as an Aboriginal and/or Torres Strait Islander? *Please tick **one** box only*

01	No	03	Torres Strait Islander	98	Prefer not to answer
02	Aboriginal	04	Aboriginal and Torres Strait Islander		

Q44 What is the highest level of education you have completed? *Please tick **one** box only*

01	School education (up to Year 10)	05	Advanced Diploma / Associate Degree	05	Prefer not to answer
02	School education (Year 12)	06	Bachelor Degree		
03	Certificate	07	Bachelor Honours Degree / Grad Diploma		
04	Diploma	98	Postgraduate Degree		

This is the end of the survey. Thank you for your time.

This research is carried out in compliance with the Information Privacy Act 2009, and the information you provided will be used for research purposes only. If you require any further information about the survey or if you'd like to find out how we manage your personal information, you can call Wallis on **1800 113 444** or view the Wallis Privacy Policy at:

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Please return this survey using the reply paid envelope provided to:

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