

# 2014 Irrigation Infrastructure Report – Rounds One & Two

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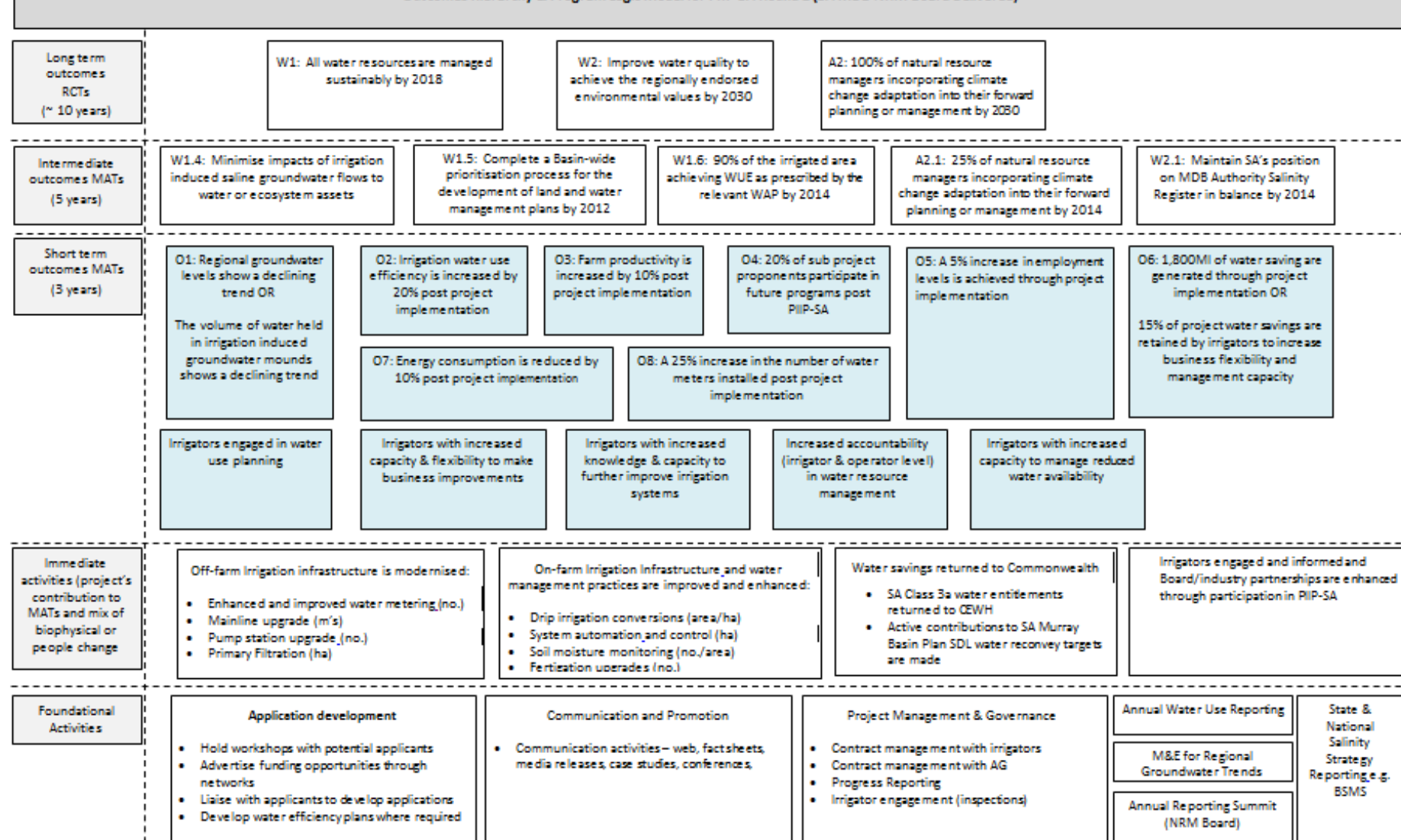
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## Program Logic

Outcomes Hierarchy & Program Logic Model for PIIP-SA Round 2 (SA MDB NRM Board Delivered)





## Abstract

The aim of this questionnaire was to survey the majority of horticultural growers that were recipients of Round One and Two Irrigation Infrastructure Grants through the Federal On-Farm Irrigation Efficiency Program. The thirty three (33) question survey was conducted at each of 114 project sites, one-on-one, through the months of April and May 2014. The Natural Resources – South Australian Murray Darling Basin contracted Leighton Pearce from Growing Solutions to carry out the surveying, data analysis and reporting.

The following report highlights the responses along with filtering certain demographic groups to further investigate and interrogate the data. Data has been filtered per round, growers who included dripper conversions into their upgrade and separating responses per horticultural cultivar grown (wine grapes vs citrus vs almonds). The report also investigates the Natural Resources South Australian Murray Darling-Basin's progression toward the achievement of Management Action Targets (MAT's).

This report has been prepared with the aim that it be used by Natural Resources South Australian Murray-Darling Basin Staff to further improve future rounds, reporting requirements and in the preparation of media publications.

## Executive Summary

Through the months of April and May, 114 growers were surveyed. Each grower surveyed was a recipient of either a round one or two on farm irrigation infrastructure grant delivered by the federal government. The survey covered a range of horticultural commodities and projects scopes (irrigation efficiency project types). Most of the growers surveyed participated in round two, rather than round one. Comments including “I would not be farming today if it was not for these grants” and “these grants have enabled me to stay on the farm”, demonstrate that the entire project has had a positive result on the horticultural industry in the Riverland.

The majority of growers also indicated that they would have not made these irrigation upgrades without the funding, or may have implemented in up to five years’ time.

The majority of projects undertaken across all commodities incorporated dripper conversions with additions of automation and or moisture monitoring. Many of the round one recipients went on to undertake round two projects. This trend has continued through the life of irrigation projects with substantially more growers participating as the program matures.

Irrigation efficiency projects covered more than 4,300 hectares across the Riverland, SA, with growers indicating that they would to upgrade an additional 4,263 hectares, provided funding was available. 4,394 ML (average 27ML per grower) of water was returned to the federal government. Despite extreme heat conditions through the 2013/14 summer, water retained by growers was primarily used to irrigate crops, while is estimated from the growers surveyed that 2,600 ML of addition water was leased in, although the majority of grower were not required to either purchase or lease additional water in. The majority of the growers surveyed had a water portfolio consisting of predominately permanent water entitlements. Although many grower had not been active on the water market prior to the project implementation, the majority indicated that they are becoming increasing more active and should remain active over the next 5 years.

Very few growers purchased water meters; this was primarily due to the majority of growers in the early rounds, being Trust growers, had already had their water meters upgraded prior to the project’s implementation.

The program saw substantial investment throughout the region with irrigation suppliers actively supporting growers and the improvement on efficiencies.

Growers were satisfied with all communications from Natural Resources – South Australian Murray-Darling Basin, their respective irrigation trusts and irrigation suppliers. Products delivered throughout the program, in the majority, were delivered in a timely manner, to budget and to specifications. Some dissatisfaction arose with growers believing that several irrigation dealers increased prices through the project period. A significant group of growers were not satisfied with the time of the year that irrigation system were to be replaced and hence delayed installation to suit period that they were not reliant on irrigation scheduling, but this group was in the minority.

The majority of growers were satisfied with the theoretical water saving calculated by the staff at Natural Resources – South Australian Murray Darling Basin. As a result many of the growers had water which was surplus to their requirement, which they leased out. This surplus has also enabled

many growers to further participate in future program, in that they have sold permanent water to further upgrade their properties.

One concerning factor from the increased installation of dripper systems across the region was the increase in energy consumption. Many growers have or are intending to install solar systems to offset this cost. Despite this, the majority of growers have witnessed an increase in crop production, quality and evenness across their properties while also increasing production/output and decreasing farm inputs. This has a positive result on grower gross margins and profitability in time of poor commodities returns. Growers also indicated that they had increased their skills and knowledge with respect to irrigation and business management and also had a greater amount of flexibility with respect to irrigation scheduling, while the hours they work, staff they employ and labour costs have slightly decreased. And as a result of the implementation of the projects, the growers are saving water.

Growers also indicated little interest to diversify crop or expand their operations. This could be contributed to the aging demographic of the growers that were surveyed. Though not a part of the survey, it was observed that the average age of growers was between 60 and 65 year of age, and the majority of these growers were looking toward retirement rather than expansion and diversification of varieties. Another interesting observation through the surveying was that only two farming families where the father and son were working together were observed. In the majority of cases, the sons/daughters had left the block to gain alternative employment. Additionally, several growers that had diversified their business to incorporate transport, hedging, packing fruit to other growers to increase their likelihood to continue farming were observed.

As these projects followed the drought, not many growers relayed concerns with saline water tables, although of the growers that did have water table issues, the implementation of a new irrigation system has remedied this situation.

With respect to climate change, the majority of growers felt that they were more likely to adapt to climate change post project implementation. The growers indicated that they showed keen interest in long range weather forecasting and acted immediately to heat wave prior to the event occurring.

One concerning issue that arose from the survey was the growers' lack of knowledge regarding how the water they sold was used, along with their lack of understanding or correlation that many of the positives that they enjoyed through the program are also positive environmental and social wins. These include less drainage, less chemical use, less water used and less hours worked while production and quality have not been compromised. The opportunity to extend this information to local growers concerning the wins to the environment and production should occur.

Despite this, the majority of the growers believe that water should be returned to the environment, although the growers firmly believe that this should be carried out once our growers and communities have access the water.

## Question 1 & 2

### Question

#### Business Name & Respondents Name

#### All data

Business Name	
Answer Options	Response Count
	114
<b><i>answered question</i></b>	<b>114</b>
<b><i>skipped question</i></b>	<b>0</b>

Figure 1: Q1&2 – All data, Summary (Table)

Business Name	Respondent Name
Agriexchange	Ben Dring
Agriexchange	Ben Dring
NP Lloyd	Nigel Lloyd
PJ & JN Grose	Peter Grose
JOJ & JA Bannear	Justin Bannear
TW & RD Falting	Leonie Sheffield
TW & RD Falting	Leonie Sheffield
JA & RJ Farrant Lacton	John Kennedy
JA Kennedy & RJ Farrant Lacton	John Kennedy
JA Kennedy & RJ Farrant Lacton	John Kennedy
NG & CH Minnas	Nick Minnas
S.A.Drogaris	Steve Drogaris
Nelbuck P/L	Craig Burne
Omega Orchards	Drew Martin
Dedes Nominees	Andrew Dedes
Jennifer Siviour	Jenny Siviour
Wurantlyn Pty Ltd	Paul & Tony Wurst
JB & RM Cox	Mark Doecke
JB & R Cox	Mark Doecke
JB & RM Cox	Mark Doecke
Andrews Orchards P/L	David Andrew
MA & N Monaco	Manfred monaco
F.S.Andary & sons	Majid Andary
Nr & CI Baker	Nick Baker
Pyap Produce Pty Ltd	Ryan Arnold
FC & RF Lang	Steve Lang
BS & KK Bhangoo	Tony Bhangoo
Lindsay point Almonds Pty Ltd	David Mason
John M & Jennifer JE Reed	John Reed
TA & LM Richards	Tony Richards
KK, KM & RK Hondow	Rod Hondow
Mark A & Heather A Roberts	Mark Roberts
Vernon R Loxton	Bob Loxton

Salmon Gum Estates	Peter Schulz
Belehris Estates Pty Ltd	Jim Belehris
MA & DJ Harris	Mark Harris
Riverland Vine Improvement Committee Inc	David & Sharon Nitschke
Mr Parmjit Singh Bargi	Parmjit Singh
RR & DJ Scadden	Wayne Scadden
Litchfield Trust	Craig Alm
Luke Ivanovic	Luke Ivanovic
Kingston Estates	Peter Morath
Knispel Orchards	Trevor Kruesler
FA & L Curtis	Louis Curtis
Kingston Estates	Peter Morath
GD & ME Claxton	Graham Claxton
RidgeHill Pty Ltd	Peter Hill
VHP Associates Pty Ltd	Sam Papageorgiou
Peter Hill	Peter Hill
Peter Barry	Peter Barry
Peter Barry	Peter Barry
C & C Stoeckel	Chris Stoeckel
SD & ML Pearce	Sam Pearce
JR & JE Plush	John Plush
RR & W Andary	Rodney Andary
Hollyoke Vineyards Pty Ltd	Peter Harman
Thiel Orchards	Kym Thiel
Bookpurnong Fruits	Jason Size
IR & LL Oliver	Ian Oliver
AJ and MV Hillier	Allan Hillier
AJ and MV Hillier	Allan Hillier
DA & KW King	David King
DJ and SB Meek	DAvid Meek (Joe)
DJ and SB Meek	David Meek
ML & JH Kalisch Family Trust	Mark Kalisch
ML & JH Kalisch Family Trust	Mark Kalisch
Montebelle Enterprises P/L	John Minchella
Montebelle Enterprises P/L	John Minchella
Simarloo (Aust) Pty. Ltd.	Leroy Sims
Simarloo (Aust) Pty. Ltd.	Leroy Sims
Pike River Fresh	Michael Trautwein
QFM Production	Michael Trautwein
QFM Production	Michael Trautwein
RL & SD Hefford & Susan Fox	Rob Chabrel
Kevin Ronald Menhennett	Keving & Pauline Menhennett
Fillipo & Vincenzo Nobile	Phil Nobile
Mininder Singh Sidhu & Sukhjeet Kav	Preet Singh
Anna Kregar	John Kregar
Miora Heights Pty Ltd	Bob Cahill
Rivervines (SA) Pty Ltd	Reg Brock

Janeian Pty Ltd	Ian McFarlane
LW & GF Proud Pty Ltd	Linton Proud
BN, BA Dalzell	Daniel Dalzell
Sagittair Pty Ltd	Ted Goodfellow
G. U. R. K. Morena	Robert Morena
Najar Vineyards	Omar Najar
Mehmet Adnan & Halime Ozdemin	Adnan Ozdemir
F & M Zabantias	Foti Zabantias
Bahia Enterprises Pty Ltd	Handev Singh
WG & LA Perrin	Bill Perrin
Louis Pak	Angela Nelson
Feher Vineyards Pty Ltd	Laz Feher
JL & SM Williams	John Williams
AR & YA Richards	Alf Richards
R & K Lehmann Nominees	Reg Lehmann
Gary Simon Nominees	Gary Simon
Marangalli Vineyards	Ramon Thompson
Stanley James Gare	Stan Gare
Richard Smart Family Trust	Michael Smart
James Butler & Angela Valente	James Butler
AL, MJ, NM & NK Jericho	Andrew Jericho
PJ & HG Barich	Peter Barich
DL & L Ludas	David Ludas
R & K Lippis Nominees	Rpbert Lippis
Theo N Papageorgiou	Theo Papageorgiou
SP and JD Bakaj	Steve Bakaj
DP and VA Sigismondi	Dino Sigismondi
Peter Panagoulas	Peter Panagoulas
Philip and Debra Cmrlec	Phil Cmrlec
Nick Bakkum	Angoves Pty. Ltd.
Nick Bakkum	Angoves Pty. Ltd.
Mr Anthoney W Fenwick	Brenton Fenwick
RW & SM Grosser	Ron Grosser

Figure 2: Q1&2 – All data, Details (Table)

## Round One

<b>Business Name</b>	
<b>Answer Options</b>	<b>Response Count</b>
	20
<i>answered question</i>	<b>20</b>
<i>skipped question</i>	<b>0</b>

Figure 3: Q1&2 – Round One (Table)

## Round Two

<b>Business Name</b>	
<b>Answer Options</b>	<b>Response Count</b>
	94
<i>answered question</i>	<b>94</b>
<i>skipped question</i>	<b>0</b>

Figure 4: Q1&2 – Round Two (Table)

## Dripper conversions only

<b>Business Name</b>	
<b>Answer Options</b>	<b>Response Count</b>
	72
<i>answered question</i>	<b>72</b>
<i>skipped question</i>	<b>0</b>

Figure 5: Q1&2 – Dripper conversion only (Table)

## Wine grapes only

<b>Business Name</b>	
<b>Answer Options</b>	<b>Response Count</b>
	85
<i>answered question</i>	<b>85</b>
<i>skipped question</i>	<b>0</b>

Figure 6: Q1&2 – Wine grapes only (Table)

## Citrus only

<b>Business Name</b>	
<b>Answer Options</b>	<b>Response Count</b>
	30
<i>answered question</i>	<b>30</b>
<i>skipped question</i>	<b>0</b>

Figure 7: Q1&2 – Citrus only (Table)

### Almonds only

<b>Business Name</b>	
<b>Answer Options</b>	<b>Response Count</b>
	13
<i>answered question</i>	<b>13</b>
<i>skipped question</i>	<b>0</b>

Figure 8: Q1&2 – Almonds only (Table)

### Summary

From the tables above, it is evident that of the 114 projects surveyed, the vast majority (85) growers grow wine grapes, thirty (30) grow citrus and thirteen(13) grow almonds. The vast majority (72) of the growers also upgraded to, or updated their dripper systems.



## Question 3

### Question

Project Round

### All data

Project Round	
Answer Options	Response Count
	114
<i>answered question</i>	<b>114</b>
<i>skipped question</i>	<b>0</b>

Figure 9: Q3 – All Data (Table)

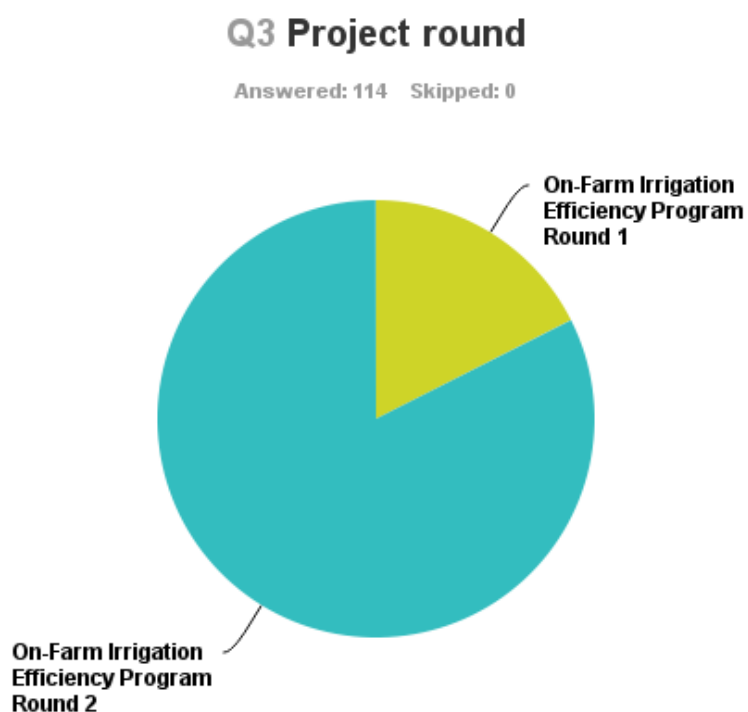


Figure 10: Q3 – All Data (Chart)

## Round One

Project Round	
Answer Options	Response Count
	20
<i>answered question</i>	<b>20</b>
<i>skipped question</i>	<b>0</b>

Figure 11: Q3 – Round One (Table)

## Round Two

Project Round	
Answer Options	Response Count
	94
<i>answered question</i>	<b>94</b>
<i>skipped question</i>	<b>0</b>

Figure 12: Q3 – Round Two (Table)

### Dripper conversions only

Project round		
Answer Options	Response Percent	Response Count
On-Farm Irrigation Efficiency Program Round 1	11.1%	8
On-Farm Irrigation Efficiency Program Round 2	88.9%	64
On-Farm Irrigation Efficiency Program Round 3	0.0%	0
Private Irrigation Infrastructure Program for South Australia Round 2	0.0%	0
<b><i>answered question</i></b>		<b>72</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 13: Q3 – Dripper conversions only (Table)

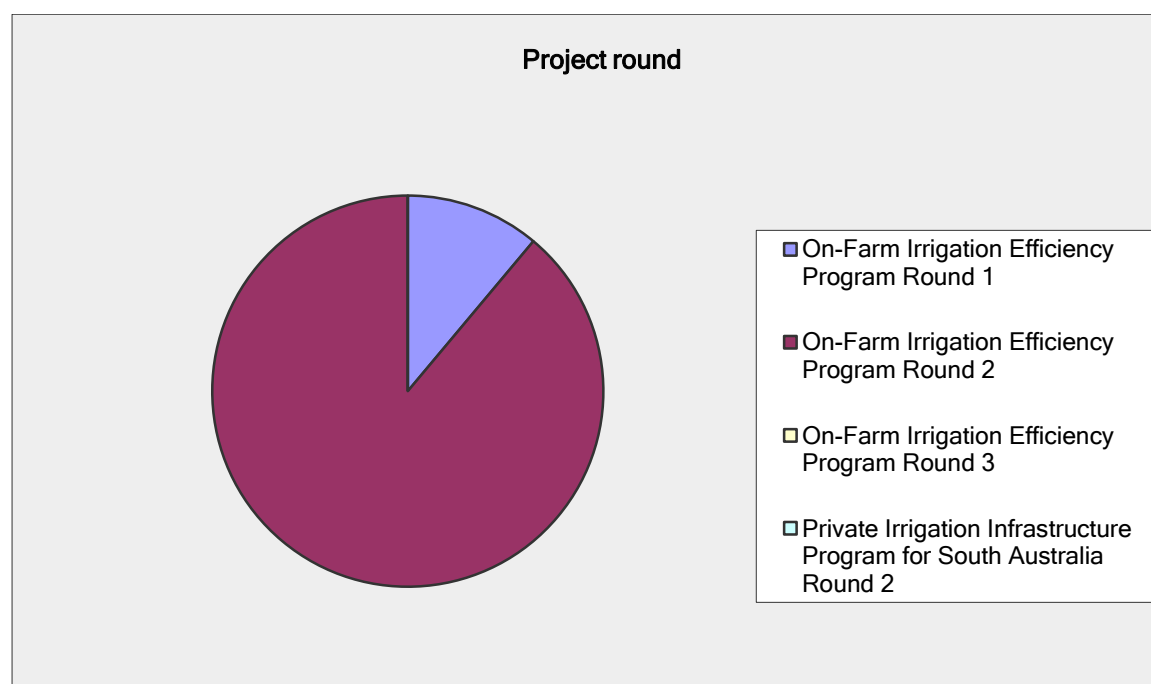


Figure 14: Q3 – Dripper conversions only (Chart)

### Wine grapes only

Project round		
Answer Options	Response Percent	Response Count
On-Farm Irrigation Efficiency Program Round 1	16.5%	14
On-Farm Irrigation Efficiency Program Round 2	83.5%	71
On-Farm Irrigation Efficiency Program Round 3	0.0%	0
Private Irrigation Infrastructure Program for South Australia Round 2	0.0%	0
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 15: Q3 – Wine grapes only (Table)

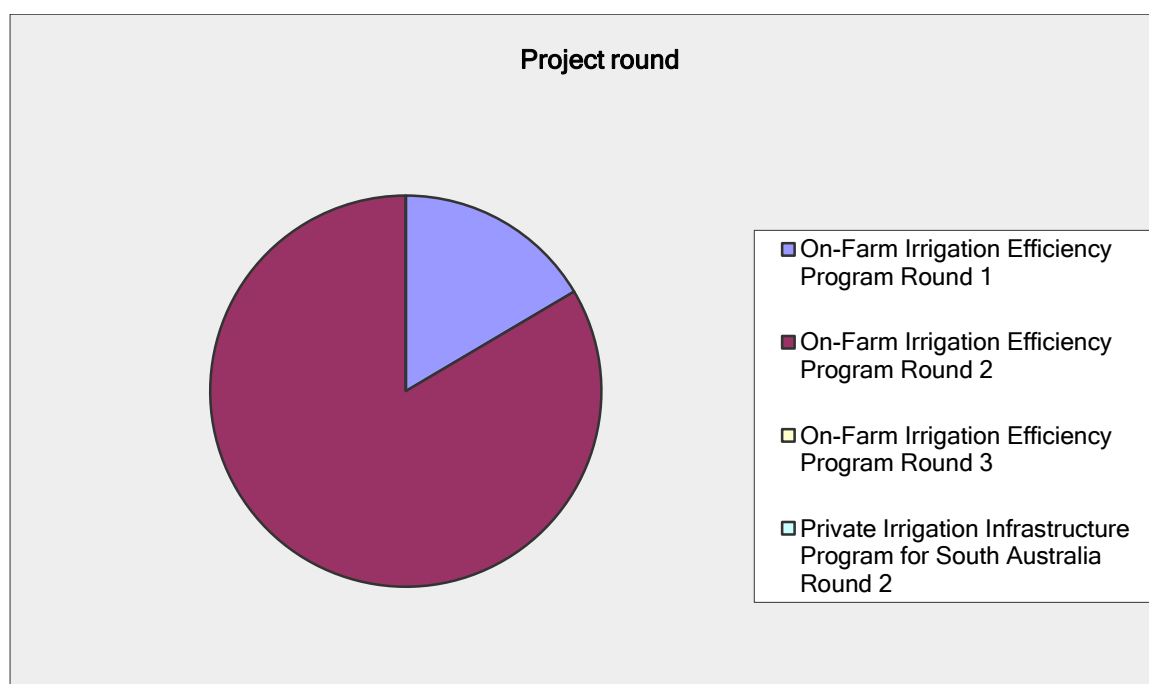


Figure 16: Q3 – Wine grapes only (Chart)

### Citrus only

Project round		
Answer Options	Response Percent	Response Count
On-Farm Irrigation Efficiency Program Round 1	23.3%	7
On-Farm Irrigation Efficiency Program Round 2	76.7%	23
On-Farm Irrigation Efficiency Program Round 3	0.0%	0
Private Irrigation Infrastructure Program for South Australia Round 2	0.0%	0
<b>answered question</b>		<b>30</b>
<b>skipped question</b>		<b>0</b>

Figure 17: Q3 – Citrus only (Table)

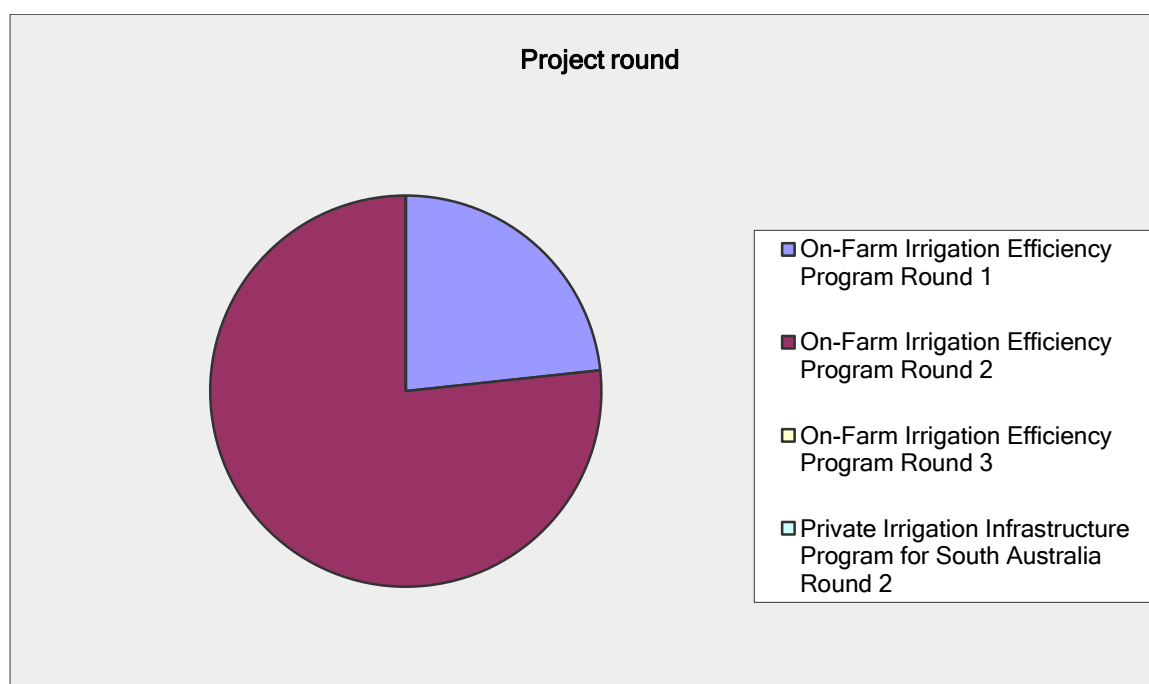


Figure 18: Q3 – Citrus only (Chart)

### Almonds only

Project round		
Answer Options	Response Percent	Response Count
On-Farm Irrigation Efficiency Program Round 1	7.7%	1
On-Farm Irrigation Efficiency Program Round 2	92.3%	12
On-Farm Irrigation Efficiency Program Round 3	0.0%	0
Private Irrigation Infrastructure Program for South Australia Round 2	0.0%	0
<b>answered question</b>		<b>13</b>
<b>skipped question</b>		<b>0</b>

Figure 19: Q3 – Almonds only (Table)

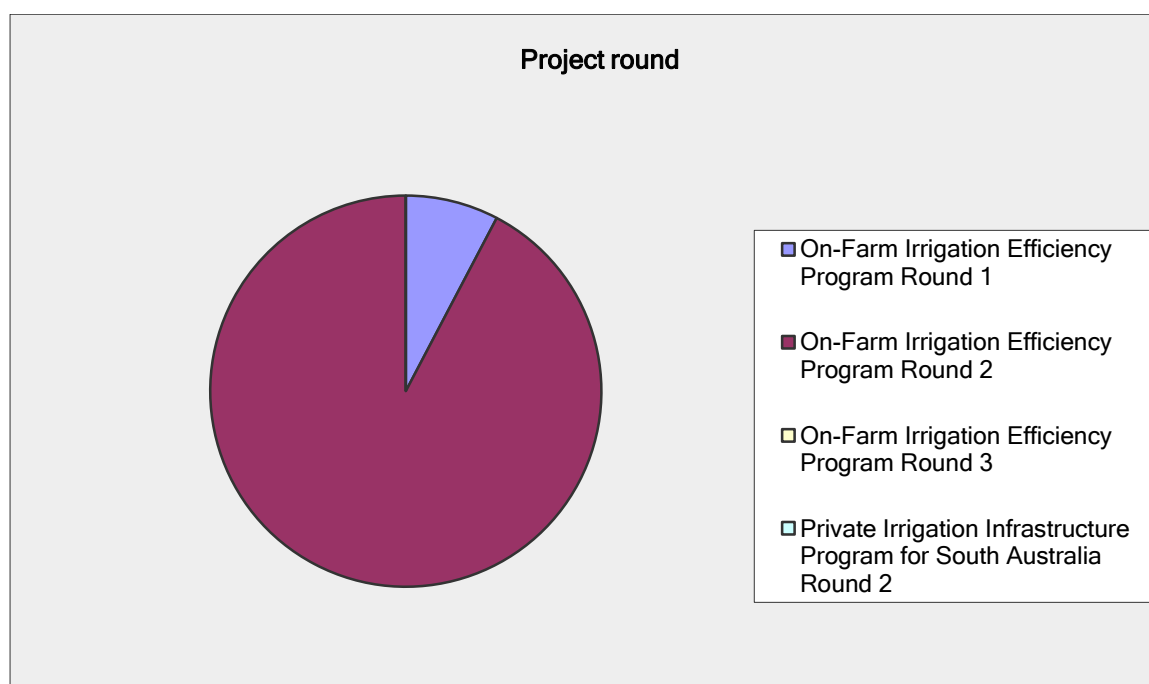


Figure 20: Q3 – Almonds only (Chart)

### Summary

From the above tables and charts, it is evident that from the 114 responses, the majority (94) of projects occurred in Round two with only 20 occurring in Round 1.

With respect to dripper conversions, the percentage of projects that undertook dripper conversions was significantly higher in Round 2.

While comparing the three major crop types (wine grapes, citrus and almonds), almond growers were more likely to implement dripper system upgrades than wine grape and citrus growers respectively.

## Question 4

### Question

Business also participated in other programs

### All data

Business also participated in other programs		
Answer Options	Response Percent	Response Count
No other projects	46.0%	52
On-Farm Irrigation Efficiency Program Round 1	8.0%	9
On-Farm Irrigation Efficiency Program Round 2	22.1%	25
On-Farm Irrigation Efficiency Program Round 3	15.9%	18
On-Farm Irrigation Efficiency Program Round 4 (EOI)	21.2%	24
Private Irrigation Infrastructure Program for South Australia Round 2	7.1%	8
South Australian River Murray Irrigation Industry Improvement Program (EOI)	17.7%	20
<b><i>answered question</i></b>		<b>113</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 21: Q4 – All data (Table)

## Q4 Business also participated in other programs

Answered: 113 Skipped: 1

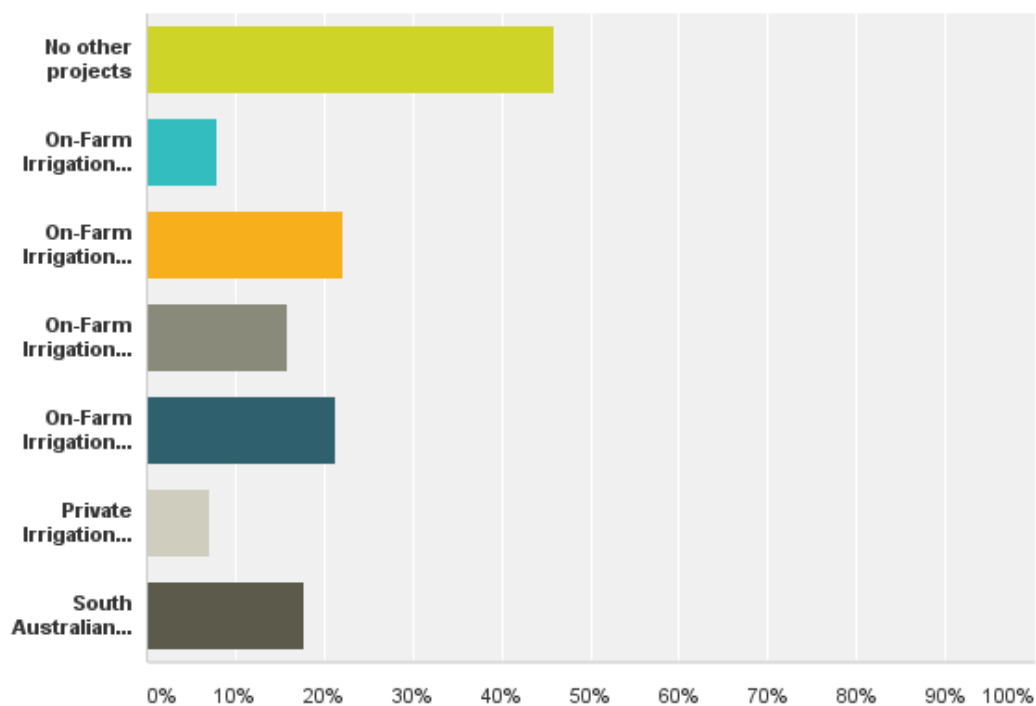


Figure 22: Q4 – All data (Chart a)



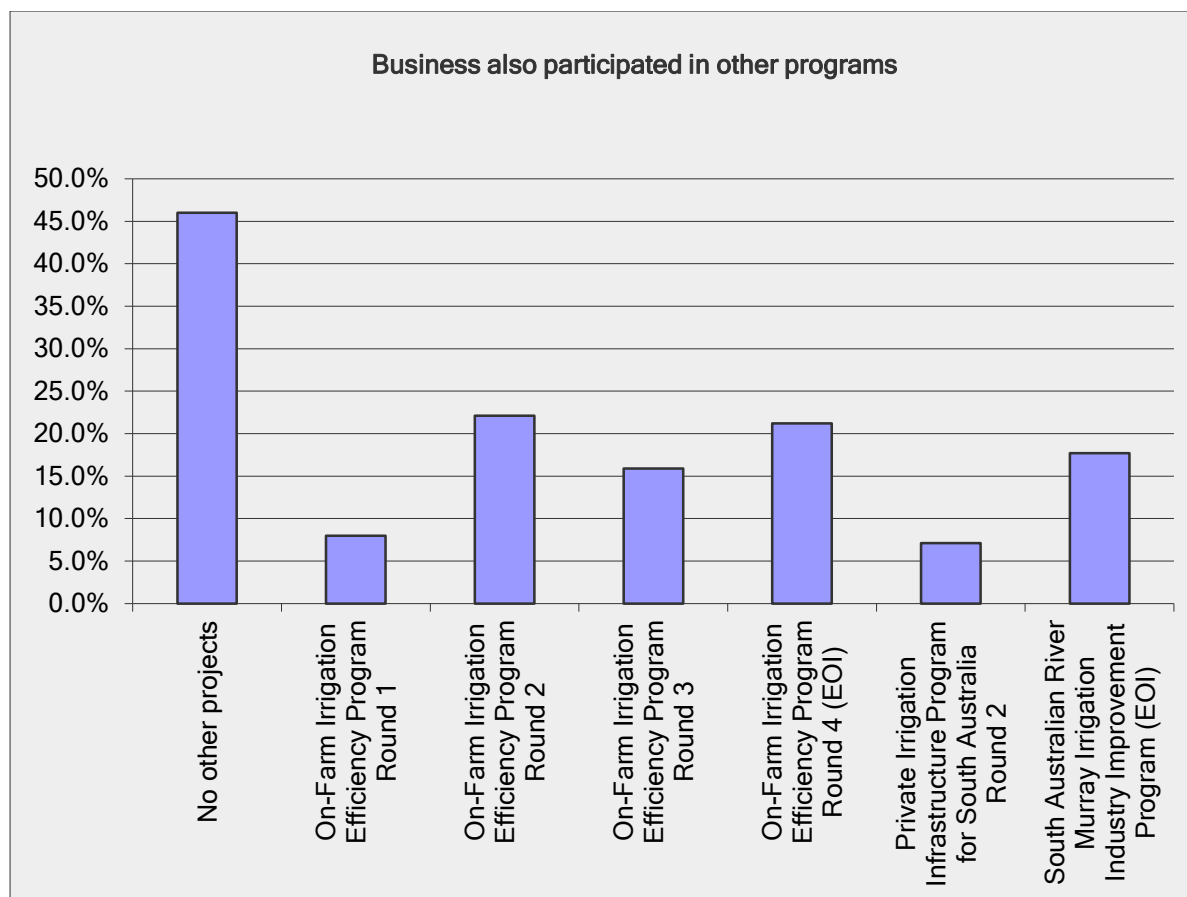


Figure 23: Q4 – All data (Chart b))

## Round One

Business also participated in other programs		
Answer Options	Response Percent	Response Count
No other projects	31.6%	6
On-Farm Irrigation Efficiency Program Round 1	0.0%	0
On-Farm Irrigation Efficiency Program Round 2	31.6%	6
On-Farm Irrigation Efficiency Program Round 3	26.3%	5
On-Farm Irrigation Efficiency Program Round 4 (EOI)	31.6%	6
Private Irrigation Infrastructure Program for South Australia Round 2	10.5%	2
South Australian River Murray Irrigation Industry Improvement Program (EOI)	21.1%	4
<b>answered question</b>		<b>19</b>
<b>skipped question</b>		<b>1</b>

Figure 24: Q4 – Round One (Table)

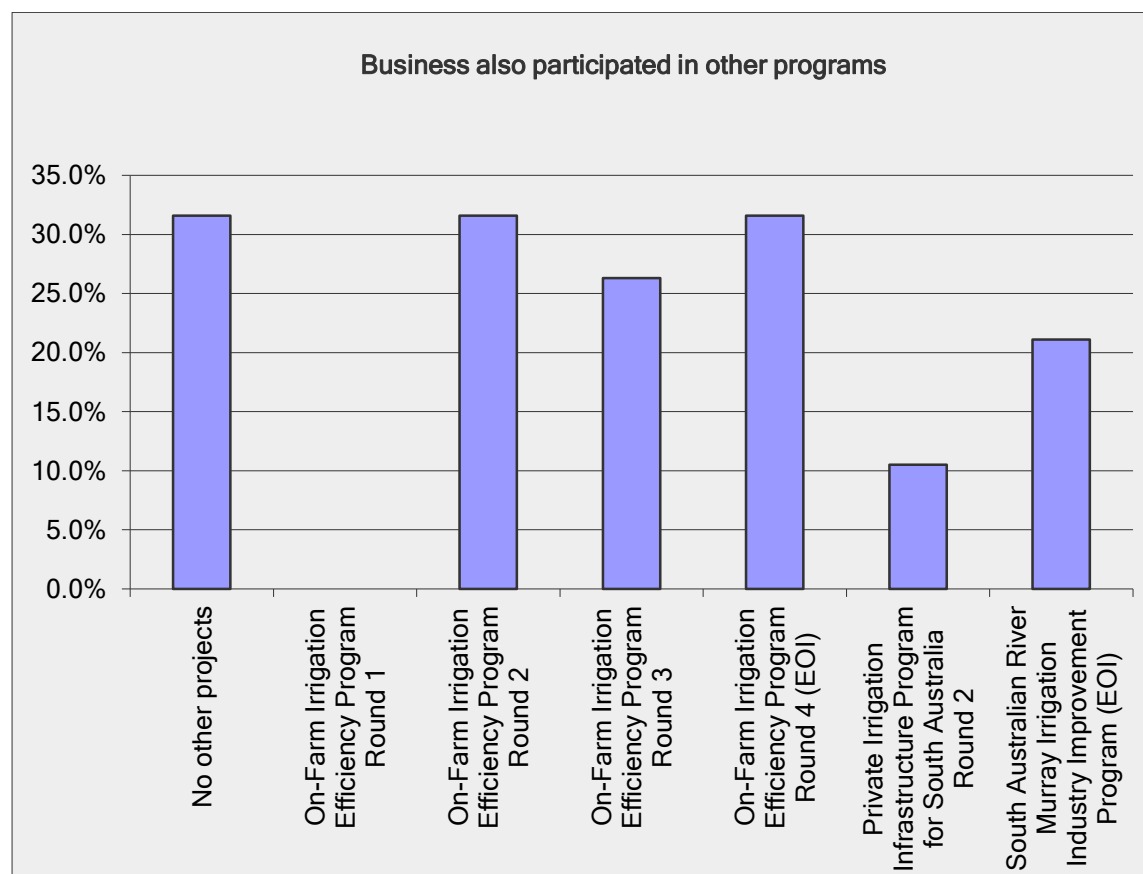


Figure 25: Q4 – Round One (Chart)

## Round Two

Business also participated in other programs		
Answer Options	Response Percent	Response Count
No other projects	48.9%	46
On-Farm Irrigation Efficiency Program Round 1	9.6%	9
On-Farm Irrigation Efficiency Program Round 2	20.2%	19
On-Farm Irrigation Efficiency Program Round 3	13.8%	13
On-Farm Irrigation Efficiency Program Round 4 (EOI)	19.1%	18
Private Irrigation Infrastructure Program for South Australia Round 2	6.4%	6
South Australian River Murray Irrigation Industry Improvement Program (EOI)	17.0%	16
<b>answered question</b>		<b>94</b>
<b>skipped question</b>		<b>0</b>

Figure 26: Q4 – Round Two (Table)

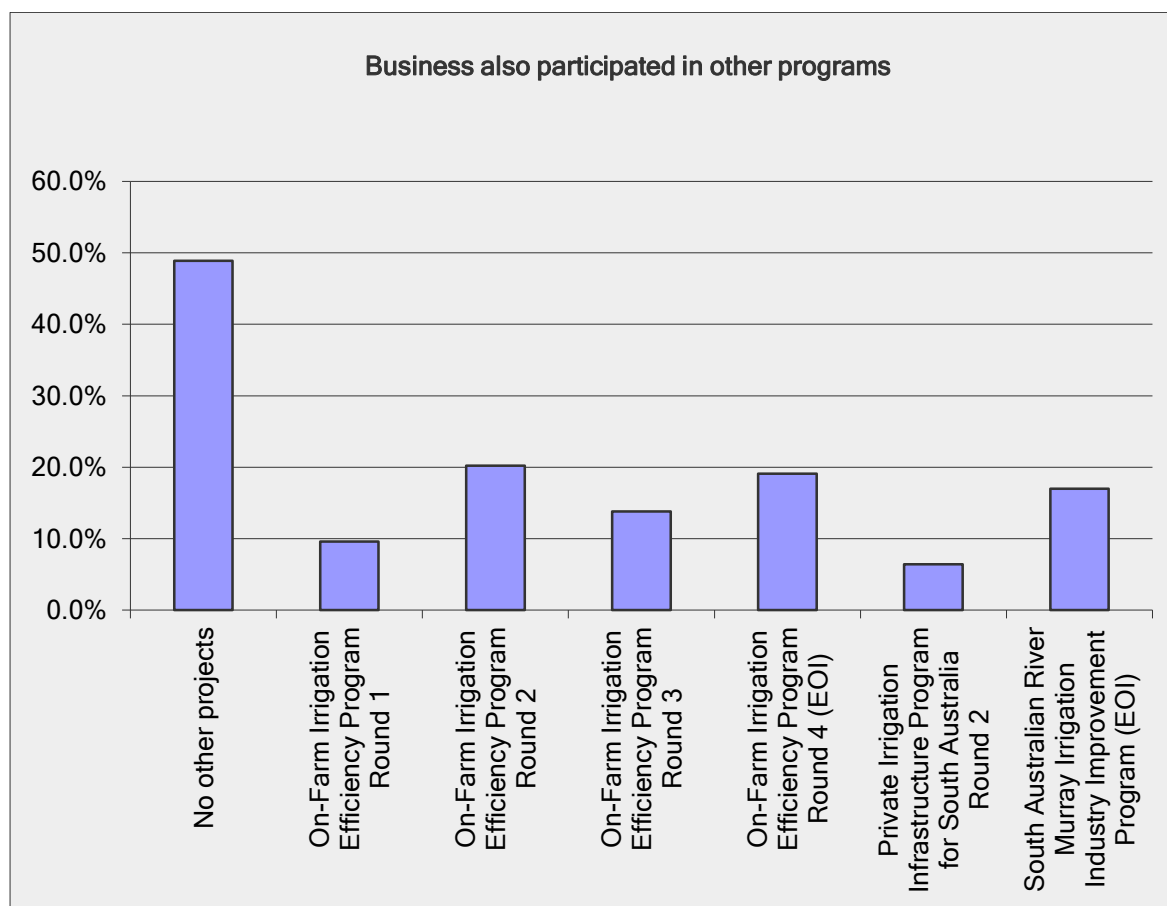


Figure 27: Q4 – Round Two (Chart)

### Dripper conversions only

Business also participated in other programs		
Answer Options	Response Percent	Response Count
No other projects	48.6%	35
On-Farm Irrigation Efficiency Program Round 1	6.9%	5
On-Farm Irrigation Efficiency Program Round 2	18.1%	13
On-Farm Irrigation Efficiency Program Round 3	13.9%	10
On-Farm Irrigation Efficiency Program Round 4 (EOI)	18.1%	13
Private Irrigation Infrastructure Program for South Australia Round 2	0.0%	0
South Australian River Murray Irrigation Industry Improvement Program (EOI)	16.7%	12
<b>answered question</b>		<b>72</b>
<b>skipped question</b>		<b>0</b>

Figure 28: Q4 – Dripper conversions only (Table)

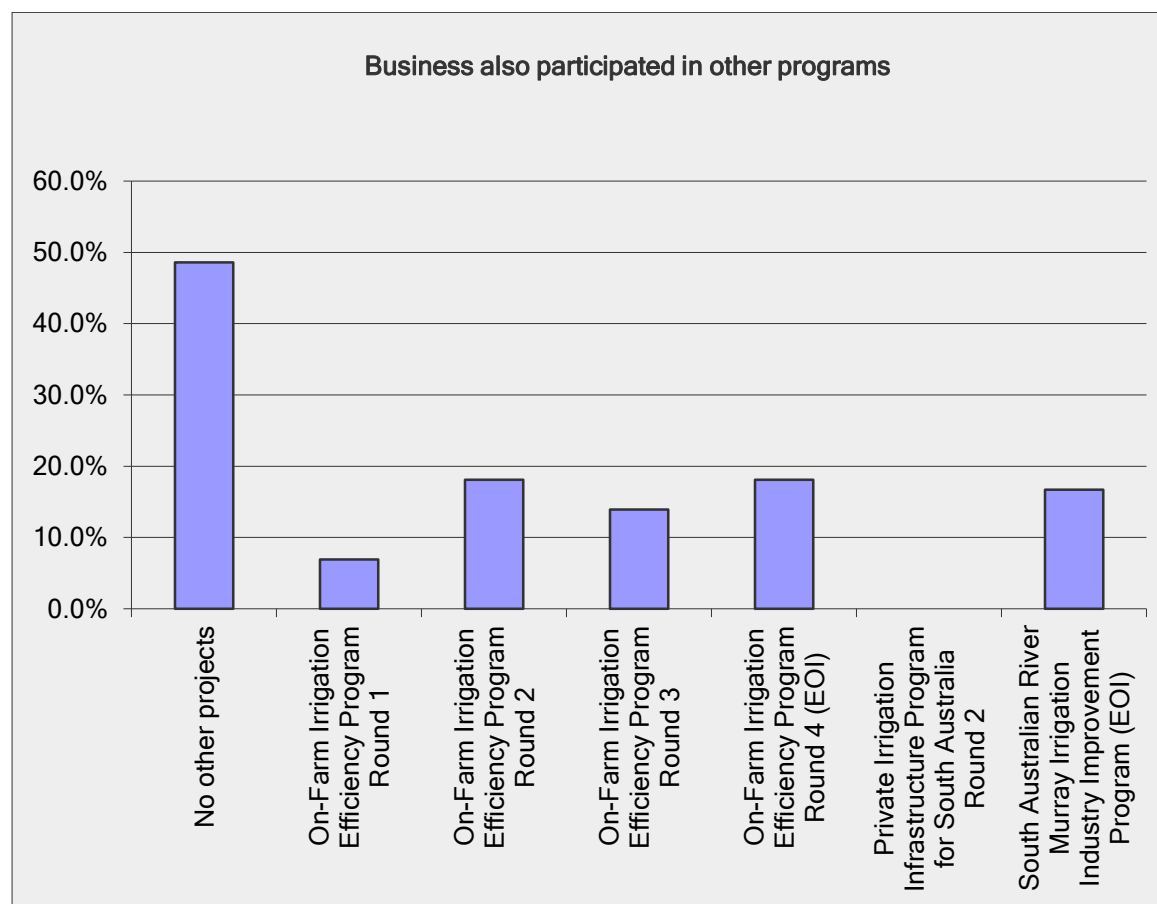


Figure 29: Q4 – Dripper conversions only (Chart)

## Wine grapes only

Business also participated in other programs		
Answer Options	Response Percent	Response Count
No other projects	50.6%	43
On-Farm Irrigation Efficiency Program Round 1	5.9%	5
On-Farm Irrigation Efficiency Program Round 2	12.9%	11
On-Farm Irrigation Efficiency Program Round 3	16.5%	14
On-Farm Irrigation Efficiency Program Round 4 (EOI)	24.7%	21
Private Irrigation Infrastructure Program for South Australia Round 2	2.4%	2
South Australian River Murray Irrigation Industry Improvement Program (EOI)	16.5%	14
<b>answered question</b>		<b>85</b>
<b>skipped question</b>		<b>0</b>

Figure 30: Q4 – Wine grapes only (Table)

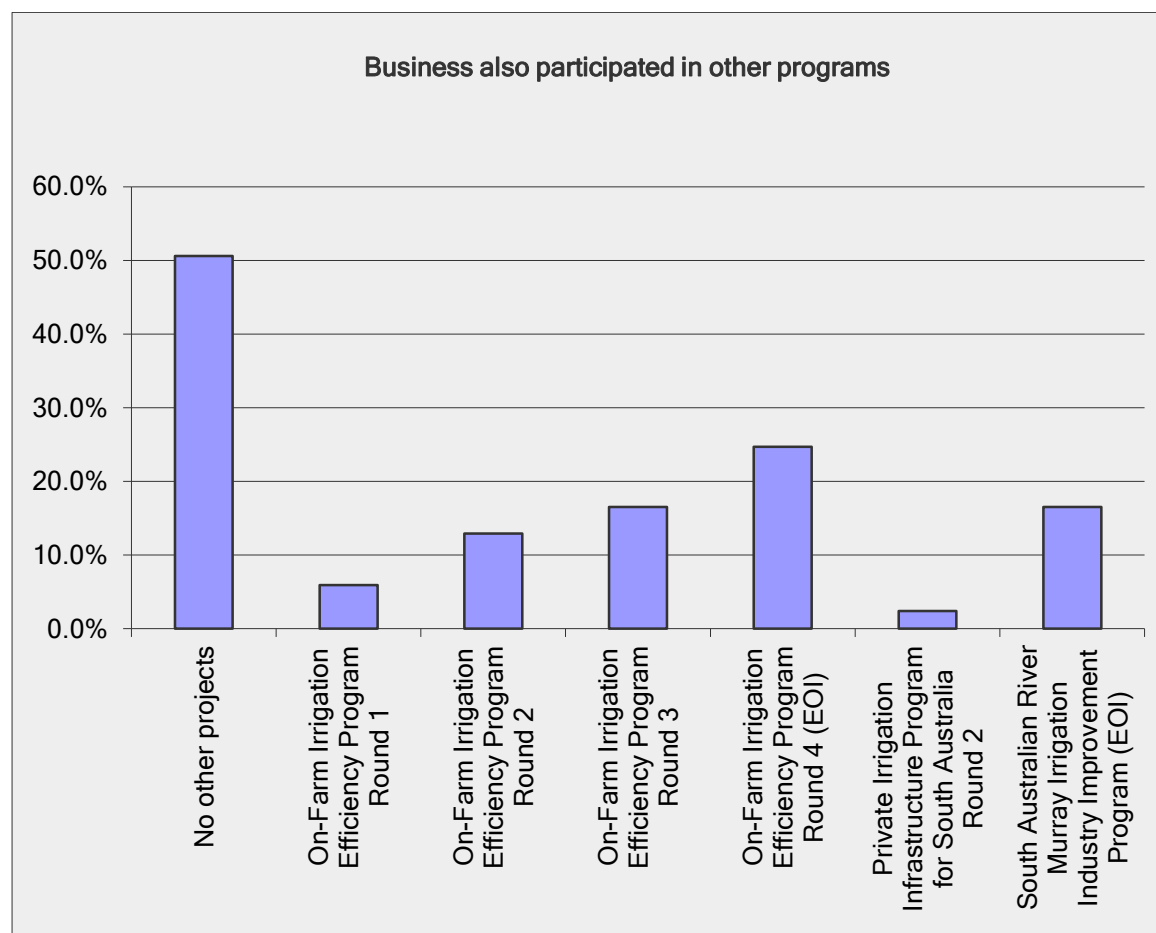


Figure 31: Q4 – Wine grapes only (Chart)

## Citrus only

Business also participated in other programs		
Answer Options	Response Percent	Response Count
No other projects	43.3%	13
On-Farm Irrigation Efficiency Program Round 1	16.7%	5
On-Farm Irrigation Efficiency Program Round 2	26.7%	8
On-Farm Irrigation Efficiency Program Round 3	30.0%	9
On-Farm Irrigation Efficiency Program Round 4 (EOI)	30.0%	9
Private Irrigation Infrastructure Program for South Australia Round 2	6.7%	2
South Australian River Murray Irrigation Industry Improvement Program (EOI)	26.7%	8
<b>answered question</b>		<b>30</b>
<b>skipped question</b>		<b>0</b>

Figure 32: Q4 – Citrus only (Table)

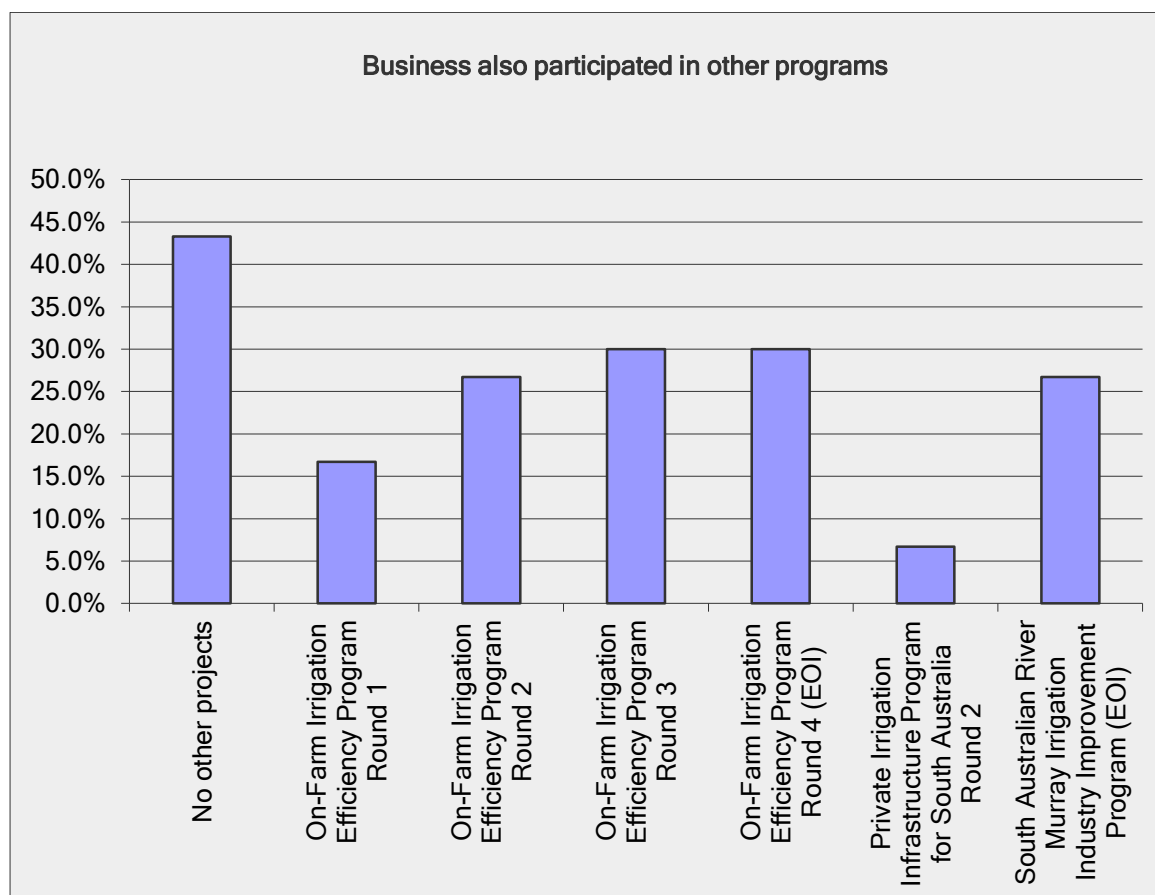


Figure 33: Q4 – Citrus only (Chart)

## Almonds only

Business also participated in other programs		
Answer Options	Response Percent	Response Count
No other projects	23.1%	3
On-Farm Irrigation Efficiency Program Round 1	0.0%	0
On-Farm Irrigation Efficiency Program Round 2	46.2%	6
On-Farm Irrigation Efficiency Program Round 3	15.4%	2
On-Farm Irrigation Efficiency Program Round 4 (EOI)	7.7%	1
Private Irrigation Infrastructure Program for South Australia Round 2	0.0%	0
South Australian River Murray Irrigation Industry Improvement Program (EOI)	23.1%	3
<b>answered question</b>		<b>13</b>
<b>skipped question</b>		<b>0</b>

Figure 34: Q4 – Almonds only (Table)

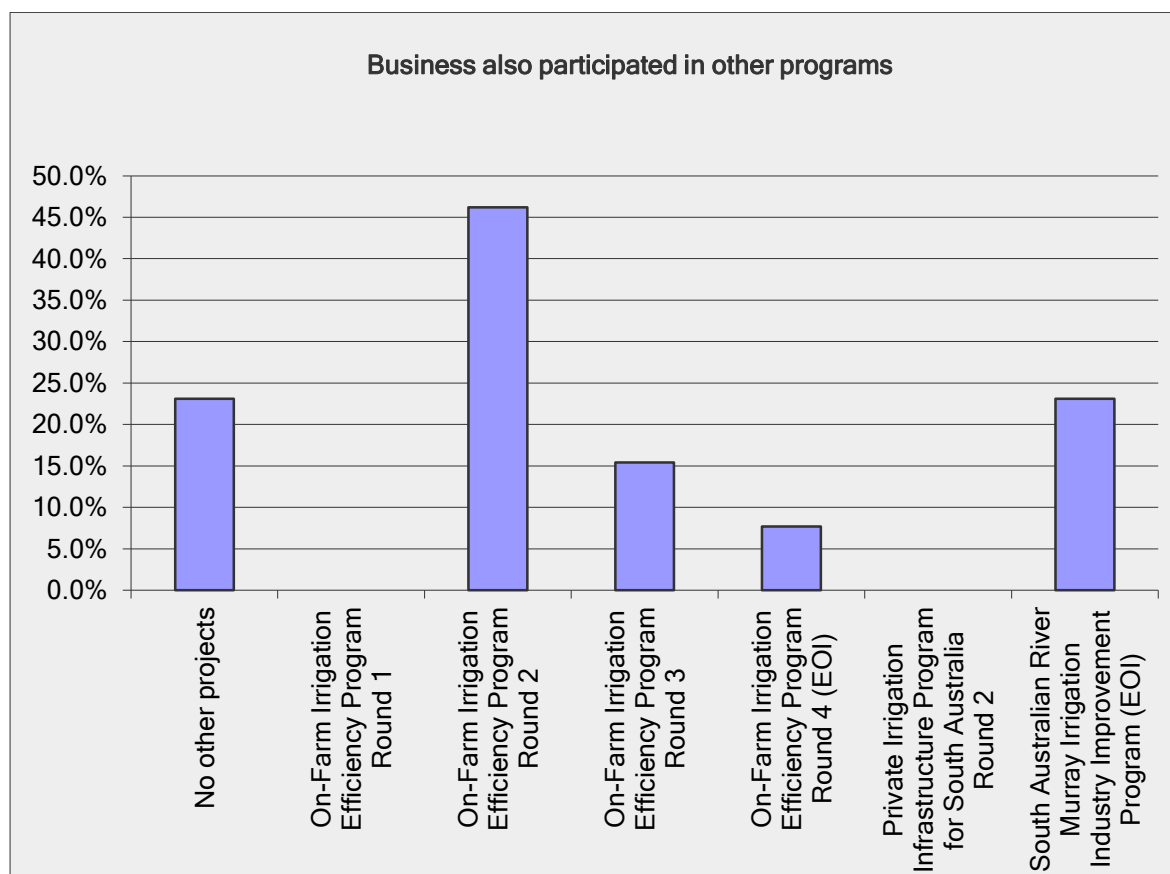


Figure 35: Q4 – Almonds only (Chart)

## Progress to target

O4: 20% of sub-project proponents participated in future programs.

The respondents indicated that an additional 70 projects have been applied for since completing Rounds 1 & 2. This result is a significant step toward the achievement of this MAT overall.

2014 Irrigation Infrastructure Report – Rounds One and Two

Produced by Leighton Pearce, Growing Solutions

## Growers' comments

46% of growers did not participate in future rounds; this was mainly due to not having adequate water entitlements to participate or sell back to the government. Many growers were interested in further development to their properties, but many of these redevelopments would not suit the criteria required in irrigation grants. Many grower listed improvements in variety plantings, shedding, machinery and energy systems on farm.

## Summary

From the survey results, it is apparent that growers are actively participating in future projects delivered by either the Commonwealth or State governments. Only 46% of growers surveyed have not participated in future programs. It is evident as these programs mature that growers are more likely to be involved as their knowledge of the programs increase. The decreasing buy back price of water and lack of available water to sell appears to be one of the main limiting factor in growers participating in future rounds.

Round one growers surveyed were more likely to participate in future rounds compared with round two respondents. One explanation for this could be that the round one recipients tended to be leading/pioneers in their fields and were more likely to be in a position to not only know about the round, but were able to react in time.

The evidence provided by the survey did not indicate that growers who upgraded to dripper systems are either more or less likely to participate in future rounds. Many of these growers had done all they could do to improve their irrigation efficiency, hence there is little more to be gained after installing drippers, automation and moisture monitoring.

The almond growers have indicated that they are more likely to participate in future rounds than the citrus and wine grape growers respectively. This could be contributed to the significant increase in knowledge within the almond industry recently in terms of irrigation efficiency, whereas the efficiency in the citrus and wine grape industry may have already occurred.



## Question 5

### Question

Crop type in project

### All data

Crop type in project		
Answer Options	Response Percent	Response Count
Citrus	26.5%	30
Wine grapes	75.2%	85
Table grapes	0.0%	0
Nuts	11.5%	13
Avocado	3.5%	4
Stone fruit	5.3%	6
Vegetable	1.8%	2
Other (please specify)		6
<b><i>answered question</i></b>		<b>113</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 36: Q5 – All data (Table)

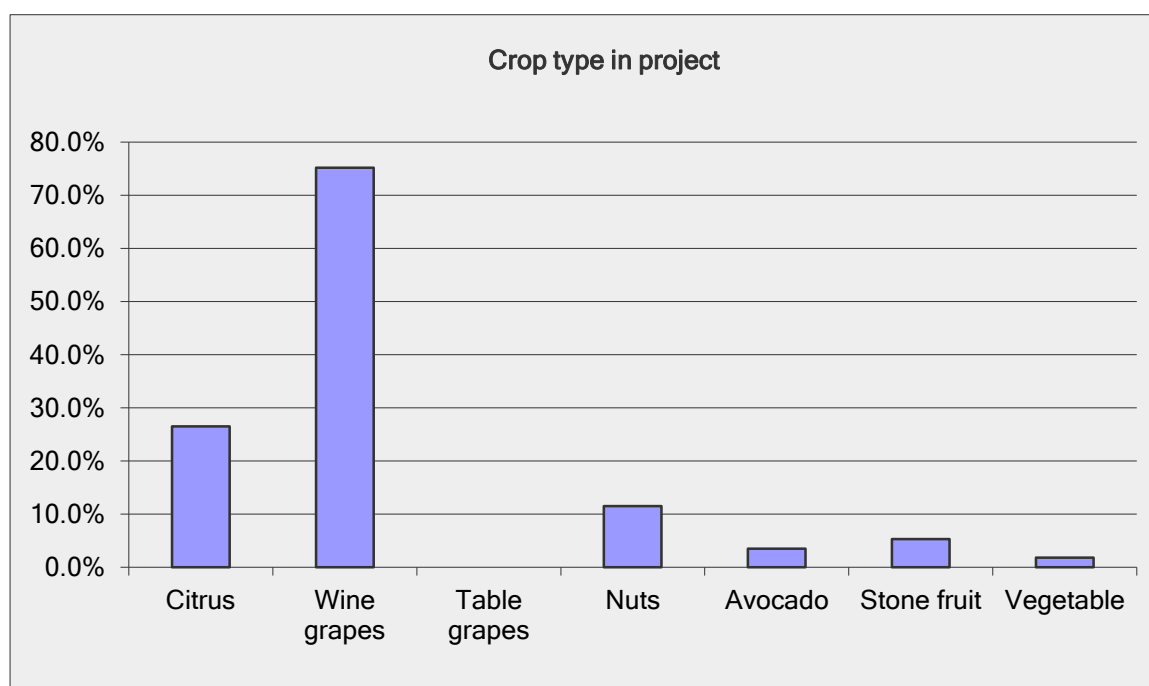


Figure 37: Q5 – All data (Chart)

## Round One

Crop type in project		
Answer Options	Response Percent	Response Count
Citrus	36.8%	7
Wine grapes	73.7%	14
Table grapes	0.0%	0
Nuts	5.3%	1
Avocado	10.5%	2
Stone fruit	10.5%	2
Vegetable	0.0%	0
Other (please specify)		2
<b><i>answered question</i></b>		<b>19</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 38: Q5 – Round One (Table)

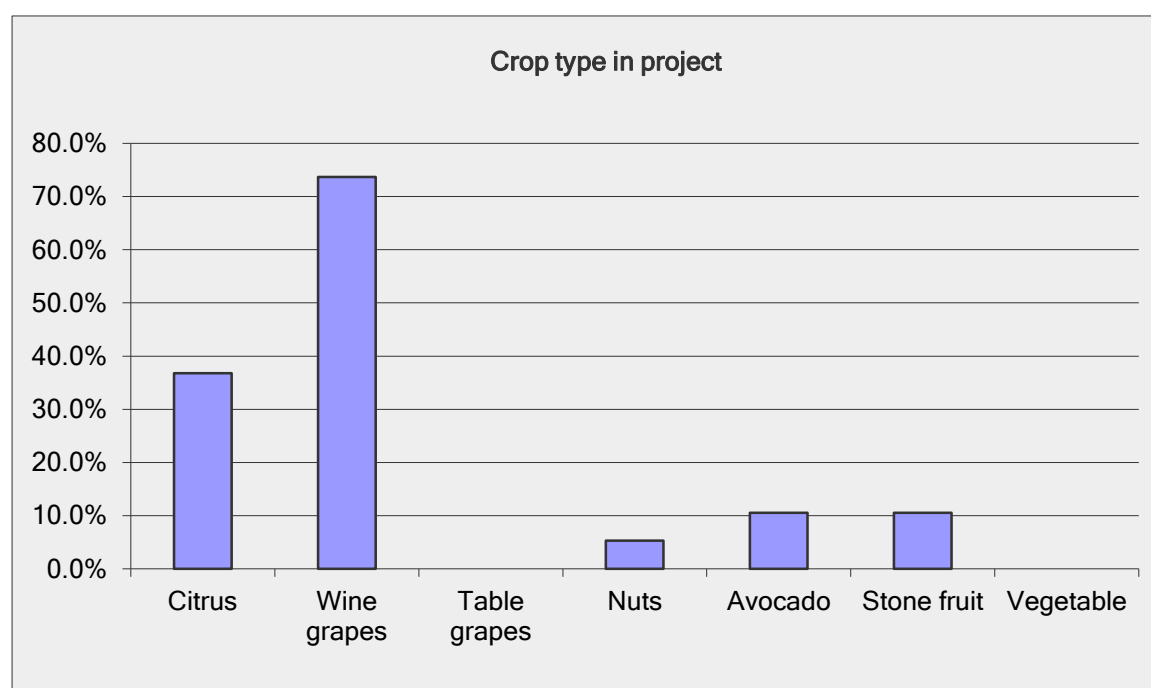


Figure 39: Q5 – Round One (Chart)

## Round Two

Crop type in project		
Answer Options	Response Percent	Response Count
Citrus	24.5%	23
Wine grapes	75.5%	71
Table grapes	0.0%	0
Nuts	12.8%	12
Avocado	2.1%	2
Stone fruit	4.3%	4
Vegetable	2.1%	2
Other (please specify)		4
<b><i>answered question</i></b>		<b>94</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 40: Q5 – Round Two (Table)

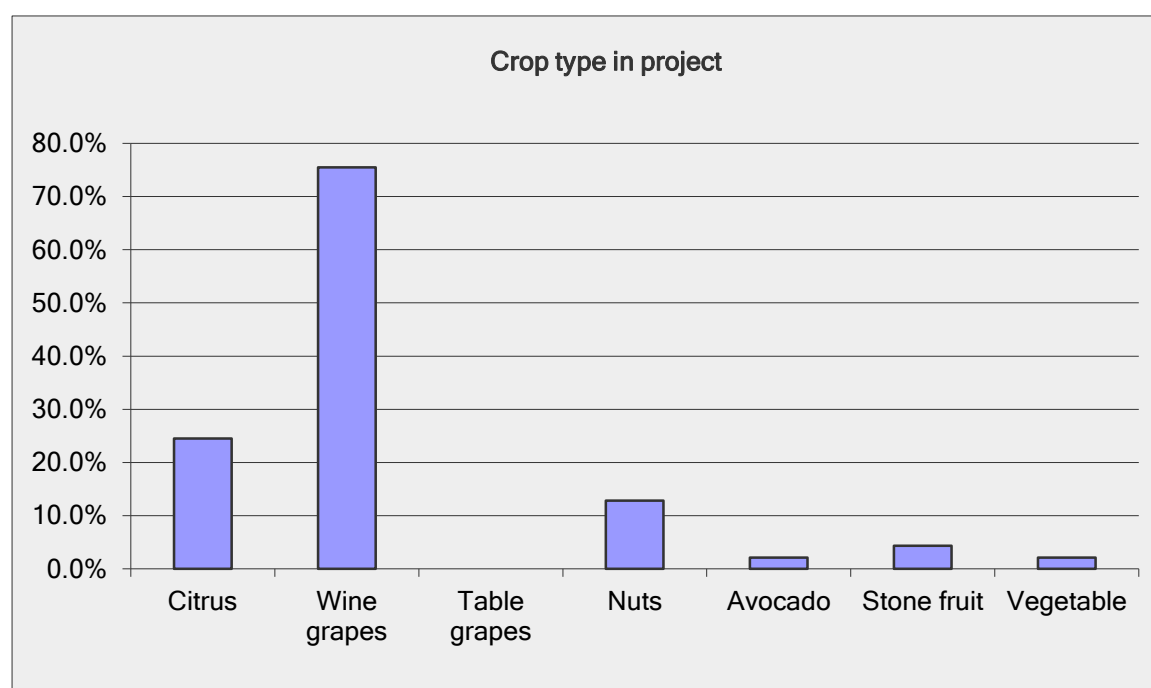


Figure 41: Q5 – Round Two (Chart)

### Dripper conversions only

Crop type in project		
Answer Options	Response Percent	Response Count
Citrus	27.8%	20
Wine grapes	80.6%	58
Table grapes	0.0%	0
Nuts	8.3%	6
Avocado	4.2%	3
Stone fruit	1.4%	1
Vegetable	2.8%	2
Other (please specify)		5
<b><i>answered question</i></b>		<b>72</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 42: Q5 – Dripper conversions only (Table)

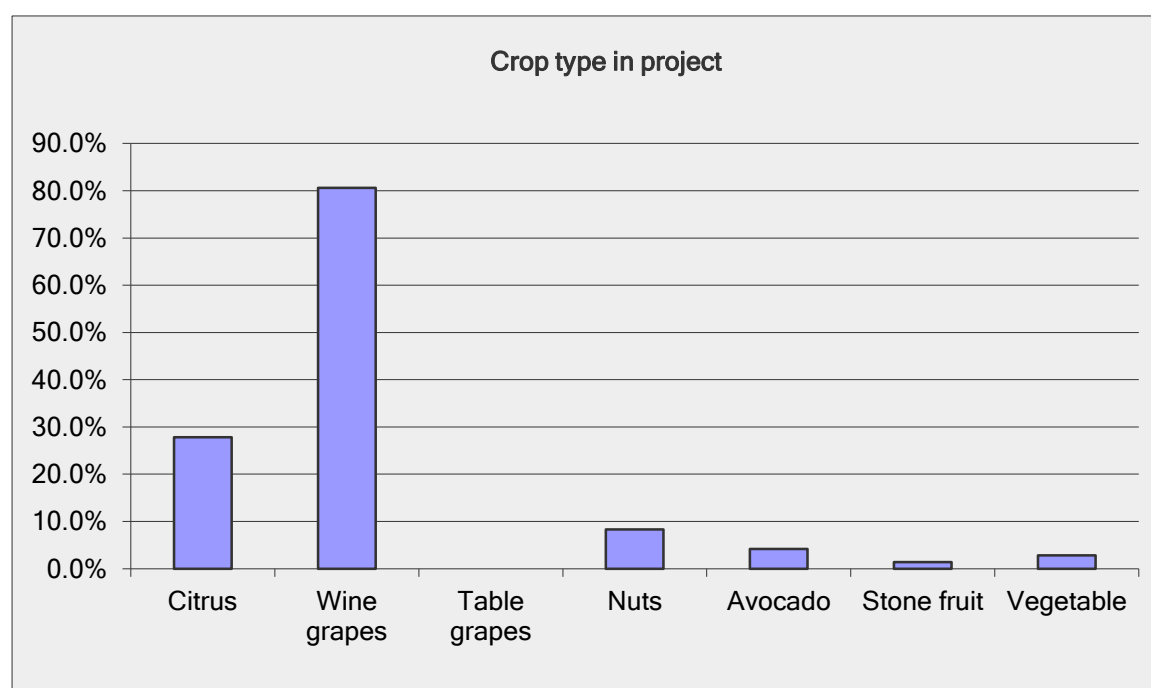


Figure 43: Q5 – Dripper conversions only (Chart)

### Wine grapes only

Crop type in project		
Answer Options	Response Percent	Response Count
Citrus	20.0%	17
Wine grapes	100.0%	85
Table grapes	0.0%	0
Nuts	2.4%	2
Avocado	2.4%	2
Stone fruit	2.4%	2
Vegetable	2.4%	2
Other (please specify)		5
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 44: Q5 – Wine grapes only (Table)

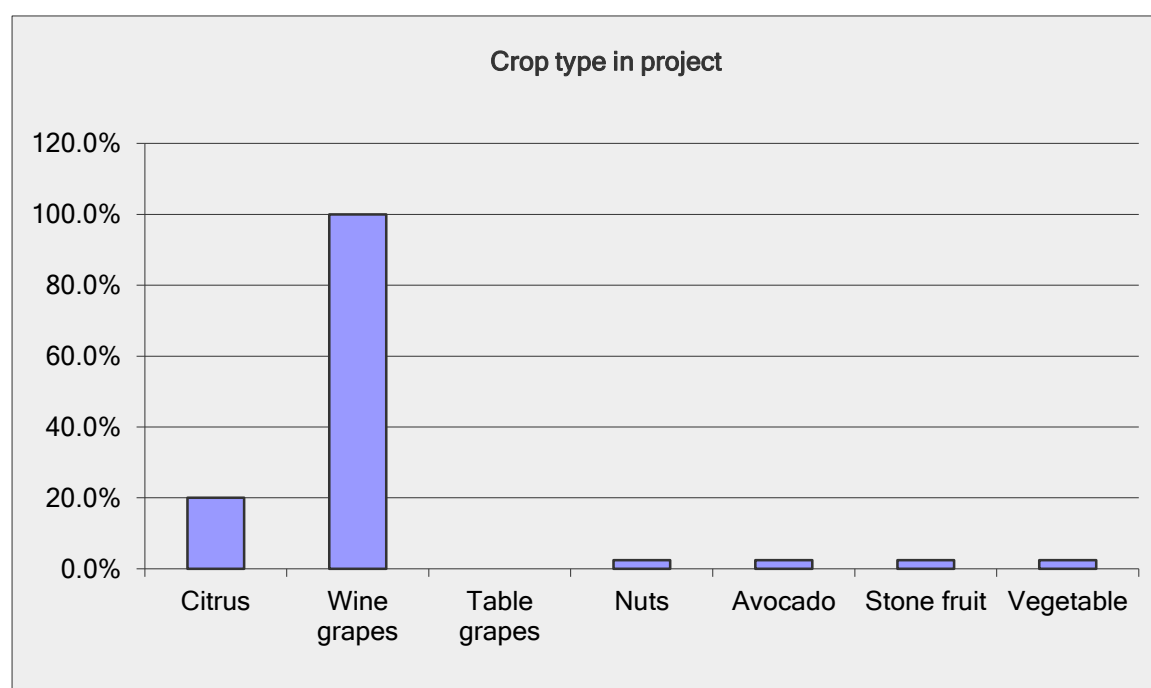


Figure 45: Q5 – Wine grapes only (Chart)

### Citrus only

Crop type in project		
Answer Options	Response Percent	Response Count
Citrus	100.0%	30
Wine grapes	56.7%	17
Table grapes	0.0%	0
Nuts	3.3%	1
Avocado	13.3%	4
Stone fruit	3.3%	1
Vegetable	0.0%	0
Other (please specify)		6
<b><i>answered question</i></b>		<b>30</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 46: Q5 – Citrus only (Table)

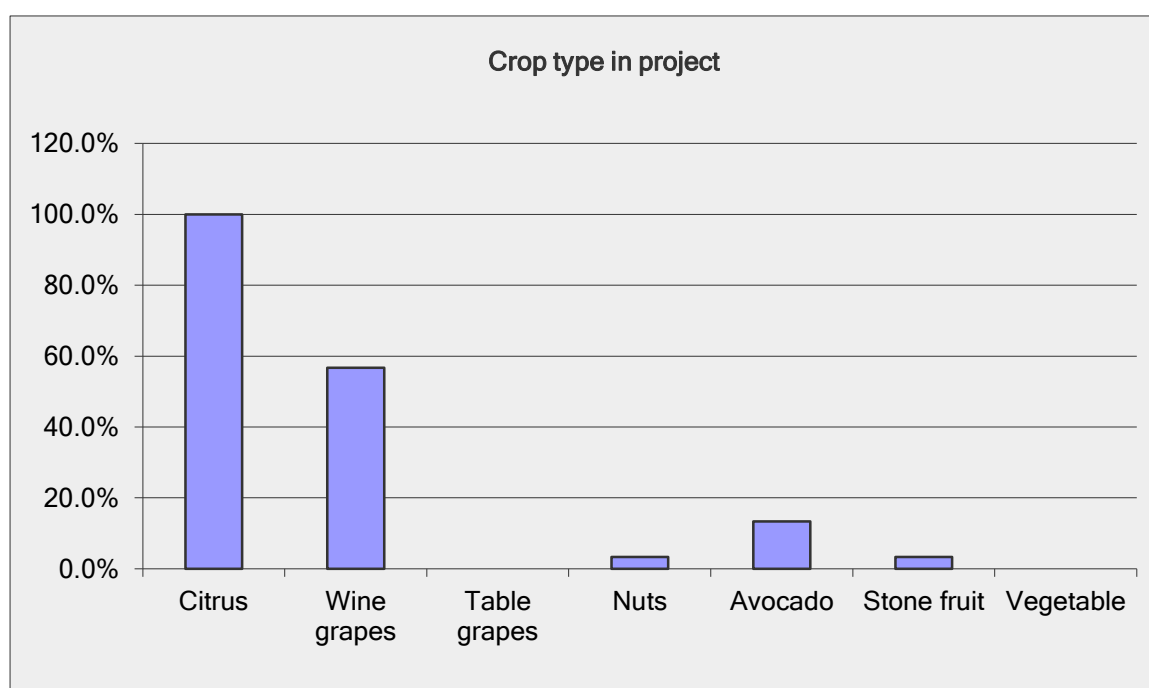


Figure 47: Q5 – Citrus only (Chart)

### Almonds only

Crop type in project		
Answer Options	Response Percent	Response Count
Citrus	7.7%	1
Wine grapes	15.4%	2
Table grapes	0.0%	0
Nuts	100.0%	13
Avocado	0.0%	0
Stone fruit	7.7%	1
Vegetable	0.0%	0
Other (please specify)		0
<b><i>answered question</i></b>		<b>13</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 48: Q5 – Almonds only (Table)

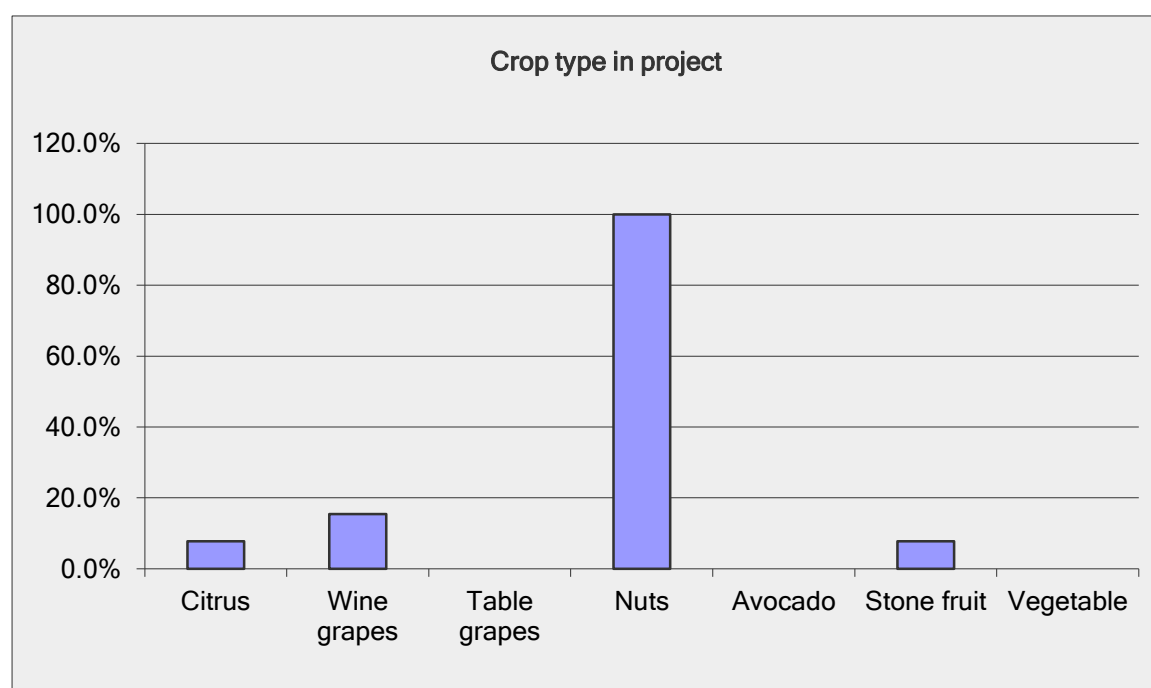


Figure 49: Q5 – Almonds only (Chart)

### Summary

From the tables and graphs above, it is clearly evident that wine grapes were the crop that most irrigation upgrades occurred in overall, through rounds one and two, and for dripper conversions. It is also evident that the majority of growers are growing more than one horticultural cultivar, although almond growers tend to just grow almonds.

## Question 6

### Question

#### Project Scope

#### All data

Project Scope		
Answer Options	Response Percent	Response Count
Soil moisture monitoring	4.5%	5
Sprinkler to drip/convert to drip	2.7%	3
Sprinkler to drip + soil moisture monitoring/convert to drip + soil moisture monitoring	7.1%	8
Convert to drip + automation	43.8%	49
Convert to drip + automation/integration + soil moisture monitoring	20.5%	23
Sprinkler to sprinkler + integration/ Convert full cover to partial cover	5.4%	6
Drip to drip + integration	4.5%	5
Lower price	0.0%	0
Automation and soil moisture monitoring	12.5%	14
Flood conversions	0.0%	0
Pipes and risers	8.0%	9
Delivery system upgrades and capacity upgrades	0.0%	0
Integrated projects	0.9%	1
Laser levelling	0.0%	0
<b><i>answered question</i></b>		<b>112</b>
<b><i>skipped question</i></b>		<b>2</b>

Figure 50: Q6 – All data (Table)



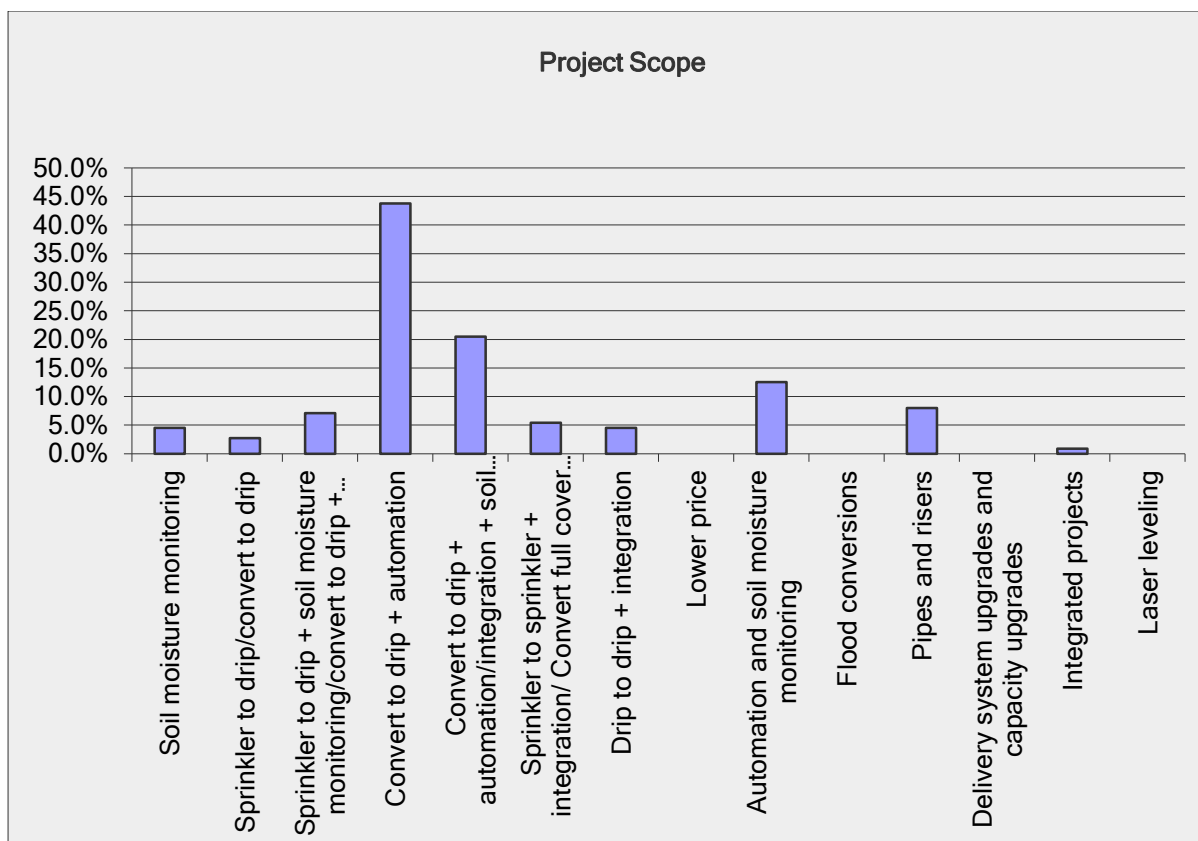


Figure 51: Q6 – All data (Chart)

## Round One

Project Scope		
Answer Options	Response Percent	Response Count
Soil moisture monitoring	5.3%	1
Sprinkler to drip/convert to drip	10.5%	2
Sprinkler to drip + soil moisture monitoring/convert to drip + soil moisture monitoring	26.3%	5
Convert to drip + automation	26.3%	5
Convert to drip + automation/integration + soil moisture monitoring	15.8%	3
Sprinkler to sprinkler + integration/ Convert full cover to partial cover	5.3%	1
Drip to drip + integration	0.0%	0
Lower price	0.0%	0
Automation and soil moisture monitoring	10.5%	2
Flood conversions	0.0%	0
Pipes and risers	10.5%	2
Delivery system upgrades and capacity upgrades	0.0%	0
Integrated projects	0.0%	0
Laser levelling	0.0%	0
<b>answered question</b>		<b>19</b>
<b>skipped question</b>		<b>1</b>

Figure 52: Q6 – Round One (Table)

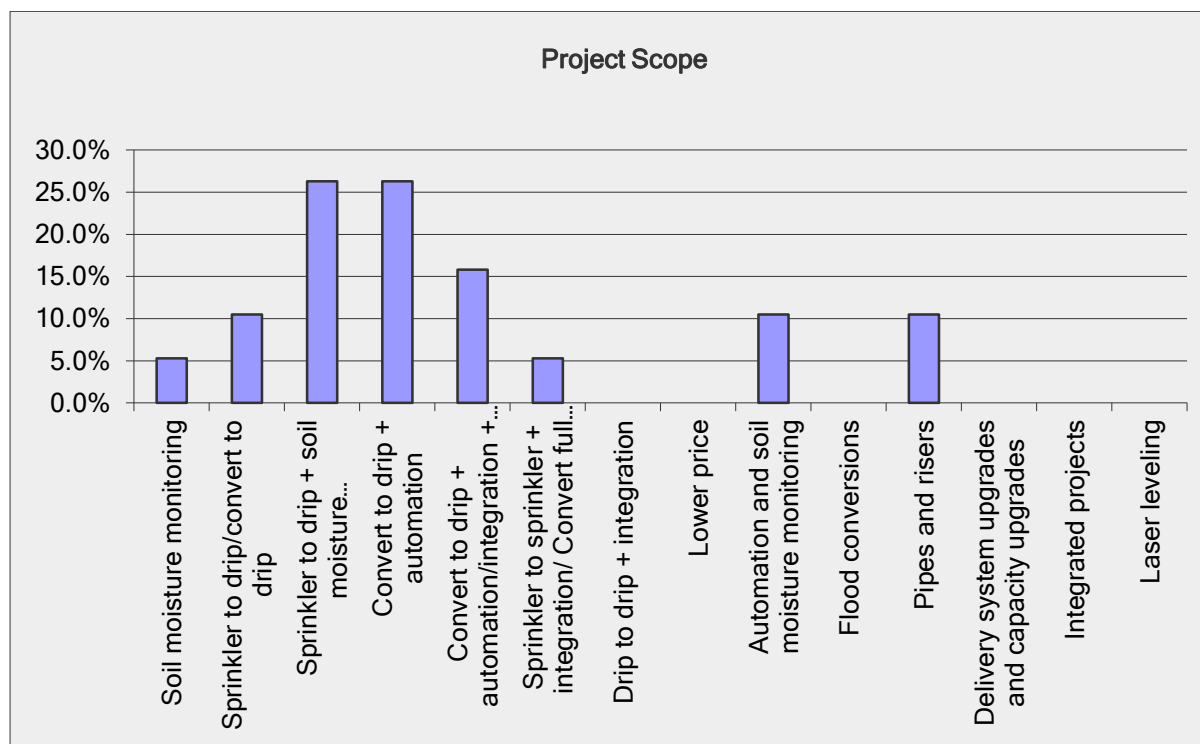


Figure 53: Q6 – Round One (Chart)

## Round Two

Project Scope		
Answer Options	Response Percent	Response Count
Soil moisture monitoring	4.3%	4
Sprinkler to drip/convert to drip	1.1%	1
Sprinkler to drip + soil moisture monitoring/convert to drip + soil moisture monitoring	3.2%	3
Convert to drip + automation	47.3%	44
Convert to drip + automation/integration + soil moisture monitoring	21.5%	20
Sprinkler to sprinkler + integration/ Convert full cover to partial cover	5.4%	5
Drip to drip + integration	5.4%	5
Lower price	0.0%	0
Automation and soil moisture monitoring	12.9%	12
Flood conversions	0.0%	0
Pipes and risers	7.5%	7
Delivery system upgrades and capacity upgrades	0.0%	0
Integrated projects	1.1%	1
Laser levelling	0.0%	0
<b>answered question</b>		<b>93</b>
<b>skipped question</b>		<b>1</b>

Figure 54: Q6 – Round Two (Table)

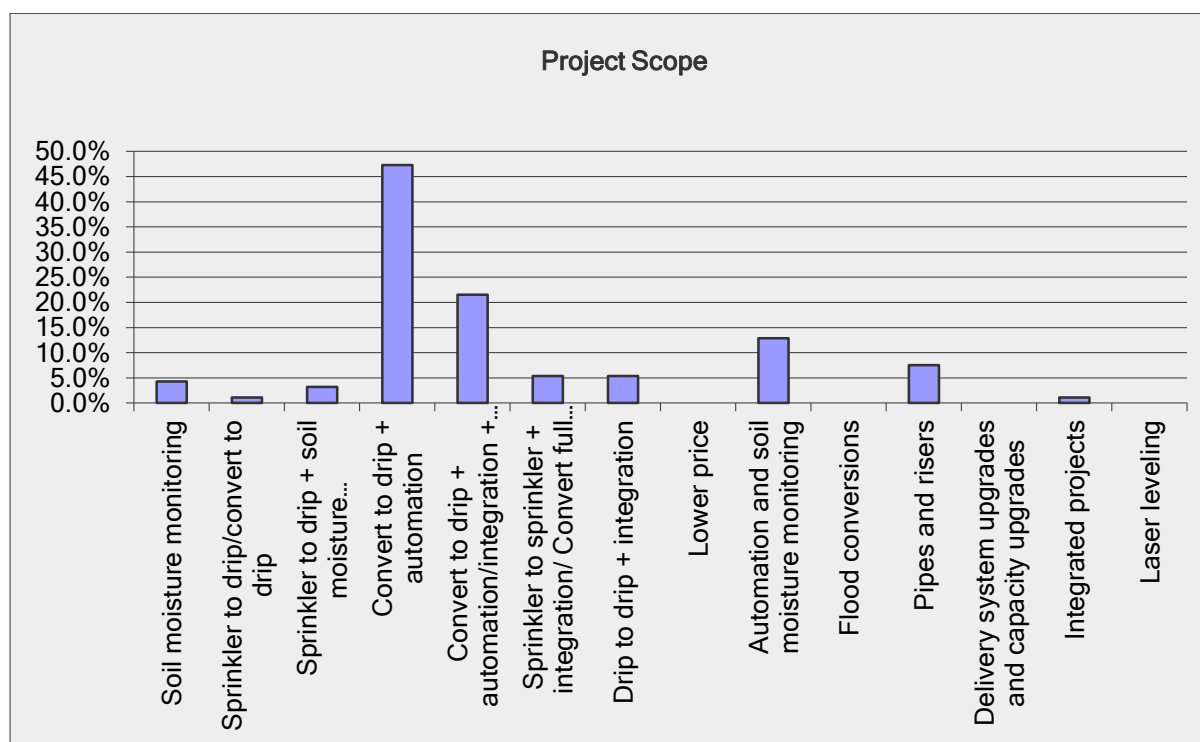


Figure 55: Q6 – Round Two (Chart)

### Dripper conversions only

Project Scope		
Answer Options	Response Percent	Response Count
Soil moisture monitoring	2.8%	2
Sprinkler to drip/convert to drip	0.0%	0
Sprinkler to drip + soil moisture monitoring/convert to drip + soil moisture monitoring	0.0%	0
Convert to drip + automation	68.1%	49
Convert to drip + automation/integration + soil moisture monitoring	31.9%	23
Sprinkler to sprinkler + integration/ Convert full cover to partial cover	1.4%	1
Drip to drip + integration	1.4%	1
Lower price	0.0%	0
Automation and soil moisture monitoring	0.0%	0
Flood conversions	0.0%	0
Pipes and risers	0.0%	0
Delivery system upgrades and capacity upgrades	0.0%	0
Integrated projects	0.0%	0
Laser levelling	0.0%	0
<b>answered question</b>		<b>72</b>
<b>skipped question</b>		<b>0</b>

Figure 56: Q6 – Dripper conversions only (Table)

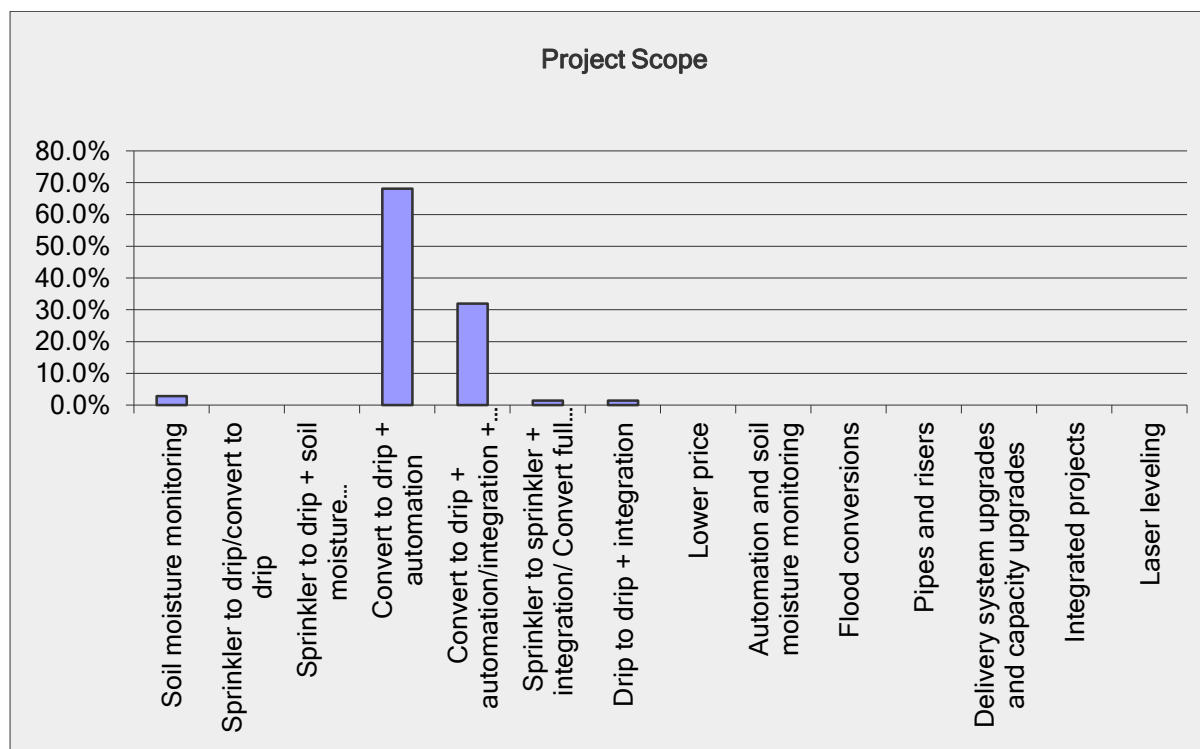


Figure 57: Q6 – Dripper conversions only (Chart)

### Wine grapes only

Project Scope		
Answer Options	Response Percent	Response Count
Soil moisture monitoring	4.7%	4
Sprinkler to drip/convert to drip	1.2%	1
Sprinkler to drip + soil moisture monitoring/convert to drip + soil moisture monitoring	5.9%	5
Convert to drip + automation	51.8%	44
Convert to drip + automation/integration + soil moisture monitoring	16.5%	14
Sprinkler to sprinkler + integration/ Convert full cover to partial cover	3.5%	3
Drip to drip + integration	4.7%	4
Lower price	0.0%	0
Automation and soil moisture monitoring	11.8%	10
Flood conversions	0.0%	0
Pipes and risers	8.2%	7
Delivery system upgrades and capacity upgrades	0.0%	0
Integrated projects	0.0%	0
Laser levelling	0.0%	0
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 58: Q6 – Wine grapes only (Table)

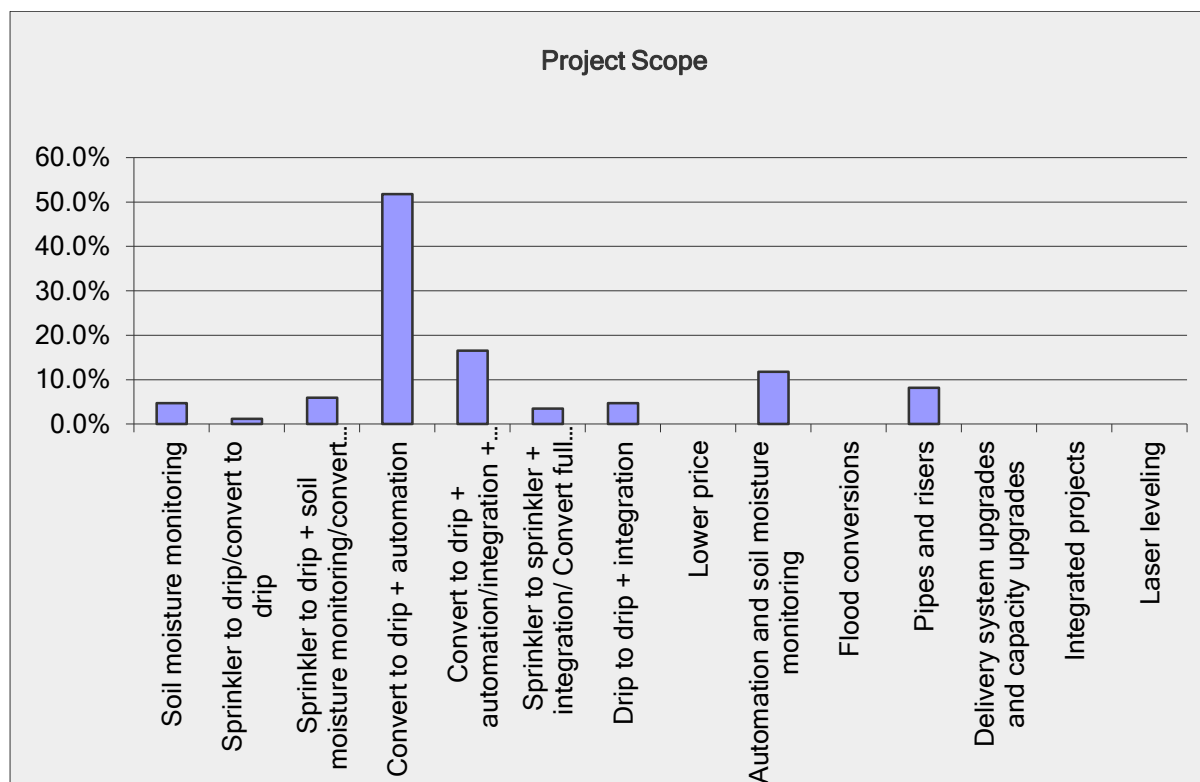


Figure 59: Q6 – Wine grapes only (Chart)

### Citrus only

Project Scope		
Answer Options	Response Percent	Response Count
Soil moisture monitoring	10.0%	3
Sprinkler to drip/convert to drip	0.0%	0
Sprinkler to drip + soil moisture monitoring/convert to drip + soil moisture monitoring	3.3%	1
Convert to drip + automation	50.0%	15
Convert to drip + automation/integration + soil moisture monitoring	16.7%	5
Sprinkler to sprinkler + integration/ Convert full cover to partial cover	10.0%	3
Drip to drip + integration	3.3%	1
Lower price	0.0%	0
Automation and soil moisture monitoring	6.7%	2
Flood conversions	0.0%	0
Pipes and risers	10.0%	3
Delivery system upgrades and capacity upgrades	0.0%	0
Integrated projects	0.0%	0
Laser levelling	0.0%	0
<b><i>answered question</i></b>		<b>30</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 60: Q6 – Citrus only (Table)

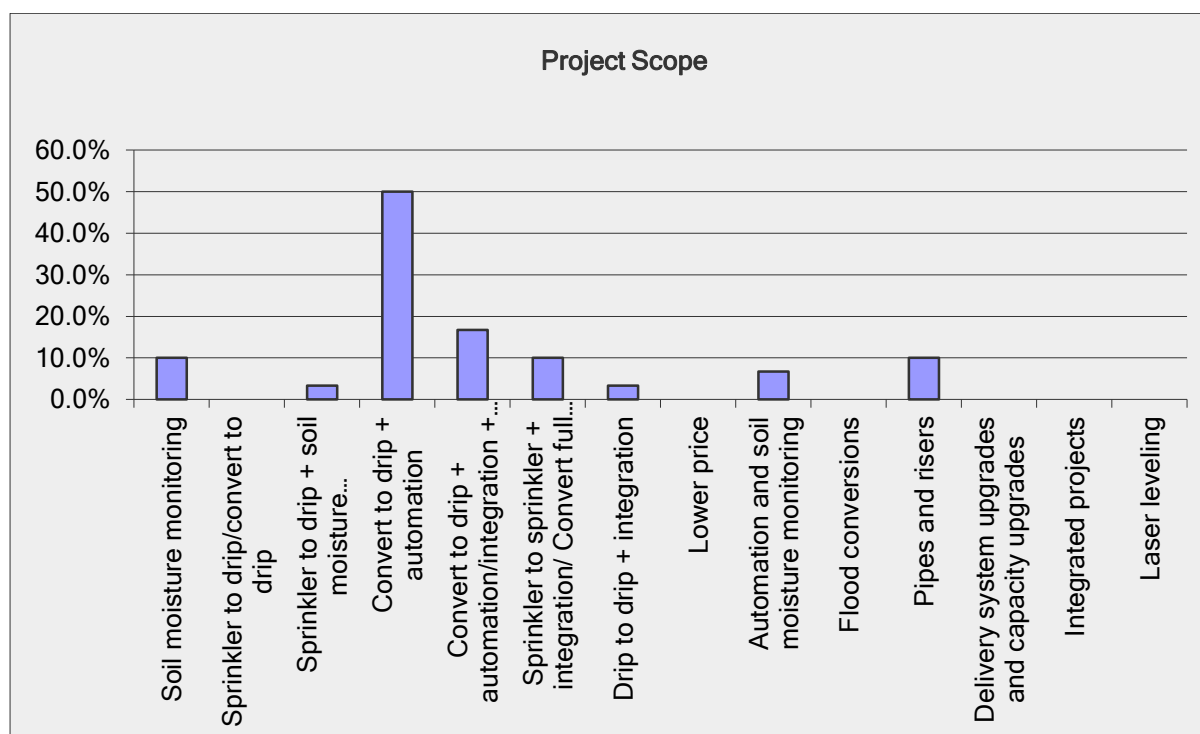


Figure 61: Q6 – Citrus only (Chart)

### Almonds only

Project Scope		
Answer Options	Response Percent	Response Count
Soil moisture monitoring	15.4%	2
Sprinkler to drip/convert to drip	0.0%	0
Sprinkler to drip + soil moisture monitoring/convert to drip + soil moisture monitoring	7.7%	1
Convert to drip + automation	7.7%	1
Convert to drip + automation/integration + soil moisture monitoring	38.5%	5
Sprinkler to sprinkler + integration/ Convert full cover to partial cover	15.4%	2
Drip to drip + integration	0.0%	0
Lower price	0.0%	0
Automation and soil moisture monitoring	38.5%	5
Flood conversions	0.0%	0
Pipes and risers	7.7%	1
Delivery system upgrades and capacity upgrades	0.0%	0
Integrated projects	7.7%	1
Laser levelling	0.0%	0
<b><i>answered question</i></b>		<b>13</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 62: Q6 – Almonds only (Table)

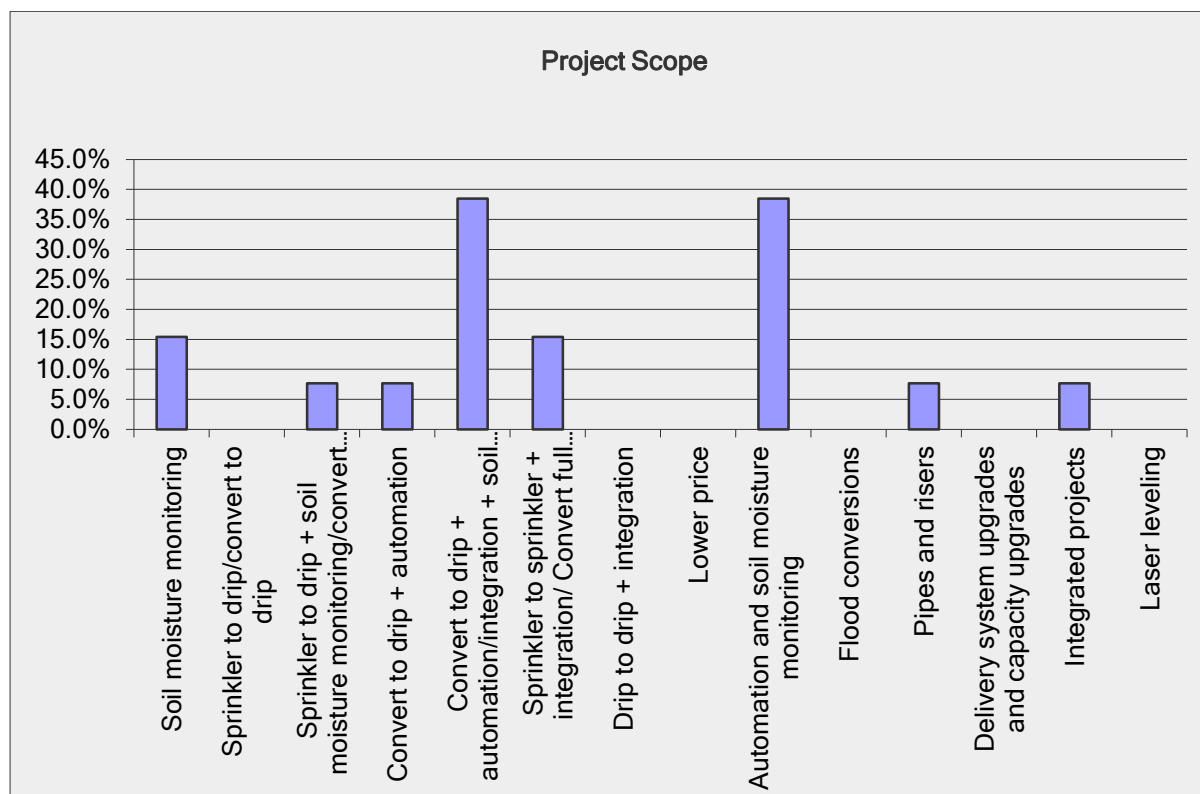


Figure 63: Q6 – Almonds only (Chart)

### **Growers' comments**

Growers voiced concerns on the quality of dripper hose, warranty period and replacement periods. Many growers were experiencing blow outs and squirters.

### **Summary**

The vast majority of projects incorporated dripper conversions with automation and/or soil moisture monitoring. This trend was evident across both rounds one and two, and for each crop (wine grapes, citrus and almonds).



## Question 7

### Question

Project area (Ha)

### All data

Project Area (Ha)	
Answer Options	Response Count
	113
<i>answered question</i>	<b>113</b>
<i>skipped question</i>	<b>1</b>
Number	Response Text
1	383
2	65
3	6
4	5.8
5	18.6
6	7.2
7	30.9
8	48.6
9	32.4
10	46.2
11	7
12	10.5
13	9
14	135
15	54
16	9.5
17	84.4
18	13.2
19	12.7
20	12.9
21	6
22	56
23	15.5
24	5
25	13.35
26	35.62
27	10
28	16
29	25.92
30	133
31	34.6

32	9
33	40
34	170
35	40
36	40
37	36
38	63.1
39	34
40	44
41	75.6
42	9.6
43	8
44	30
45	9
46	9.5
47	107
48	36
49	13.6
50	20
51	13.36
52	15.4
53	6
54	140
55	14.5
56	220
57	9
58	11
59	13
60	12
61	8.8
62	13.5
63	42.5
64	10
65	26
66	7.2
67	18.34
68	42.5
69	41.6
70	10.53
71	7.4
72	11
73	16.3
74	8.6
75	48
76	662
77	6.7
78	11
79	14
80	7

81	13
82	14
83	46.6
84	15.3
85	45
86	14.5
87	7.7
88	11.4
89	30.7
90	26
91	31.5
92	23.3
93	11.7
94	13.7
95	12.1
96	16
97	4.4
98	21.5
99	6.2
100	45
101	73
102	11
103	34.4
104	17.8
105	12.5
106	8
107	30
108	7.5
109	4.5
110	78
111	78
112	10
113	15.4
	4,394.22

Figure 64: Q7 – All data (Table)

## Summary

Through rounds one and two, growers surveyed indicated that 4,394 hectares undertook an irrigation efficiency project.

## Question 8

### Question

Water savings returned to Australian Government (ML)

#### All data

Water savings returned to Aust Govt (ML)			
Answer Options	Response Average	Response Total	Response Count
ML	27.49	3,106	113
<i>answered question</i>			<b>113</b>
<i>skipped question</i>			<b>1</b>

Figure 65: Q8 – All data (Table)

#### Round One

Water savings returned to Aust Govt (ML)			
Answer Options	Response Average	Response Total	Response Count
ML	18.89	359	19
<i>answered question</i>			<b>19</b>
<i>skipped question</i>			<b>1</b>

Figure 66: Q8 – Round One (Table)

#### Round Two

Water savings returned to Aust Govt (ML)			
Answer Options	Response Average	Response Total	Response Count
ML	29.22	2,747	94
<i>answered question</i>			<b>94</b>
<i>skipped question</i>			<b>0</b>

Figure 67: Q8 – Round Two (Table)

#### Dripper conversions only

Water savings returned to Aust Govt (ML)			
Answer Options	Response Average	Response Total	Response Count
ML	27.94	2,012	72
<i>answered question</i>			<b>72</b>
<i>skipped question</i>			<b>0</b>

Figure 68: Q8 – Dripper conversions only (Table)

#### Wine grapes only

Water savings returned to Aust Govt (ML)			
Answer Options	Response Average	Response Total	Response Count

ML	23.92	2,033	85
<b><i>answered question</i></b>			<b>85</b>
<b><i>skipped question</i></b>			<b>0</b>

Figure 69: Q8 – Wine grapes only (Table)

### Citrus only

Water savings returned to Aust Govt (ML)			
Answer Options	Response Average	Response Total	Response Count
ML	26.40	792	30
<b><i>answered question</i></b>			<b>30</b>
<b><i>skipped question</i></b>			<b>0</b>

Figure 70: Q8 – Citrus only (Table)

### Almonds only

Water savings returned to Aust Govt (ML)			
Answer Options	Response Average	Response Total	Response Count
ML	52.85	687	13
<b><i>answered question</i></b>			<b>13</b>
<b><i>skipped question</i></b>			<b>0</b>

Figure 71: Q8 – Almonds only (Table)

### Progress to target

O6: 1,800 ML of water savings are generated through project implementation.

Through rounds one and two, 4,394 ML (average 27 ML per grower) of water was returned to the federal government. Therefore the Natural Resources – South Australian Murray Darling Basin has made significant achievements towards this MAT.

### Summary

In general terms, growers are positive about the project, and water returned to the federal government. Growers have demonstrated this by participating on future programs when eligible.

The majority of the water returned to the government occurred through round two in preference to round one. Almond growers, on average, returned twice as much water per grower.

## Question 9

### Question

Water savings retained (ML) Actual or Contracted? (Water saved – Returned)

### All data

Water savings retained (ML) Actual or Contracted? (Water saved - Returned)	
Answer Options	Response Count
	112
<i>answered question</i>	<b>112</b>
<i>skipped question</i>	<b>2</b>
Number	Response Text
1	57
2	7
3	8
4	10
5	10
6	8
7	25
8	12.1
9	9
10	25
11	7
12	4.5
13	8
14	65
15	10
16	9.5
17	24.3
18	10.4
19	10.5
20	16
21	8
22	7
23	10
24	6.5
25	12
26	36
27	6.1
28	0
29	28
30	10

31	5
32	10
33	11
34	10
35	12
36	10
37	12
38	15
39	11
40	10
41	11
42	1
43	8
44	11
45	0
46	53.4
47	9.5
48	10
49	14.5
50	14.6
51	19
52	6
53	20
54	1
55	6
56	1.1
57	11
58	11
59	15
60	11
61	49
62	83
63	12.5
64	26
65	11.8
66	36
67	47
68	17.8
69	11
70	7.5
71	0
72	11.5
73	12
74	12
75	135
76	8
77	12
78	15
79	10.5

80	11
81	9.5
82	10
83	8.5
84	12
85	19
86	8
87	11
88	43
89	31
90	12.5
91	25.5
92	5
93	3
94	8.5
95	10.5
96	5
97	11.5
98	10
99	24.5
100	72
101	10.5
102	17
103	12.5
104	7
105	0
106	5
107	10
108	10
109	58
110	58
111	8
112	16
	1880.6

Figure 72: Q9 – All data (Table)



### **Progress to target**

06: 15% of project water savings are retained by irrigators to increase business flexibility and management capacity.

1880ML has been retained by growers participating in rounds one and two. This significantly contributes the MAT.

### **Growers' comments**

Due to a heat wave during our recent summer, much of this retained water has been used to irrigate crops. Of the water unused, growers have generally leased this water out.

### **Summary**

The retained water provides a buffer for extreme heat conditions through the season; it is appreciated that this has been accounted for. As a result of this season's heat wave, the majority of growers have not had to lease in or purchase water to cover their crop requirements.

## Question 10

### Question

Retail dealer (Irrigation Contractor)

### All data

Retail dealer (Irrigation Contractor)		
Answer Options	Response Percent	Response Count
Renmark - RiverRain/Yandilla/AgriExchange	26.5%	30
Renmark - Think Water/Sloans	8.0%	9
Loxton - Ultimate Irrigation/Loxton Irrigation	17.7%	20
Barmera - Ultimate Irrigation	8.0%	9
Waikerie - Agritech	3.5%	4
Waikerie - Think Water	9.7%	11
Berri - Berri Irrigation	26.5%	30
Other (please specify)		0
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>1</b>

Figure 73: Q10 – All data (Table)

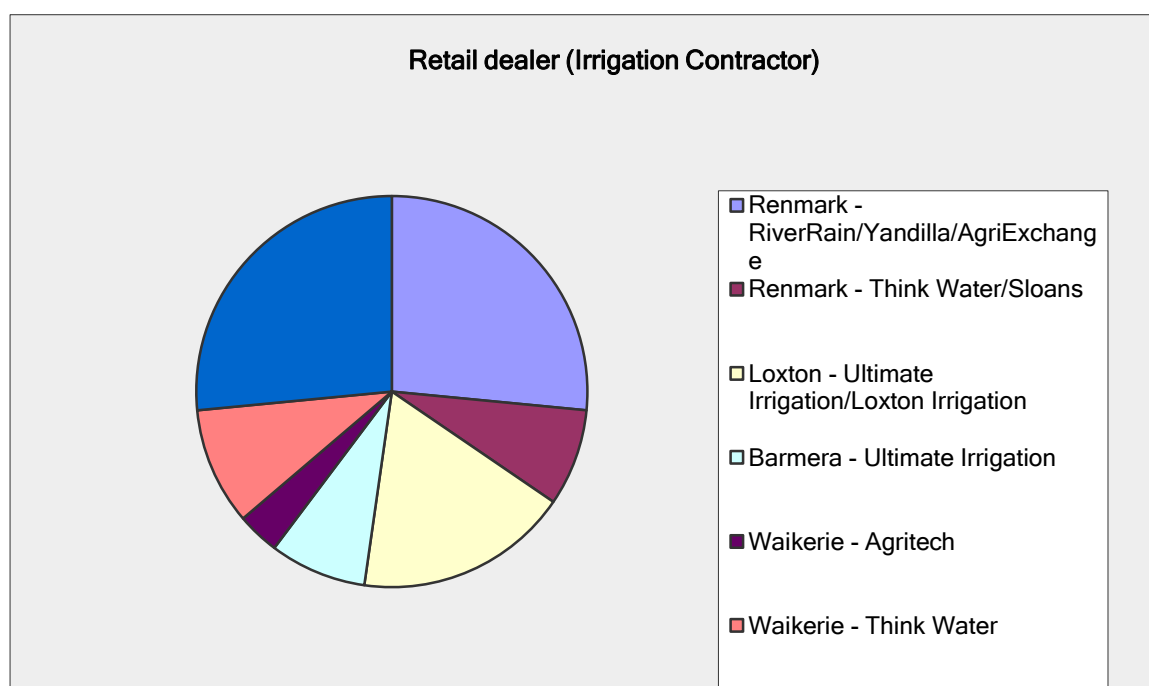


Figure 74: Q10 – All data (Chart a)

### Q10 Retail dealer (Irrigation Contractor)

Answered: 113 Skipped: 1

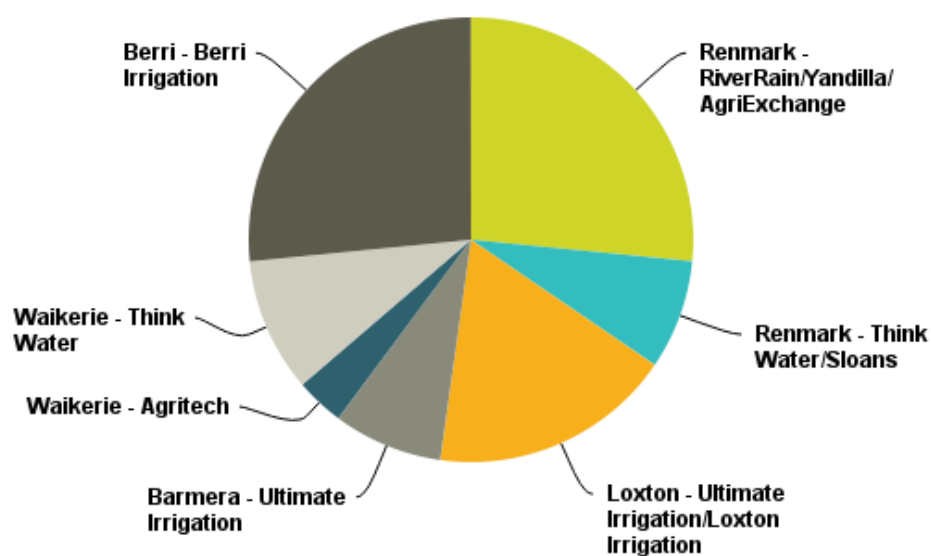


Figure 75: Q10 – All data (Chart b)

## Round One

Retail dealer (Irrigation Contractor)		
Answer Options	Response Percent	Response Count
Renmark - RiverRain/Yandilla/AgriExchange	15.8%	3
Renmark - Think Water/Sloans	5.3%	1
Loxton - Ultimate Irrigation/Loxton Irrigation	21.1%	4
Barmera - Ultimate Irrigation	0.0%	0
Waikerie - Agritech	10.5%	2
Waikerie - Think Water	10.5%	2
Berri - Berri Irrigation	36.8%	7
Other (please specify)		0
<b>answered question</b>		<b>19</b>
<b>skipped question</b>		<b>1</b>

Figure 76: Q10 – Round One (Table)

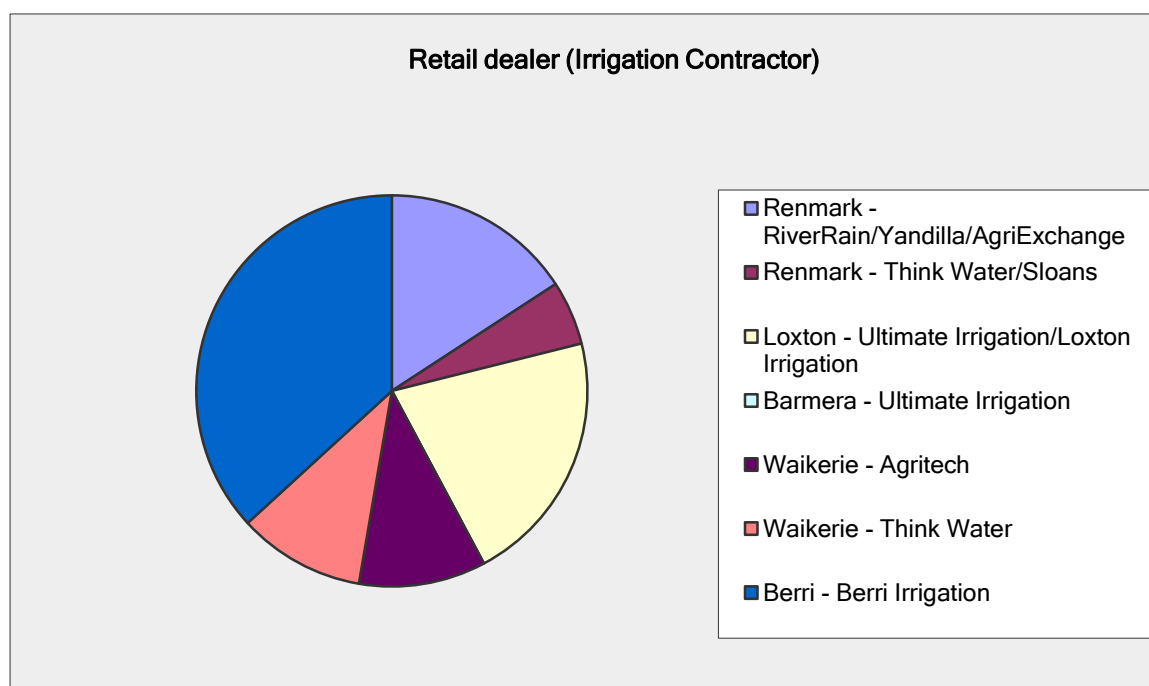


Figure 77: Q10 – Round One (Chart)

## Round Two

Retail dealer (Irrigation Contractor)		
Answer Options	Response Percent	Response Count
Renmark - RiverRain/Yandilla/AgriExchange	28.7%	27
Renmark - Think Water/Sloans	8.5%	8
Loxton - Ultimate Irrigation/Loxton Irrigation	17.0%	16
Barmera - Ultimate Irrigation	9.6%	9
Waikerie - Agritech	2.1%	2
Waikerie - Think Water	9.6%	9
Berri - Berri Irrigation	24.5%	23
Other (please specify)		0
<b>answered question</b>		<b>94</b>
<b>skipped question</b>		<b>0</b>

Figure 78: Q10 – Round Two (Table)

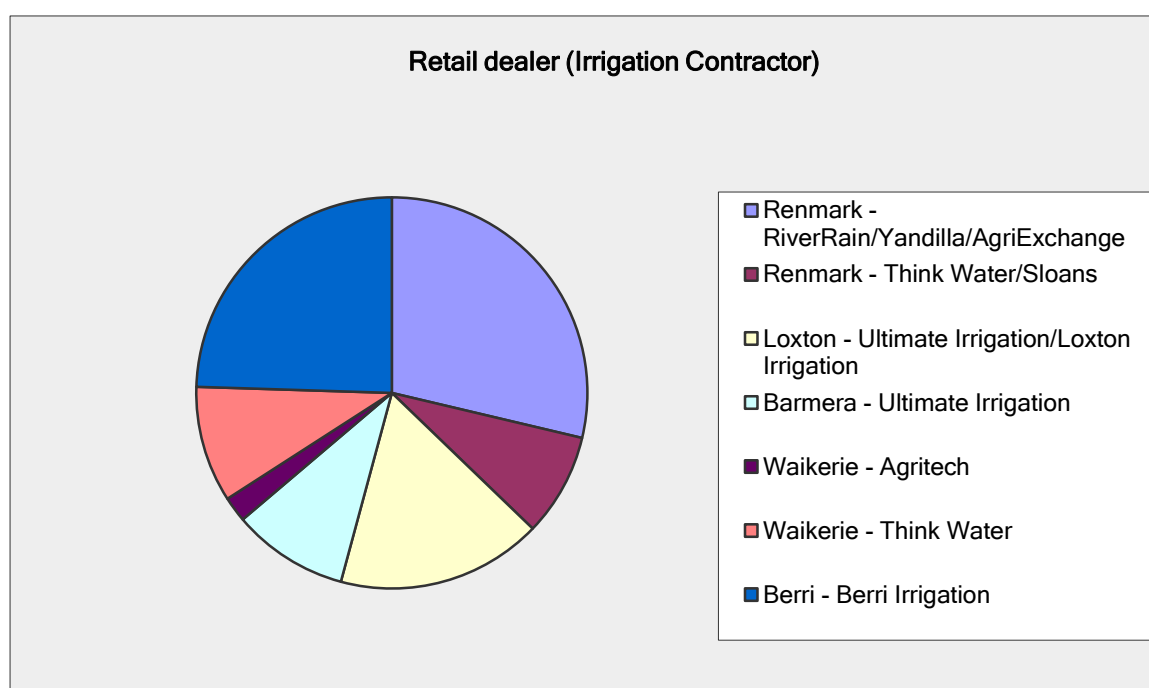


Figure 79: Q10 – Round Two (Chart)

### Dripper conversions only

Retail dealer (Irrigation Contractor)		
Answer Options	Response Percent	Response Count
Renmark - RiverRain/Yandilla/AgriExchange	16.7%	12
Renmark - Think Water/Sloans	6.9%	5
Loxton - Ultimate Irrigation/Loxton Irrigation	16.7%	12
Barmera - Ultimate Irrigation	12.5%	9
Waikerie - Agritech	5.6%	4
Waikerie - Think Water	11.1%	8
Berri - Berri Irrigation	30.6%	22
Other (please specify)		0
<b>answered question</b>		<b>72</b>
<b>skipped question</b>		<b>0</b>

Figure 80: Q10 – Dripper conversions only (Table)

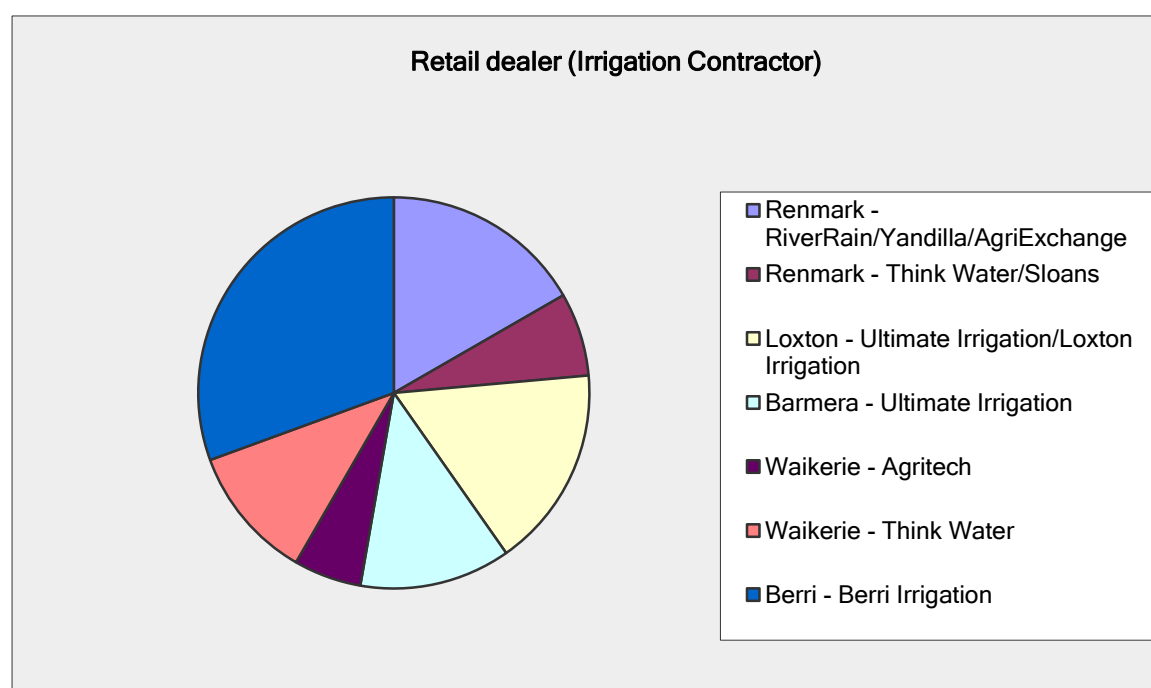


Figure 81: Q10 – Dripper conversions only (Chart)

### Wine grapes only

Retail dealer (Irrigation Contractor)		
Answer Options	Response Percent	Response Count
Renmark - RiverRain/Yandilla/AgriExchange	21.2%	18
Renmark - Think Water/Sloans	7.1%	6
Loxton - Ultimate Irrigation/Loxton Irrigation	18.8%	16
Barmera - Ultimate Irrigation	10.6%	9
Waikerie - Agritech	4.7%	4
Waikerie - Think Water	2.4%	2
Berri - Berri Irrigation	35.3%	30
Other (please specify)		0
<b>answered question</b>		<b>85</b>
<b>skipped question</b>		<b>0</b>

Figure 82: Q10 – Wine grapes only (Table)

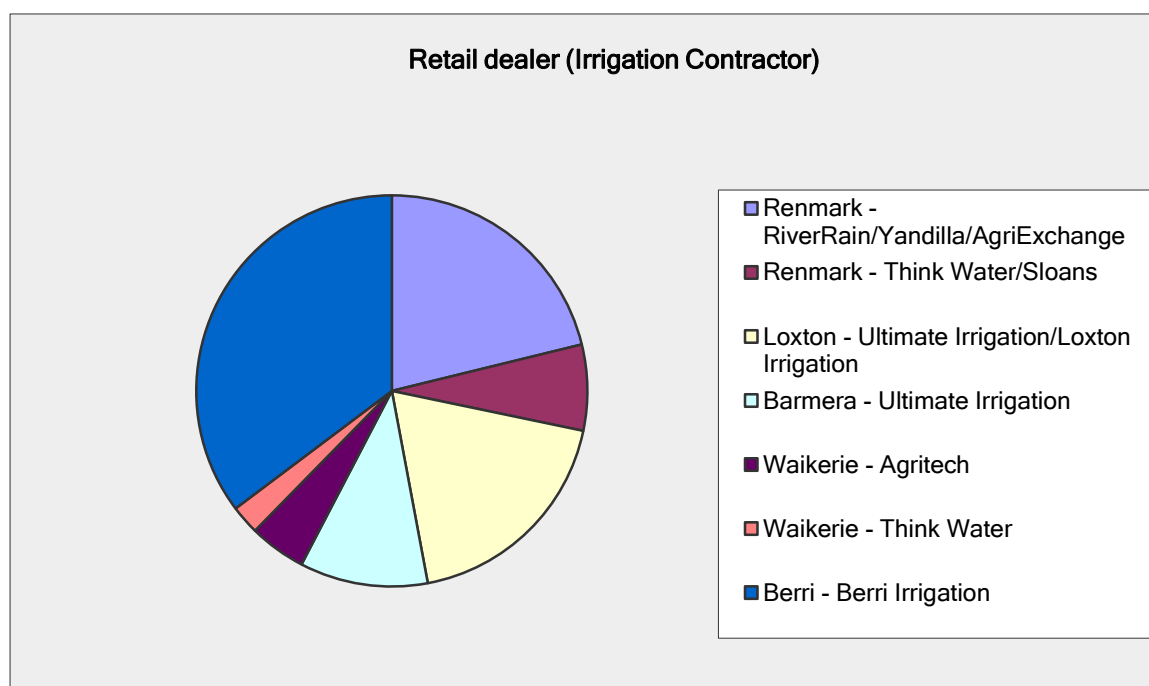


Figure 83: Q10 – Wine grapes only (Chart)

### Citrus only

Retail dealer (Irrigation Contractor)		
Answer Options	Response Percent	Response Count
Renmark - RiverRain/Yandilla/AgriExchange	20.0%	6
Renmark - Think Water/Sloans	0.0%	0
Loxton - Ultimate Irrigation/Loxton Irrigation	30.0%	9
Barmera - Ultimate Irrigation	0.0%	0
Waikerie - Agritech	13.3%	4
Waikerie - Think Water	30.0%	9
Berri - Berri Irrigation	6.7%	2
Other (please specify)		0
<b><i>answered question</i></b>		<b>30</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 84: Q10 – Citrus only (Table)

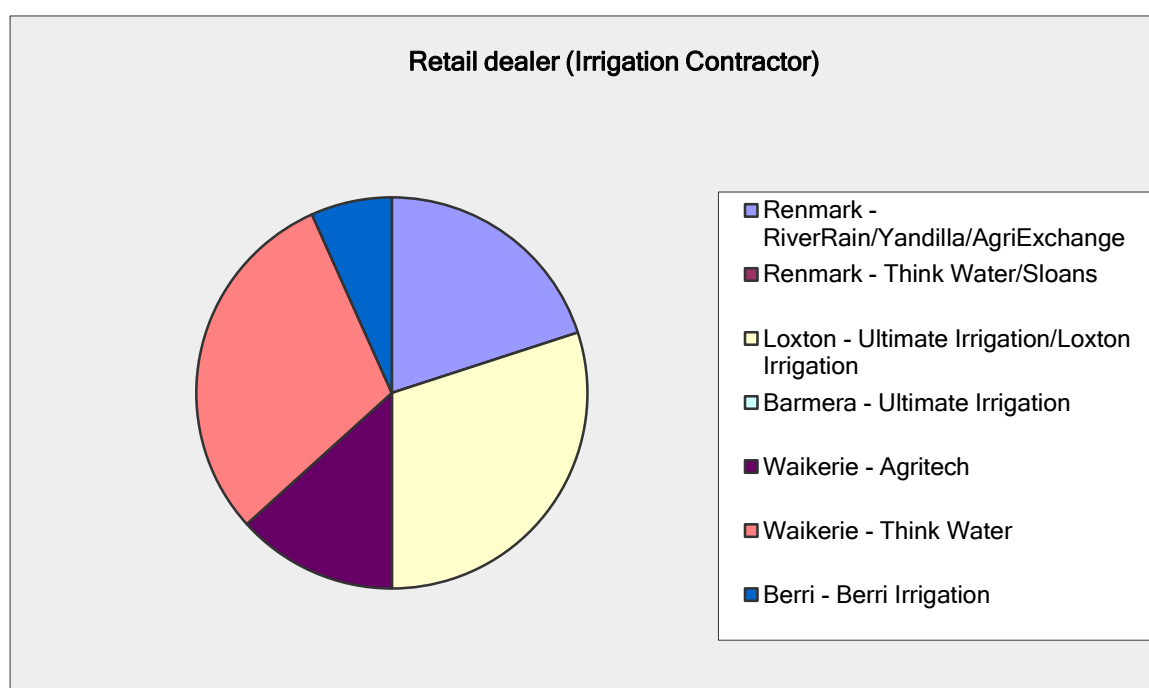


Figure 85: Q10 – Citrus only (Chart)



## Almonds only

Retail dealer (Irrigation Contractor)		
Answer Options	Response Percent	Response Count
Renmark - RiverRain/Yandilla/AgriExchange	53.8%	7
Renmark - Think Water/Sloans	23.1%	3
Loxton - Ultimate Irrigation/Loxton Irrigation	15.4%	2
Barmera - Ultimate Irrigation	0.0%	0
Waikerie - Agritech	7.7%	1
Waikerie - Think Water	0.0%	0
Berri - Berri Irrigation	0.0%	0
Other (please specify)		0
<b>answered question</b>		<b>13</b>
<b>skipped question</b>		<b>0</b>

Figure 86: Q10 – Almonds only (Table)

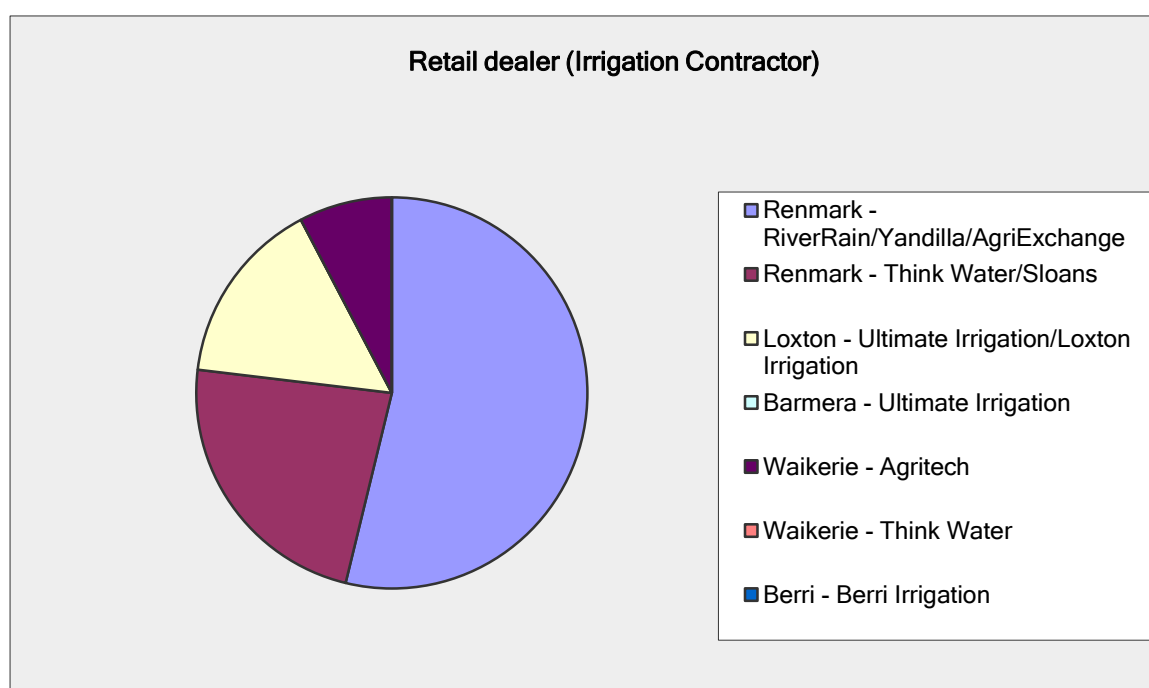


Figure 87: Q10 – Almonds only (Chart)

## Growers' comments

Most growers were very happy with their retail outlet. There was anecdotal evidence which indicated that some retail outlets increased prices for this period, while other outlets struggled to keep up with the increased demand on their service.

## Summary

The above tables and graph tend to speak for themselves; it appears that all the retail outlets were heavily and actively supportive of the project.

## Question 11

### Question

Indicate your level of satisfaction with....

### All data

Indicate your level of satisfaction with					
Answer Options	Not Satisfied	Somewh at Satisfied	Satisfied	N/A	Response Count
The application process	0	8	105	0	113
The value of the delivery partner model	0	6	107	0	113
Communication between the SAMDB NRM Board staff and yourself	1	1	111	0	113
Communication between water supplier and yourself (Trust)	0	2	111	0	113
Communication between retail irrigation store and yourself	0	10	103	0	113
Time taken to implement the project	5	31	75	2	113
Theoretical (calculated) water savings vs actual water savings	0	12	98	3	113
Project delivered to specifications	0	3	107	3	113
Value for money	3	5	103	2	113
<b><i>answered question</i></b>					<b>113</b>
<b><i>skipped question</i></b>					<b>1</b>

Figure 88: Q11 – All data (Table)

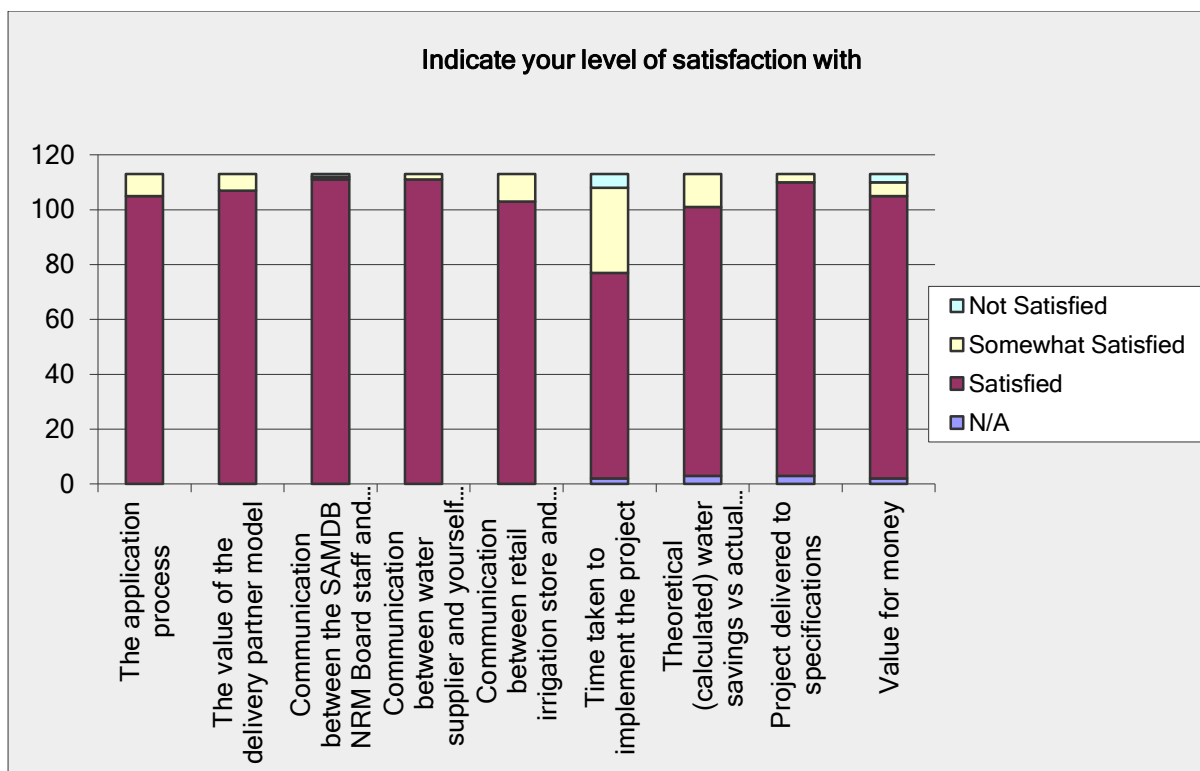


Figure 89: Q11 – All data (Chart a)

### Q11 Indicate your level of satisfaction with

Answered: 113 Skipped: 1

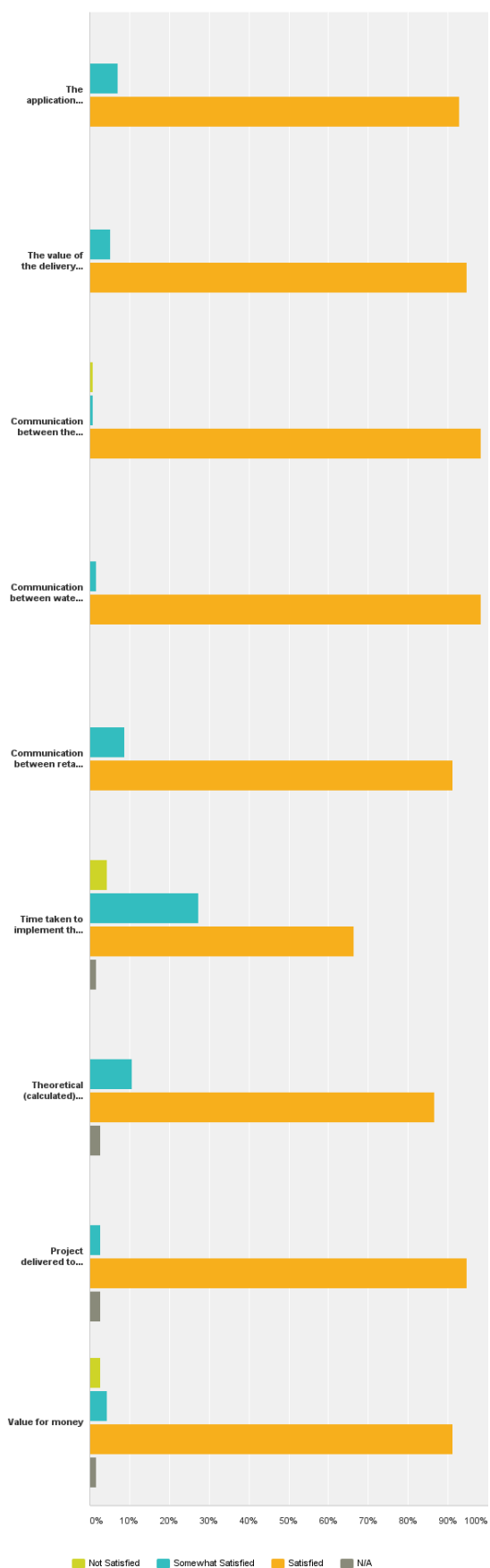


Figure 90: Q11 – All data (Chart b)

## Round One

Indicate your level of satisfaction with					
Answer Options	Not Satisfied	Somewh at Satisfied	Satisfied	N/A	Response Count
The application process	0	0	19	0	19
The value of the delivery partner model	0	0	19	0	19
Communication between the SAMDB NRM Board staff and yourself	0	1	18	0	19
Communication between water supplier and yourself (Trust)	0	0	19	0	19
Communication between retail irrigation store and yourself	0	0	19	0	19
Time taken to implement the project	0	4	15	0	19
Theoretical (calculated) water savings vs actual water savings	0	1	18	0	19
Project delivered to specifications	0	0	19	0	19
Value for money	0	1	18	0	19
<b><i>answered question</i></b>					<b>19</b>
<b><i>skipped question</i></b>					<b>1</b>

Figure 91: Q11 – Round One (Table)

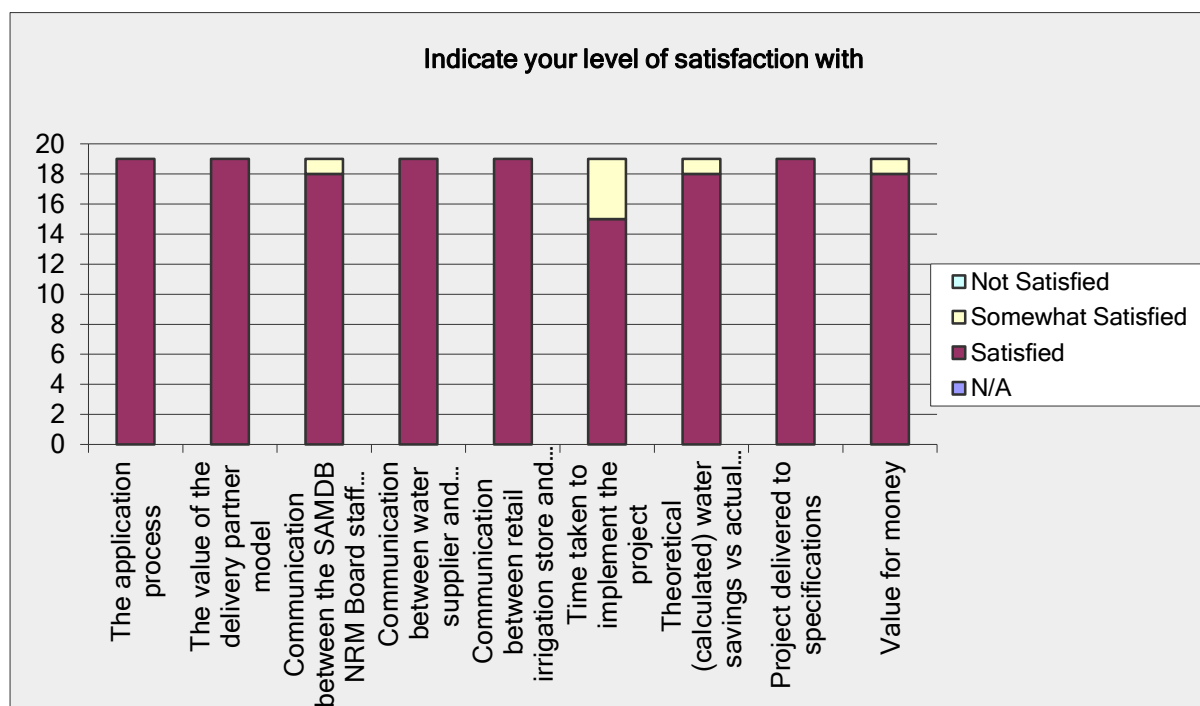


Figure 92: Q11 – Round One (Chart)

## Round Two

Indicate your level of satisfaction with					
Answer Options	Not Satisfied	Somewh at Satisfied	Satisfied	N/A	Response Count
The application process	0	8	86	0	94
The value of the delivery partner model	0	6	88	0	94
Communication between the SAMDB NRM Board staff and yourself	1	0	93	0	94
Communication between water supplier and yourself (Trust)	0	2	92	0	94
Communication between retail irrigation store and yourself	0	10	84	0	94
Time taken to implement the project	5	27	60	2	94
Theoretical (calculated) water savings vs actual water savings	0	11	80	3	94
Project delivered to specifications	0	3	88	3	94
Value for money	3	4	85	2	94
<b>answered question</b>					<b>94</b>
<b>skipped question</b>					<b>0</b>

Figure 93: Q11 – Round Two (Table)

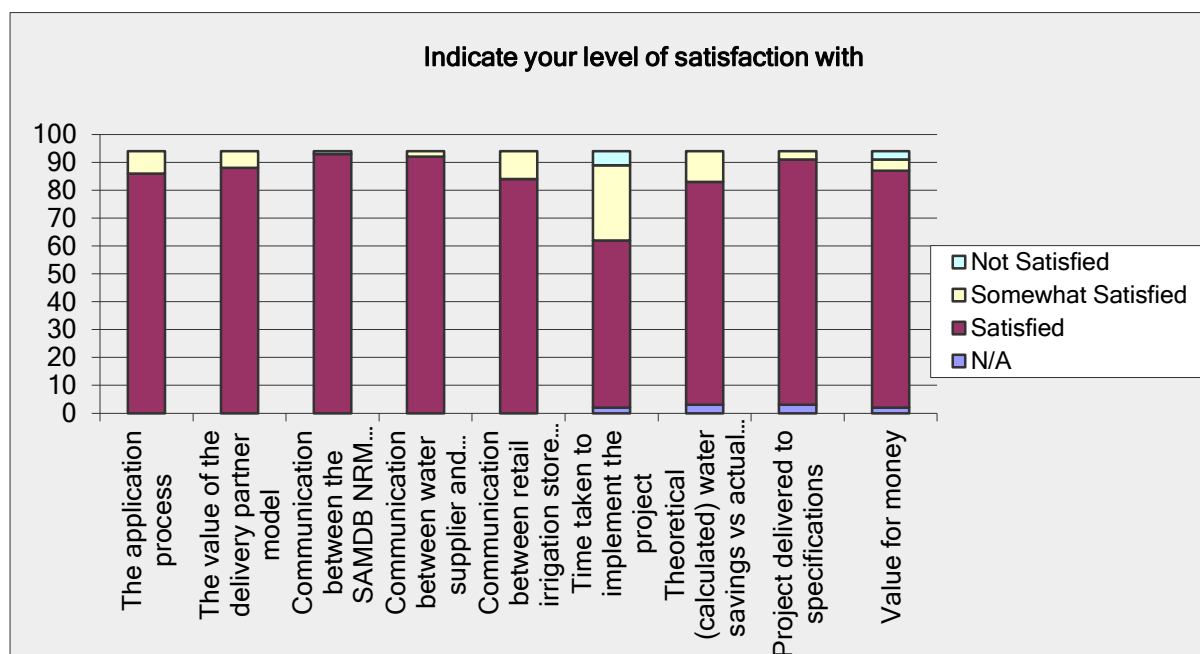


Figure 94: Q11 – Round Two (Chart)

### Dripper conversions only

Indicate your level of satisfaction with					
Answer Options	Not Satisfied	Somewh at Satisfied	Satisfied	N/A	Response Count
The application process	0	4	68	0	72
The value of the delivery partner model	0	2	70	0	72
Communication between the SAMDB NRM Board staff and yourself	1	0	71	0	72
Communication between water supplier and yourself (Trust)	0	2	70	0	72
Communication between retail irrigation store and yourself	0	7	65	0	72
Time taken to implement the project	2	22	47	1	72
Theoretical (calculated) water savings vs actual water savings	0	6	65	1	72
Project delivered to specifications	0	3	68	1	72
Value for money	2	3	66	1	72
<b>answered question</b>					<b>72</b>
<b>skipped question</b>					<b>0</b>

Figure 95: Q11 – Dripper conversion only (Table)

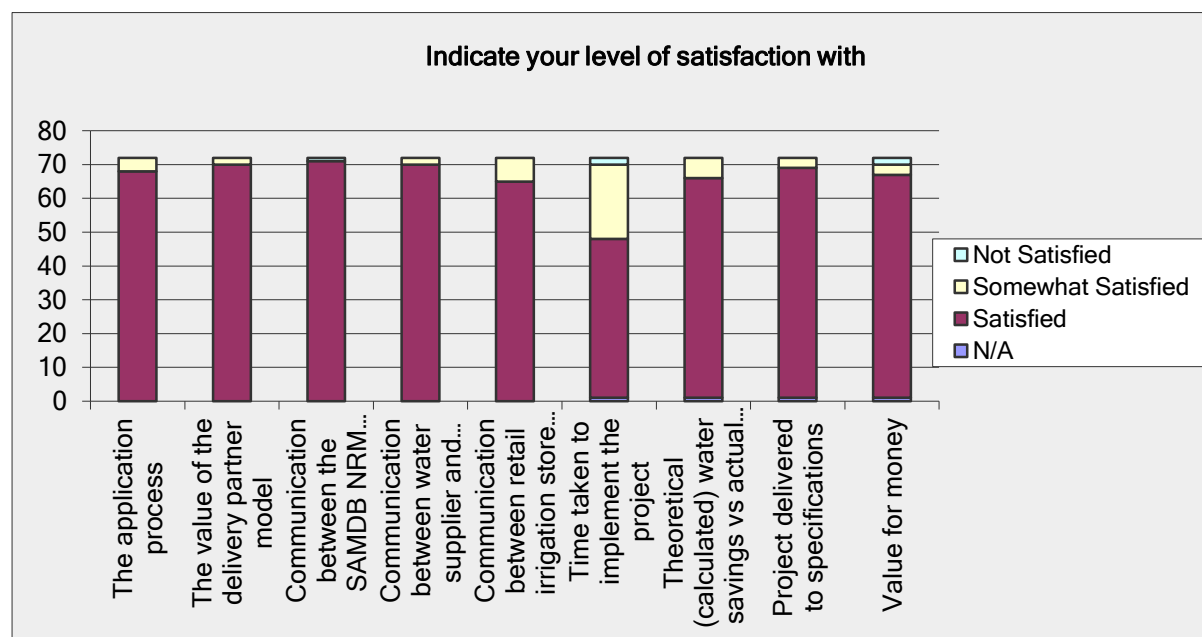


Figure 96: Q11 – Dripper conversion only (Chart)

## Wine grapes only

Indicate your level of satisfaction with					
Answer Options	Not Satisfied	Somewh at Satisfied	Satisfied	N/A	Response Count
The application process	0	3	82	0	85
The value of the delivery partner model	0	4	81	0	85
Communication between the SAMDB NRM Board staff and yourself	1	0	84	0	85
Communication between water supplier and yourself (Trust)	0	2	83	0	85
Communication between retail irrigation store and yourself	0	8	77	0	85
Time taken to implement the project	3	22	58	2	85
Theoretical (calculated) water savings vs actual water savings	0	5	78	2	85
Project delivered to specifications	0	1	82	2	85
Value for money	1	3	79	2	85
<b>answered question</b>					<b>85</b>
<b>skipped question</b>					<b>0</b>

Figure 97: Q11 – Wine grapes only (Table)

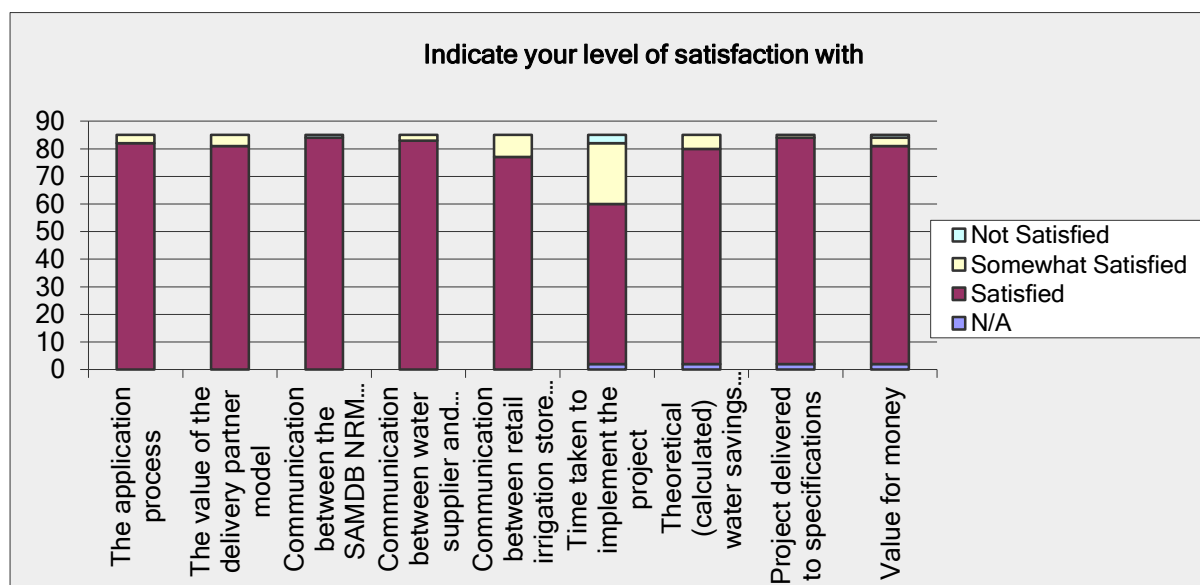


Figure 98: Q11 – Wine grapes only (Chart)



### Citrus only

Indicate your level of satisfaction with					
Answer Options	Not Satisfied	Somewh at Satisfied	Satisfied	N/A	Response Count
The application process	0	3	27	0	30
The value of the delivery partner model	0	0	30	0	30
Communication between the SAMDB NRM Board staff and yourself	0	0	30	0	30
Communication between water supplier and yourself (Trust)	0	0	30	0	30
Communication between retail irrigation store and yourself	0	2	28	0	30
Time taken to implement the project	1	12	17	0	30
Theoretical (calculated) water savings vs actual water savings	0	6	24	0	30
Project delivered to specifications	0	0	30	0	30
Value for money	2	1	27	0	30
<b>answered question</b>					<b>30</b>
<b>skipped question</b>					<b>0</b>

Figure 99: Q11 – Citrus only (Table)

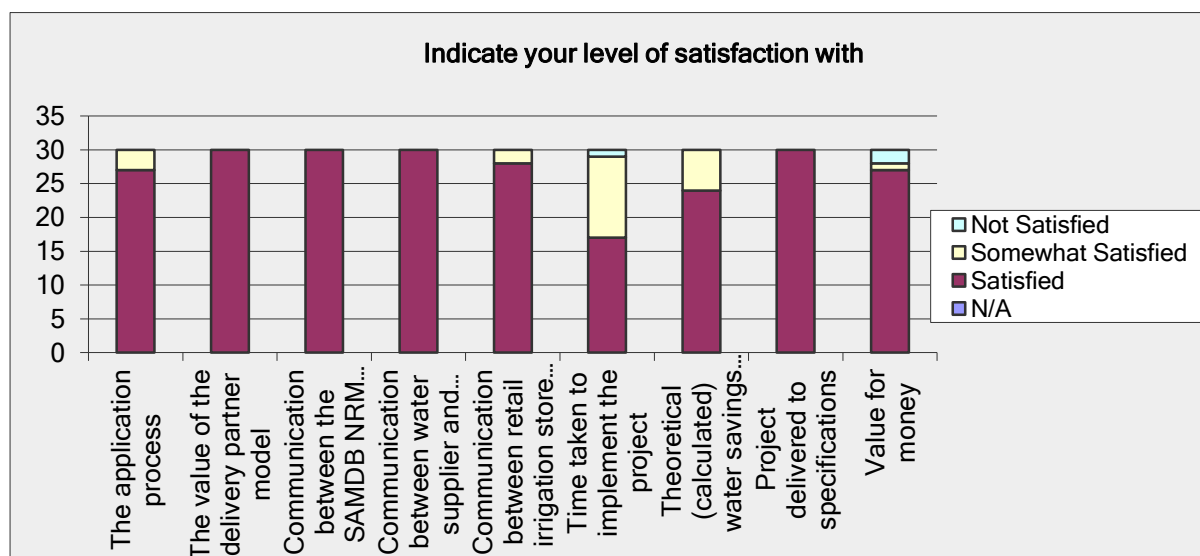


Figure 100: Q11 – Citrus only (Chart)

## Almonds only

Indicate your level of satisfaction with					
Answer Options	Not Satisfied	Somewh at Satisfied	Satisfied	N/A	Response Count
The application process	0	2	11	0	13
The value of the delivery partner model	0	2	11	0	13
Communication between the SAMDB NRM Board staff and yourself	0	0	13	0	13
Communication between water supplier and yourself (Trust)	0	0	13	0	13
Communication between retail irrigation store and yourself	0	3	10	0	13
Time taken to implement the project	1	5	7	0	13
Theoretical (calculated) water savings vs actual water savings	0	4	8	1	13
Project delivered to specifications	0	2	10	1	13
Value for money	1	1	11	0	13
<b>answered question</b>					<b>13</b>
<b>skipped question</b>					<b>0</b>

Figure 101: Q11 – Almonds only (Table)

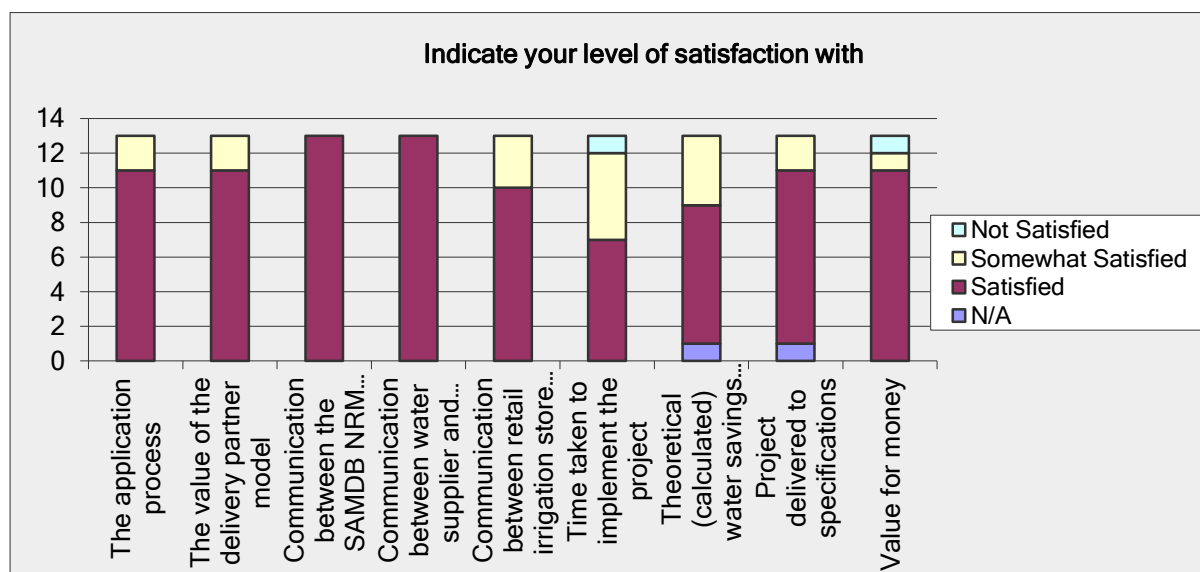


Figure 102: Q11 – Almonds only (Chart)

## Summary

In general terms, most growers were satisfied with the parameters set in this question. Below, more detailed information is provided for each question.

Dissatisfaction level tended increase in round two from round one.

## **Sub-question-The application process**

### **Summary**

The majority of growers found the application process easy. It appears that many of the irrigation retail dealers carried out this process on behalf of the growers; hence it became very easy for the growers. Some growers indicated that the smart forms were difficult to navigate through.

## **Sub-question-The value of the delivery partner model**

### **Summary**

Again, the majority of growers indicated their satisfaction with the delivery model and process.

## **Sub-question-Communication between the SAMDB NRM Board and yourself**

### **Summary**

Almost all growers were pleased with the communication from the NRM Board staff, especially from Brenton Fenwick and Brett Kennedy. Being experienced growers themselves, these staff members were ideal for the growers to communicate with. An overwhelmingly positive response the staff received.

## **Sub-question-Communication between water supplier and yourself (Trust)**

### **Summary**

Growers reported that the communication with the water supplier was minimal yet effective.

## **Sub-question-Communication between retail irrigation store and yourself**

### **Growers' comments**

There were several more growers who indicated an increased level of dissatisfaction with their irrigation retail suppliers. This mainly stemmed from over pricing, over budget, poor timing to installation and slow turn around/implementation times.

### **Summary**

Despite several growers indicating their dissatisfaction with several irrigation retail dealers, generally the majority of growers understood the situation and pressure that the retail dealers were under and were satisfied with the level of communication.

## **Sub-question-Time taken to implement the project**

### **Growers' comments**

This question was interpreted in two ways:

1. The time in which the installation occurred, and
2. The time in which the project was initiated to completion.

With respect to point 1, the time in which the installation occurred, many growers voiced their dissatisfaction with the timing, indicating that they did not want to make a change to their

infrastructure during times of heavy irrigation. As a result, many installations were postponed to better suit their crops irrigation requirement during the winter season.

With respect to point 2, the time in which the project was initiated to completion, only two growers interviewed had failed to complete their projects entirely. Many growers thought the entire process was drawn out, yet understood that this was a large project that would take patience and time.

### **Summary**

Overall the majority of unsatisfied respondents took issue with the timing of the installation during their irrigation season.

### **Sub-question-Theoretical (calculated) water savings vs actual water savings**

#### **Summary**

Generally speaking, the majority of growers agreed with the theoretical (calculated) water saving vs. actual water saving. After a severe summer of extreme heat periods, growers used larger amount of water than expected.

Another point that arose was the different wine grape contracts which the growers were on. Many growers have unrestricted tonnage amounts, and with depressed returns per ton, these growers were encouraged to produce greater tonnage crop to become profitable. This then resulted in higher water usage during the season to pump up crops.

While implementing projects such as these can create water savings, the growers' water use and contract type can influence their decision-making, and business sustainability/profitability is a more relevant motivating factor than water savings.

### **Sub-question-Project delivered to specifications**

#### **Summary**

The majority of survey respondents indicated that their project was delivered to specifications.

### **Sub-question-Value for money**

#### **Summary**

The majority of survey respondents indicated that they were satisfied with the value for money. However, several respondents indicated that they believed that retail prices were increased during this period.

## Question 12

### Question

Prior to the project, please state your portfolio of water

### All data

Prior to the project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	98.2%	111
Predominantly leased allocation(>75)	0.0%	0
Mix of Permanent entitlement and Leased allocation	1.8%	2
<b><i>answered question</i></b>		<b>113</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 103: Q12 – All data (Table)

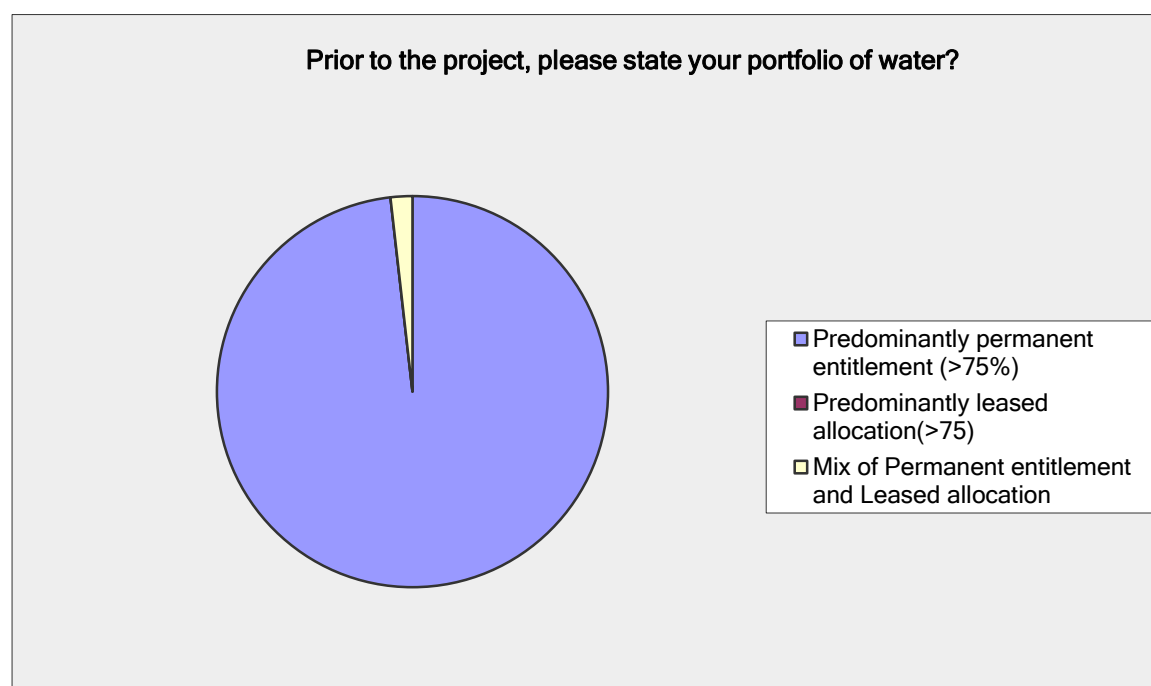


Figure 104: Q12 – All data (Chart)

Prior to the project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	100.0%	19
Predominantly leased allocation(>75)	0.0%	0
Mix of Permanent entitlement and Leased allocation	0.0%	0
<b><i>answered question</i></b>		<b>19</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 105: Q12 – Round One (Table)

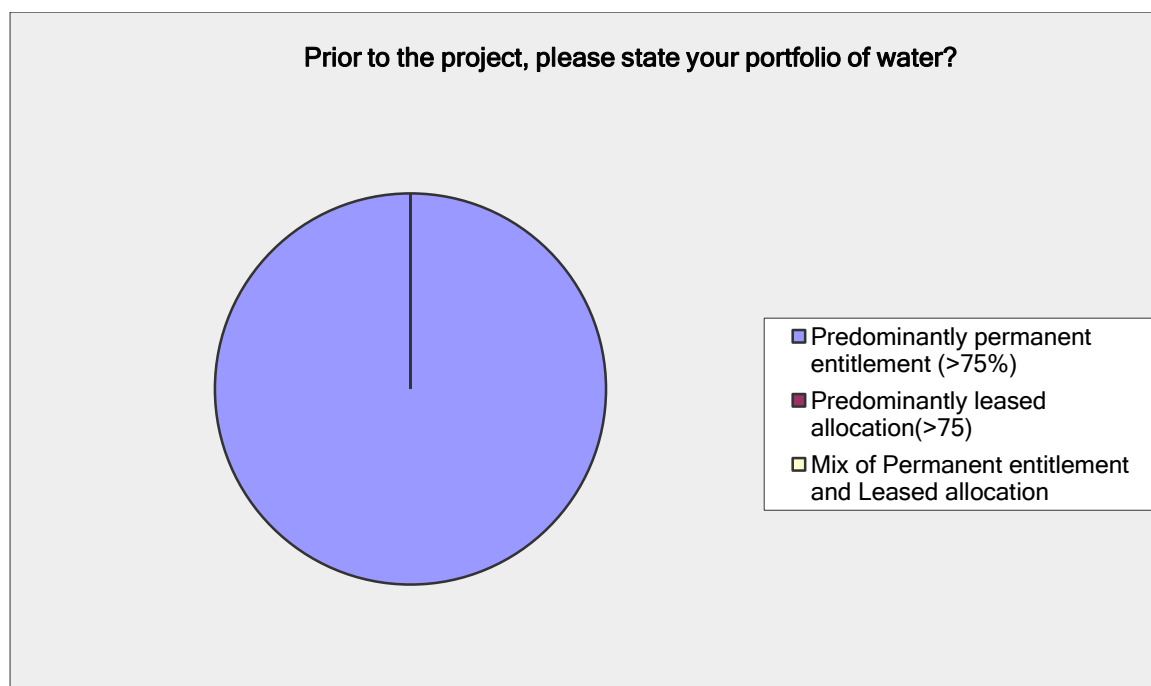


Figure 106: Q12 – Round One (Chart)

## Round Two

Prior to the project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	97.9%	92
Predominantly leased allocation(>75)	0.0%	0
Mix of Permanent entitlement and Leased allocation	2.1%	2
<b>answered question</b>		<b>94</b>
<b>skipped question</b>		<b>0</b>

Figure 107: Q12 – Round Two (Table)

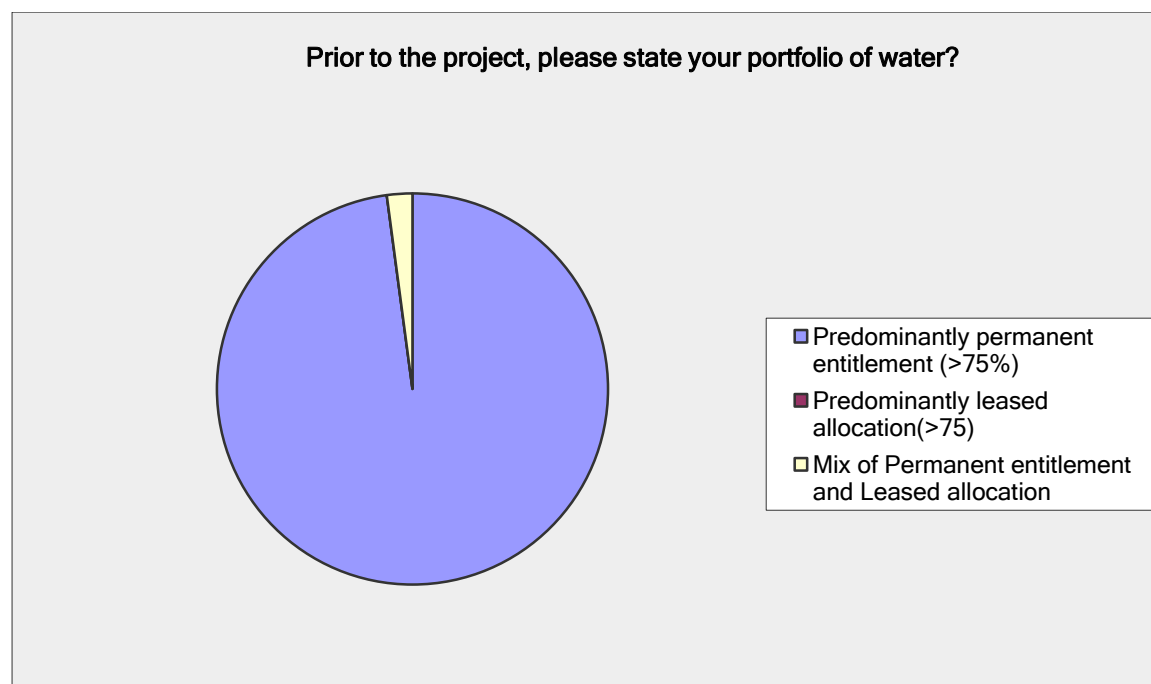


Figure 108: Q12 – Round Two (Chart)

### Dripper conversions only

Prior to the project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	98.6%	71
Predominantly leased allocation(>75)	0.0%	0
Mix of Permanent entitlement and Leased allocation	1.4%	1
<b><i>answered question</i></b>		<b>72</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 109: Q12 – Dripper conversions only (Table)

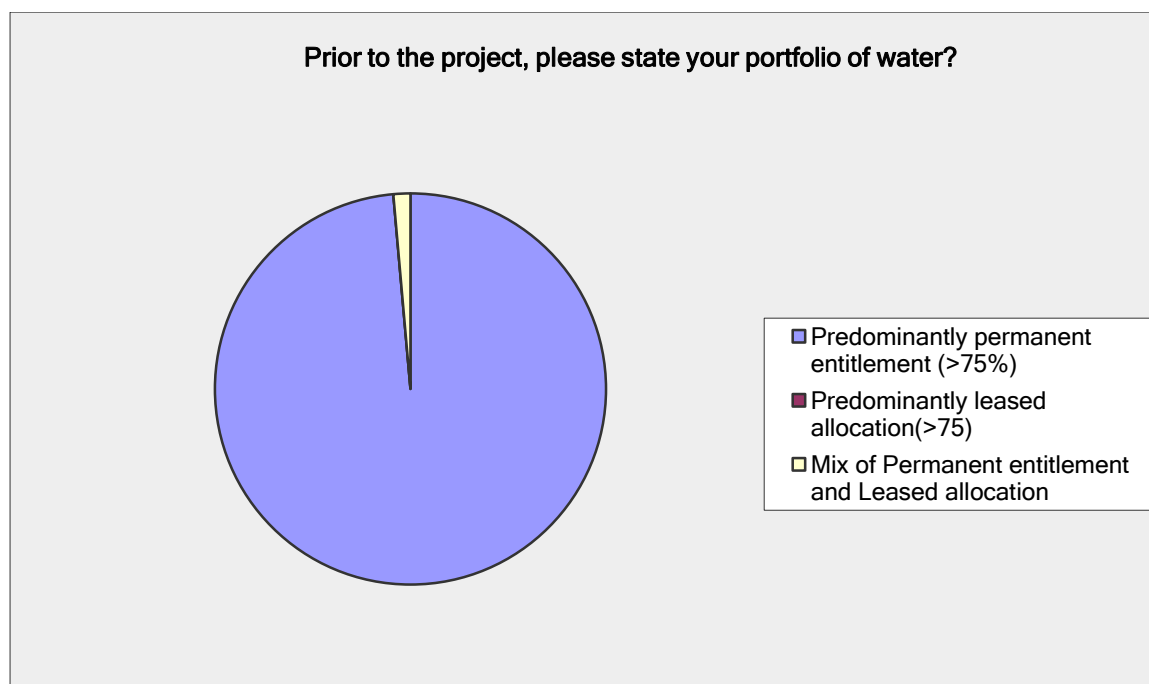


Figure 110: Q12 – Dripper conversions only (Chart)



### Wine grapes only

Prior to the project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	100.0%	85
Predominantly leased allocation(>75)	0.0%	0
Mix of Permanent entitlement and Leased allocation	0.0%	0
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 111: Q12 – Wine grapes only (Table)

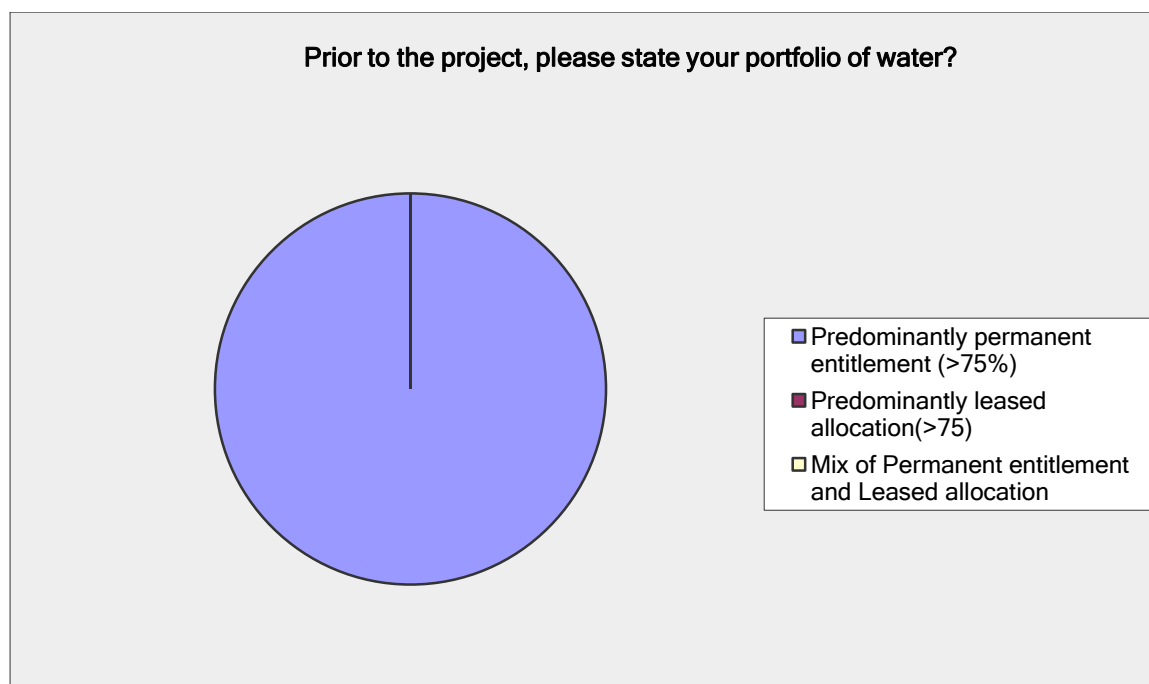


Figure 112: Q12 – Wine grapes only (Chart)

### Citrus only

Prior to the project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	100.0%	30
Predominantly leased allocation(>75)	0.0%	0
Mix of Permanent entitlement and Leased allocation	0.0%	0
<b><i>answered question</i></b>		<b>30</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 113: Q12 – Citrus only (Table)

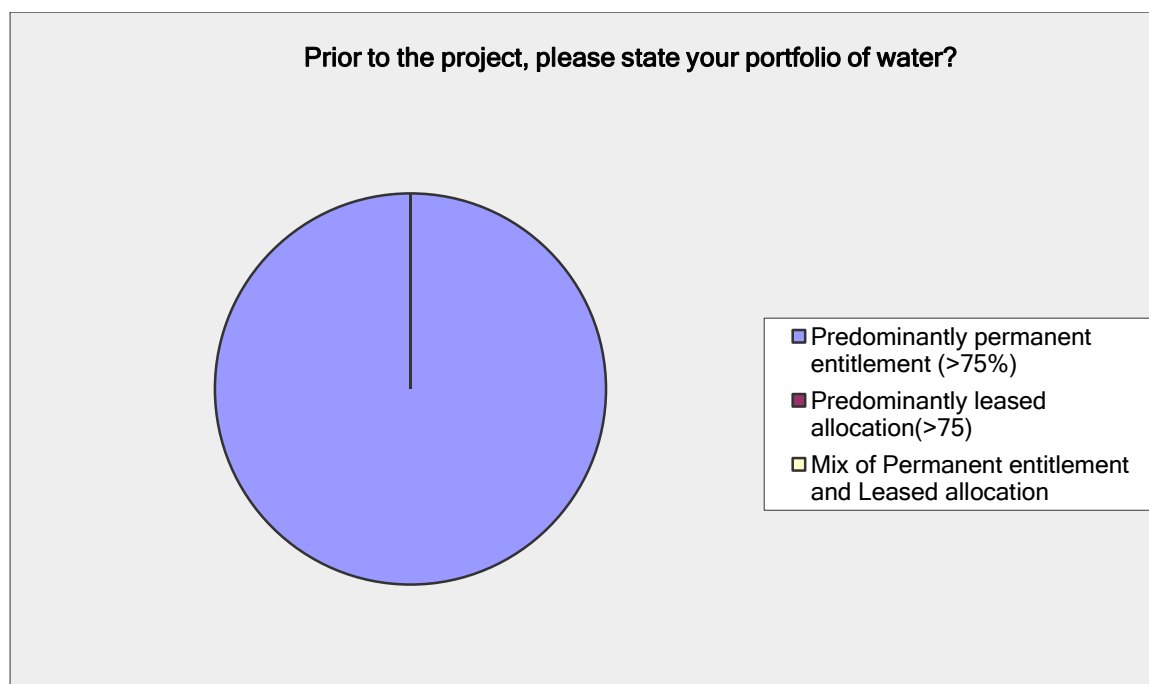


Figure 114: Q12 – Citrus only (Chart)

### Almonds only

Prior to the project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	84.6%	11
Predominantly leased allocation(>75)	0.0%	0
Mix of Permanent entitlement and Leased allocation	15.4%	2
<b>answered question</b>		<b>13</b>
<b>skipped question</b>		<b>0</b>

Figure 115: Q12 – Almonds only (Table)

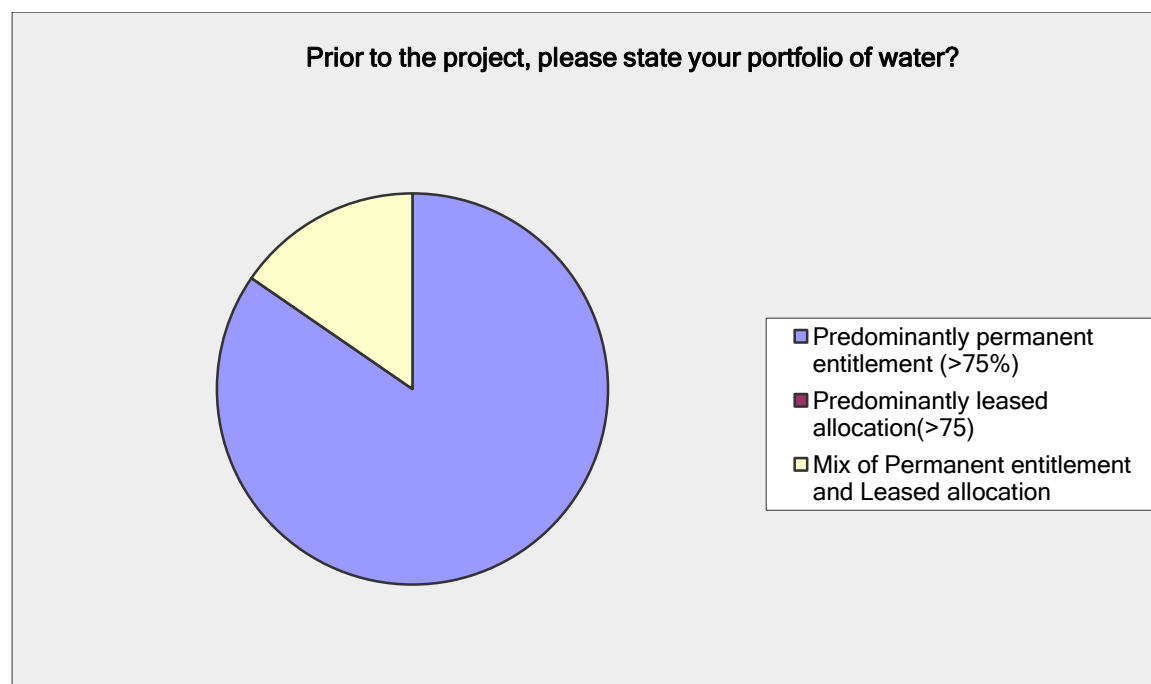


Figure 116: Q12 – Almonds only (Chart)

### Summary

The majority of growers indicated that their water entitlement was predominantly permanent across all filters prior to the project. Almond growers tended to be more likely to have a mix of permanent and leased water; these growers also indicated that they were predominantly private irrigators, rather than on irrigation trust systems.

## Question 13

### Question

If above, you selected a mix, (prior to project), could you please quantify the ration as a percent?

### All data

If above you selected a mix (Prior to Project), could you please quantify as a percent the ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent water entitlement	50.00	100	2
Leased water allocation	50.00	100	2
N/A	.00		0
<b>answered question</b>			<b>2</b>
<b>skipped question</b>			<b>112</b>

Figure 117: Q13 – All data (Table)

### Round One

If above you selected a mix (Prior to Project), could you please quantify as a percent the ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent water entitlement	.00		0
Leased water allocation	.00		0
N/A	.00		0
<b>answered question</b>			<b>0</b>
<b>skipped question</b>			<b>20</b>

Figure 118: Q13 – Round One (Table)

### Round Two

If above you selected a mix (Prior to Project), could you please quantify as a percent the ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent water entitlement	50.00	100	2
Leased water allocation	50.00	100	2
N/A	.00		0
<b>answered question</b>			<b>2</b>
<b>skipped question</b>			<b>92</b>

Figure 119: Q13 – Round Two (Table)

### Dripper conversions only

If above you selected a mix (Prior to Project), could you please quantify as a percent the ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent water entitlement	50.00	50	1
Leased water allocation	50.00	50	1
N/A	.00		0

<b><i>answered question</i></b>	<b>1</b>
<b><i>skipped question</i></b>	<b>71</b>

Figure 120: Q13 – Dripper conversions only (Table)

### Wine grapes only

If above you selected a mix (Prior to Project), could you please quantify as a percent the ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent water entitlement	.00		0
Leased water allocation	.00		0
N/A	.00		0
<b><i>answered question</i></b>			<b>0</b>
<b><i>skipped question</i></b>			<b>85</b>

Figure 121: Q13 – Wine grapes only (Table)

### Citrus only

If above you selected a mix (Prior to Project), could you please quantify as a percent the ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent water entitlement	.00		0
Leased water allocation	.00		0
N/A	.00		0
<b><i>answered question</i></b>			<b>0</b>
<b><i>skipped question</i></b>			<b>30</b>

Figure 122: Q13 – Citrus only (Table)

### Almonds only

If above you selected a mix (Prior to Project), could you please quantify as a percent the ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent water entitlement	50.00	100	2
Leased water allocation	50.00	100	2
N/A	.00		0
<b><i>answered question</i></b>			<b>2</b>
<b><i>skipped question</i></b>			<b>11</b>

Figure 123: Q13 – Almonds only (Table)

### Summary

Due to the vast majority of growers prior to the project indicating they have permanent water entitlement, this survey question and responses is redundant for rounds one and two.

## Question 14

### Question

Post project, please state your portfolio of water

### All data

Post project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	98.2%	111
Predominantly leased water allocation (>75%)	0.0%	0
Mix of Permanent entitlement and Leased allocation	1.8%	2
<b><i>answered question</i></b>		<b>113</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 124: Q14 – All data (Table)

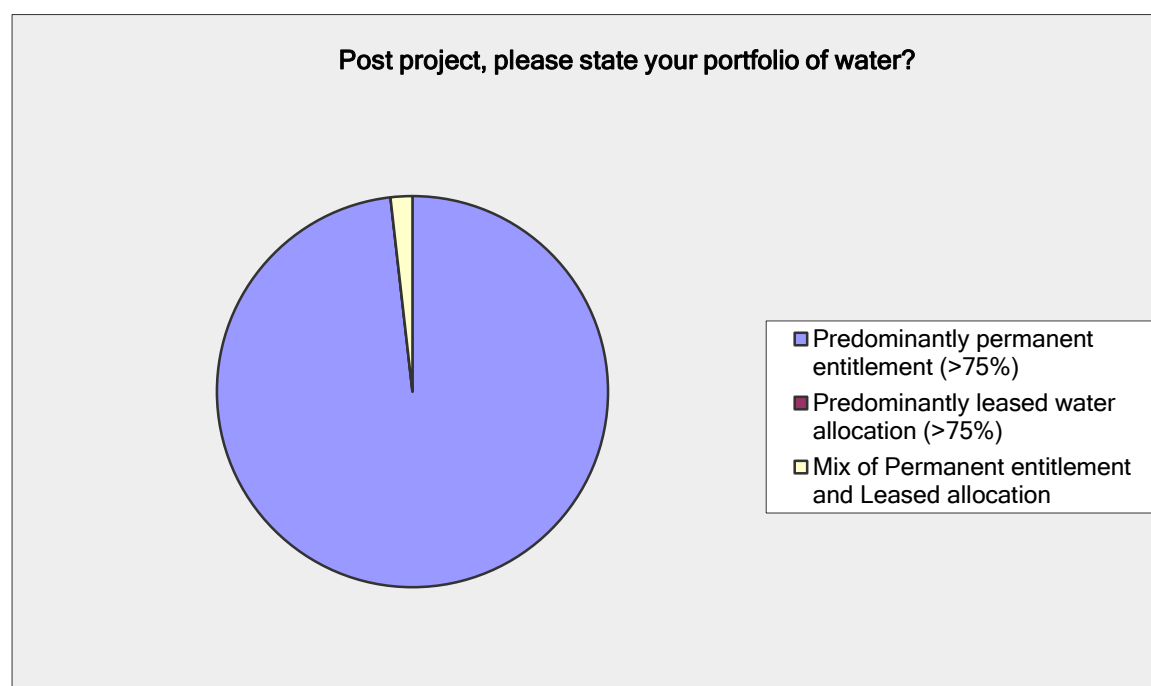


Figure 125: Q14 – All data (Chart)

## Round One

Post project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	100.0%	19
Predominantly leased water allocation (>75%)	0.0%	0
Mix of Permanent entitlement and Leased allocation	0.0%	0
<b><i>answered question</i></b>		<b>19</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 126: Q14 – Round One (Table)

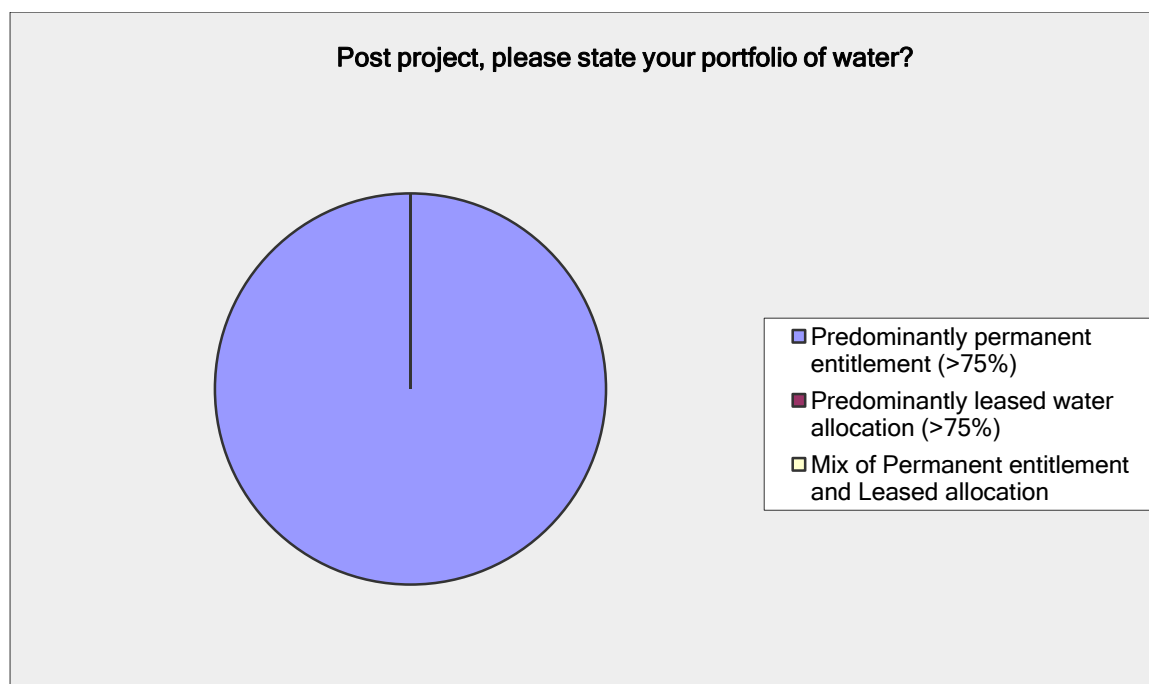


Figure 127: Q14 – Round One (Chart)

## Round Two

Post project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	97.9%	92
Predominantly leased water allocation (>75%)	0.0%	0
Mix of Permanent entitlement and Leased allocation	2.1%	2
<b><i>answered question</i></b>		<b>94</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 128: Q14 – Round Two (Table)

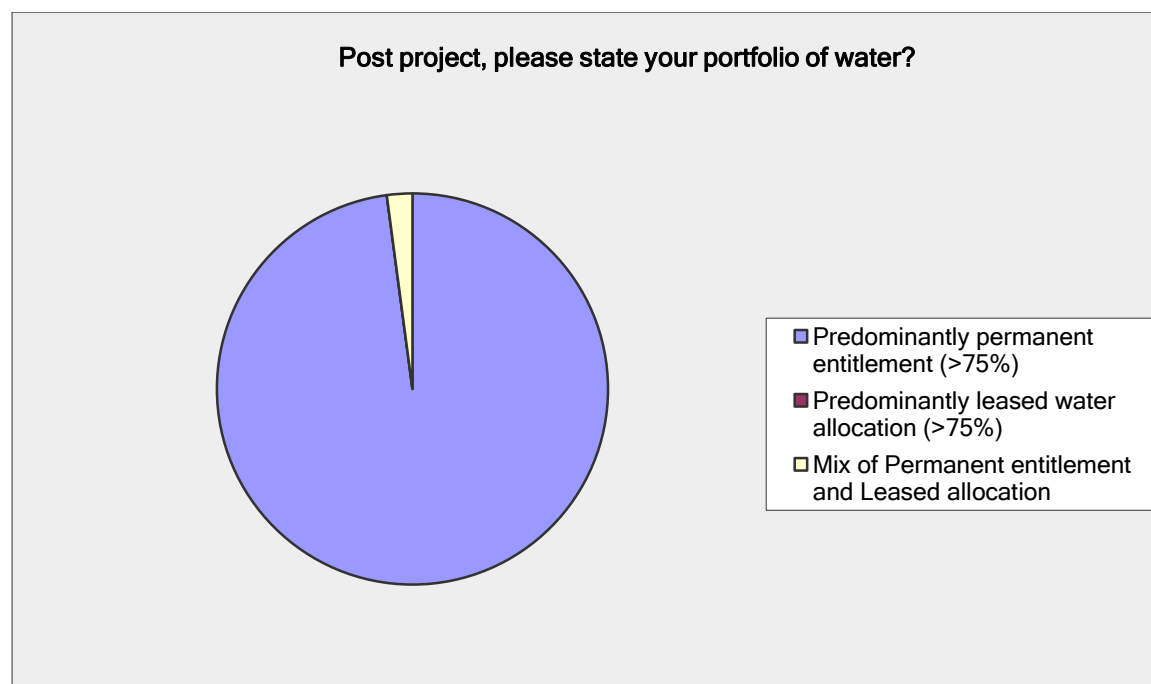


Figure 129: Q14 – Round Two (Chart)



### Dripper conversions only

Post project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	98.6%	71
Predominantly leased water allocation (>75%)	0.0%	0
Mix of Permanent entitlement and Leased allocation	1.4%	1
<b><i>answered question</i></b>		<b>72</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 130: Q14 – Dripper conversions only (Table)

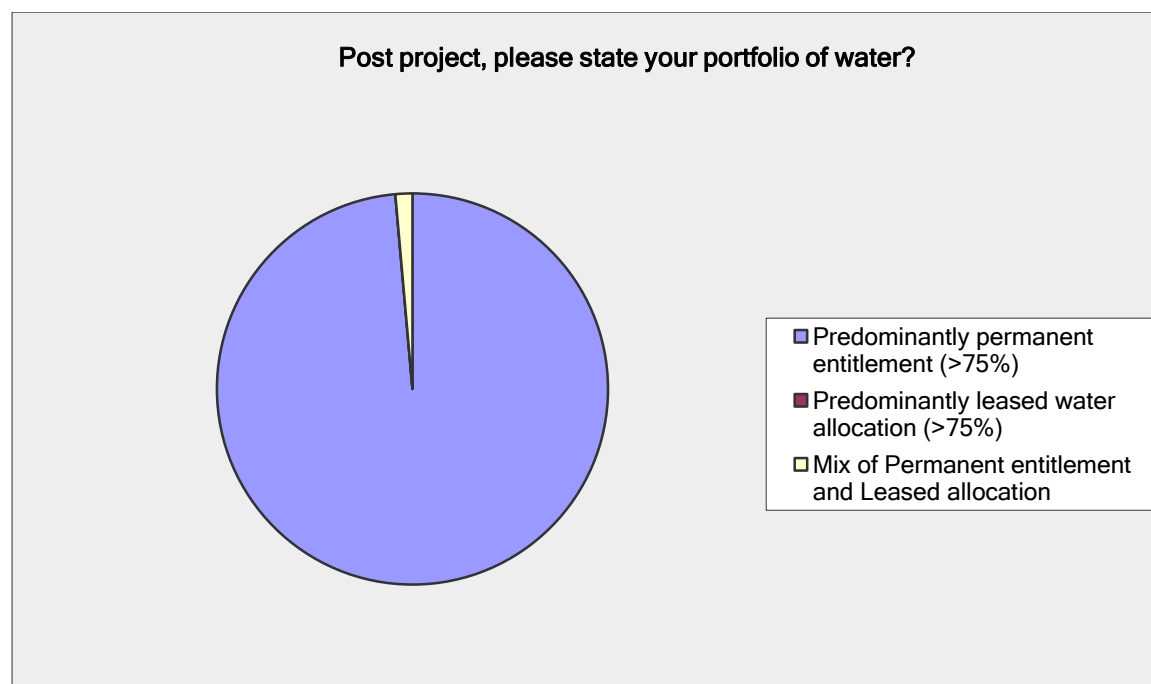


Figure 131: Q14 – Dripper conversions only (Chart)

### Wine grapes only

Post project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	100.0%	85
Predominantly leased water allocation (>75%)	0.0%	0
Mix of Permanent entitlement and Leased allocation	0.0%	0
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 132: Q14 – Wine grapes only (Table)

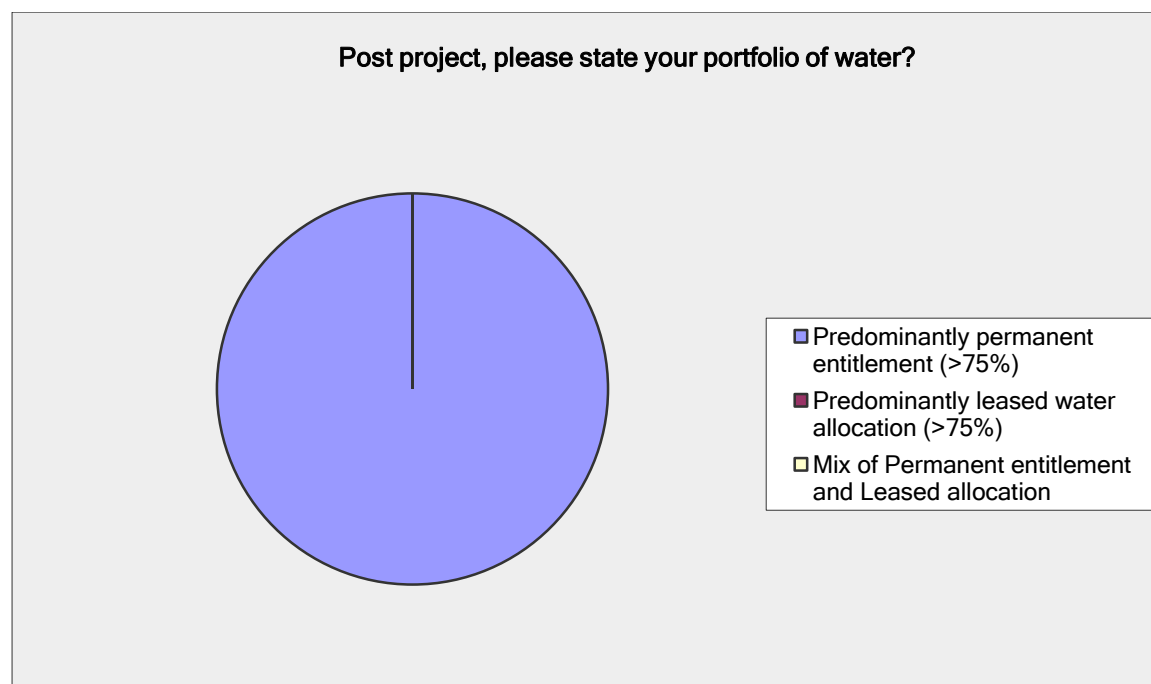


Figure 133: Q14 – Wine grapes only (Chart)

### Citrus only

Post project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	100.0%	30
Predominantly leased water allocation (>75%)	0.0%	0
Mix of Permanent entitlement and Leased allocation	0.0%	0
<b><i>answered question</i></b>		<b>30</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 134: Q14 – Citrus only (Table)

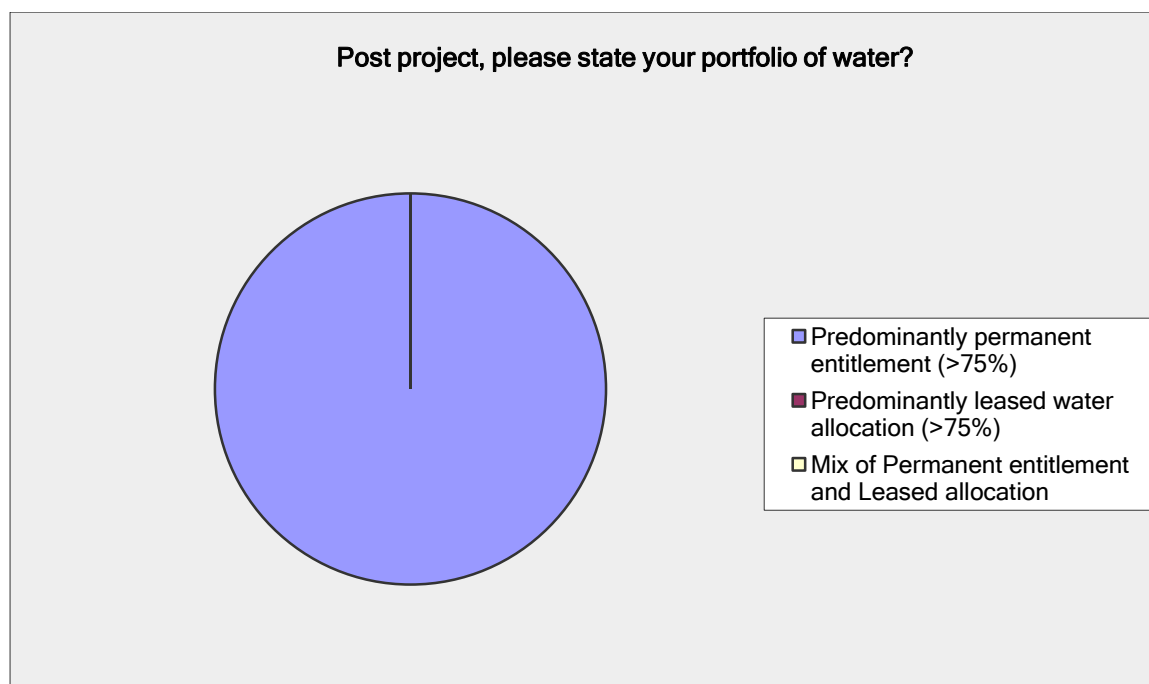


Figure 135: Q14 – Citrus only (Chart)

### Almonds only

Post project, please state your portfolio of water?		
Answer Options	Response Percent	Response Count
Predominantly permanent entitlement (>75%)	84.6%	11
Predominantly leased water allocation (>75%)	0.0%	0
Mix of Permanent entitlement and Leased allocation	15.4%	2
<b><i>answered question</i></b>		<b>13</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 136: Q14 – Almonds only (Chart)

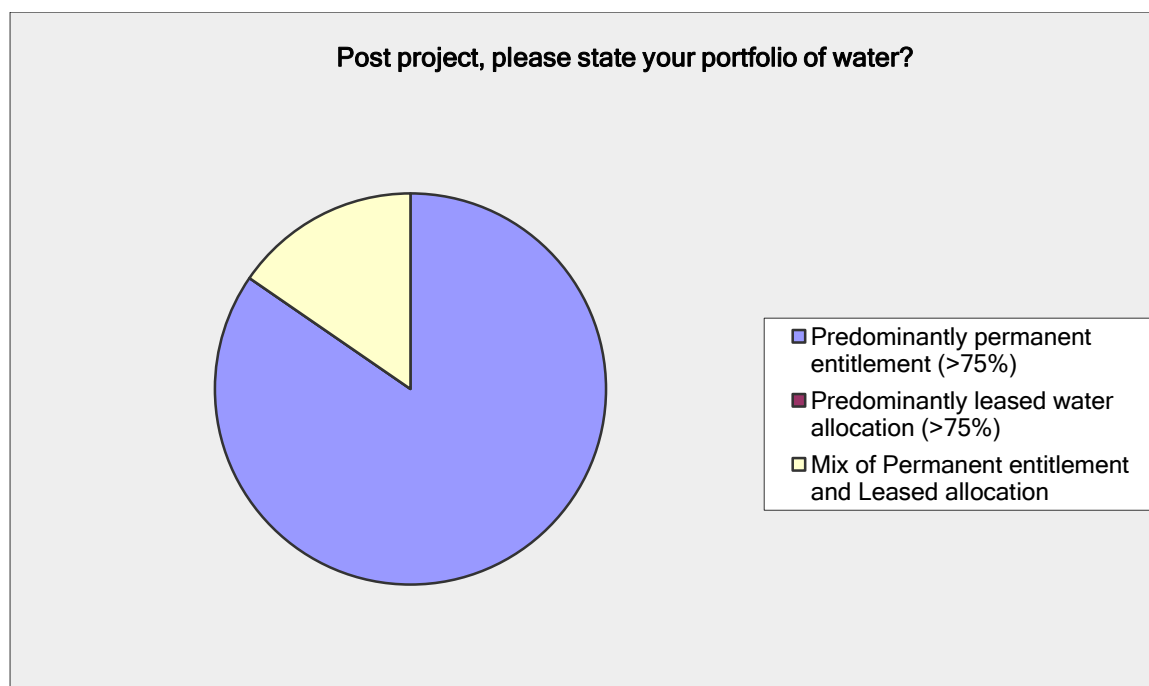


Figure 137: Q14 – Almonds only (Chart)

### Summary

Again, the majority of grower indicated that their water entitlement was predominantly permanent across all filters post project. Almond growers tended to be more likely to have a mix of permanent and leased water; these growers also indicated that they were predominantly private irrigators, rather than on irrigation trust systems.

## Question 15

### Question

If above, you selected a mix, (post-project), could you please quantify the ration as a percent?

### All data

If above you selected a mix (Post Project), could you please quantify as a percent the mix ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent entitlement	50.00	100	2
Leased water allocation	50.00	100	2
N/A	.00		0
<b>answered question</b>			<b>2</b>
<b>skipped question</b>			<b>112</b>

Figure 138: Q15 – All data (Table)

### Round One

If above you selected a mix (Post Project), could you please quantify as a percent the mix ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent entitlement	.00		0
Leased water allocation	.00		0
N/A	.00		0
<b>answered question</b>			<b>0</b>
<b>skipped question</b>			<b>20</b>

Figure 139: Q15 – Round One (Table)

### Round Two

If above you selected a mix (Post Project), could you please quantify as a percent the mix ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent entitlement	50.00	100	2
Leased water allocation	50.00	100	2
N/A	.00		0
<b>answered question</b>			<b>2</b>
<b>skipped question</b>			<b>92</b>

Figure 140: Q15 – Round Two (Table)

### Dripper conversions only

If above you selected a mix (Post Project), could you please quantify as a percent the mix ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent entitlement	50.00	50	1
Leased water allocation	50.00	50	1
N/A	.00		0

<b><i>answered question</i></b>	<b>1</b>
<b><i>skipped question</i></b>	<b>71</b>

Figure 141: Q15 – Dripper conversion only (Table)

### Wine grapes only

If above you selected a mix (Post Project), could you please quantify as a percent the mix ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent entitlement	.00		0
Leased water allocation	.00		0
N/A	.00		0
<b><i>answered question</i></b>			<b>0</b>
<b><i>skipped question</i></b>			<b>85</b>

Figure 142: Q15 – Wine grapes only (Table)

### Citrus only

If above you selected a mix (Post Project), could you please quantify as a percent the mix ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent entitlement	.00		0
Leased water allocation	.00		0
N/A	.00		0
<b><i>answered question</i></b>			<b>0</b>
<b><i>skipped question</i></b>			<b>30</b>

Figure 143: Q15 – Citrus only (Table)

### Almonds only

If above you selected a mix (Post Project), could you please quantify as a percent the mix ratio?			
Answer Options	Response Average	Response Total	Response Count
Permanent entitlement	50.00	100	2
Leased water allocation	50.00	100	2
N/A	.00		0
<b><i>answered question</i></b>			<b>2</b>
<b><i>skipped question</i></b>			<b>11</b>

Figure 144: Q15 – Almonds only (Table)

### Summary

Due to the vast majority of growers post project indicating that they have permanent water entitlement, this survey question and responses is redundant for rounds one and two.

## Question 16

### Question

Have you been required to enter the water market to fulfil your crop water requirements since the completion of the project?

### All data

Have you been required to enter the water market to fulfil your crop water requirements since the completion of the project?		
Answer Options	Response Percent	Response Count
Yes Purchased Permanent entitlement	2.7%	3
Yes Leased allocation	8.8%	10
Yes Purchased Permanent entitlement & Leased allocation	3.5%	4
Have not used water market in relation to this project	85.0%	96
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>1</b>

Figure 145: Q16 – All data (Table)

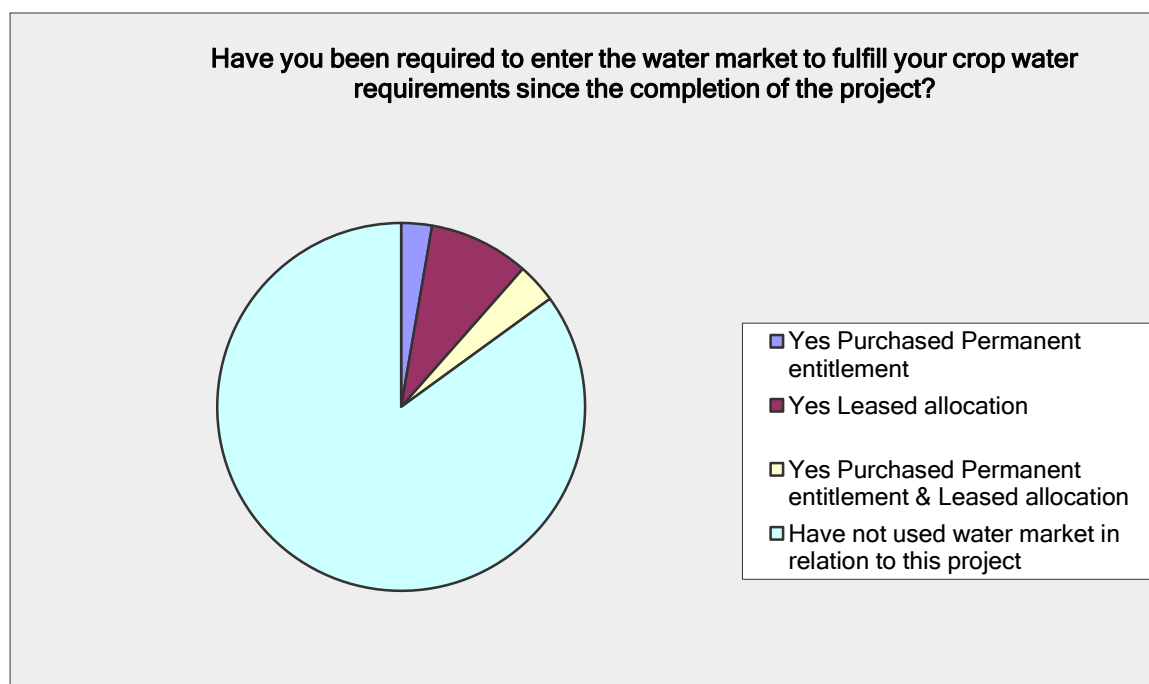


Figure 146: Q16 – All data (Chart a)

**Q16 Have you been required to enter the water market to fulfill your crop water requirements since the completion of the project?**

Answered: 113 Skipped: 1

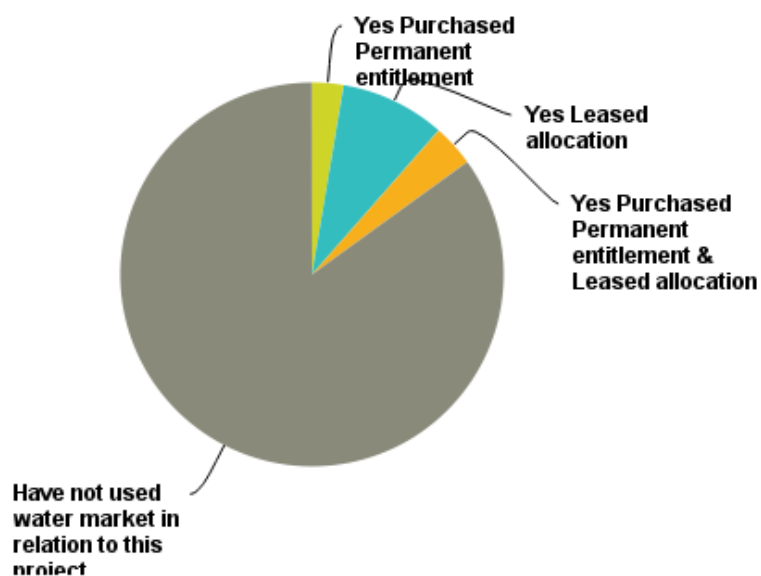


Figure 147: Q16 – All data (Chart b)



## Round One

Have you been required to enter the water market to fulfil your crop water requirements since the completion of the project?		
Answer Options	Response Percent	Response Count
Yes Purchased Permanent entitlement	5.3%	1
Yes Leased allocation	5.3%	1
Yes Purchased Permanent entitlement & Leased allocation	0.0%	0
Have not used water market in relation to this project	89.5%	17
<b>answered question</b>		<b>19</b>
<b>skipped question</b>		<b>1</b>

Figure 148: Q16 – Round One (Table)

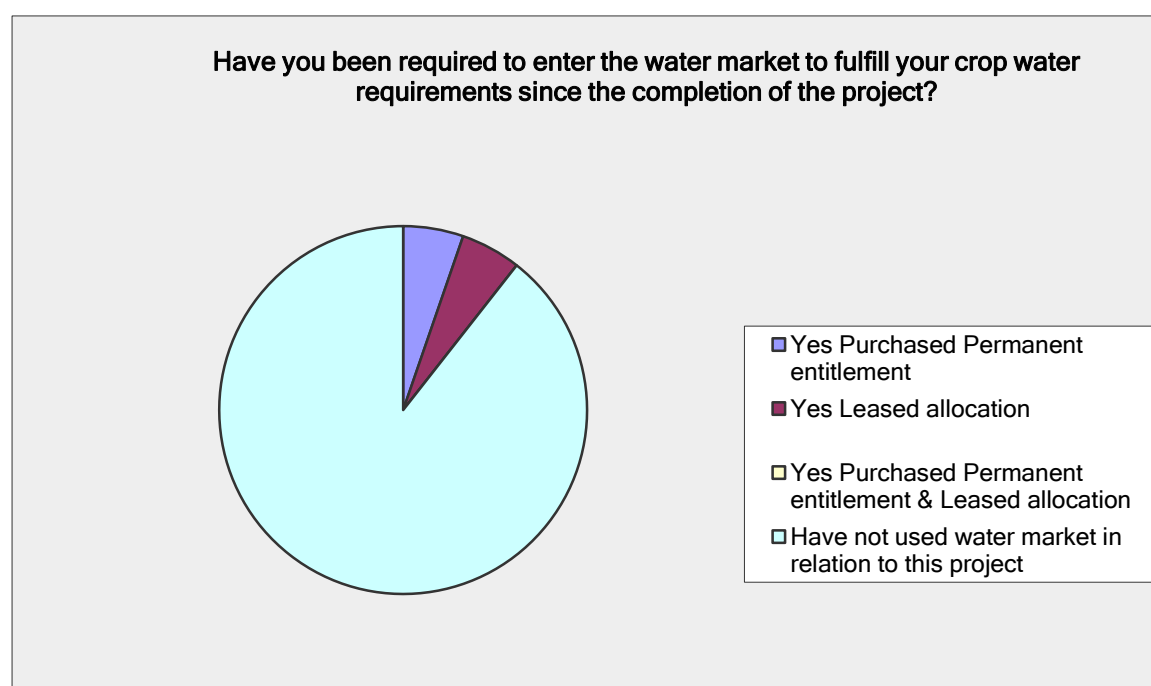


Figure 149: Q16 – Round One (Chart)

## Round Two

Have you been required to enter the water market to fulfil your crop water requirements since the completion of the project?		
Answer Options	Response Percent	Response Count
Yes Purchased Permanent entitlement	2.1%	2
Yes Leased allocation	9.6%	9
Yes Purchased Permanent entitlement & Leased allocation	4.3%	4
Have not used water market in relation to this project	84.0%	79
<b>answered question</b>		<b>94</b>
<b>skipped question</b>		<b>0</b>

Figure 150: Q16 – Round Two (Table)

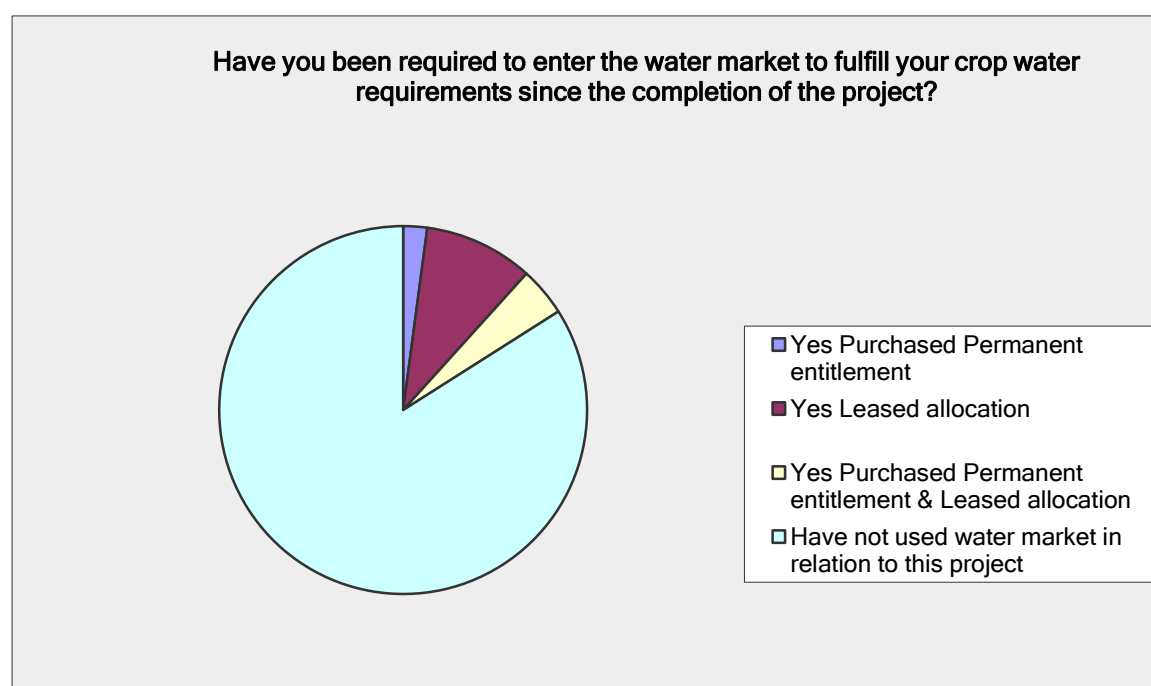


Figure 151: Q16 – Round Two (Chart)

### Dripper conversions only

Have you been required to enter the water market to fulfil your crop water requirements since the completion of the project?		
Answer Options	Response Percent	Response Count
Yes Purchased Permanent entitlement	1.4%	1
Yes Leased allocation	9.7%	7
Yes Purchased Permanent entitlement & Leased allocation	2.8%	2
Have not used water market in relation to this project	86.1%	62
<b>answered question</b>		<b>72</b>
<b>skipped question</b>		<b>0</b>

Figure 152: Q16 – Dripper conversion only (Table)

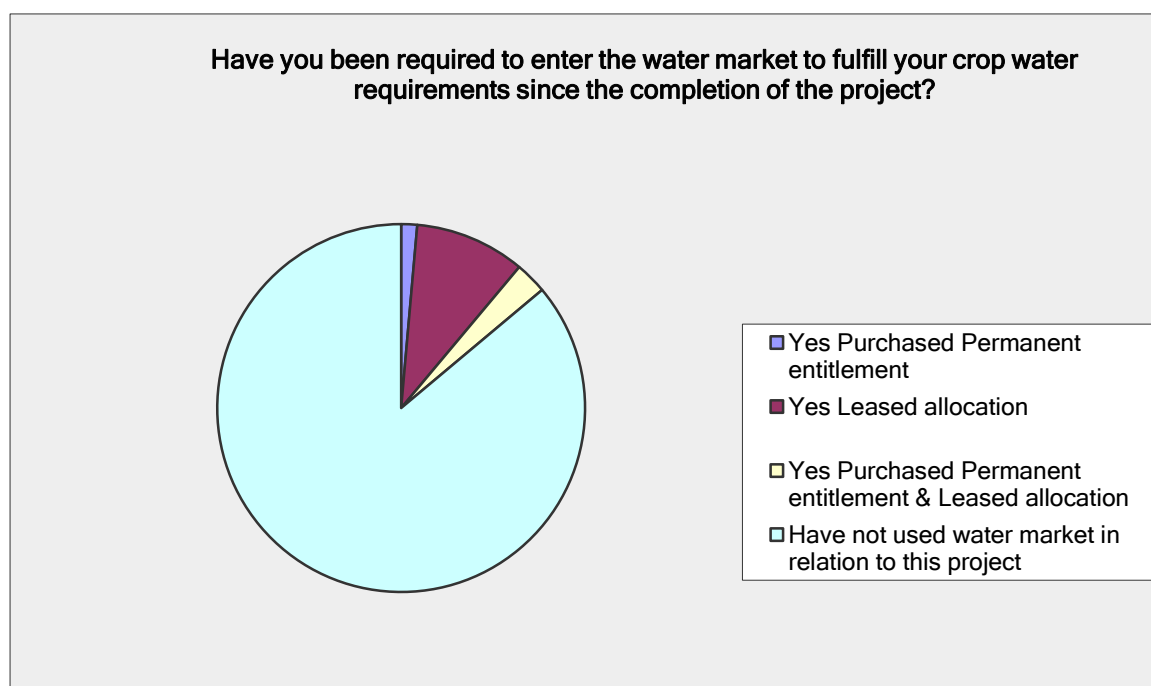


Figure 153: Q16 – Dripper conversion only (Chart)

### Wine grapes only

Have you been required to enter the water market to fulfil your crop water requirements since the completion of the project?		
Answer Options	Response Percent	Response Count
Yes Purchased Permanent entitlement	0.0%	0
Yes Leased allocation	7.1%	6
Yes Purchased Permanent entitlement & Leased allocation	2.4%	2
Have not used water market in relation to this project	90.6%	77
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 154: Q16 – Wine grapes only (Table)

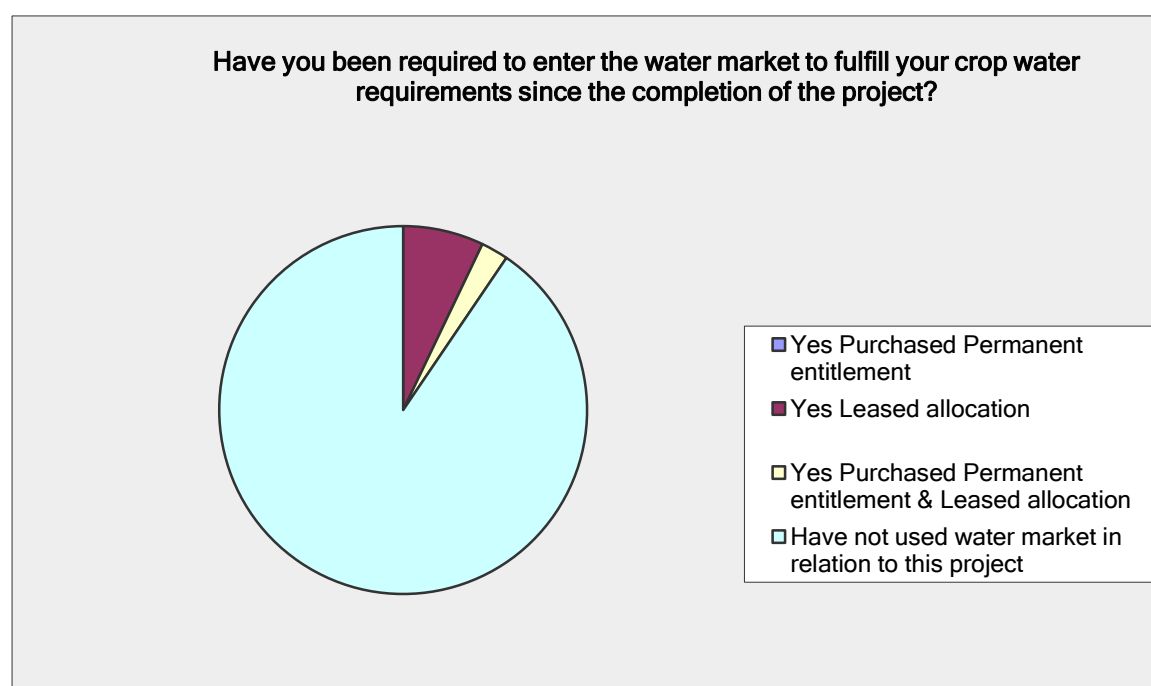


Figure 155: Q16 – Wine grapes only (Chart)

### Citrus only

Have you been required to enter the water market to fulfil your crop water requirements since the completion of the project?		
Answer Options	Response Percent	Response Count
Yes Purchased Permanent entitlement	3.3%	1
Yes Leased allocation	10.0%	3
Yes Purchased Permanent entitlement & Leased allocation	0.0%	0
Have not used water market in relation to this project	86.7%	26
<b>answered question</b>		<b>30</b>
<b>skipped question</b>		<b>0</b>

Figure 156: Q16 – Citrus only (Table)

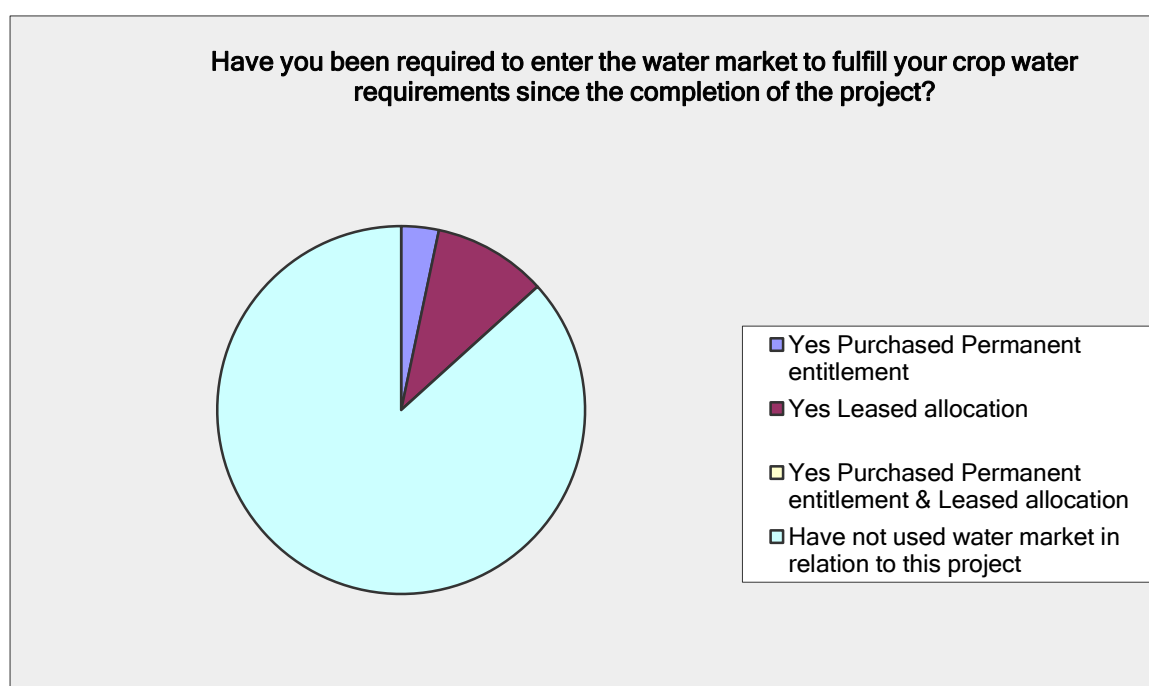


Figure 157: Q16 – Citrus only (Chart)

### Almonds only

Have you been required to enter the water market to fulfil your crop water requirements since the completion of the project?		
Answer Options	Response Percent	Response Count
Yes Purchased Permanent entitlement	15.4%	2
Yes Leased allocation	7.7%	1
Yes Purchased Permanent entitlement & Leased allocation	15.4%	2
Have not used water market in relation to this project	61.5%	8
<b>answered question</b>		<b>13</b>
<b>skipped question</b>		<b>0</b>

Figure 158: Q16 – Almonds only (Table)

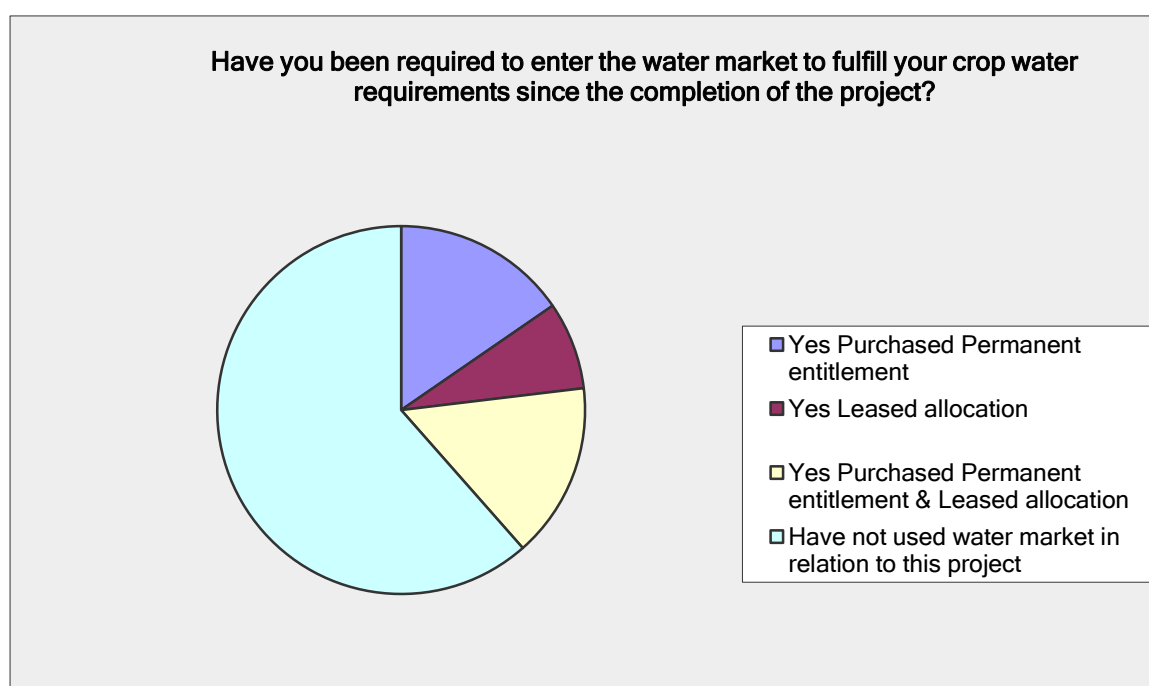


Figure 159: Q16 – Almonds only (Table)

### Summary

The majority of growers have not purchased or leased additional water to cover their need across most groups, although the almond growers have been significantly more active in the water market to fulfil their crops' requirement.

## Question 17

### Question

How much water (ML) have you had to acquire on average per season?

### Sub-question

### All data

If yes, how much water (ML) have you had to acquire on average per season?			
Answer Options	Response Average	Response Total	Response Count
ML	201.31	2,617	13
<i>answered question</i>			<b>13</b>
<i>skipped question</i>			<b>101</b>

Figure 160: Q17 – All data (Table)

### Q17 If yes, how much water (ML) have you had to acquire on average per season?

Answered: 13 Skipped: 101

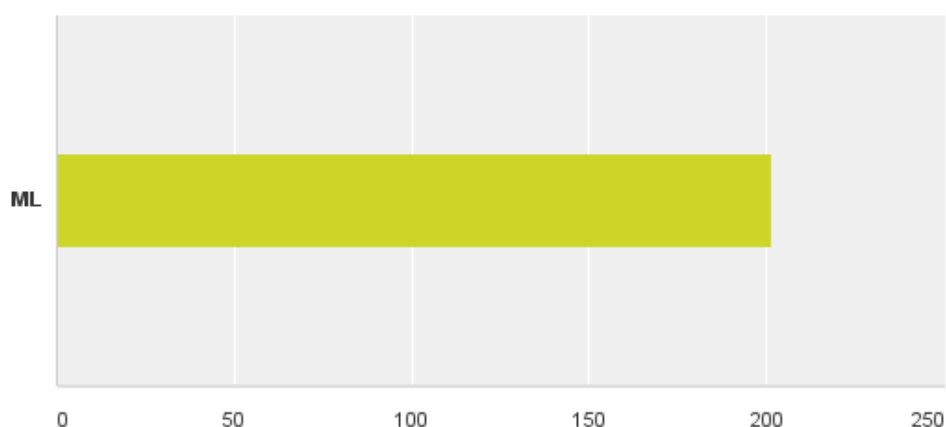


Figure 161: Q17 – All data (Chart)

## Round One

If yes, how much water (ML) have you had to acquire on average per season?			
Answer Options	Response Average	Response Total	Response Count
ML	.00		0
<i>answered question</i>			0
<i>skipped question</i>			20

Figure 162: Q17 – Round One (Table)

## Round Two

If yes, how much water (ML) have you had to acquire on average per season?			
Answer Options	Response Average	Response Total	Response Count
ML	201.31	2,617	13
<i>answered question</i>			13
<i>skipped question</i>			81

Figure 163: Q17 – Round Two (Table)

## Dripper conversions only

If yes, how much water (ML) have you had to acquire on average per season?			
Answer Options	Response Average	Response Total	Response Count
ML	301.67	1,810	6
<i>answered question</i>			6
<i>skipped question</i>			66

Figure 164: Q17 – Dripper conversions only (Table)

## Wine grapes only

If yes, how much water (ML) have you had to acquire on average per season?			
Answer Options	Response Average	Response Total	Response Count
ML	65.00	520	8
<i>answered question</i>			8
<i>skipped question</i>			77

Figure 165: Q17 – Wine grapes only (Table)

## Citrus only

If yes, how much water (ML) have you had to acquire on average per season?			
Answer Options	Response Average	Response Total	Response Count
ML	.00		0
<i>answered question</i>			0
<i>skipped question</i>			30

Figure 166: Q17 – Citrus only (Table)



### Almonds only

If yes, how much water (ML) have you had to acquire on average per season?			
Answer Options	Response Average	Response Total	Response Count
ML	363.40	1,817	5
<i>answered question</i>			5
<i>skipped question</i>			8

Figure 167: Q17 – Almonds only (Table)

### Summary

As indicated in the previous question, the almond growers have been significantly more active in purchasing and or leasing water to fulfil their crops' requirements. The table above provide evidence that the majority of additional water purchases has been borne via the almond growers. Interestingly, the citrus growers indicated that they have not had to purchase any water while the wine grape growers have had minimal purchases.

## Question 18

### Question

As a result of the project, did you have to have a new water meter installed?

### All data

As a result of the project did you have a new water meter installed?		
Answer Options	Response Percent	Response Count
Yes	2.7%	3
No	97.3%	108
<b><i>answered question</i></b>		<b>111</b>
<b><i>skipped question</i></b>		<b>3</b>

Figure 168: Q18 – All data (Table)



Figure 169: Q18 – All data (Chart)

## Round One

As a result of the project did you have a new water meter installed?		
Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	100.0%	18
<b><i>answered question</i></b>		<b>18</b>
<b><i>skipped question</i></b>		<b>2</b>

Figure 170: Q18 – Round One (Table)

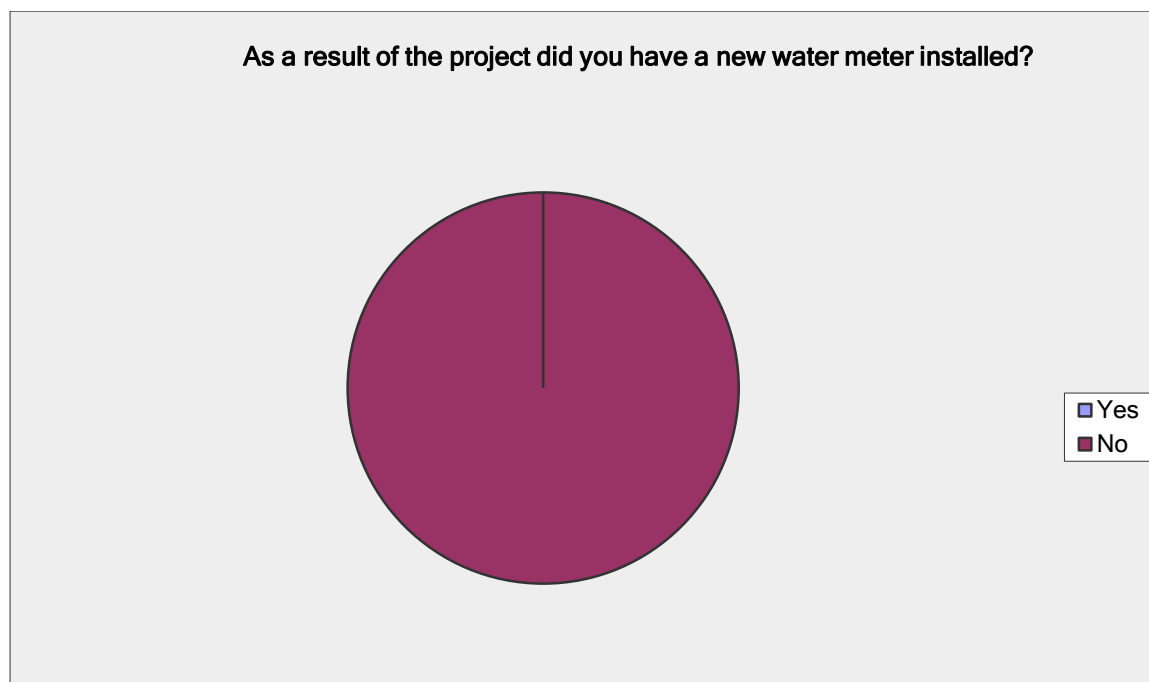


Figure 171: Q18 – Round One (Chart)

## Round Two

As a result of the project did you have a new water meter installed?		
Answer Options	Response Percent	Response Count
Yes	3.2%	3
No	96.8%	90
<b><i>answered question</i></b>		<b>93</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 172: Q18 – Round Two (Table)

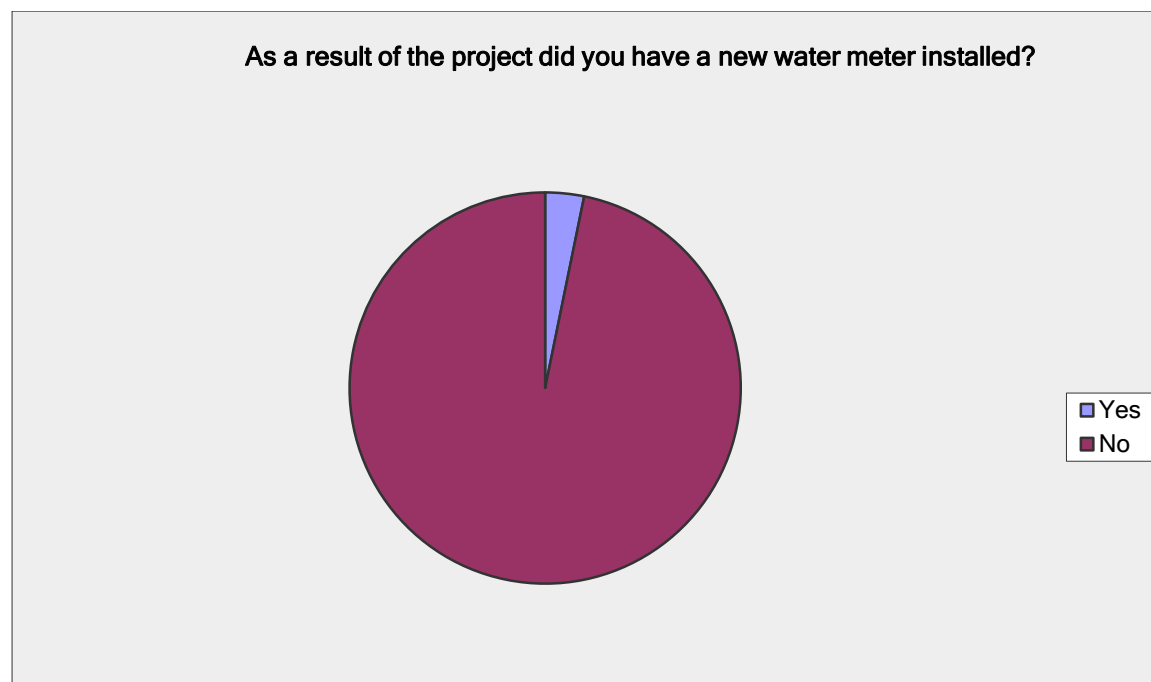


Figure 173: Q18 – Round Two (Chart)

### Dripper conversions only

As a result of the project did you have a new water meter installed?		
Answer Options	Response Percent	Response Count
Yes	1.4%	1
No	98.6%	70
<b>answered question</b>		<b>71</b>
<b>skipped question</b>		<b>1</b>

Figure 174: Q18 – Dripper conversions only (Table)

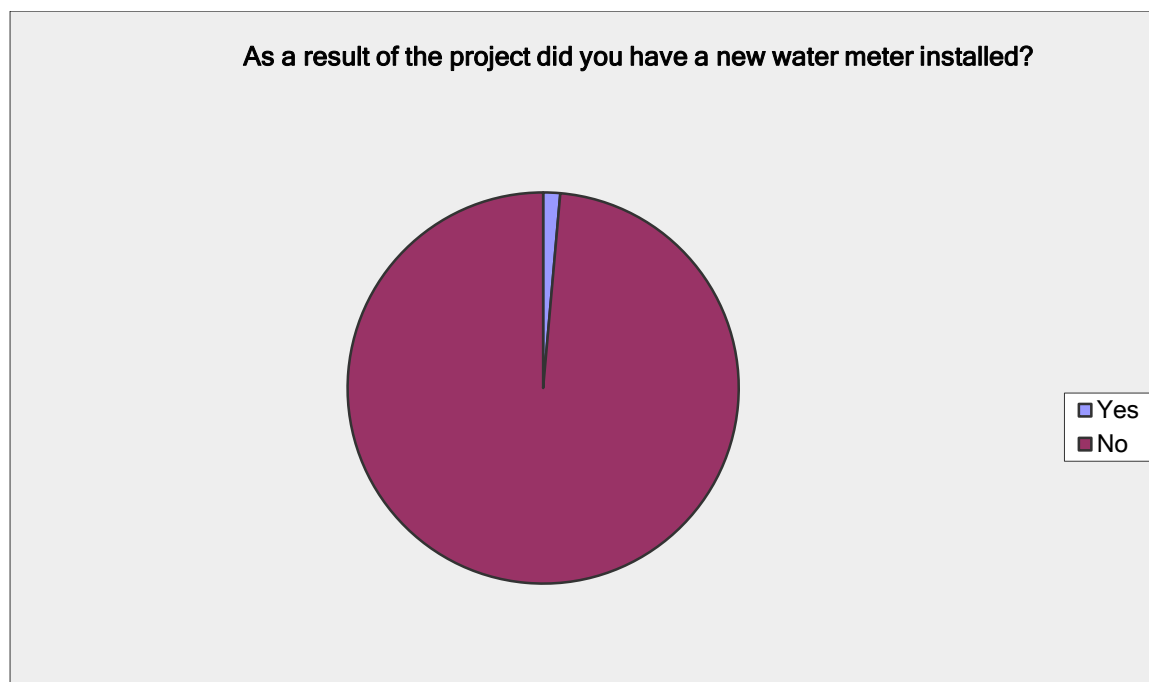


Figure 175: Q18 – Dripper conversions only (Chart)

### Wine grapes only

As a result of the project did you have a new water meter installed?		
Answer Options	Response Percent	Response Count
Yes	1.2%	1
No	98.8%	82
<b><i>answered question</i></b>		<b>83</b>
<b><i>skipped question</i></b>		<b>2</b>

Figure 176: Q18 – Wine grapes only (Table)

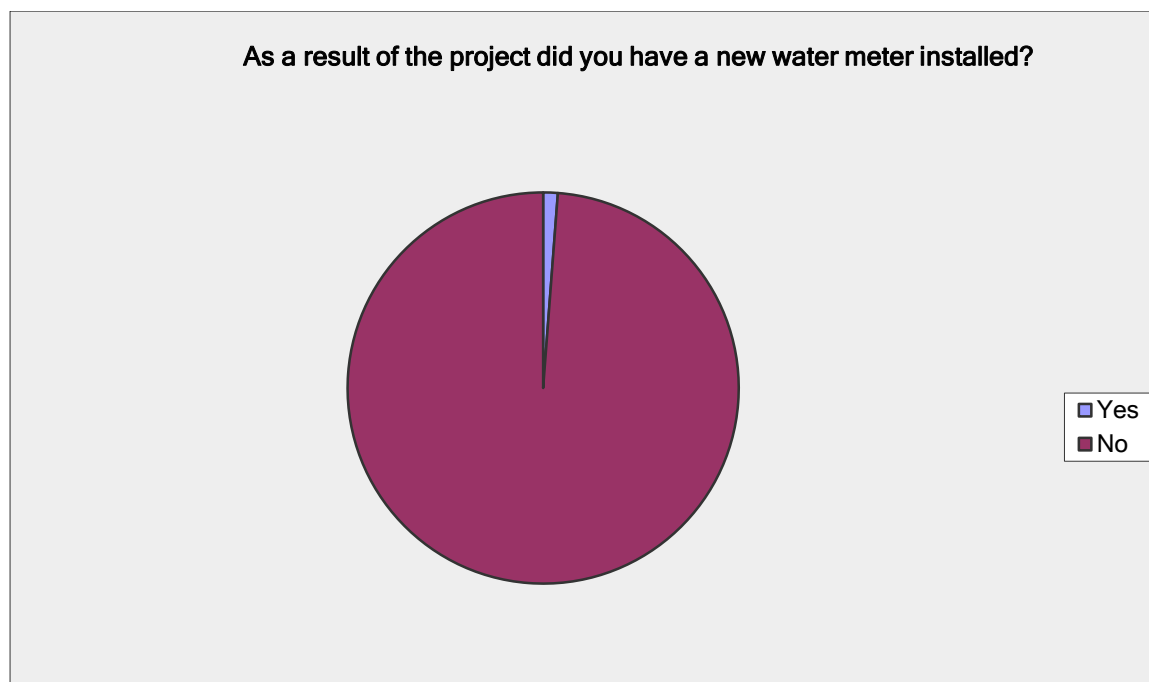


Figure 177: Q18 – Wine grapes only (Chart)

### Citrus only

As a result of the project did you have a new water meter installed?		
Answer Options	Response Percent	Response Count
Yes	3.4%	1
No	96.6%	28
<b><i>answered question</i></b>		<b>29</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 178: Q18 – Citrus only (Table)

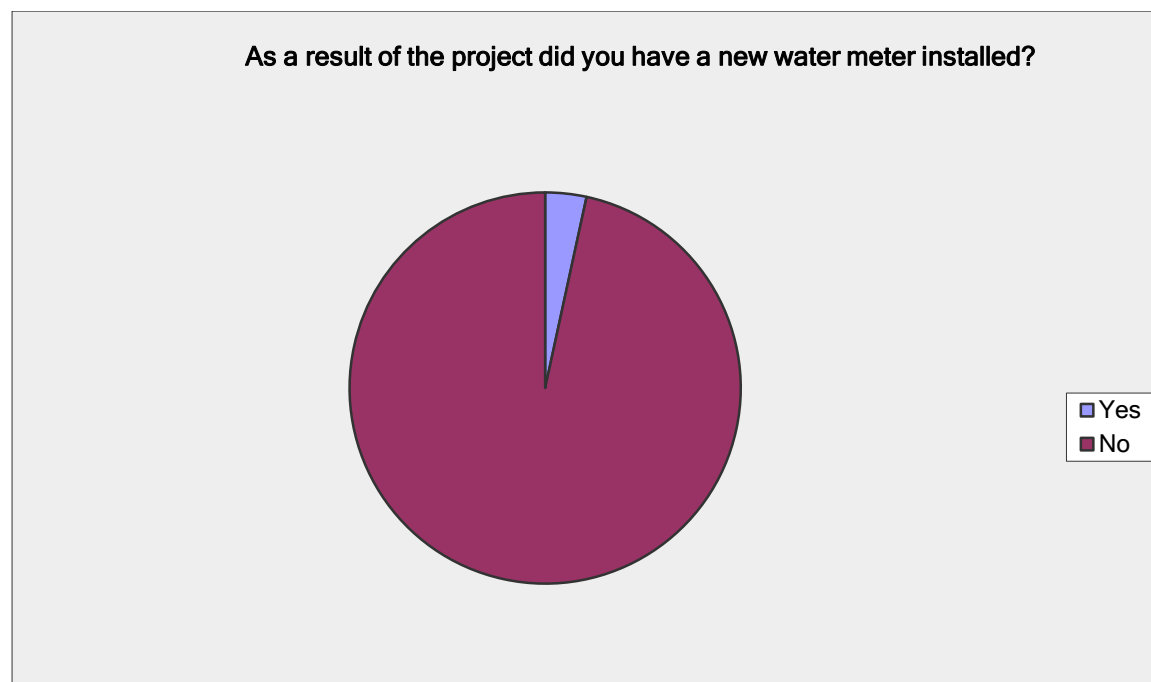


Figure 179: Q18 – Citrus only (Chart)

### Almonds only

As a result of the project did you have a new water meter installed?		
Answer Options	Response Percent	Response Count
Yes	7.7%	1
No	92.3%	12
<b><i>answered question</i></b>		<b>13</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 180: Q18 – Almonds only (Table)

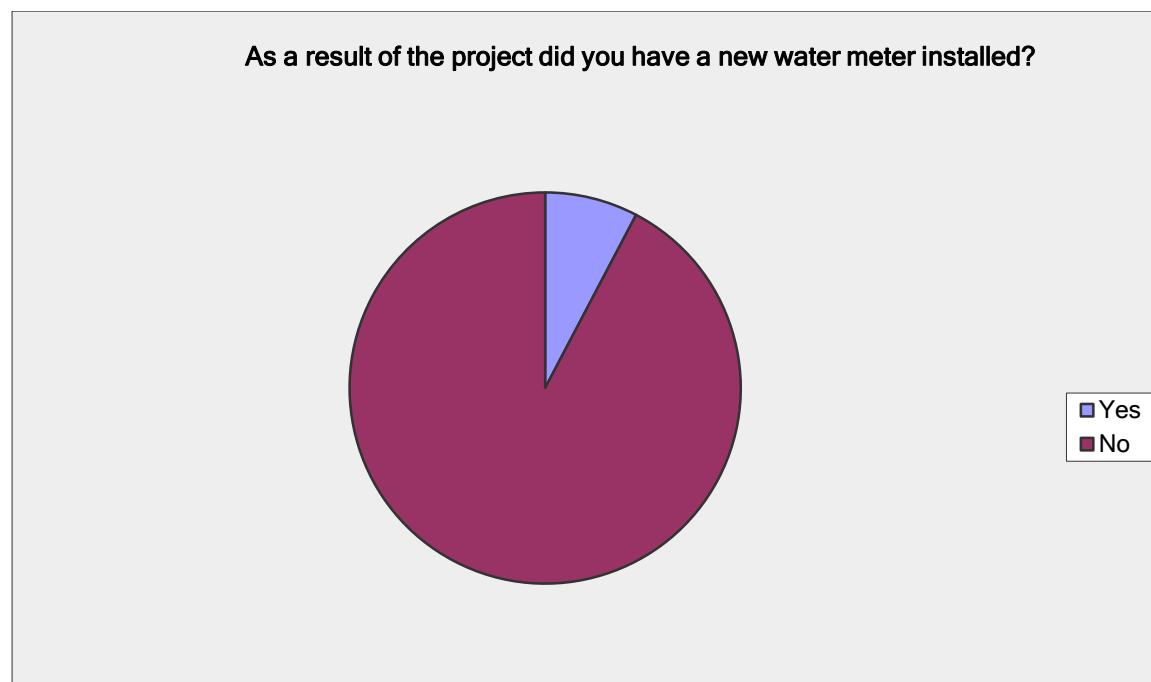


Figure 181: Q18 – Almonds only (Chart)

### Progress to target

08: A 25% increase in the numbers of water meters installed post project implementation

This MAT is significantly under target, however, it is expected through future rounds, this can be addressed.

### Growers' comments

Many growers indicated that they have had a new water meter installed prior to the project through the trusts.

### Summary

Unlike future rounds, rounds one and two did not require installation of new water meters, hence the majority of growers did not have these installed.



## Question 19

### Question

As a private irrigator, what effect has the installation of the new water meter had on your business in respect to...

### All data

If yes, as a Private Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	3	1	0	109	113
Irrigation efficiency	3	1	0	109	113
Irrigation scheduling	3	1	0	109	113
Knowing your irrigation output	3	1	0	109	113
<b>answered question</b>					<b>113</b>
<b>skipped question</b>					<b>1</b>

Figure 182: Q19 – All data (Table)

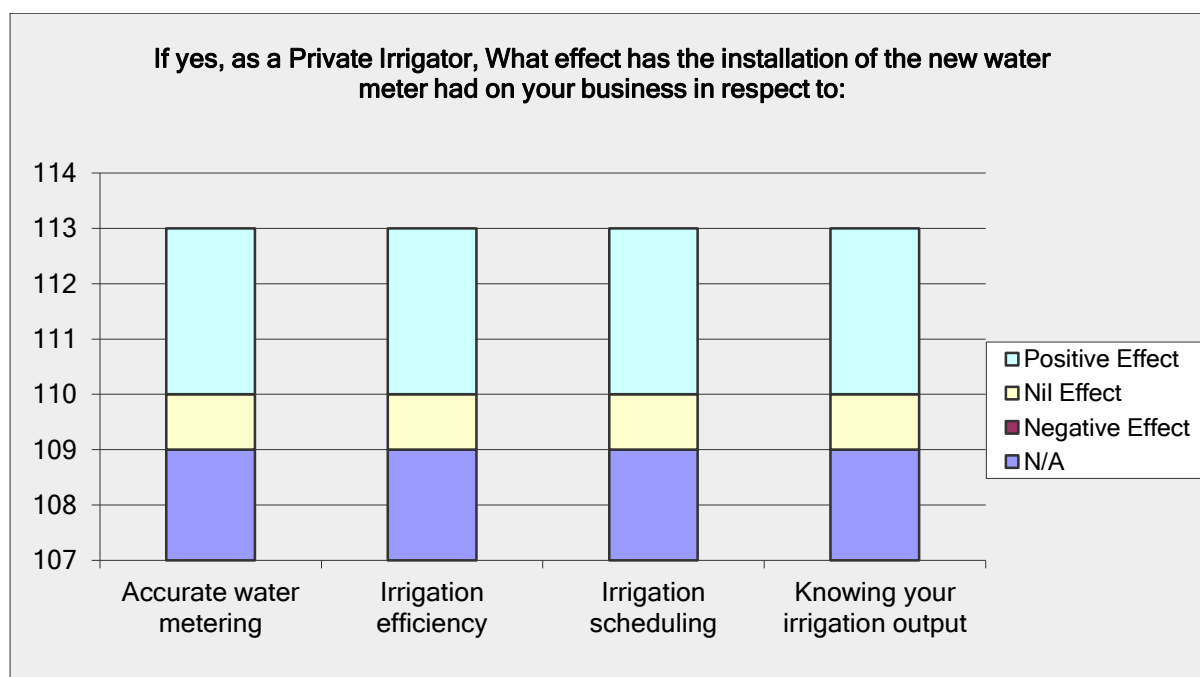


Figure 183: Q19 – All data (Chart)

## Round One

If yes, as a Private Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	1	0	0	18	19
Irrigation efficiency	0	1	0	18	19
Irrigation scheduling	0	1	0	18	19
Knowing your irrigation output	1	0	0	18	19
<b>answered question</b>					<b>19</b>
<b>skipped question</b>					<b>1</b>

Figure 184: Q19 – Round One (Table)

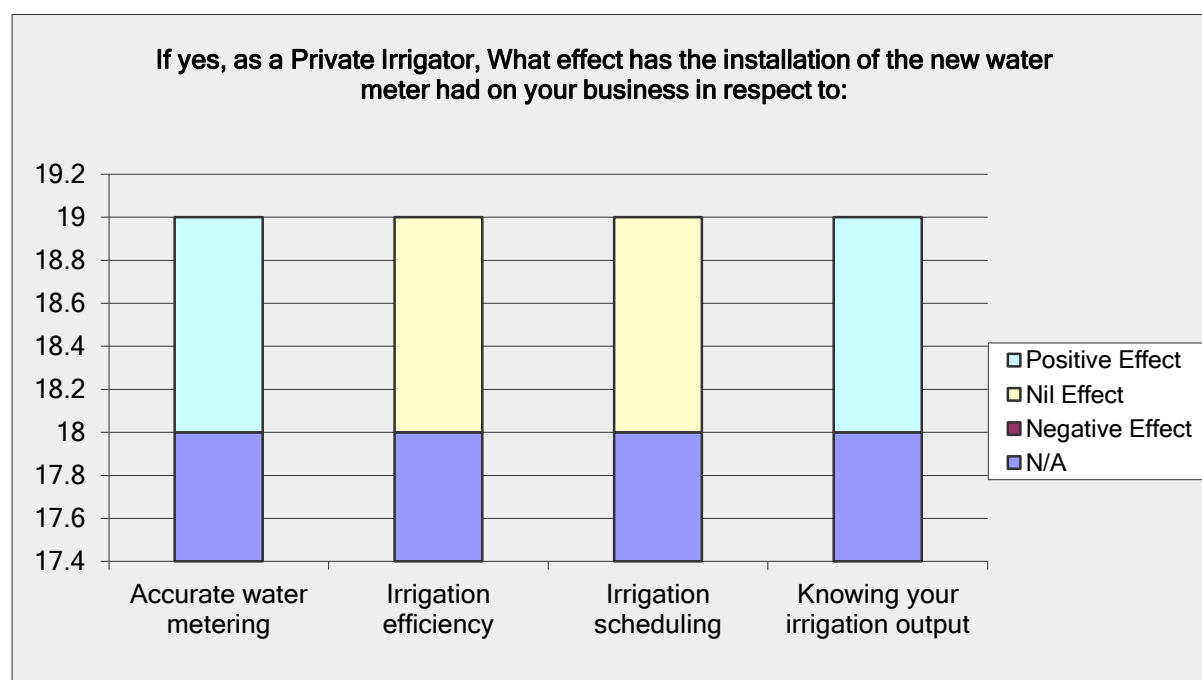


Figure 185: Q19 – Round One (Chart)

## Round Two

If yes, as a Private Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	2	1	0	91	94
Irrigation efficiency	3	0	0	91	94
Irrigation scheduling	3	0	0	91	94
Knowing your irrigation output	2	1	0	91	94
<b>answered question</b>					<b>94</b>
<b>skipped question</b>					<b>0</b>

Figure 186: Q19 – Round Two (Table)

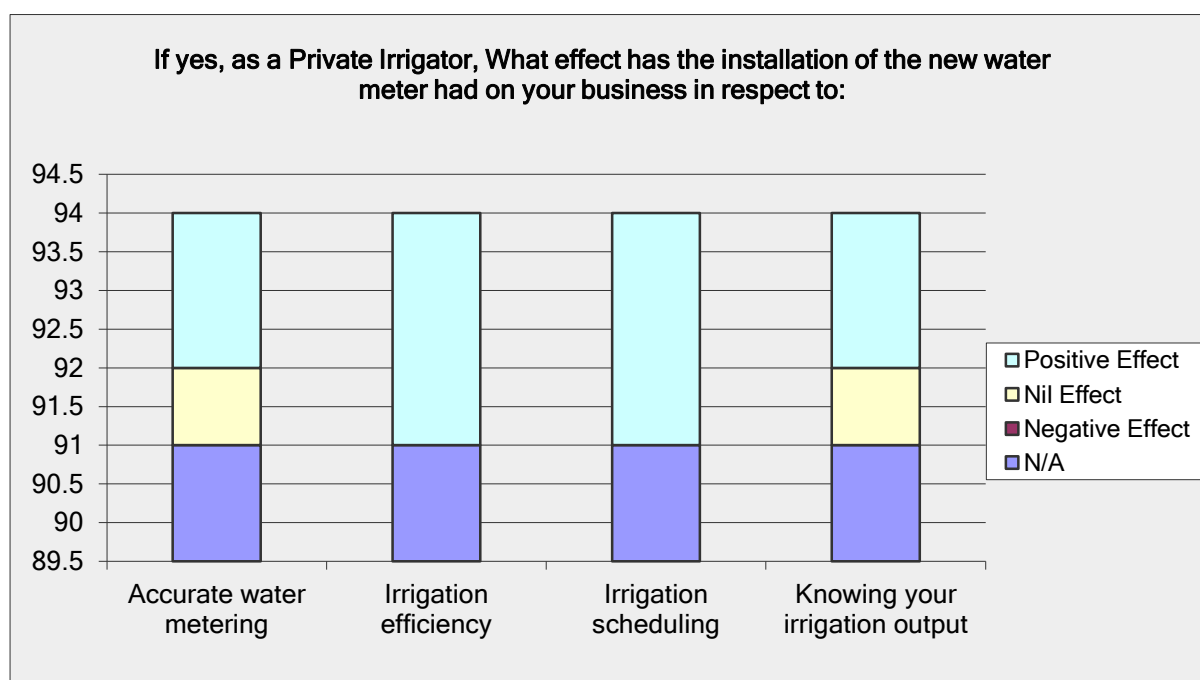


Figure 187: Q19 – Round Two (Chart)

### Dripper conversions only

If yes, as a Private Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	0	1	0	71	72
Irrigation efficiency	1	0	0	71	72
Irrigation scheduling	1	0	0	71	72
Knowing your irrigation output	0	1	0	71	72
<b>answered question</b>					<b>72</b>
<b>skipped question</b>					<b>0</b>

Figure 188: Q19 – Dripper conversions only (Table)

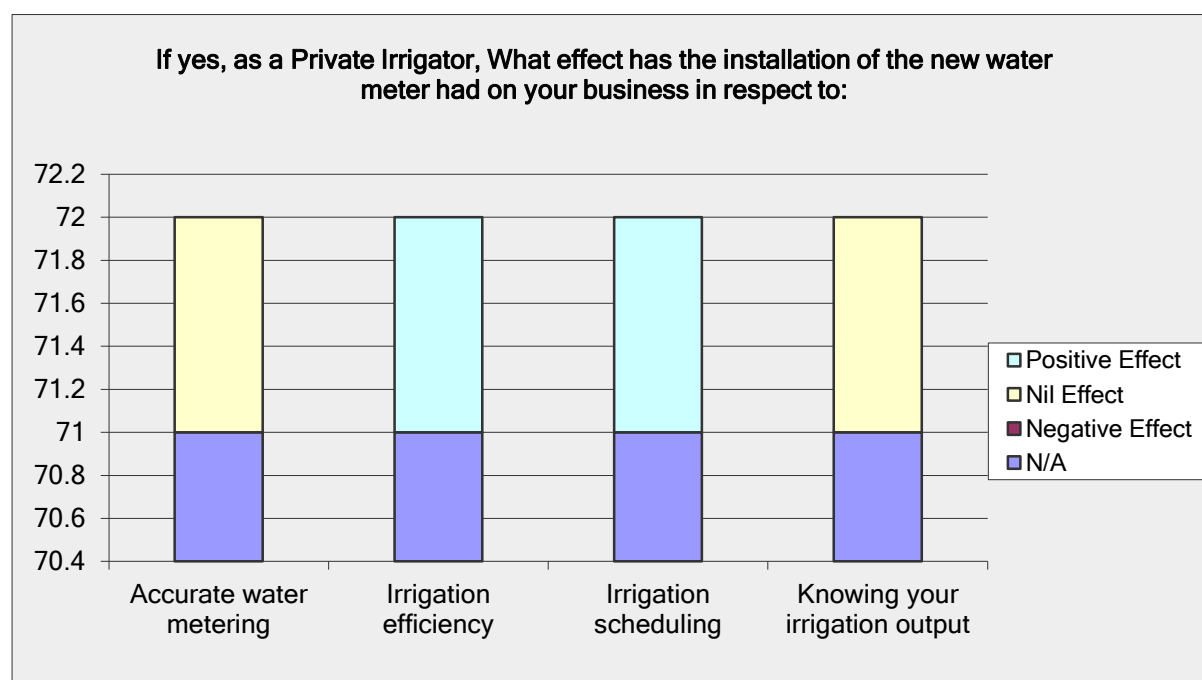


Figure 189: Q19 – Dripper conversions only (Chart)

### Wine grapes only

If yes, as a Private Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	1	0	0	84	85
Irrigation efficiency	1	0	0	84	85
Irrigation scheduling	1	0	0	84	85
Knowing your irrigation output	1	0	0	84	85
<b>answered question</b>					<b>85</b>
<b>skipped question</b>					<b>0</b>

Figure 190: Q19 – Wine grapes only (Table)

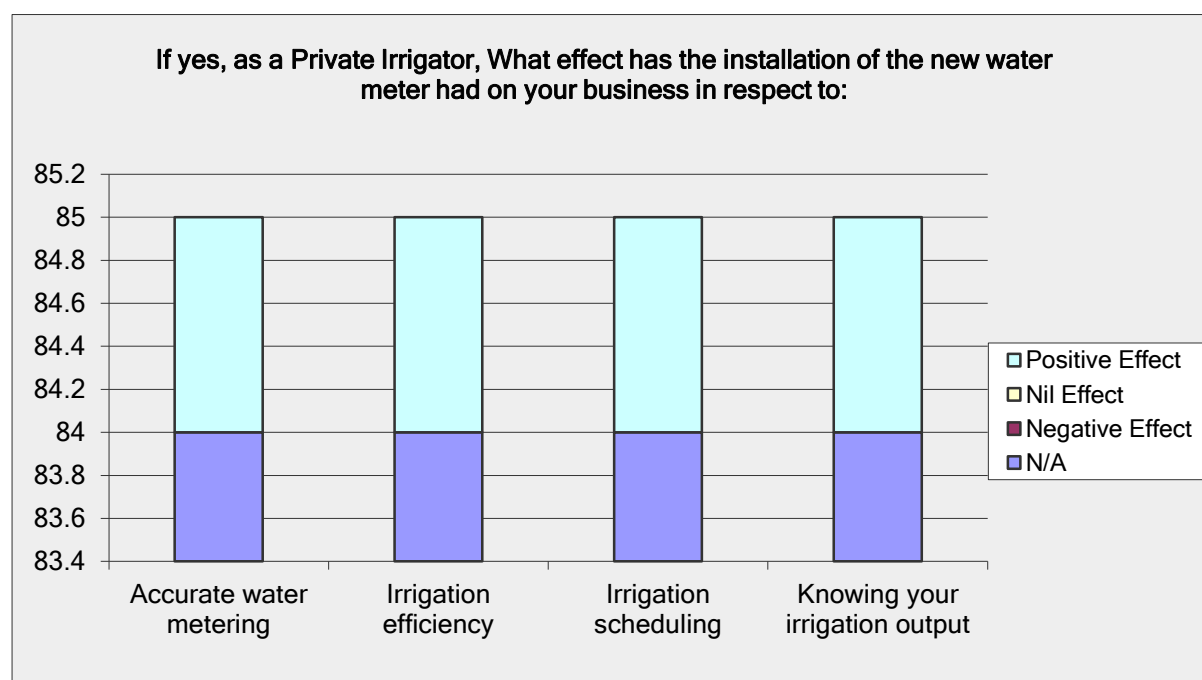


Figure 191: Q19 – Dripper conversions only (Chart)

### Citrus only

If yes, as a Private Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	1	0	0	29	30
Irrigation efficiency	1	0	0	29	30
Irrigation scheduling	1	0	0	29	30
Knowing your irrigation output	1	0	0	29	30
<b>answered question</b>					<b>30</b>
<b>skipped question</b>					<b>0</b>

Figure 192: Q19 – Citrus only (Table)

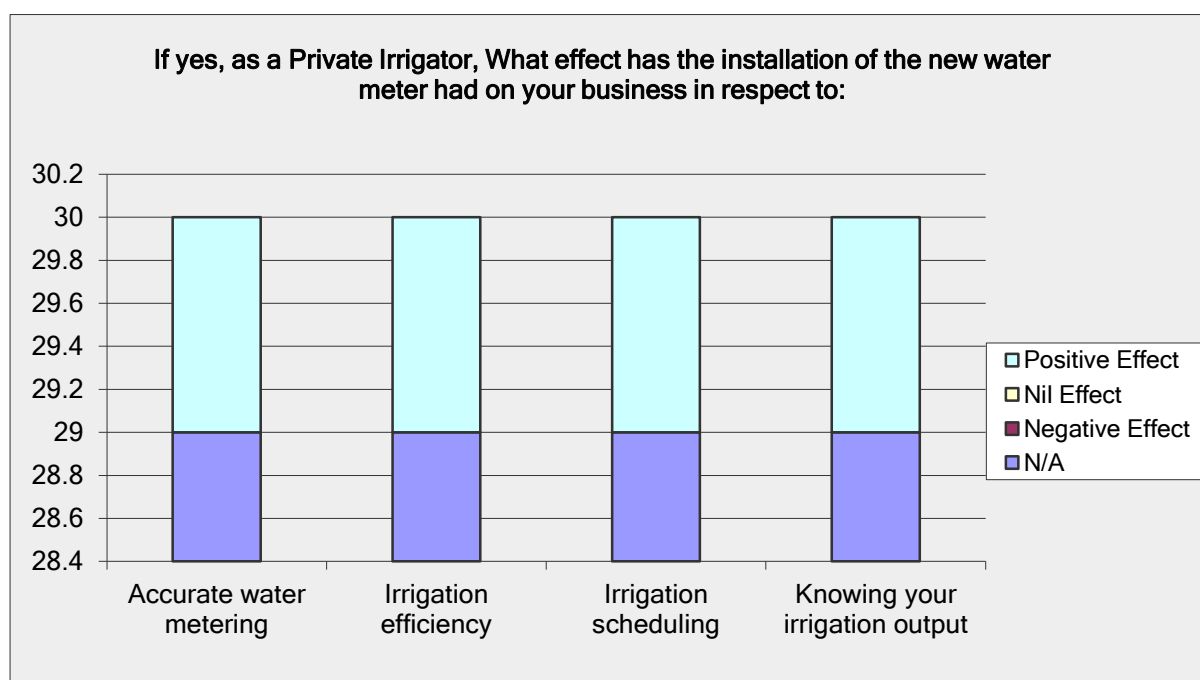


Figure 193: Q19 – Citrus only (Chart)

### Almonds only

If yes, as a Private Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	0	1	0	12	13
Irrigation efficiency	1	0	0	12	13
Irrigation scheduling	1	0	0	12	13
Knowing your irrigation output	0	1	0	12	13
<b>answered question</b>					<b>13</b>
<b>skipped question</b>					<b>0</b>

Figure 194: Q19 – Almonds only (Table)

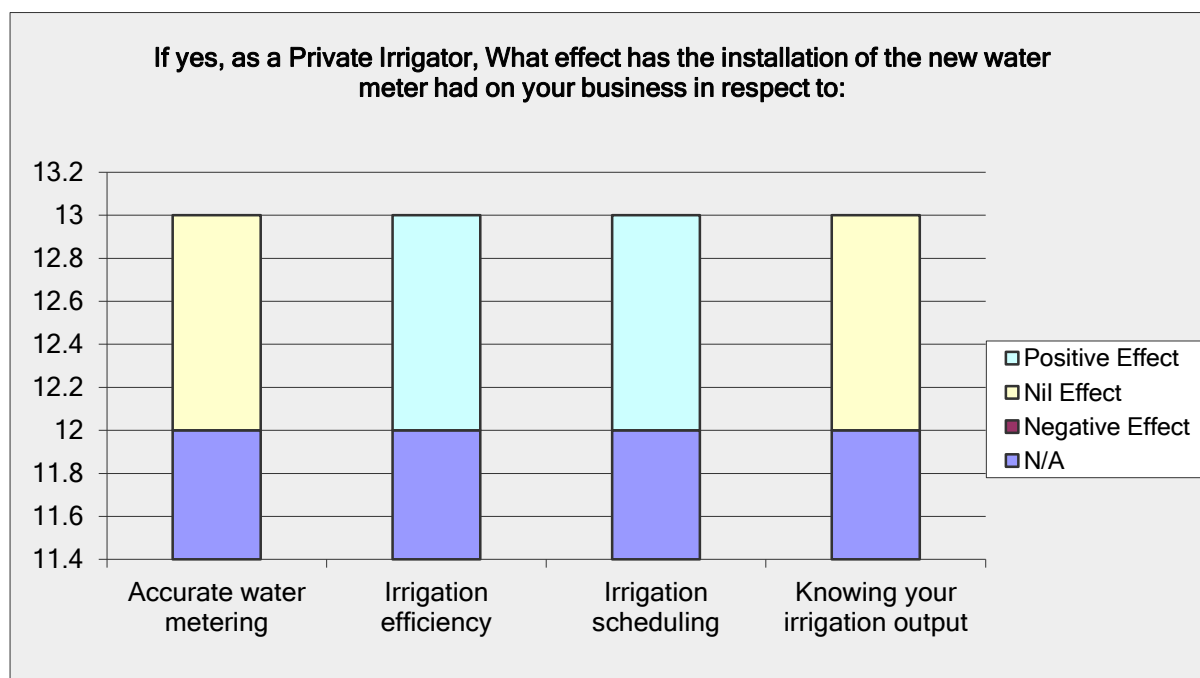


Figure 195: Q19 – Almonds only (Chart)

### Progress to target

02: Irrigation water use efficiency is increased by 20% post project implementation

### Summary

As the majority of the growers did not have a new water meter installed, this report for rounds one and two will not address this issue. It is expected that future rounds will address this MAT.

## Question 20

### Question

As a public irrigator, what effect has the installation of the new water meter had on your business in respect to...

### All data

If yes, as a Public Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	0	0	0	113	113
Irrigation efficiency	0	0	0	113	113
Irrigation scheduling	0	0	0	113	113
Knowing your irrigation output	0	0	0	113	113
<b>answered question</b>					<b>113</b>
<b>skipped question</b>					<b>1</b>

Figure 196: Q20 – All data (Table)

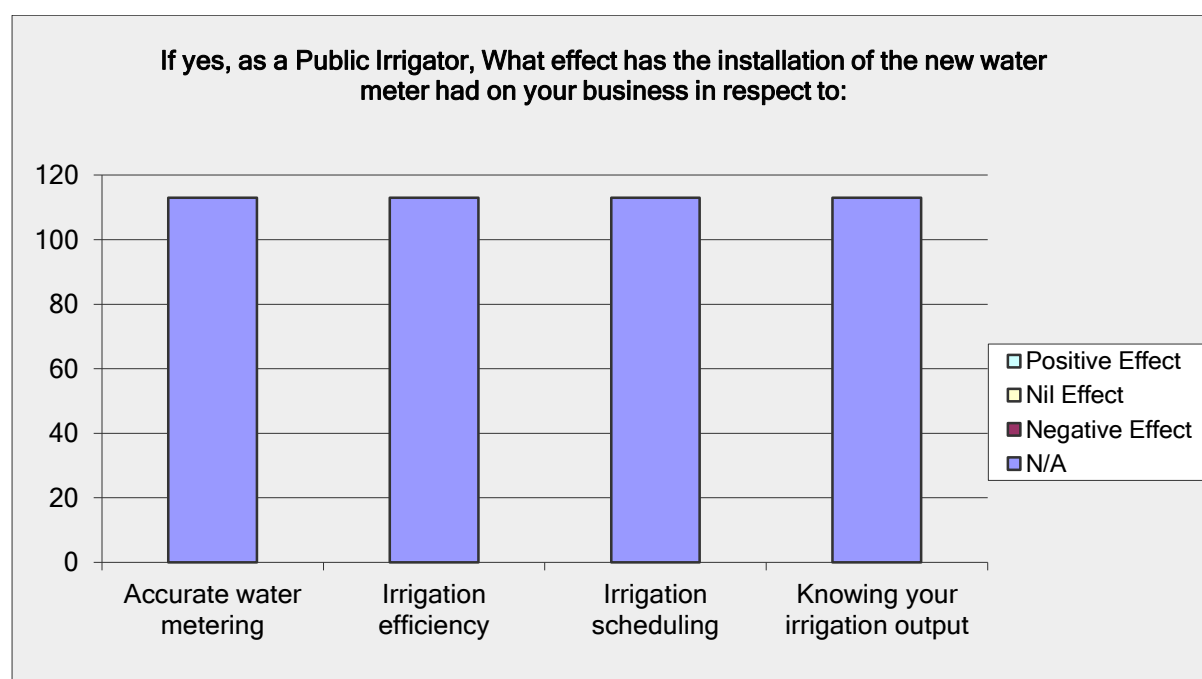


Figure 197: Q20 – All data (Chart)



## Round One

If yes, as a Public Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	0	0	0	19	19
Irrigation efficiency	0	0	0	19	19
Irrigation scheduling	0	0	0	19	19
Knowing your irrigation output	0	0	0	19	19
<b>answered question</b>					<b>19</b>
<b>skipped question</b>					<b>1</b>

Figure 198: Q20 – Round One (Table)

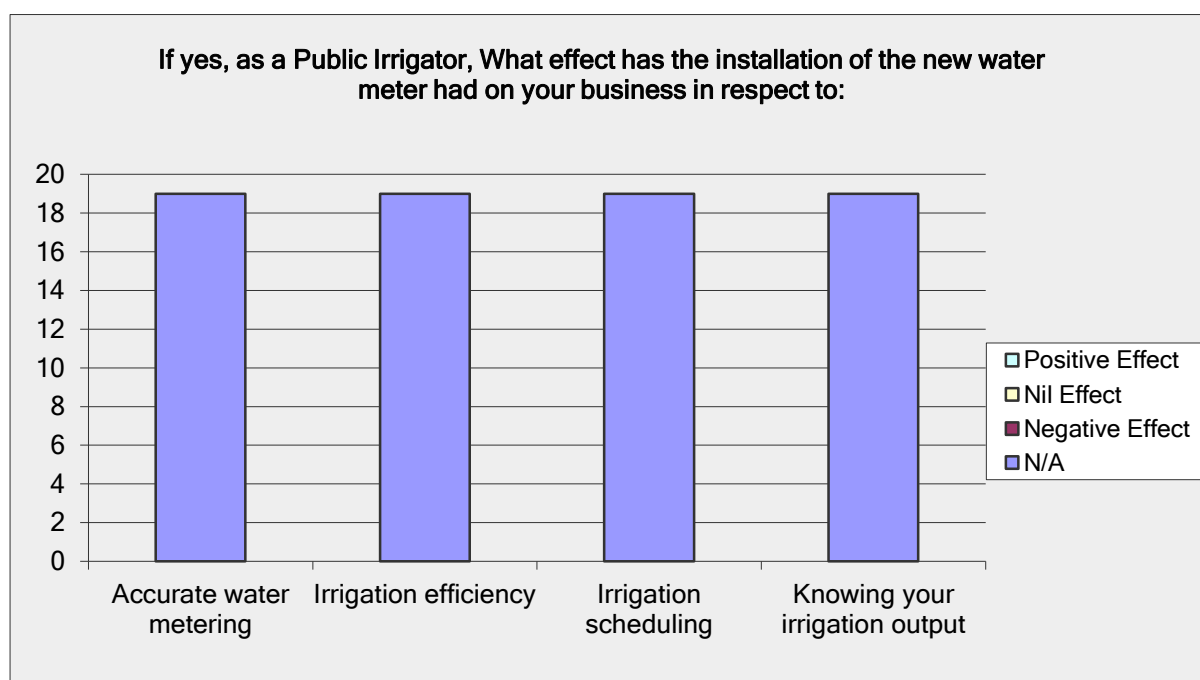


Figure 199: Q20 – Round One (Chart)

## Round Two

If yes, as a Public Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	0	0	0	94	94
Irrigation efficiency	0	0	0	94	94
Irrigation scheduling	0	0	0	94	94
Knowing your irrigation output	0	0	0	94	94
<b><i>answered question</i></b>					<b>94</b>
<b><i>skipped question</i></b>					<b>0</b>

Figure 200: Q20 – Round Two (Table)

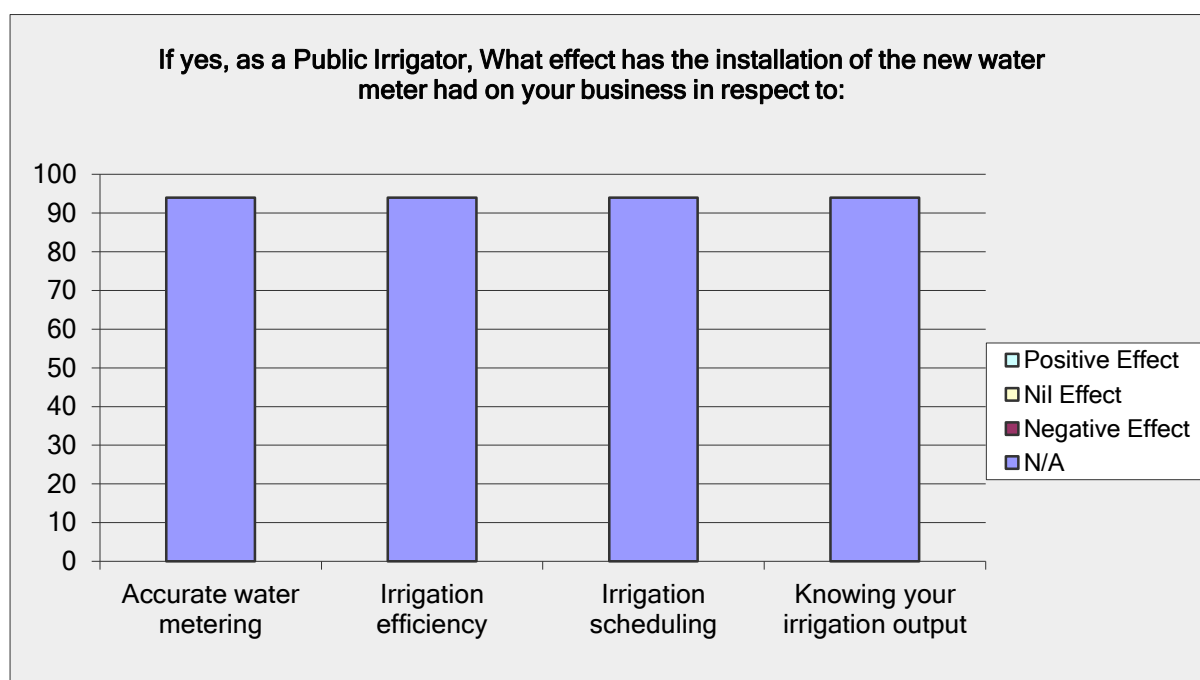


Figure 201: Q20 – Round Two (Chart)

### Dripper conversions only

If yes, as a Public Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	0	0	0	72	72
Irrigation efficiency	0	0	0	72	72
Irrigation scheduling	0	0	0	72	72
Knowing your irrigation output	0	0	0	72	72
<b>answered question</b>					<b>72</b>
<b>skipped question</b>					<b>0</b>

Figure 202: Q20 – Dripper conversions only (Table)

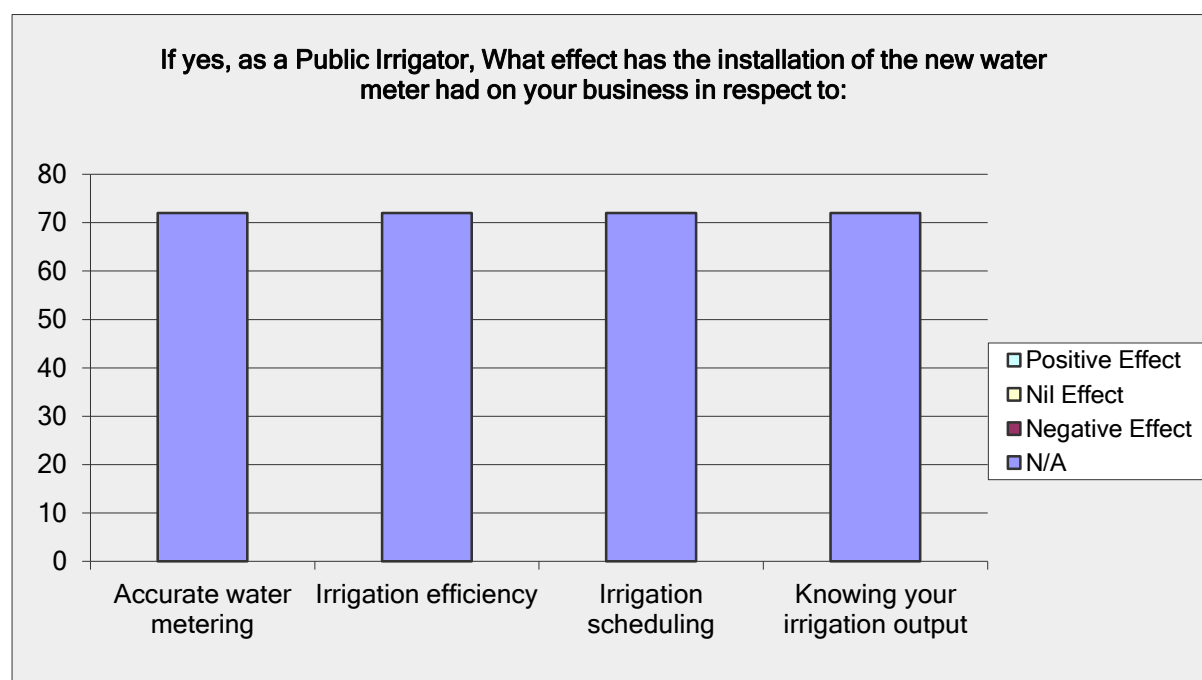


Figure 203: Q20 – Dripper conversions only (Chart)

### Wine grapes only

If yes, as a Public Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	0	0	0	85	85
Irrigation efficiency	0	0	0	85	85
Irrigation scheduling	0	0	0	85	85
Knowing your irrigation output	0	0	0	85	85
<b>answered question</b>					<b>85</b>
<b>skipped question</b>					<b>0</b>

Figure 204: Q20 – Wine grapes only (Table)

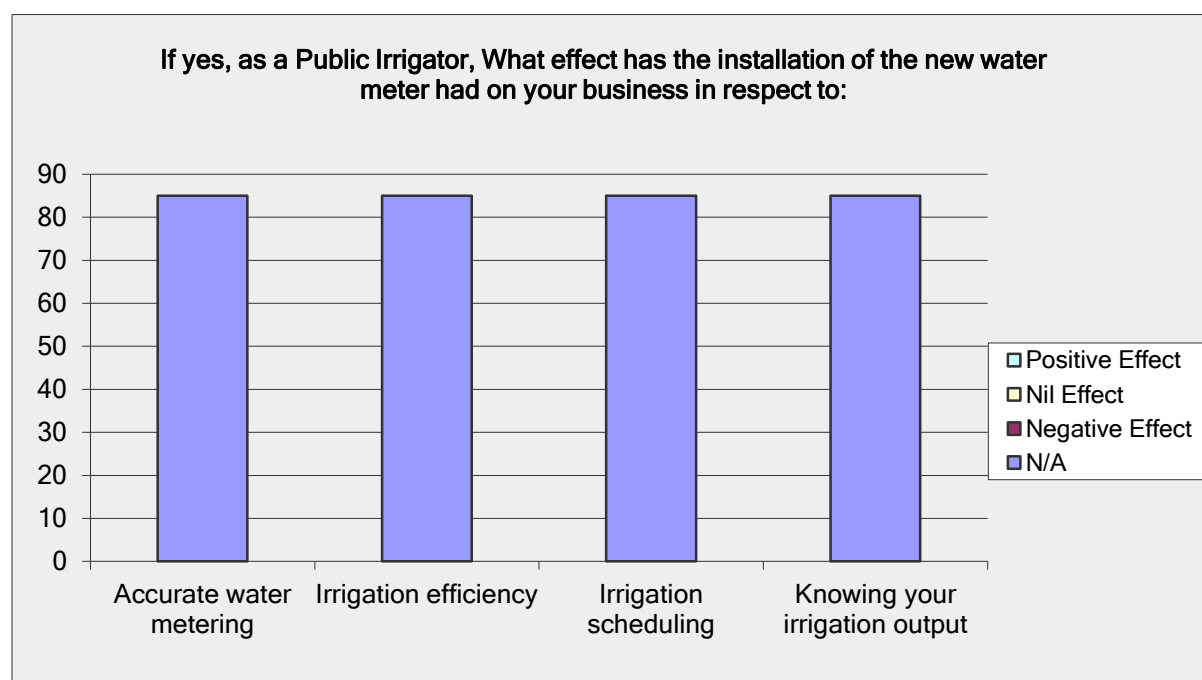


Figure 205: Q20 – Wine grapes only (Chart)

### Citrus only

If yes, as a Public Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	0	0	0	30	30
Irrigation efficiency	0	0	0	30	30
Irrigation scheduling	0	0	0	30	30
Knowing your irrigation output	0	0	0	30	30
<b><i>answered question</i></b>					<b>30</b>
<b><i>skipped question</i></b>					<b>0</b>

Figure 206: Q20 – Citrus only (Table)

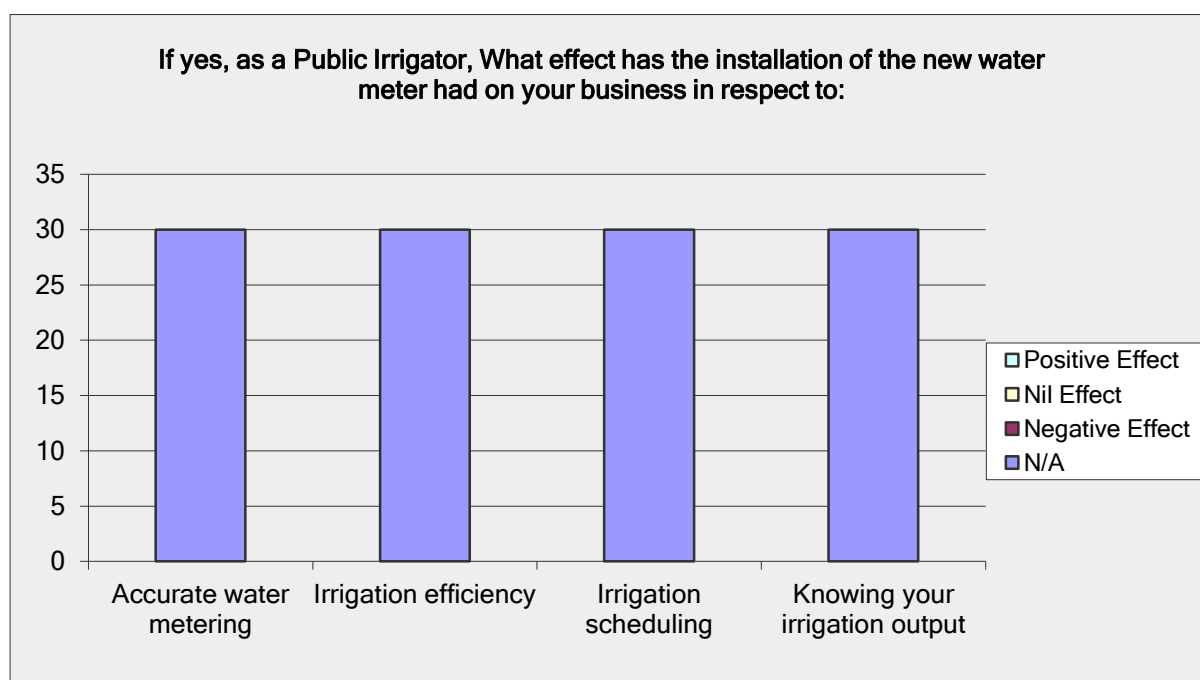


Figure 207: Q20 – Citrus only (Chart)

## Almonds only

If yes, as a Public Irrigator, What effect has the installation of the new water meter had on your business in respect to:					
Answer Options	Positive Effect	Nil Effect	Negative Effect	N/A	Response Count
Accurate water metering	0	0	0	13	13
Irrigation efficiency	0	0	0	13	13
Irrigation scheduling	0	0	0	13	13
Knowing your irrigation output	0	0	0	13	13
<b>answered question</b>					<b>13</b>
<b>skipped question</b>					<b>0</b>

Figure 208: Q20 – Almonds only (Table)

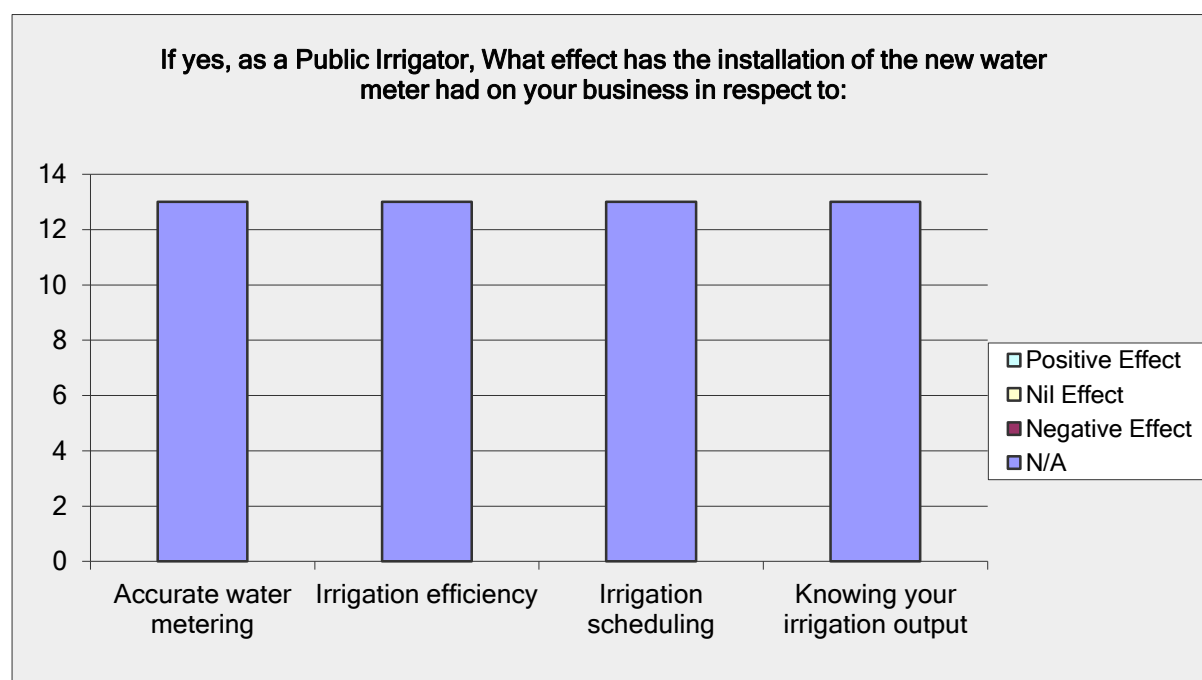


Figure 209: Q20 – Almonds only (Chart)

## Progress to target

02: Irrigation water use efficiency is increased by 20% post project implementation

## Summary

As the majority of the growers did not have a new water meter installed, this report for rounds one and two will not address this issue. It is expected that future rounds will address this MAT.

## Question 21

### Question

Can you quantify your response to the previous question as a percentage?

### Sub-question

### All data

Can you quantify your response (as a %) to the prior question?			
Answer Options	Response Average	Response Total	Response Count
Accurate water metering	.00		0
Irrigation efficiency	.00		0
Irrigation scheduling	.00		0
Knowing you irrigation output	.00		0
N/A	.00		0
<b>answered question</b>			<b>0</b>
<b>skipped question</b>			<b>114</b>

Figure 210: Q21 – All data (Table)

### Round One

Can you quantify your response (as a %) to the prior question?			
Answer Options	Response Average	Response Total	Response Count
Accurate water metering	.00		0
Irrigation efficiency	.00		0
Irrigation scheduling	.00		0
Knowing you irrigation output	.00		0
N/A	.00		0
<b>answered question</b>			<b>0</b>
<b>skipped question</b>			<b>20</b>

Figure 211: Q21 – Round One (Table)

### Round Two

Can you quantify your response (as a %) to the prior question?			
Answer Options	Response Average	Response Total	Response Count
Accurate water metering	.00		0
Irrigation efficiency	.00		0
Irrigation scheduling	.00		0
Knowing you irrigation output	.00		0
N/A	.00		0
<b>answered question</b>			<b>0</b>
<b>skipped question</b>			<b>94</b>

Figure 212: Q21 – Round Two (Table)

### Dripper conversions only

Can you quantify your response (as a %) to the prior question?			
Answer Options	Response Average	Response Total	Response Count
Accurate water metering	.00		0
Irrigation efficiency	.00		0
Irrigation scheduling	.00		0
Knowing you irrigation output	.00		0
N/A	.00		0
<b><i>answered question</i></b>			<b>0</b>
<b><i>skipped question</i></b>			<b>72</b>

Figure 213: Q21 – Dripper conversions only (Table)

### Wine grapes only

Can you quantify your response (as a %) to the prior question?			
Answer Options	Response Average	Response Total	Response Count
Accurate water metering	.00		0
Irrigation efficiency	.00		0
Irrigation scheduling	.00		0
Knowing you irrigation output	.00		0
N/A	.00		0
<b><i>answered question</i></b>			<b>0</b>
<b><i>skipped question</i></b>			<b>85</b>

Figure 214: Q21 – Wine grapes only (Table)

### Citrus only

Can you quantify your response (as a %) to the prior question?			
Answer Options	Response Average	Response Total	Response Count
Accurate water metering	.00		0
Irrigation efficiency	.00		0
Irrigation scheduling	.00		0
Knowing you irrigation output	.00		0
N/A	.00		0
<b><i>answered question</i></b>			<b>0</b>
<b><i>skipped question</i></b>			<b>30</b>

Figure 215: Q21 – Citrus only (Table)

### Almonds only

Can you quantify your response (as a %) to the prior question?			
Answer Options	Response Average	Response Total	Response Count
Accurate water metering	.00		0
Irrigation efficiency	.00		0
Irrigation scheduling	.00		0



Knowing you irrigation output	.00		0
N/A	.00		0
<b><i>answered question</i></b>			<b>0</b>
<b><i>skipped question</i></b>			<b>13</b>

Figure 216: Q21 – Almonds only (Table)

## Progress to target

02: Irrigation water use efficiency is increased by 20% post project implementation

## Summary

As the majority of the growers did not have a new water meter installed, this report rounds one and two will not address this issue. It is expected that future rounds will address this MAT.

## Question 22

### Question

As a result of undertaking your project, have you seen an increase, no change or a decrease in the following.....

(Rate from 1-10 = Very high decrease, 5 = No change, 10 = Very high increase)

### All data

As a result of undertaking your project have you seen an increase, no change or decrease in the following? Rate from 1-10...1+ Very high decrease, 5 = No change, 10 Very high increase													
Answer Options	1 Very high decrease	2	3	4	5 No Change	6	7	8	9	10 Very high Increase	N/A	Rating Average	Response Count
Pumping hours /	0	4	18	16	26	6	13	6	13	9	2	5.75	113
Flexibility with	0	1	1	0	11	12	13	40	25	7	2	7.62	112
Water savings	1	0	0	3	6	13	28	42	16	2	2	7.36	113
Irrigation efficiency	0	0	0	4	2	8	22	39	24	12	2	7.89	113
Crop production	0	0	0	4	27	21	25	19	9	5	3	6.68	113
Crop evenness	0	0	0	0	22	18	23	25	18	4	3	7.10	113
Crop quality	0	0	0	0	35	30	23	13	7	2	3	6.39	113
Ability to expand	0	0	0	0	58	18	21	6	6	1	3	5.97	113

<b>Answer Options</b>	<b>1</b> Very high decrease	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b> No Change	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b> Very high Increase	N/A	Rating Average	Response Count
Ability to diversify	0	0	0	0	96	4	3	4	2	0	4	5.28	113
Water table /	1	1	2	3	98	1	1	1	1	0	4	4.96	113
Labour costs	0	2	11	13	79	3	1	1	0	0	3	4.70	113
Hours you work	0	9	44	9	42	2	2	2	0	0	3	3.98	113
Staff you employ	0	3	2	5	92	3	3	2	0	0	3	4.97	113
Adaptation to	0	0	0	5	9	11	41	37	5	2	2	7.08	112
Farm Inputs	0	4	19	13	65	4	4	2	0	0	2	4.59	113
Farm Outputs	0	0	1	0	22	34	23	19	9	3	2	6.68	113
Skills & knowledge	0	0	0	0	25	55	15	10	4	2	2	6.27	113
Skills & knowledge	0	0	0	0	30	55	20	5	1	0	2	6.03	113
<b>answered question</b>													<b>113</b>
<b>skipped question</b>													<b>1</b>

Figure 217: Q22 – All data (Table)

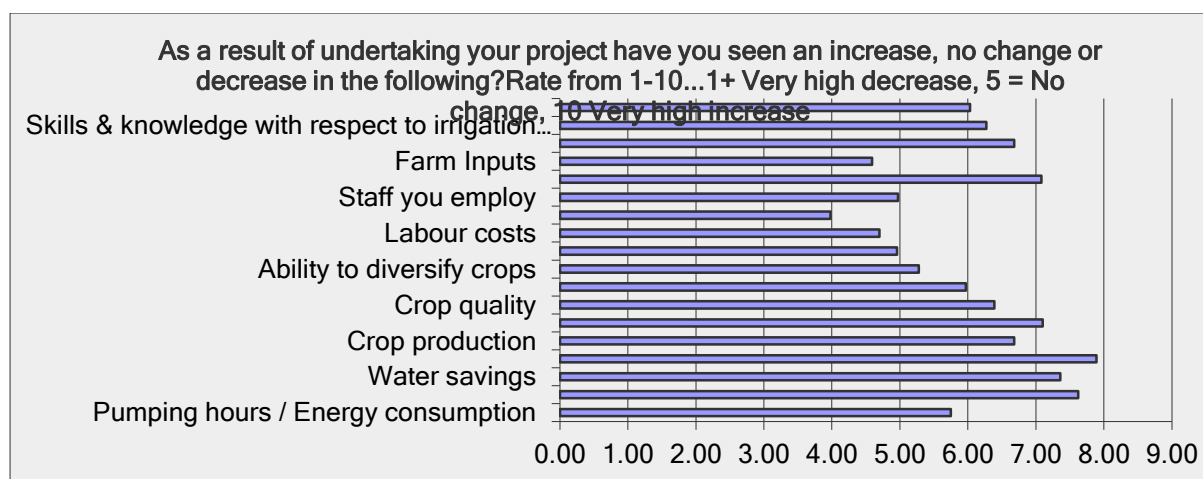


Figure 218: Q22 – All data (Chart)

## Round One

As a result of undertaking your project have you seen an increase, no change or decrease in the following? Rate from 1-10...1+ Very high decrease, 5 = No change, 10 Very high increase													
Answer Options	1 Very high decrease	2	3	4	5 No Change	6	7	8	9	10 Very high Increase	N/A	Rating Average	Response Count
Pumping hours / Energy consumption	0	0	6	2	3	2	2	1	3	0	0	5.37	19
Flexibility with scheduling	0	0	0	0	2	2	2	8	3	2	0	7.74	19
Water savings	0	0	0	1	1	1	7	6	3	0	0	7.32	19
Irrigation efficiency	0	0	0	1	0	3	6	3	3	3	0	7.63	19
Crop production	0	0	0	1	3	5	6	2	2	0	0	6.58	19
Crop evenness (Reduction in)	0	0	0	0	2	4	6	3	4	0	0	7.16	19
Crop quality	0	0	0	0	5	5	3	4	2	0	0	6.63	19
Ability to expand operation	0	0	0	0	10	2	3	2	1	0	1	6.00	19
Ability to diversify crops	0	0	0	0	15	0	2	1	0	0	1	5.39	19
Water table / perched levels	0	0	0	2	15	0	1	0	0	0	1	5.00	19

<b>Answer Options</b>	<b>1</b> Very high decrease	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b> No Change	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b> Very high Increase	<b>N/A</b>	<b>Rating Average</b>	<b>Response Count</b>
Labour costs	0	0	1	2	13	1	0	1	0	0	1	5.00	19
Hours you work	0	4	6	3	4	0	1	0	0	0	1	3.61	19
Staff you employ	0	1	0	0	14	2	1	0	0	0	1	5.06	19
Adaptation to varied climate	0	0	0	1	0	3	8	7	0	0	0	7.05	19
Farm Inputs	0	2	2	1	11	0	2	1	0	0	0	4.79	19
Farm Outputs	0	0	0	0	5	5	4	3	2	0	0	6.58	19
Skills & knowledge with respect to	0	0	0	0	3	9	4	2	1	0	0	6.42	19
Skills & knowledge with respect to	0	0	0	0	5	9	5	0	0	0	0	6.00	19
<b>answered question</b>													<b>19</b>
<b>skipped question</b>													<b>1</b>

Figure 219: Q22 – Round One (Table)

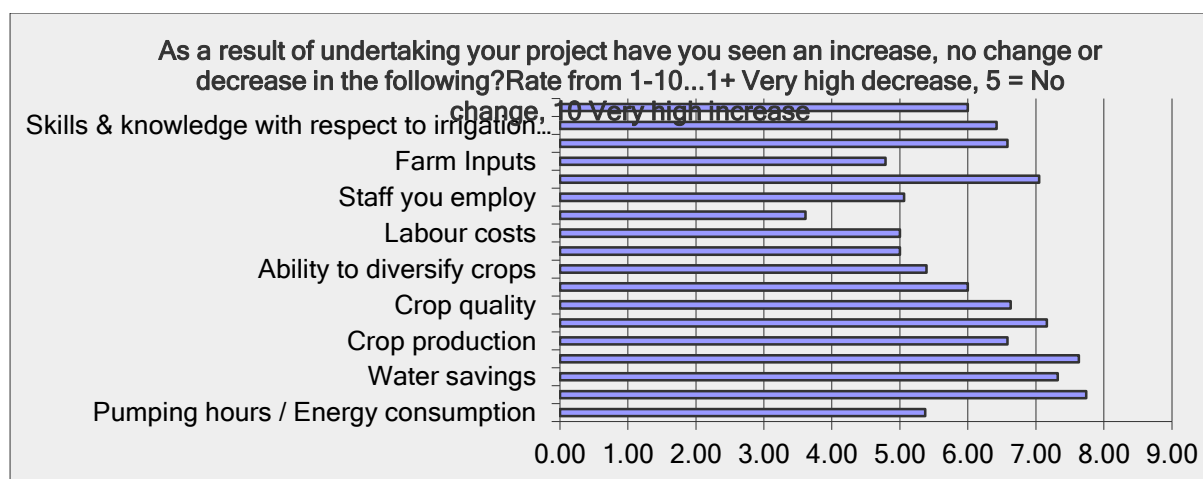


Figure 220: Q22 – Round One (Chart)

## Round Two

As a result of undertaking your project have you seen an increase, no change or decrease in the following? Rate from 1-10...1+ Very high decrease, 5 = No change, 10 Very high increase													
Answer Options	1 Very high decrease	2	3	4	5 No Change	6	7	8	9	10 Very high increase	N/A	Rating Average	Response Count
Pumping hours / Energy consumption	0	4	12	14	23	4	11	5	10	9	2	5.83	94
Flexibility with scheduling	0	1	1	0	9	10	11	32	22	5	2	7.59	93
Water savings	1	0	0	2	5	12	21	36	13	2	2	7.37	94
Irrigation efficiency	0	0	0	3	2	5	16	36	21	9	2	7.95	94
Crop production	0	0	0	3	24	16	19	17	7	5	3	6.70	94
Crop evenness (Reduction in)	0	0	0	0	20	14	17	22	14	4	3	7.09	94
Crop quality	0	0	0	0	30	25	20	9	5	2	3	6.34	94
Ability to expand operation	0	0	0	0	48	16	18	4	5	1	2	5.97	94
Ability to diversify crops	0	0	0	0	81	4	1	3	2	0	3	5.25	94
Water table / perched levels	1	1	2	1	83	1	0	1	1	0	3	4.96	94



<b>Answer Options</b>	<b>1</b> Very high decrease	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b> No Change	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b> Very high Increase	<b>N/A</b>	<b>Rating Average</b>	<b>Response Count</b>
Labour costs	0	2	10	11	66	2	1	0	0	0	2	4.64	94
Hours you work	0	5	38	6	38	2	1	2	0	0	2	4.05	94
Staff you employ	0	2	2	5	78	1	2	2	0	0	2	4.96	94
Adaptation to varied climate	0	0	0	4	9	8	33	30	5	2	2	7.09	93
Farm Inputs	0	2	17	12	54	4	2	1	0	0	2	4.55	94
Farm Outputs	0	0	1	0	17	29	19	16	7	3	2	6.70	94
Skills & knowledge with respect to	0	0	0	0	22	46	11	8	3	2	2	6.24	94
Skills & knowledge with respect to	0	0	0	0	25	46	15	5	1	0	2	6.03	94
<b>answered question</b>													<b>94</b>
<b>skipped question</b>													<b>0</b>

Figure 221: Q22 – Round Two (Table)

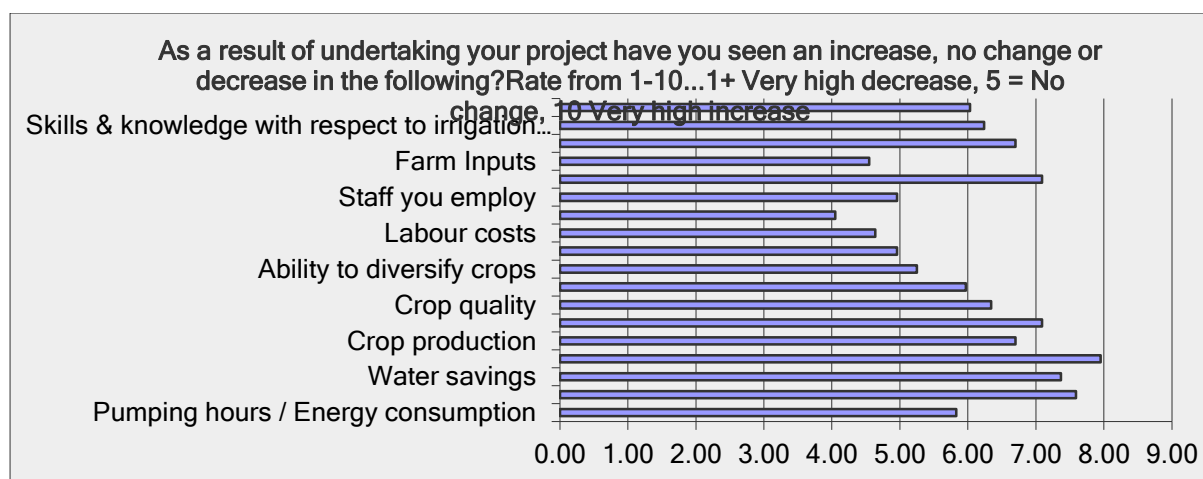


Figure 222: Q22 – Round Two (Chart)

### Dripper conversions only

As a result of undertaking your project have you seen an increase, no change or decrease in the following? Rate from 1-10...1+ Very high decrease, 5 = No change, 10 Very high increase													
Answer Options	1 Very high decrease	2	3	4	5 No Change	6	7	8	9	10 Very high Increase	N/A	Rating Average	Response Count
Pumping hours / Energy consumption	0	2	10	10	13	5	9	5	10	7	1	6.08	72
Flexibility with scheduling	0	1	1	0	4	8	8	28	17	3	1	7.66	71
Water savings	0	0	0	1	2	8	23	26	10	1	1	7.48	72
Irrigation efficiency	0	0	0	4	1	4	13	29	13	7	1	7.82	72
Crop production	0	0	0	3	17	10	19	12	6	3	2	6.71	72
Crop evenness (Reduction in Biennial bearing)	0	0	0	0	12	12	17	16	11	2	2	7.11	72
Crop quality	0	0	0	0	23	20	17	7	2	1	2	6.26	72
Ability to expand operations	0	0	0	0	37	12	15	4	3	0	1	5.93	72
Ability to diversify crops	0	0	0	0	62	2	1	3	2	0	2	5.30	72
Water table / perched levels	0	1	2	1	65	0	0	1	0	0	2	4.93	72
Labour costs	0	1	9	9	50	1	0	1	0	0	1	4.63	72
Hours you work	0	7	34	4	21	1	2	2	0	0	1	3.85	72
Staff you employ	0	2	0	4	61	2	0	2	0	0	1	4.97	72
Adaptation to varied climate conditions	0	0	0	5	7	4	25	25	2	2	1	7.03	71
Farm Inputs	0	3	17	10	36	2	2	1	0	0	1	4.38	72
Farm Outputs	0	0	1	0	9	22	18	15	4	2	1	6.79	72
Skills & knowledge	0	0	0	0	15	38	10	5	2	1	1	6.21	72

with respect to irrigation management													
Skills & knowledge with respect to business management	0	0	0	0	18	38	12	2	1	0	1	6.01	72
<b>answered question</b>													<b>72</b>
<b>skipped question</b>													<b>0</b>

Figure 223: Q22 – Dripper conversions only (Table)

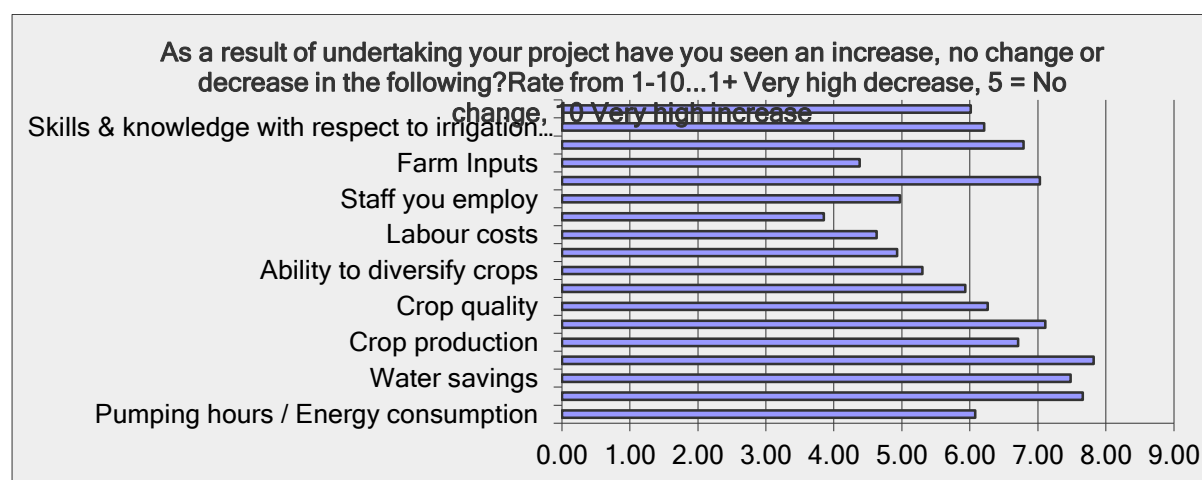


Figure 224: Q22 – Dripper conversions only (Chart)

### Wine grapes only

As a result of undertaking your project have you seen an increase, no change or decrease in the following? Rate from 1-10...1+ Very high decrease, 5 = No change, 10 Very high increase													
Answer Options	1 Very high decrease	2	3	4	5 No Change	6	7	8	9	10 Very high Increase	N/A	Rating Average	Response Count
Pumping hours / Energy consumption	0	3	16	4	22	5	10	6	10	7	2	5.88	85
Flexibility with scheduling	0	1	1	0	6	8	10	32	18	6	2	7.70	84
Water savings	0	0	0	2	4	9	21	32	14	1	2	7.48	85
Irrigation efficiency	0	0	0	1	2	3	21	29	17	10	2	8.00	85
Crop production	0	0	0	1	19	15	16	19	8	4	3	6.89	85
Crop evenness (Reduction in Biennial bearing)	0	0	0	0	10	14	16	22	17	3	3	7.38	85
Crop quality	0	0	0	0	23	23	19	12	4	1	3	6.44	85
Ability to expand operations	0	0	0	0	49	12	16	3	1	1	3	5.76	85
Ability to diversify crops	0	0	0	0	74	3	0	3	1	0	4	5.20	85
Water table / perched levels	1	1	2	3	71	1	1	1	0	0	4	4.90	85
Labour costs	0	1	8	10	62	1	0	0	0	0	3	4.66	85
Hours you work	0	8	37	5	29	2	1	0	0	0	3	3.79	85
Staff you employ	0	2	0	4	73	2	0	1	0	0	3	4.94	85
Adaptation to varied climate conditions	0	0	0	2	7	10	26	33	2	2	2	7.16	84
Farm Inputs	0	3	19	10	46	2	1	2	0	0	2	4.43	85
Farm Outputs	0	0	1	0	13	27	17	15	7	3	2	6.77	85
Skills & knowledge	0	0	0	0	17	45	8	9	3	1	2	6.27	85

with respect to irrigation management													
Skills & knowledge with respect to business management	0	0	0	0	21	45	13	4	0	0	2	6.00	85
<b>answered question</b>													<b>85</b>
<b>skipped question</b>													<b>0</b>

Figure 225: Q22 – Wine grapes only (Table)

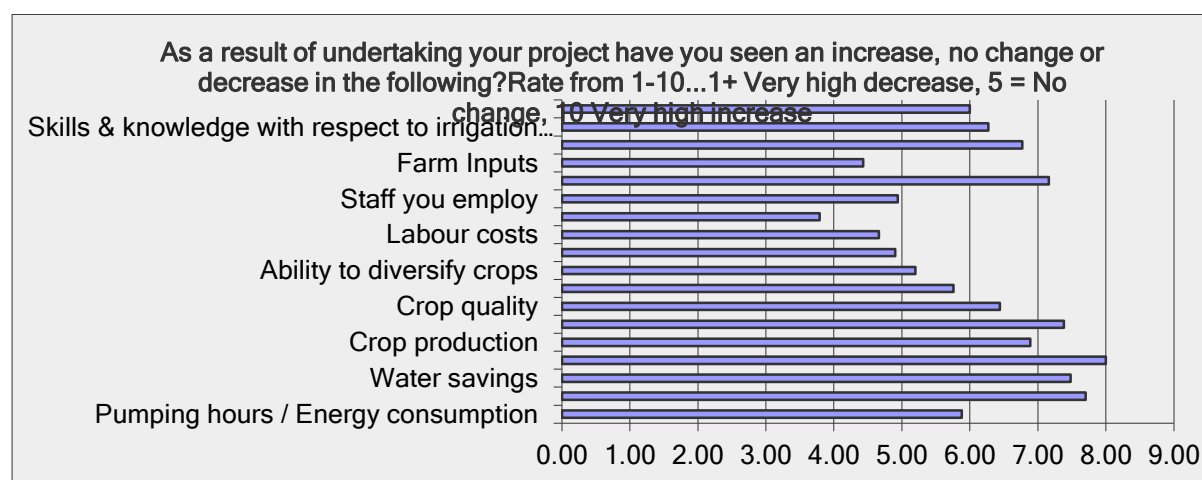


Figure 226: Q22 – Wine grapes only (Chart)

### Citrus only

As a result of undertaking your project have you seen an increase, no change or decrease in the following? Rate from 1-10...1+ Very high decrease, 5 = No change, 10 Very high increase													
Answer Options	1 Very high decrease	2	3	4	5 No Change	6	7	8	9	10 Very high Increase	N/A	Rating Average	Response Count
Pumping hours / Energy consumption	0	1	5	7	5	1	5	3	3	0	0	5.40	30
Flexibility with scheduling	0	0	1	0	2	5	4	14	4	0	0	7.30	30
Water savings	0	0	0	1	1	1	13	10	4	0	0	7.40	30
Irrigation efficiency	0	0	0	3	1	1	6	9	8	2	0	7.63	30
Crop production	0	0	0	3	9	6	6	4	2	0	0	6.17	30
Crop evenness (Reduction in Biennial bearing)	0	0	0	0	8	9	6	6	1	0	0	6.43	30
Crop quality	0	0	0	0	12	8	9	1	0	0	0	5.97	30
Ability to expand operations	0	0	0	0	13	4	10	1	2	0	0	6.17	30
Ability to diversify crops	0	0	0	0	22	4	1	2	1	0	0	5.53	30
Water table / perched levels	0	0	0	2	26	1	0	0	0	0	1	4.97	30
Labour costs	0	0	6	5	14	3	0	1	0	0	1	4.62	30
Hours you work	0	2	10	4	8	1	2	2	0	0	1	4.34	30
Staff you employ	0	2	2	1	22	2	0	0	0	0	1	4.69	30
Adaptation to varied climate conditions	0	0	0	3	2	2	12	9	1	0	0	6.86	29
Farm Inputs	0	2	2	4	17	2	2	1	0	0	0	4.83	30
Farm Outputs	0	0	1	0	8	7	7	7	0	0	0	6.33	30
Skills & knowledge	0	0	0	0	8	15	4	2	0	1	0	6.13	30

with respect to irrigation management													
Skills & knowledge with respect to business management	0	0	0	0	8	16	4	1	1	0	0	6.03	30
<b>answered question</b>													<b>30</b>
<b>skipped question</b>													<b>0</b>

Figure 227: Q22 – Citrus only (Table)

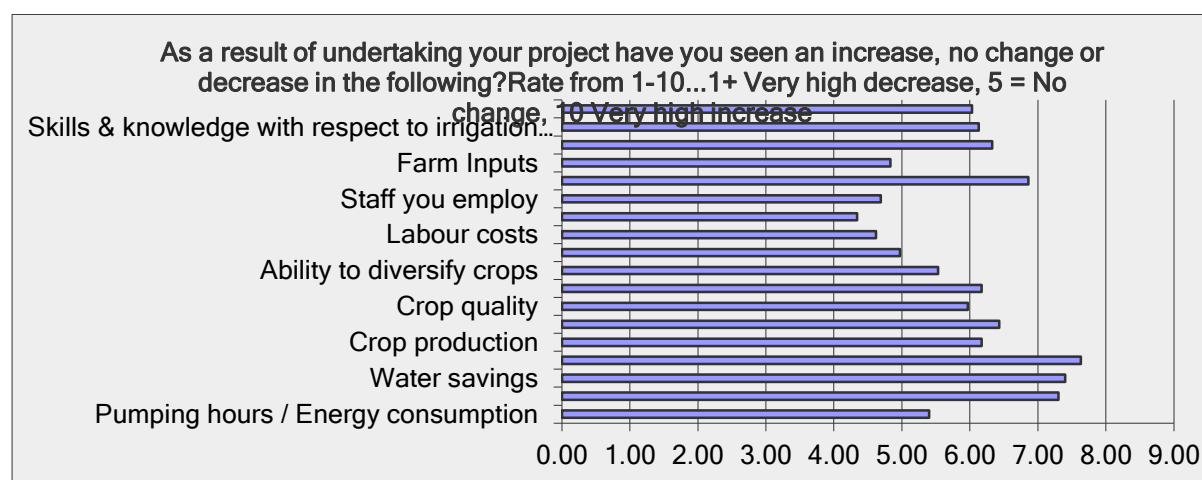


Figure 228: Q22 – Citrus only (Chart)



### Almonds only

As a result of undertaking your project have you seen an increase, no change or decrease in the following? Rate from 1-10...1+ Very high decrease, 5 = No change, 10 Very high increase													
Answer Options	1 Very high decrease	2	3	4	5 No Change	6	7	8	9	10 Very high Increase	N/A	Rating Average	Response Count
Pumping hours / Energy consumption	0	1	0	6	2	1	0	1	1	1	0	5.31	13
Flexibility with scheduling	0	0	0	0	1	0	2	4	6	0	0	8.08	13
Water savings	0	0	0	0	1	4	0	5	2	1	0	7.46	13
Irrigation efficiency	0	0	0	0	0	3	1	6	2	1	0	7.77	13
Crop production	0	0	0	0	4	2	4	0	2	1	0	6.77	13
Crop evenness (Reduction in Biennial bearing)	0	0	0	0	4	1	4	1	2	1	0	6.92	13
Crop quality	0	0	0	0	4	5	1	1	1	1	0	6.46	13
Ability to expand operations	0	0	0	0	5	3	2	1	2	0	0	6.38	13
Ability to diversify crops	0	0	0	0	11	0	0	2	0	0	0	5.46	13
Water table / perched levels	0	0	0	0	12	0	0	0	1	0	0	5.31	13
Labour costs	0	1	1	2	8	0	1	0	0	0	0	4.62	13
Hours you work	0	1	2	3	7	0	0	0	0	0	0	4.23	13
Staff you employ	0	1	0	0	11	0	0	1	0	0	0	5.00	13
Adaptation to varied climate conditions	0	0	0	0	2	0	6	2	2	0	0	7.17	12
Farm Inputs	0	1	0	1	10	0	0	1	0	0	0	4.92	13
Farm Outputs	0	0	1	0	3	3	1	3	2	0	0	6.54	13
Skills & knowledge	0	0	0	0	4	4	2	2	1	0	0	6.38	13

with respect to irrigation management													
Skills & knowledge with respect to business management	0	0	0	0	5	3	3	2	0	0	0	6.15	13
<b>answered question</b>													<b>13</b>
<b>skipped question</b>													<b>0</b>

Figure 229: Q22 – Almonds only (Table)

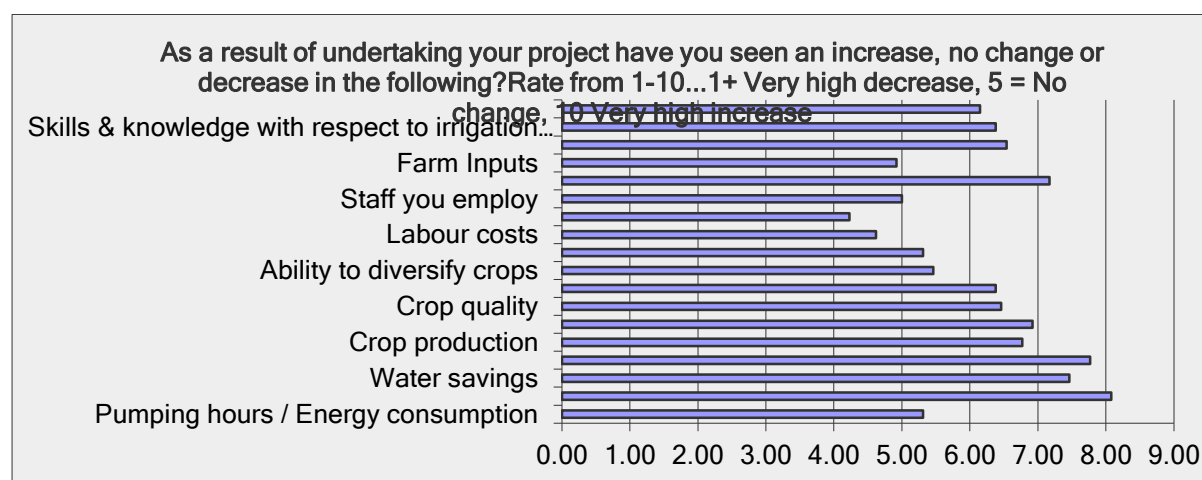


Figure 230: Q22 – Almonds only (Chart)

### Sub-question-Pumping hours/energy consumption

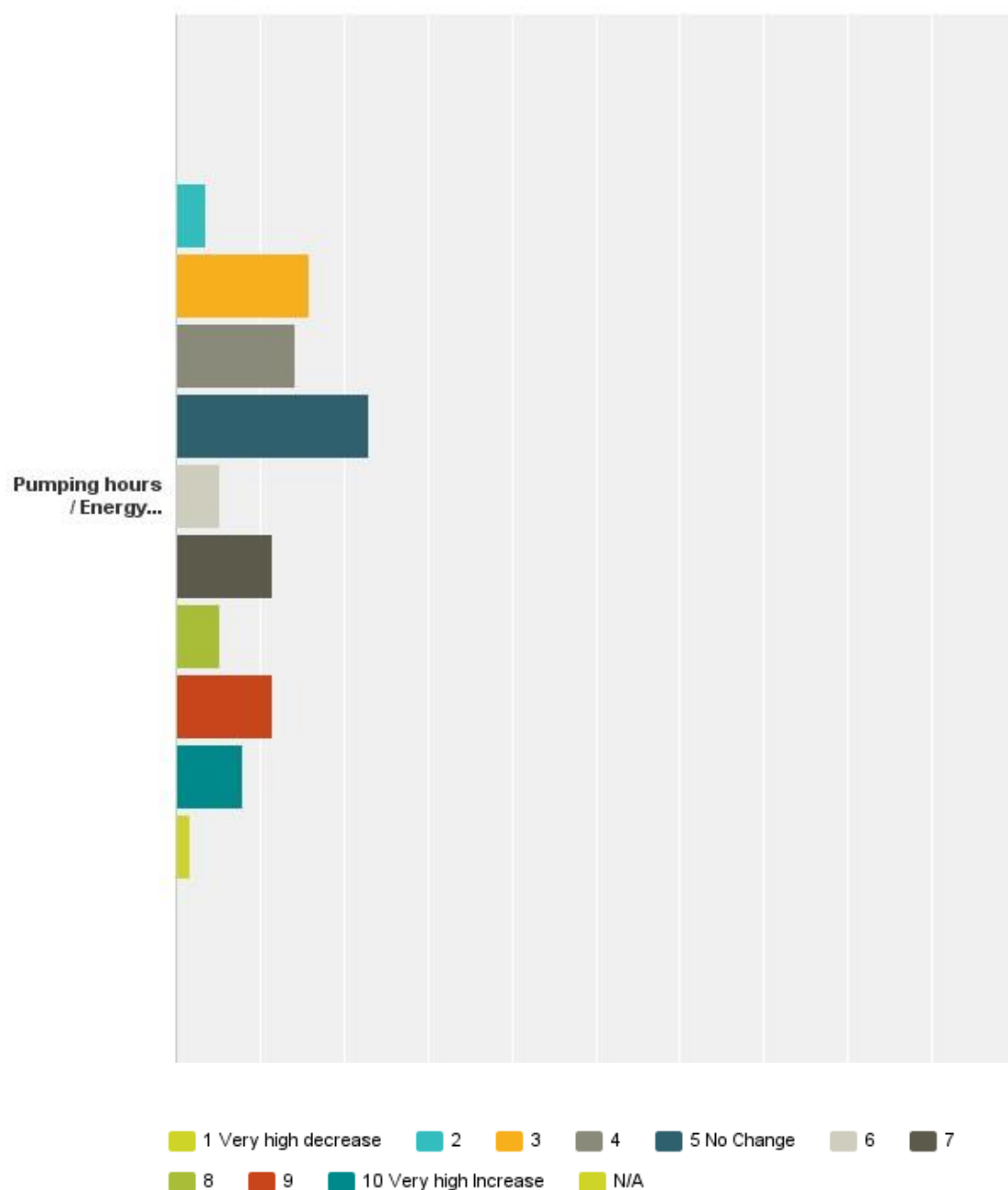


Figure 231: Q22 – All data *Pumping hours/Energy consumption* (Chart)

### Progress to target

07: Energy consumption is reduced by 10% post project implementation

As all commodities through each round eventuated in an increase in energy consumption, this MAT has not been achieved to date.

### Growers' comments

Many growers have been surprised by the increase in energy consumption on their properties. Many have either installed solar systems or are looking at this option to offset increasing power

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Produced by Leighton Pearce, Growing Solutions

consumption and costs. Growers most affected appear to be growers in the Renmark Irrigation Trust area that previously used gravity fed systems, and are now required to pump water to irrigate crops.

### Summary

Through rounds one and two, the growers have seen an increase in their energy consumption; this result has been primarily driven by the farmers who upgraded to dripper systems. Many of these growers had little or no pumping costs prior to the project implementation and now are required to pump, to irrigate their crops. This trend continued across all commodities despite the system upgrade installed. On average, across all rounds, the growers have indicated an increase in power consumption of 15%.

### Sub-question-Flexibility with scheduling

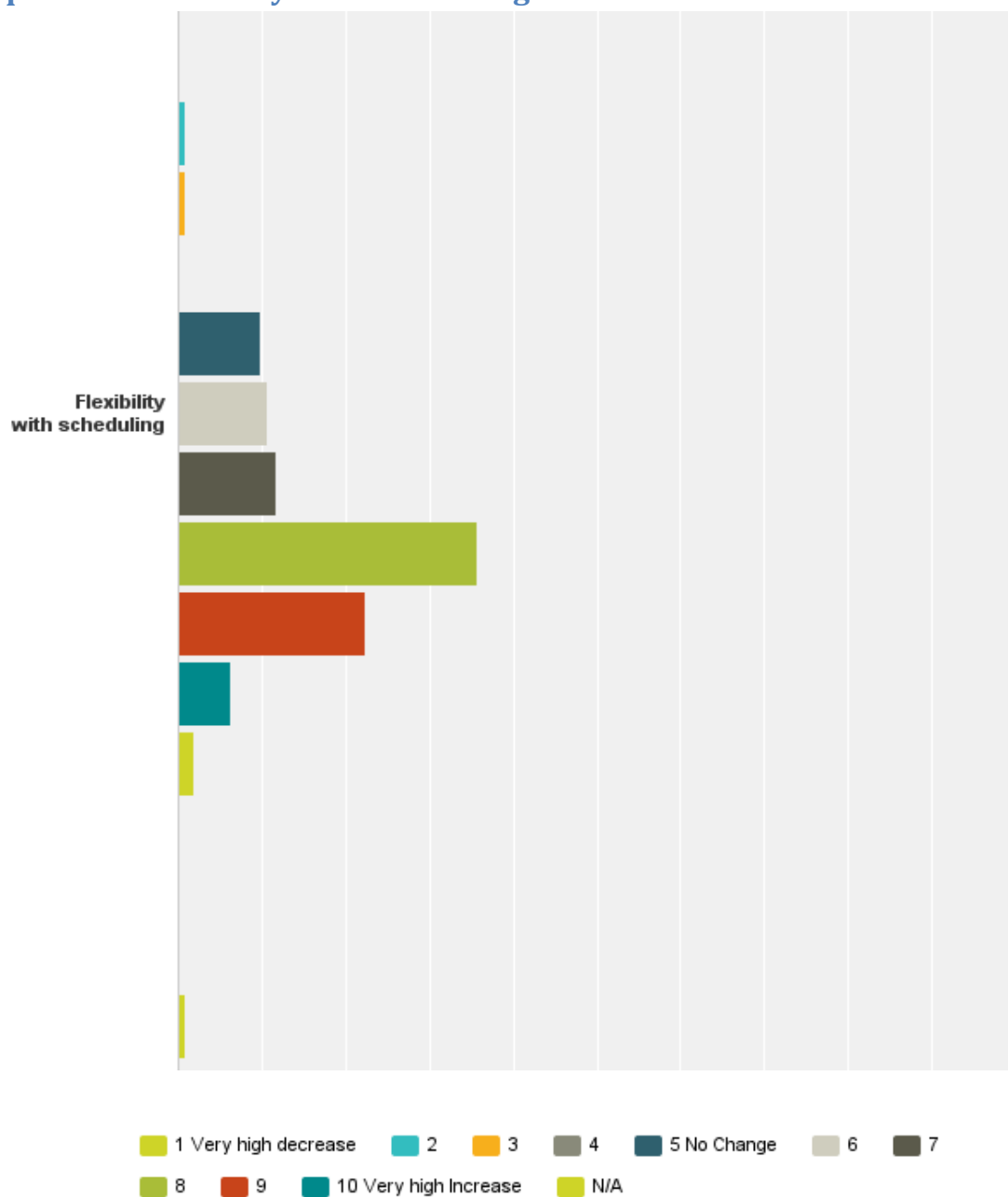


Figure 232: Q22 – All data *Flexibility with scheduling* (Chart)

### Progress to target

02: Irrigation water use efficiency is increased by 20% post project implementation

Although not directly related to water use efficiency, growers have indicated up to 60% increase in irrigation flexibility.

### **Growers' comments**

The growers indicated much more flexibility with their irrigation systems post project implementation. This flexibility has provided growers with more time at home, increased opportunities for holidays and greater flexibility throughout the irrigation season.

### **Summary**

The growers have indicated that they have significantly increased their flexibility with irrigation scheduling post project implementation by as much as 60% and over all commodities, all rounds and with different project scopes. There were very few responses that indicated that they now have a decrease in irrigation flexibility.

### Sub-question-Water savings

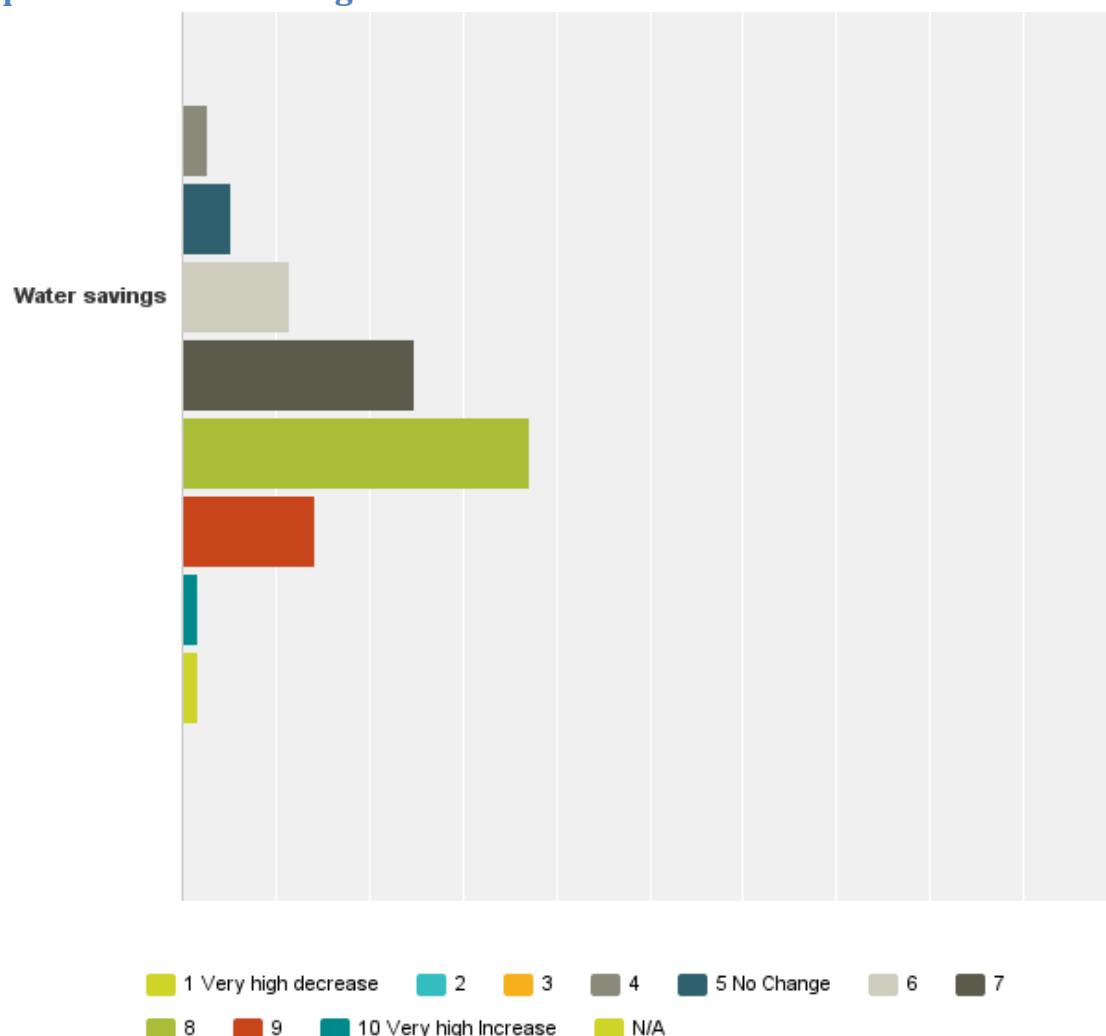


Figure 233: Q22 – All data *Water savings* (Chart)

### Progress to target

O2: Irrigation water efficiency is increased by 20% post project implementation

O6: 1,800 ML of water savings are generated through project implementation OR

15% of project water savings are retained by irrigators to increase business flexibility and management capacity

W1.6: 90% of the irrigated are achieving WUE as prescribed by the relevant WAP by 2014

Although the survey has measured grower opinions, each of the above action targets is linked to the grower's response to this survey question. With the high level of water savings experienced by the growers, irrigation efficiency, water savings and water use efficiency are all being increased significantly.

### **Growers' comments**

Despite extreme heat waves through the Summer of 2013/14, growers have indicated water savings compared to previous irrigation systems under outdated irrigation systems.

### **Summary**

With respect to water savings, the growers indicated that they have seen high water savings (up to an Av 7.36 out of 10) across all rounds, commodities and project scopes. Very few growers indicated that they were using increased amounts of water post project implementation.



### Sub-question-Irrigation efficiency

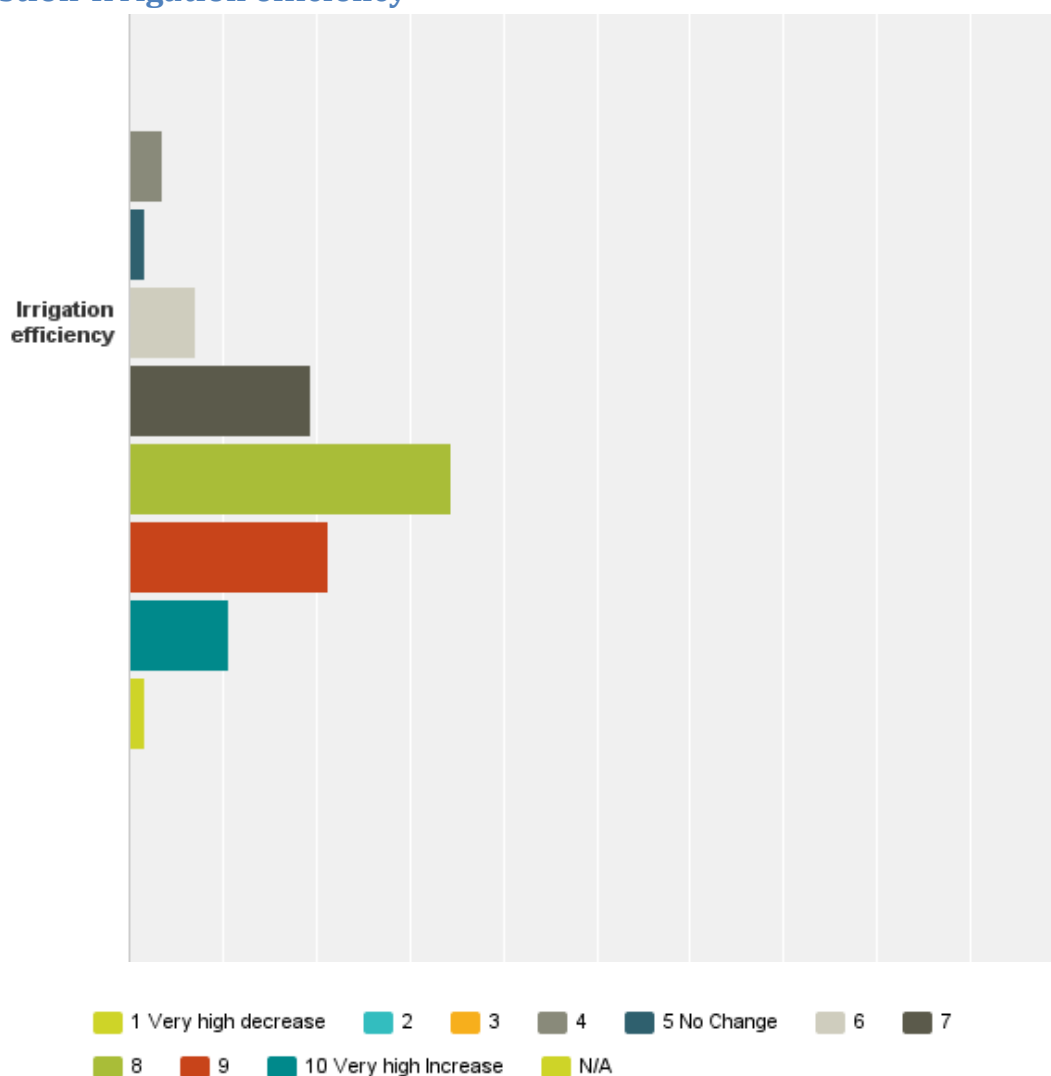


Figure 234: Q22 – All data *Irrigation Efficiency* (Chart)

### Progress to target

02: Irrigation water use efficiency is increased by 20% post project implementation

W1.6: 90% of the irrigated area achieving WUE as prescribed by the relevant WAP by 2014

Irrigators with increased knowledge & capacity to further improve irrigation systems

Irrigators with increased capacity to manage reduced water availability

Although this is not a calculation for water use efficiency, growers have indicated significant increases in irrigation efficiency.

### **Growers' comments**

Growers have indicated that they spend significantly less time repairing systems compared to pre-project implementation. They are also getting more even watering patterns throughout their properties, which is also having a positive effect on crops.

### **Summary**

The majority of growers have indicated significant increases in irrigation efficiency, with up to 80% increases for each round, commodity and project scope.

### Sub-question-Crop production

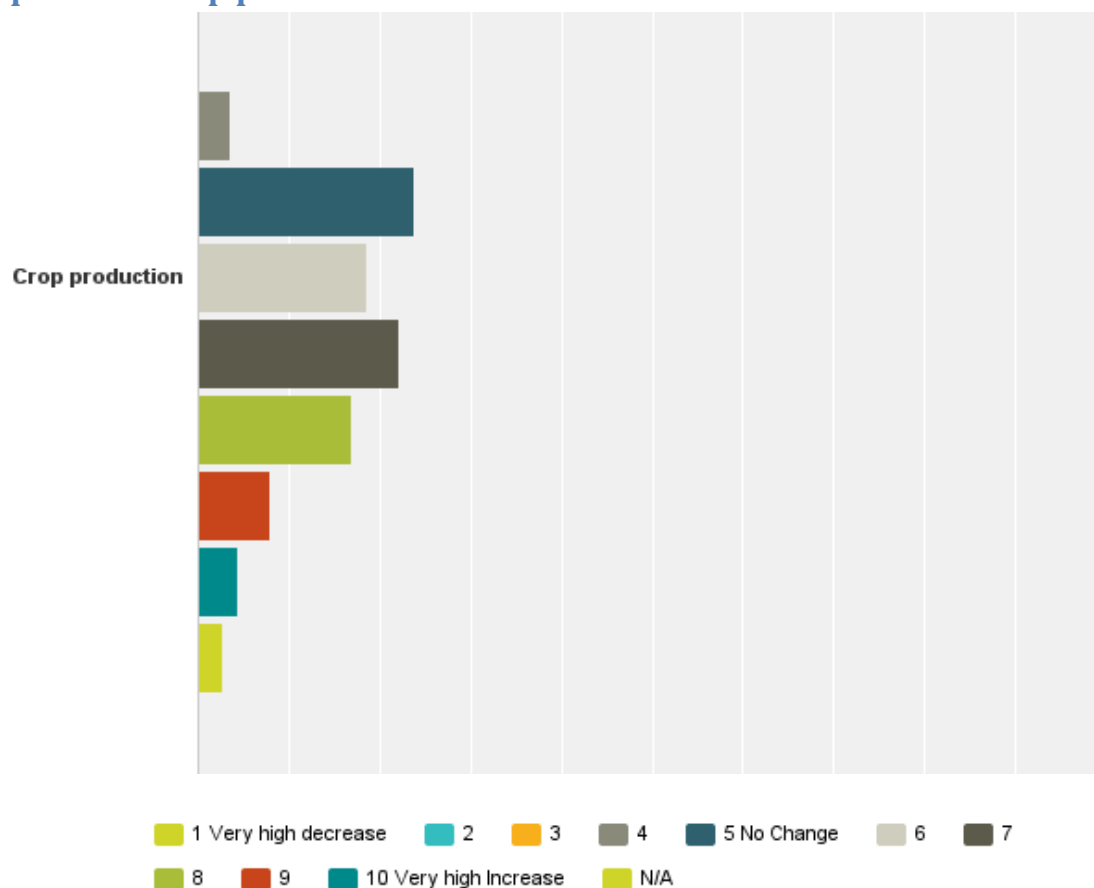


Figure 235: Q22 – All data *Crop production* (Chart)

### Progress to target

03: Farm productivity is increased by 10% post project implementation

This MAT has been achieved and will continue to grow as the irrigation systems settle in and the growers become increasingly aware of how to effectively and efficiently utilise their new improved systems over time.

### Growers' comments

The majority of growers have indicated that crop production has increase post project implementation.

### Summary

Although many growers have indicated that crop production is up by as much as 30% post project implementation across all rounds, commodities and project scopes, given there has been a relatively brief period of time since the implementation of the project, data from further irrigating seasons will be needed to quantify this.

### Sub-question-Crop evenness (reduction in biennial bearing)

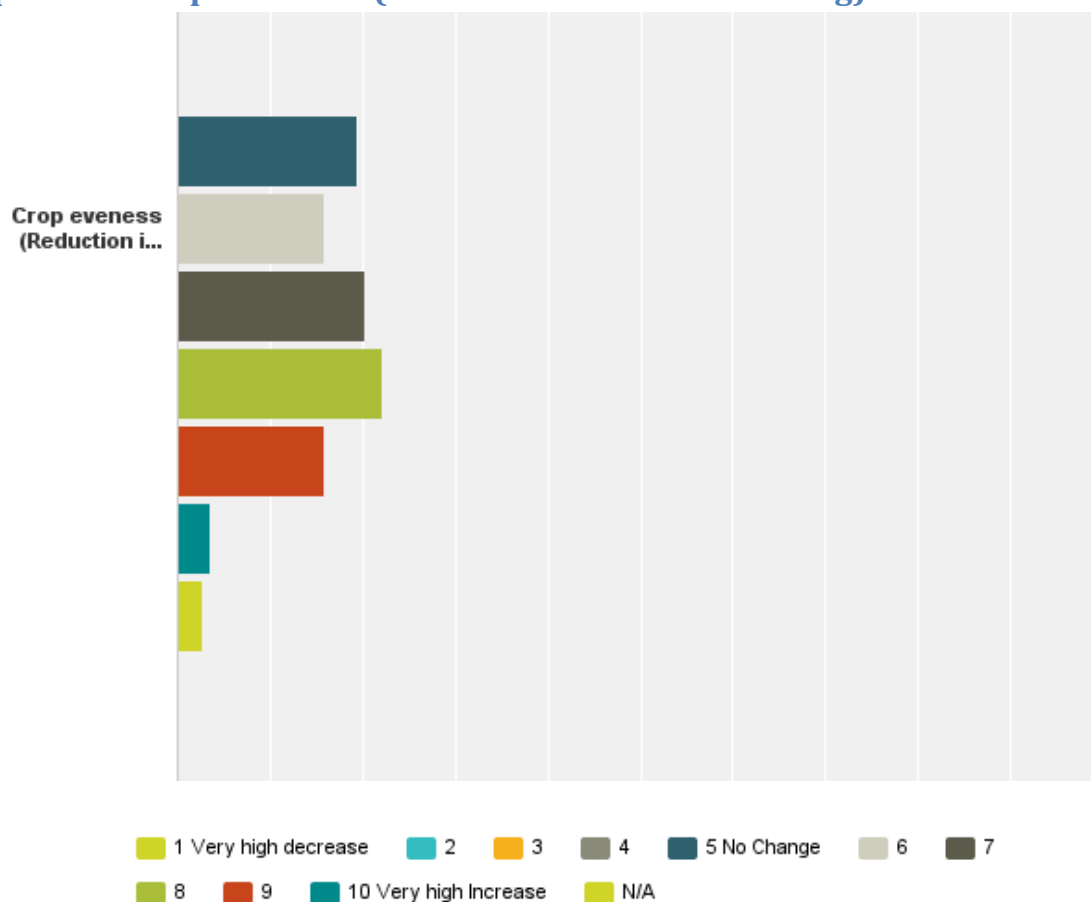


Figure 236: Q22 – All data *Crop evenness* (Chart)

### Progress to target

This question does not align to any of the MAT's.

### Growers' comments

Many growers (wine grapes) that indicated no increase in crop production indicated more even crops due to the new irrigation systems. Citrus growers were also indicating more even crops and a reduction in biennial bearing.

### Summary

More so than crop production, growers have indicated significantly more even crop throughout their properties. This is evident across all rounds, project scopes and commodities. No growers across all surveys indicated a more uneven crop post project implementation.

### Sub-question-Crop quality

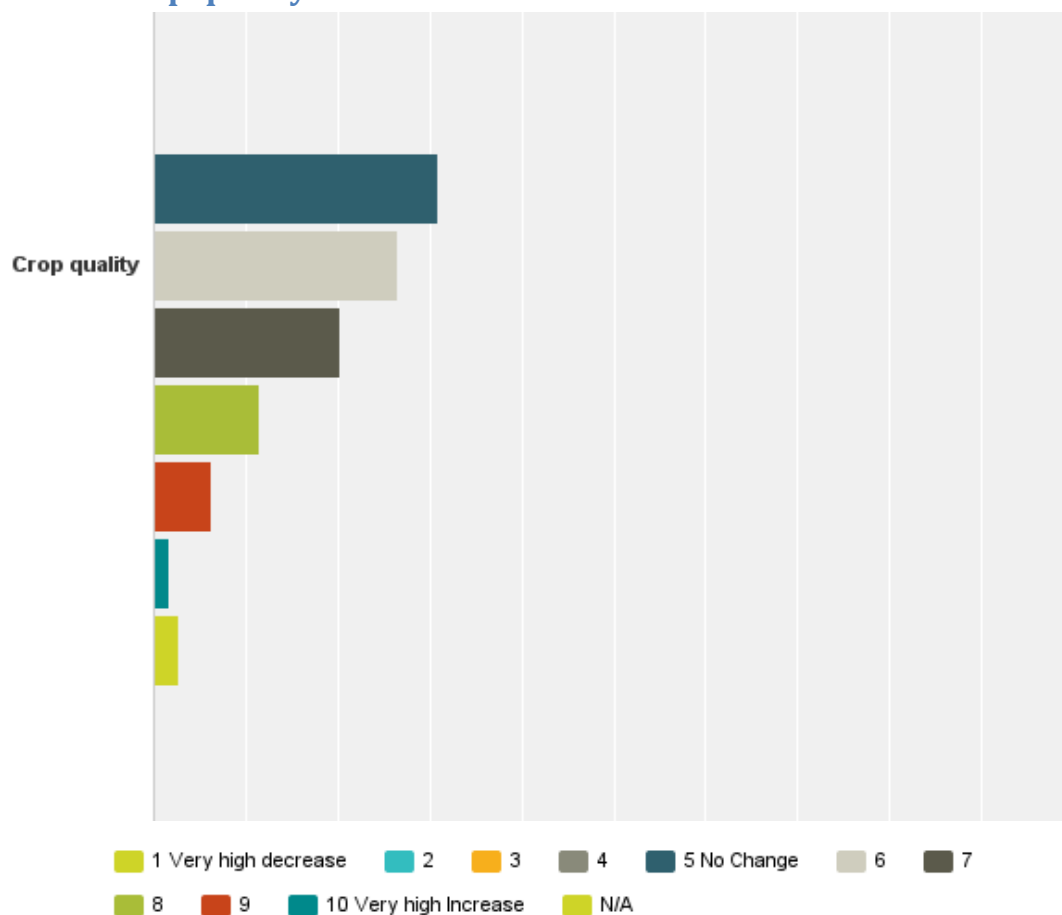


Figure 237: Q22 – All data *Crop quality* (Chart)

### Progress to target

This question does not align to any of the MAT's.

### Growers' comments

Crop quality is difficult to measure, and very few growers had made any correlations between crop quality and irrigation systems at this stage.

### Summary

The majority of growers indicated slight increases in crop quality across all commodities, rounds and project scopes.

### Sub-question-Ability to expand operations

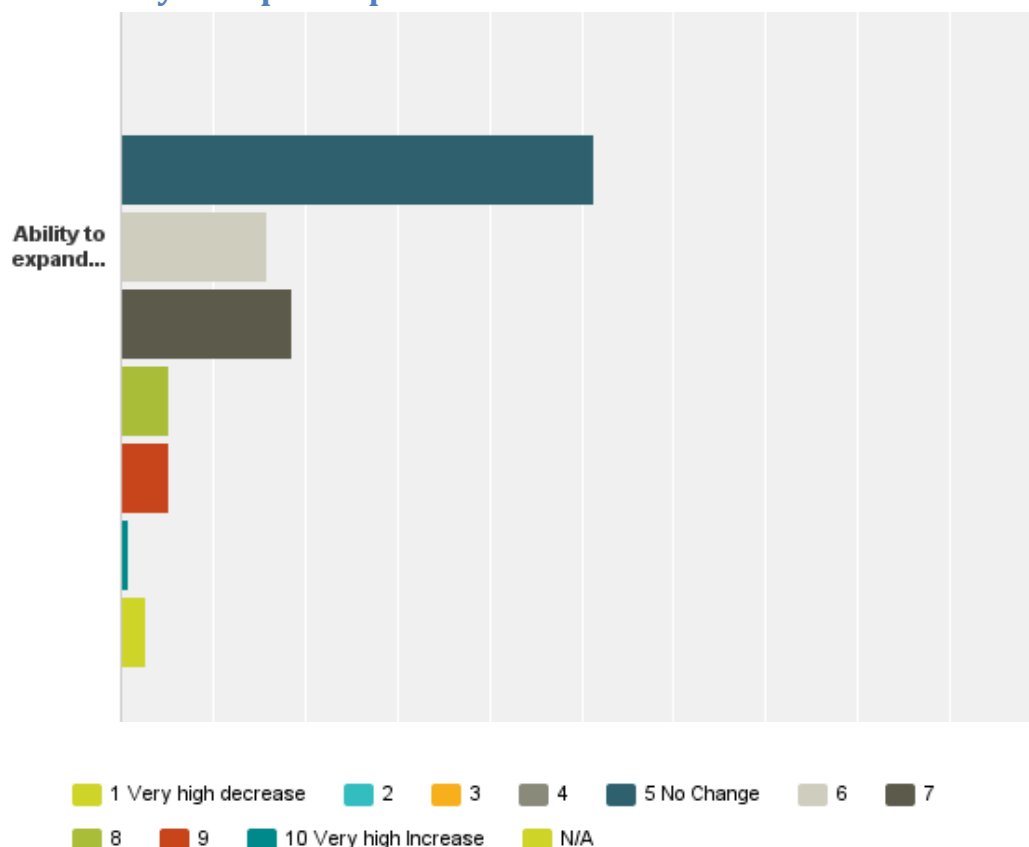


Figure 238: Q22 – All data *Ability to expand operations* (Chart)

### Progress to target

06: 15% of project water savings are retained by irrigators to increase business feasibility and management capacity

Irrigators with increased capacity & flexibility to make business improvements

This result should play some role toward achieving the MAT above indirectly.

### Growers' comments

Although it was not recorded throughout the survey, the average age of growers surveyed would have been between 60-65. Many of these growers indicated that they are looking to retire rather than expand, so hence would see no change in their current holdings.

### Summary

The growers indicated a slight opportunity to expand their operations due to the implementation of the on farm irrigation efficacy programs round 1 & 2. No grower indicated they are less likely to have the ability to reduce operations. This trend was evident across both rounds 1 & 2, all commodities and all project scopes.

### Sub-question-Ability to diversify crops

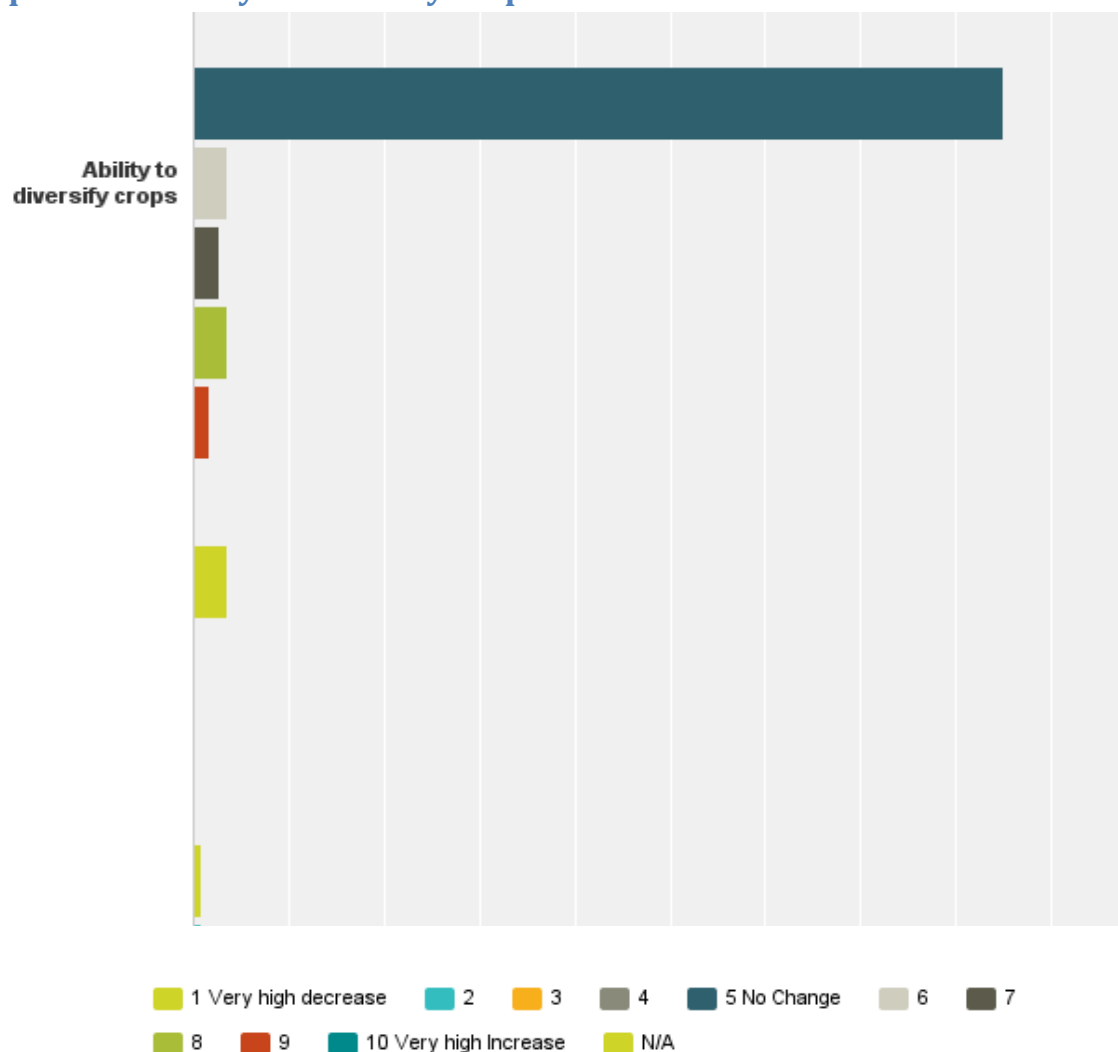


Figure 239: Q22 – All data *Ability to diversify crops* (Chart)

### Progress to target

Irrigators with increased capacity & flexibility to make business improvements

Irrigators with increased capacity to manage reduced water availability

Indirectly this result would contribute toward the attaining of these MAT's.

### Growers' comments

Again, due the age of many of the growers, they indicated no change in crop diversity due to potential retirement plans.

### Summary

Across all rounds, commodities and project scope, growers displayed little interest in diversifying their crops as a result of the irrigation system. The majority of growers wanted to stick with what they know best.

### Sub-question-Water table/perched levels

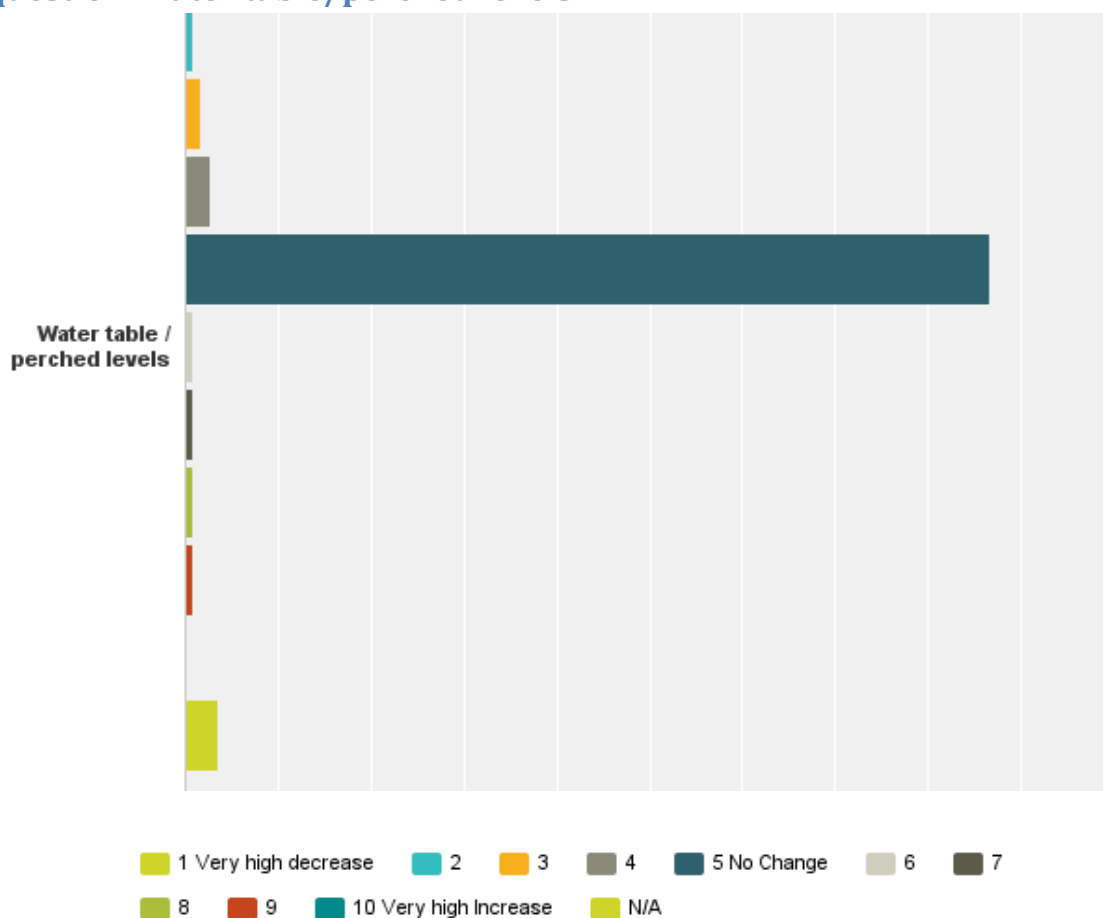


Figure 240: Q22 – All data *Water table/perched levels* (Chart)

### Progress to target

01: Regional groundwater levels show a declining trend

W1.4: Minimise impacts of irrigation induced saline groundwater flows to water or ecosystem assets

Of the growers that stated that they had a water table issue pre project implementation, all indicated that they have seen a decrease in the water table level post project implementation.

### Summary

The majority of growers indicated no change in water table level due to not having a water table issue pre project implementation, although those growers that did have water table issues pre project implementation did see significant decreases in water table level post project implementation.



### Sub-question-Labour costs

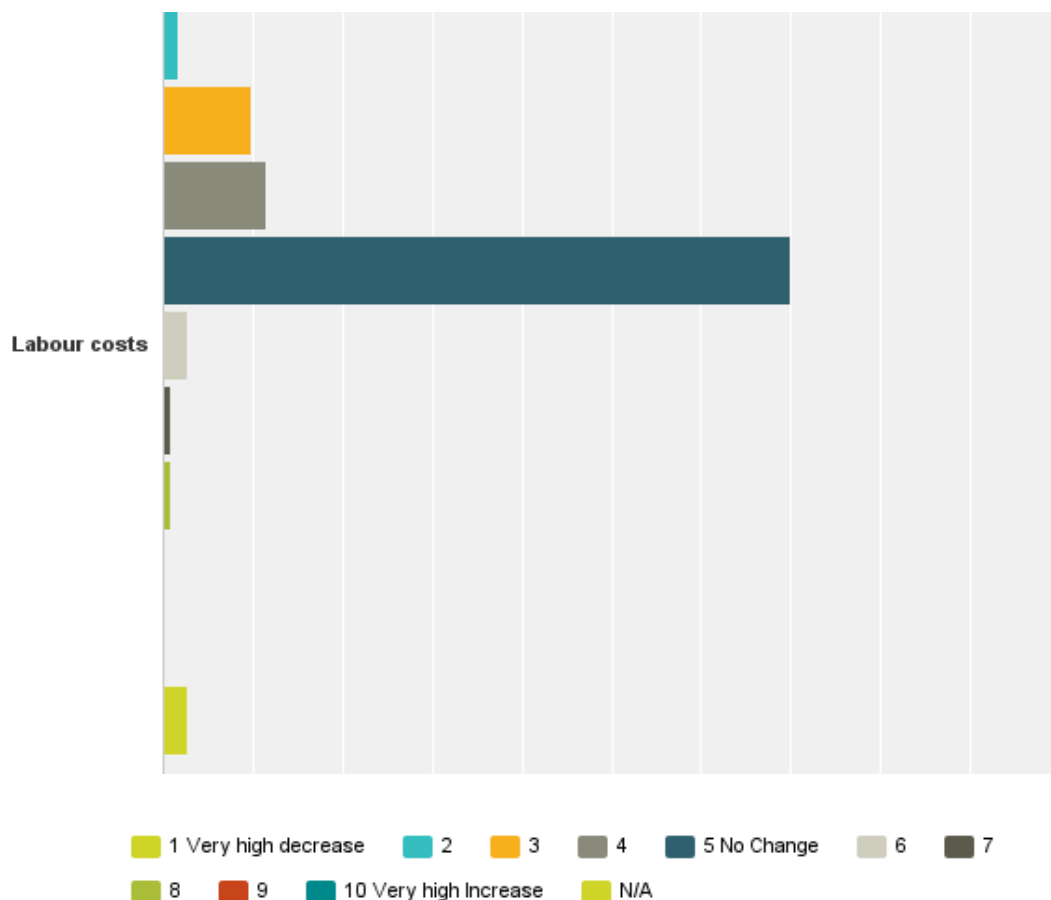


Figure 241: Q22 – All data *Labour costs* (Chart)

### Progress to target

05: A 5% increase in employment levels is achieved through project implementation

Labour cost have slightly decreased, due to less spraying, slashing etc. on blocks for growers that employ staff. Very few growers indicated that their new systems require more labour/staff.

### Growers' comments

Many of the growers who were surveyed do not employ staff, carrying out all maintenance and property work on their own, hence their labour costs were minimal prior to the project implementation. However, the following question on hours worked indicates less time is being spent working the block.

### Summary

On average, the majority of growers have had a very slight decrease in labour costs as a result of the projects. This would be expected as the majority of growers work alone on their block. A future question to provide further information may enquire about the number of staff the grower employs prior to the project and post project implementation.

### Sub-question-Hours you work

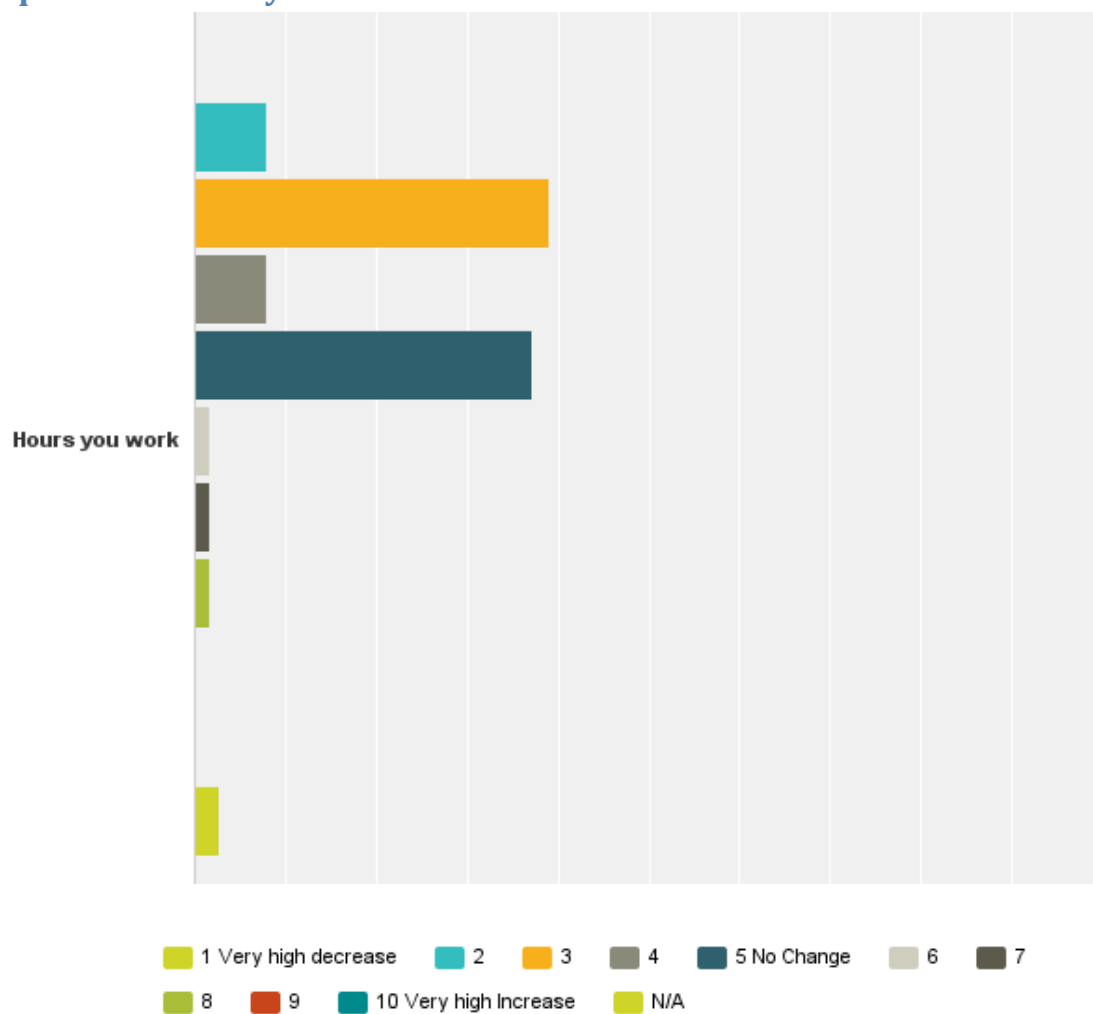


Figure 242: Q22 – All data *Hours you work* (Chart)

### Progress to target

This question does not align to any of the MAT's.

### Growers' comments

Growers commented on having increased free time, more time for holidays and a lot less time monitoring old irrigation systems.

### Summary

Following on from the previous question, the growers indicated that they are working less hours across all rounds, commodities and project scopes.

### Sub-question-Staff you employ

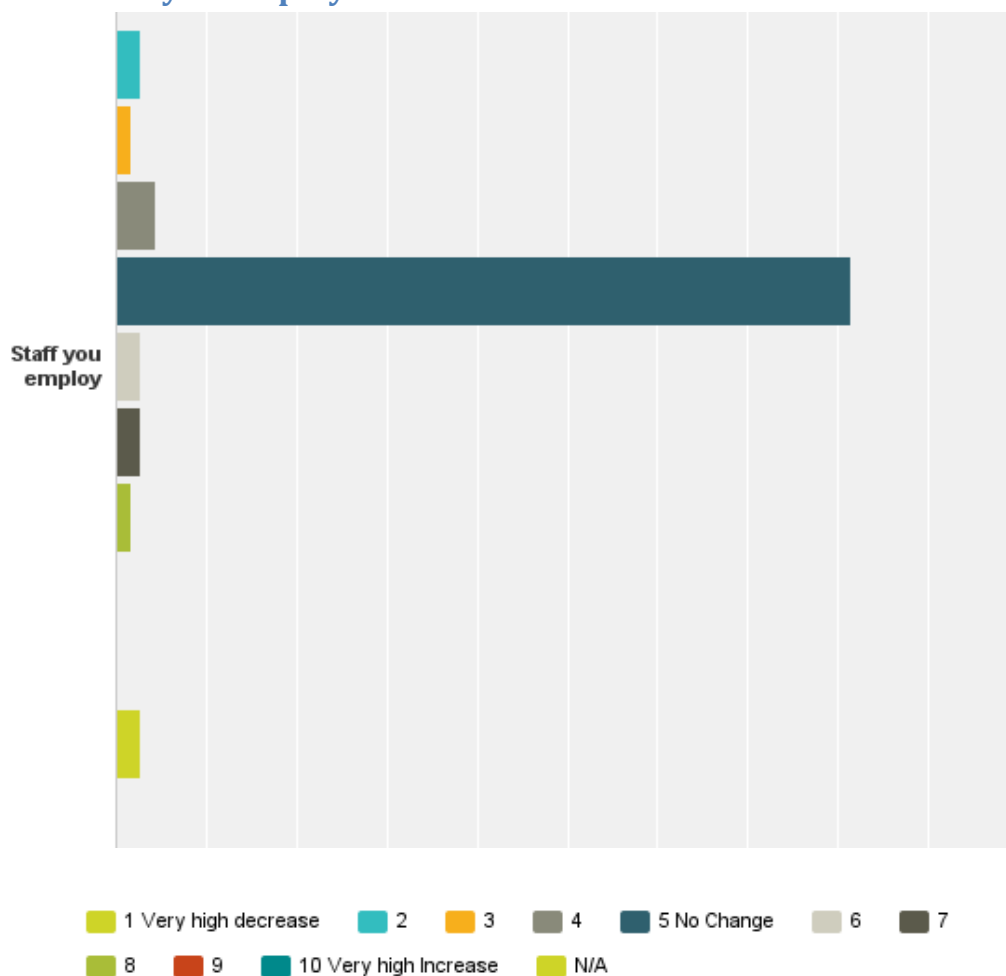


Figure 243: Q22 – All data *Staff you employ* (Chart)

### Progress to target

O5: A 5% increase in employment levels is achieved through project implementation

This is difficult to quantify through the responses collected, although the average result indicates a slight decrease in employment across the industry, which negatively impacts on achieving the above target.

### Summary

As detailed prior to this question, it would be ideal to quantify this question pre and post project implementation. Generally, the growers indicated no change in the staff they employ, as in the majority of cases they are not employing staff, but rather doing the majority of work themselves.

### Sub-question-Adaptation to varied climate conditions

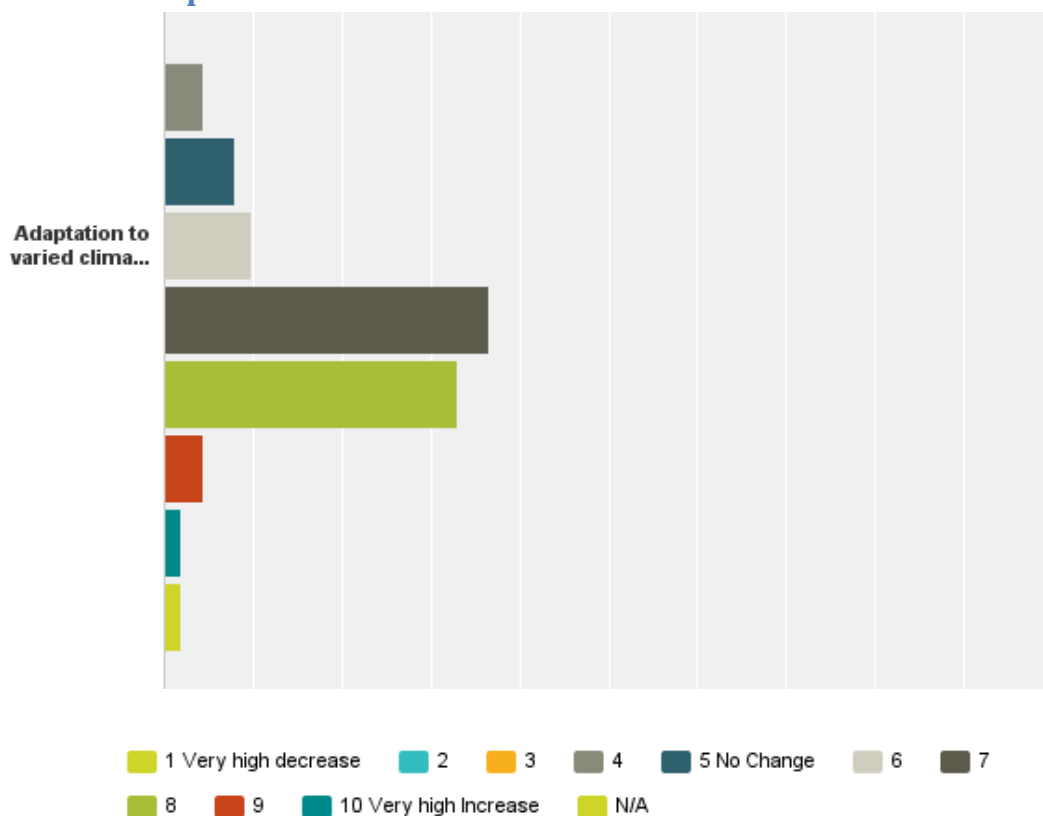


Figure 244: Q22 – All data *Adaptation to varied climate conditions* (Chart)

### Progress to target

A2.1: 25% of natural resource managers incorporating climate change adaption into their forward planning or management by 2014

A2: 100% of natural resource managers incorporating climate change adaption into their forward planning or management by 2030

With respect to the above MAT, this response significantly aids in the achievement of these MAT's, with the majority of growers planning scheduling around extreme weather conditions.

### Growers' comments

Growers in general were now more aware of watching 7 day forecasts and planning for extreme events due to the increased reliance on dripper systems.

### Summary

The majority of growers felt better equipped to adapt to varied climate conditions as a result of the program; this was evident across all commodities, project scopes and rounds. Very few growers felt that they were less prepared to adapt to varied climate conditions as a result of the program.

### Sub-question-Farm inputs

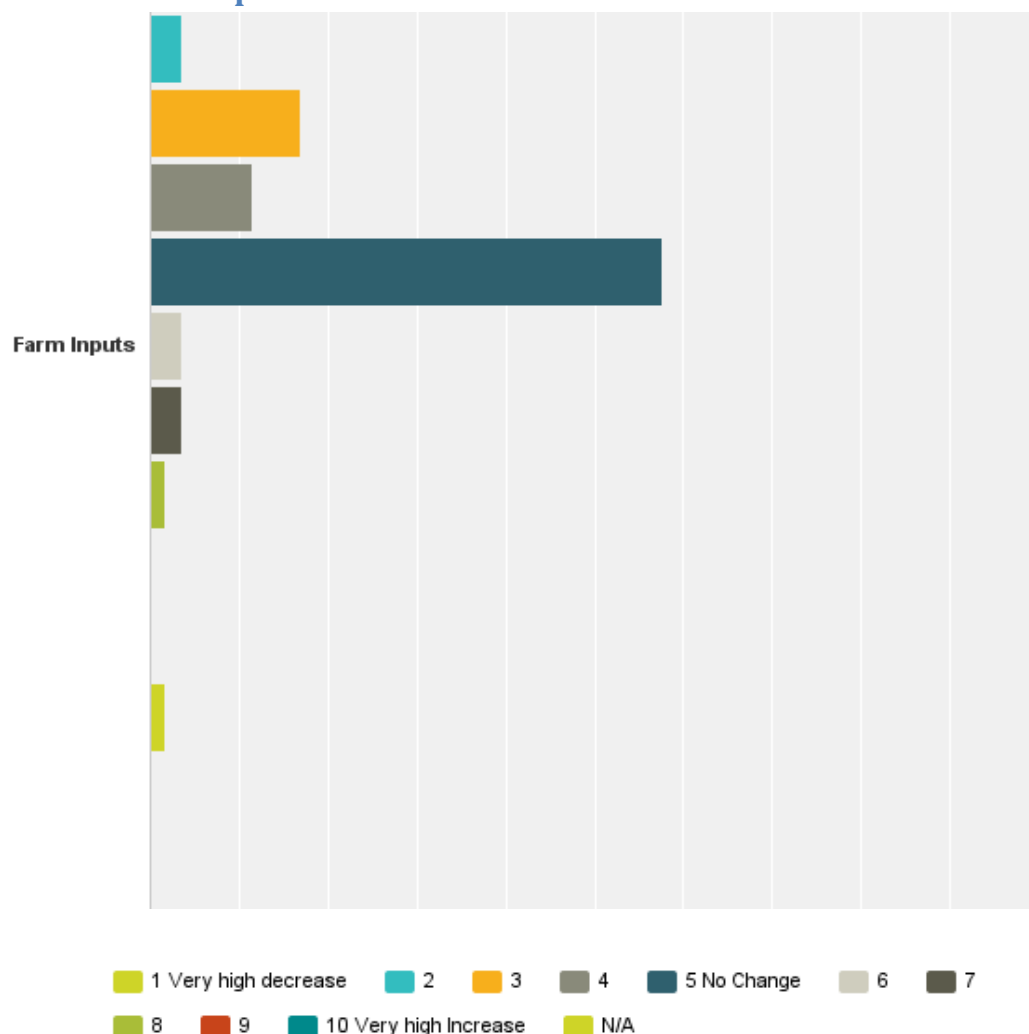


Figure 245: Q22 – All data *Farm inputs* (Chart)

### Progress to target

03: Farm productivity is increased by 10% post project implementation

Linked to the following question on outputs, growers have indicated an increase in outputs and a decrease in input, hence resulting in an increase in productivity. Although not quantified, with 5 reporting no change, growers on average have indicated an increase in output of 6.68/10 and a decrease in input of 4.59/5.

### Growers' comments

Growers indicated that there was slightly less inputs used on farm including fuel and sprays as a result of less weed growth on the inter-row.

### Summary

On average, growers indicated a slight decrease in farm inputs across all commodities, project scopes and rounds.

### Sub-question-Farm outputs

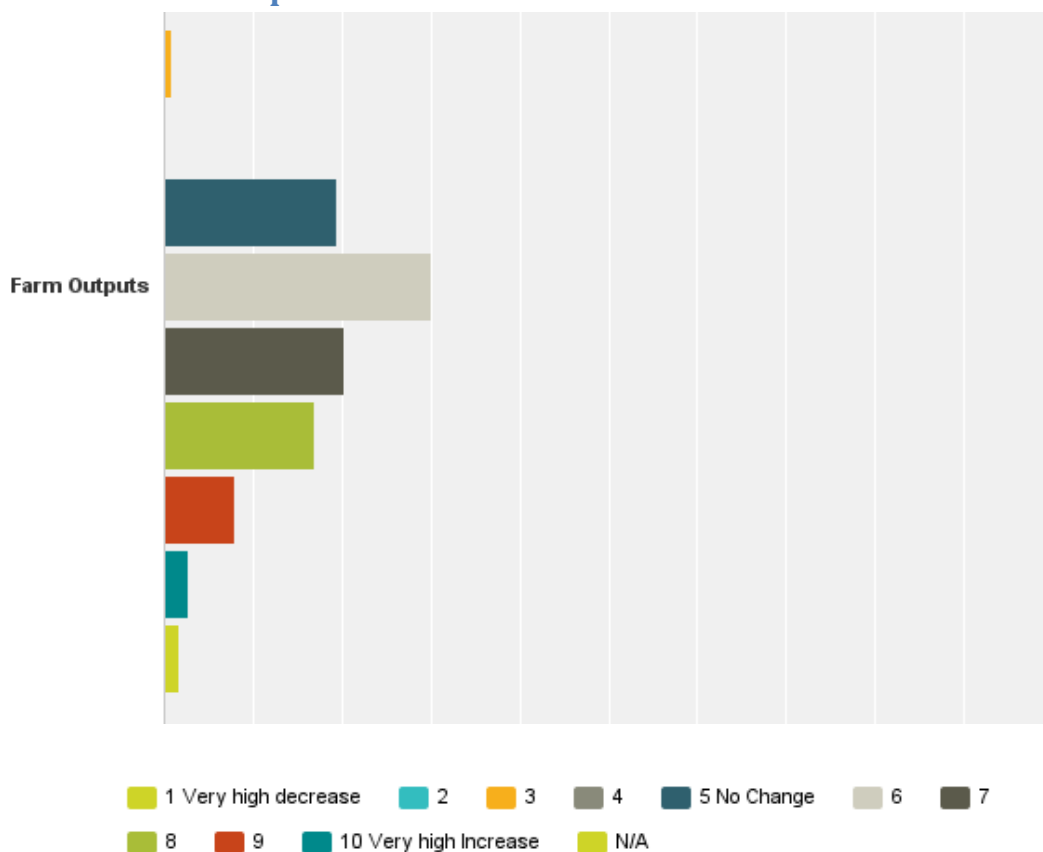


Figure 246: Q22 – All data *Farm outputs* (Chart)

### Progress to target

03: Farm productivity is increased by 10% post project implementation

Linked to the previous question on outputs, growers have indicated an increase in outputs and a decrease in input, resulting in an increase in productivity. Although not quantified, with 5 being no change, growers on average have indicated an increase in output of 6.68/10 and a decrease in input of 4.59/5.

### Summary

Linked to the production question, growers indicated that they have significantly increase outputs due to the implementation of the irrigation efficiency projects across all commodities, project rounds and project scopes.

## Sub-question-Skills & knowledge with respect to irrigation management

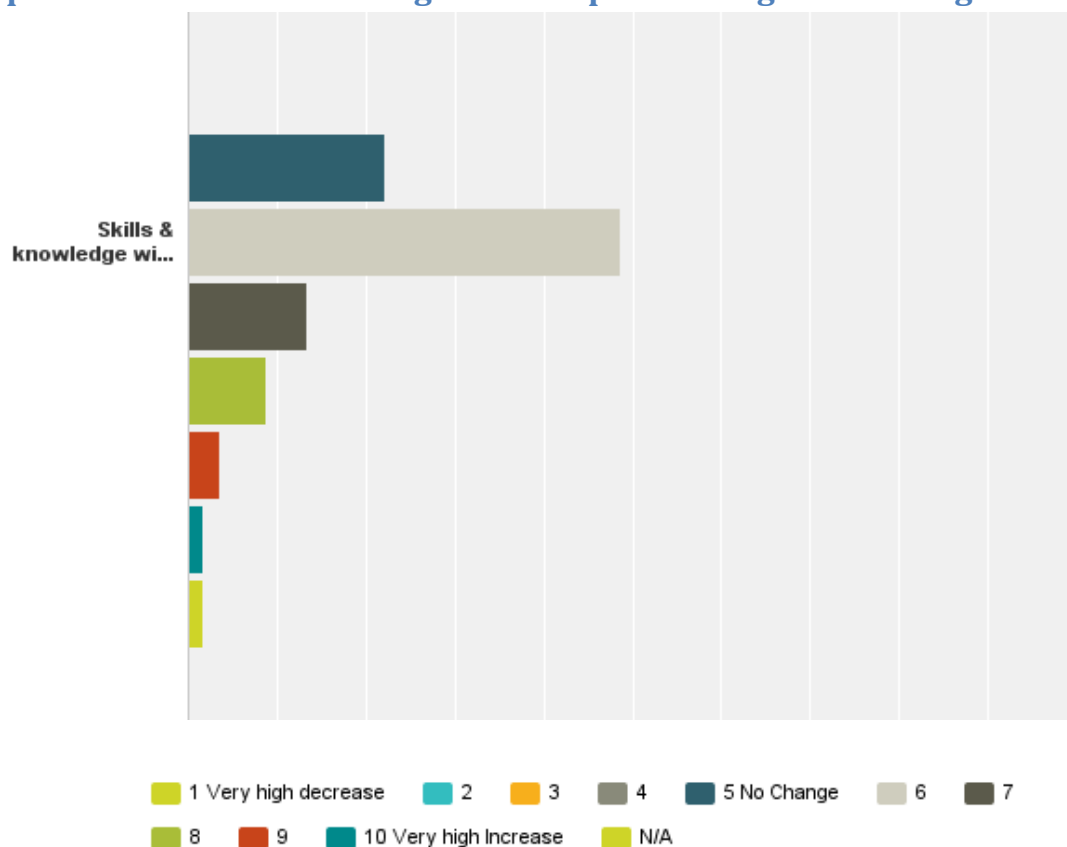


Figure 247: Q22 – All data *Skills & knowledge with respect to irrigation management* (Chart)

### Progress to target

Irrigators with increased knowledge & capacity to further improve irrigation systems

W1: All water resources are managed sustainably by 2018

Growers have increased their skills and knowledge and have the capacity to further improve their irrigation system.

### Summary

On average, growers have indicated that they have slightly increased their skills & knowledge toward irrigation management post project implementation across all commodities, project scopes and rounds.

## Sub-question-Skills & knowledge with respect to business management

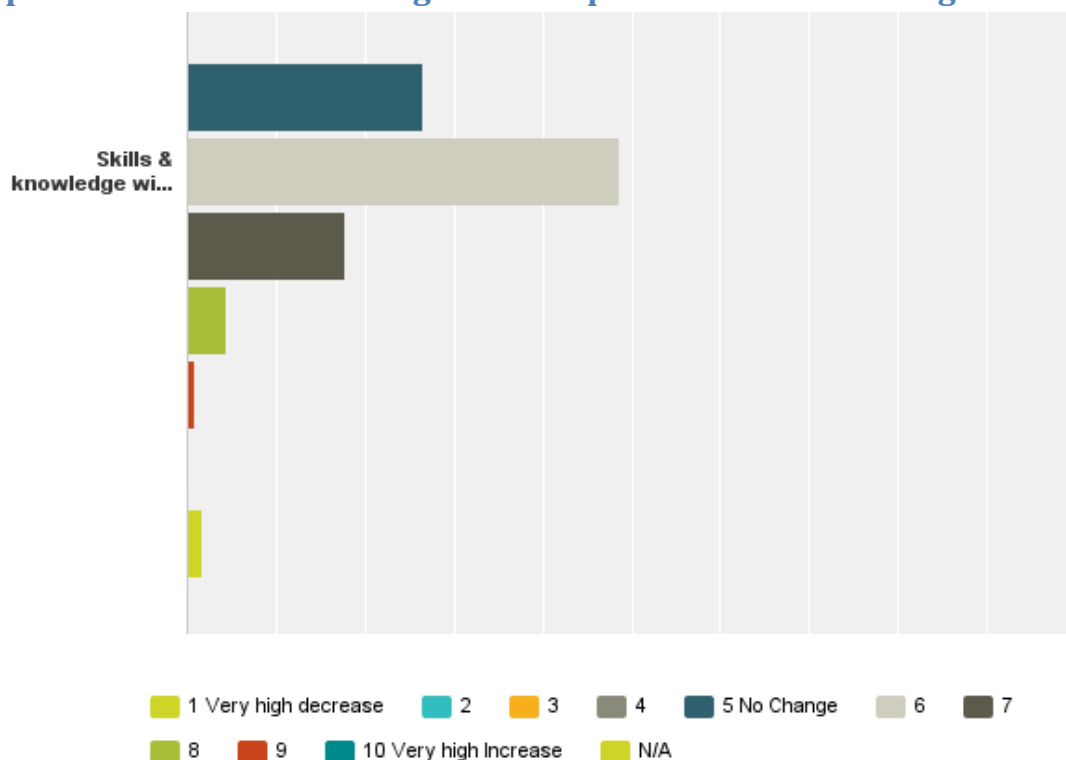


Figure 248: Q22 – All data *Skills & knowledge with respect to business management* (Chart)

### Progress to target

O6: 15% of project water savings are retained by irrigators to increase business flexibility and management capacity

Growers have increased their business management skills and management capacity to manage water.

### Summary

On average, growers have indicated that they have slightly increased their skills & knowledge toward business management post project implementation across all commodities, project scopes and rounds.



## Question 23

### Question

Of the water savings that you retained, how is the water being utilised?

### All data

Of the water savings that you retained, How is this water being utilised?		
Answer Options	Response Percent	Response Count
Leased out	39.3%	44
Sold Permanently	5.4%	6
Irrigating property/Environmental flow	59.8%	67
<b><i>answered question</i></b>		<b>112</b>
<b><i>skipped question</i></b>		<b>2</b>

Figure 249: Q23 – All data (Table)

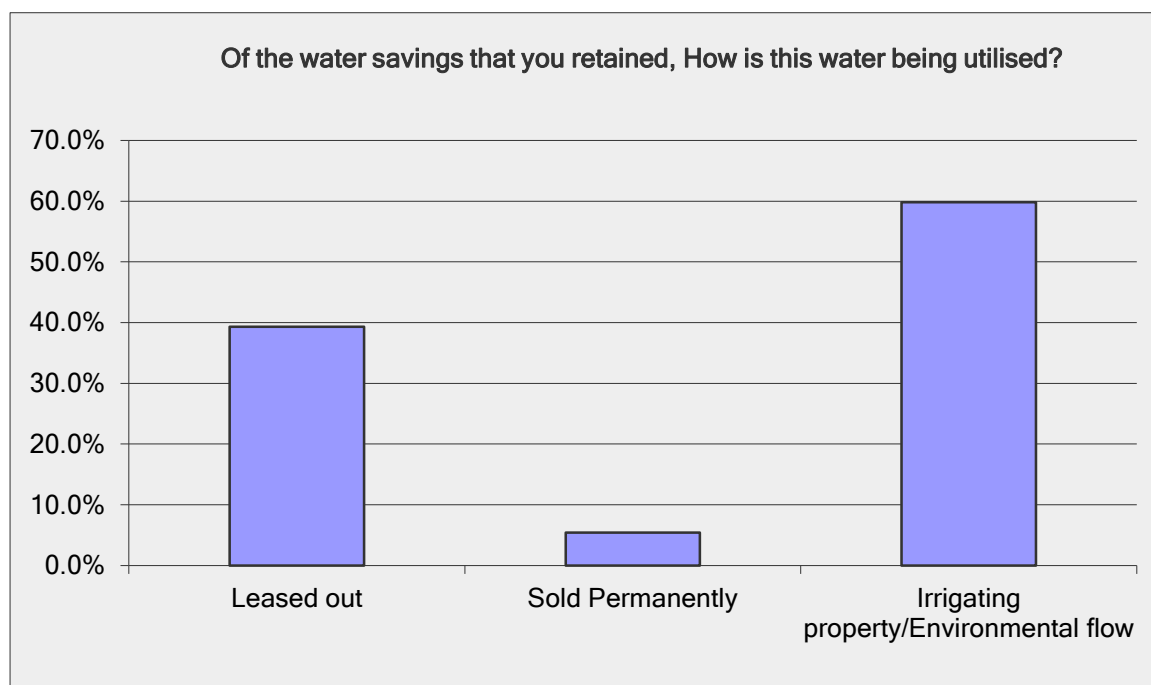


Figure 250: Q23 – All data (Chart a)

**Q23 Of the water savings that you retained,  
How is this water being utilised?**

Answered: 112 Skipped: 2

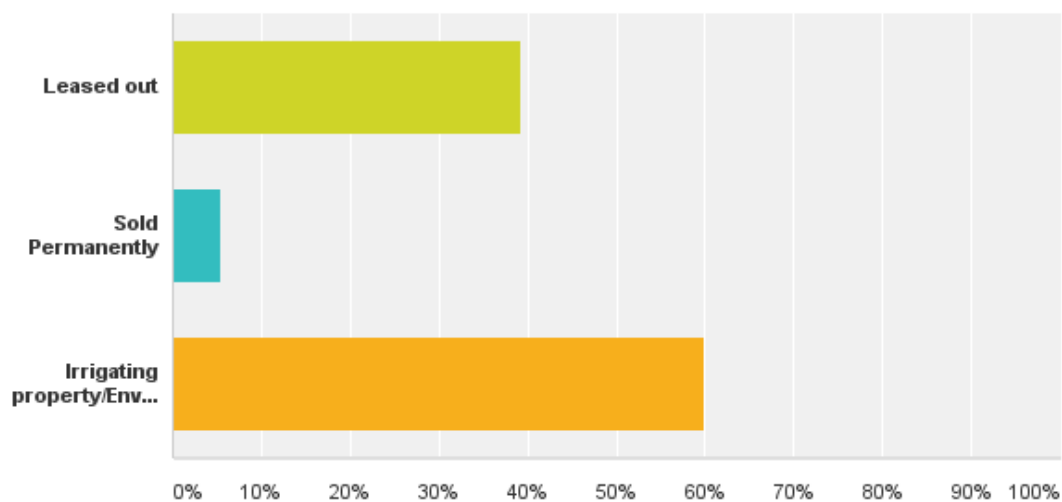


Figure 251: Q23 – All data (Chart b)

## Round One

Of the water savings that you retained, How is this water being utilised?		
Answer Options	Response Percent	Response Count
Leased out	31.6%	6
Sold Permanently	10.5%	2
Irrigating property/Environmental flow	63.2%	12
<b><i>answered question</i></b>		<b>19</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 252: Q23 – Round One (Table)

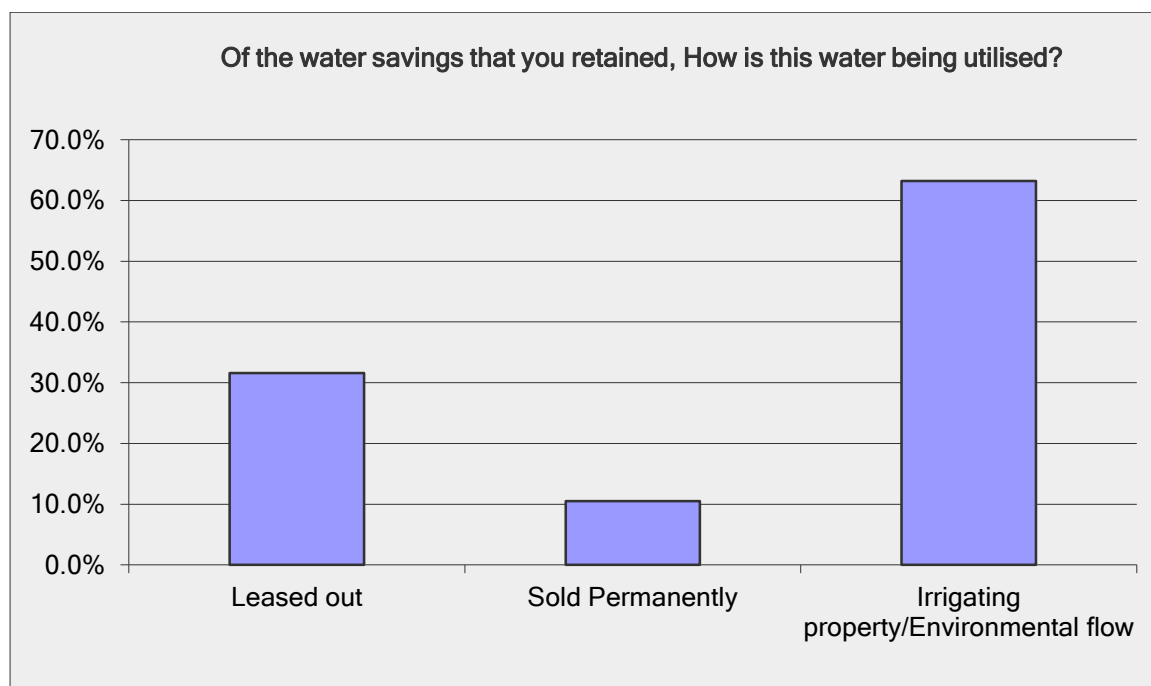


Figure 253: Q23 – Round One (Chart)

## Round Two

Of the water savings that you retained, How is this water being utilised?		
Answer Options	Response Percent	Response Count
Leased out	40.9%	38
Sold Permanently	4.3%	4
Irrigating property/Environmental flow	59.1%	55
<b><i>answered question</i></b>		<b>93</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 254: Q23 – Round Two (Table)

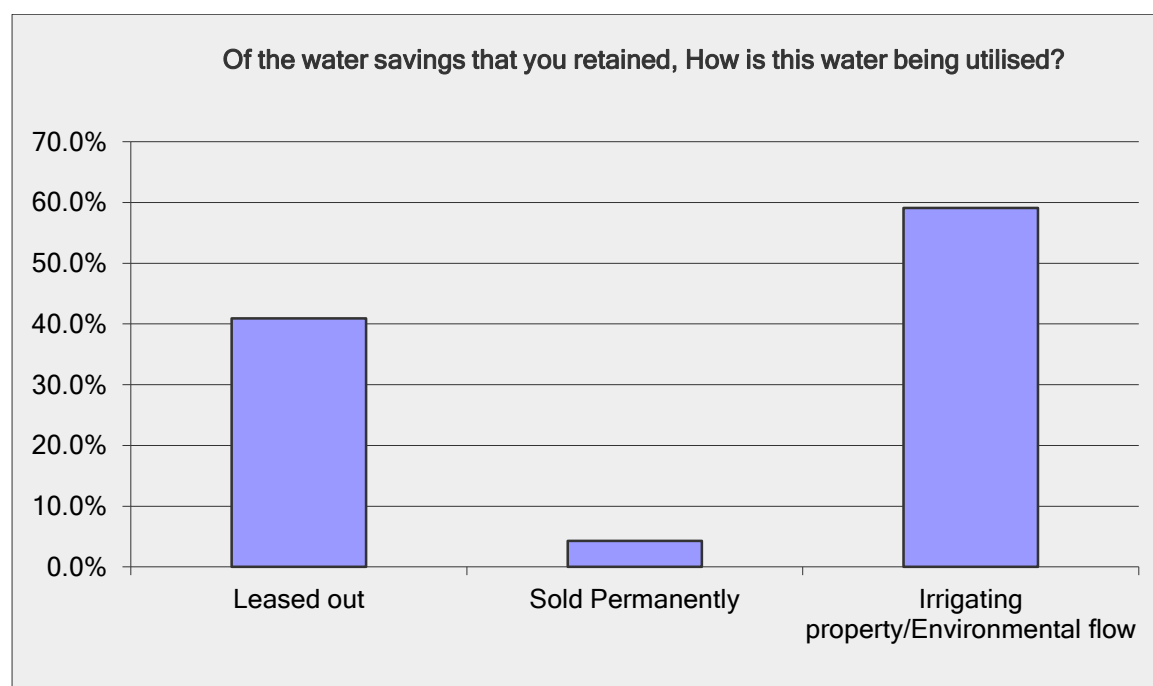


Figure 255: Q23 – Round Two (Chart)

### Dripper conversions only

Of the water savings that you retained, How is this water being utilised?		
Answer Options	Response Percent	Response Count
Leased out	45.1%	32
Sold Permanently	5.6%	4
Irrigating property/Environmental flow	53.5%	38
<b><i>answered question</i></b>		<b>71</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 256: Q23 – Dripper conversions only (Table)

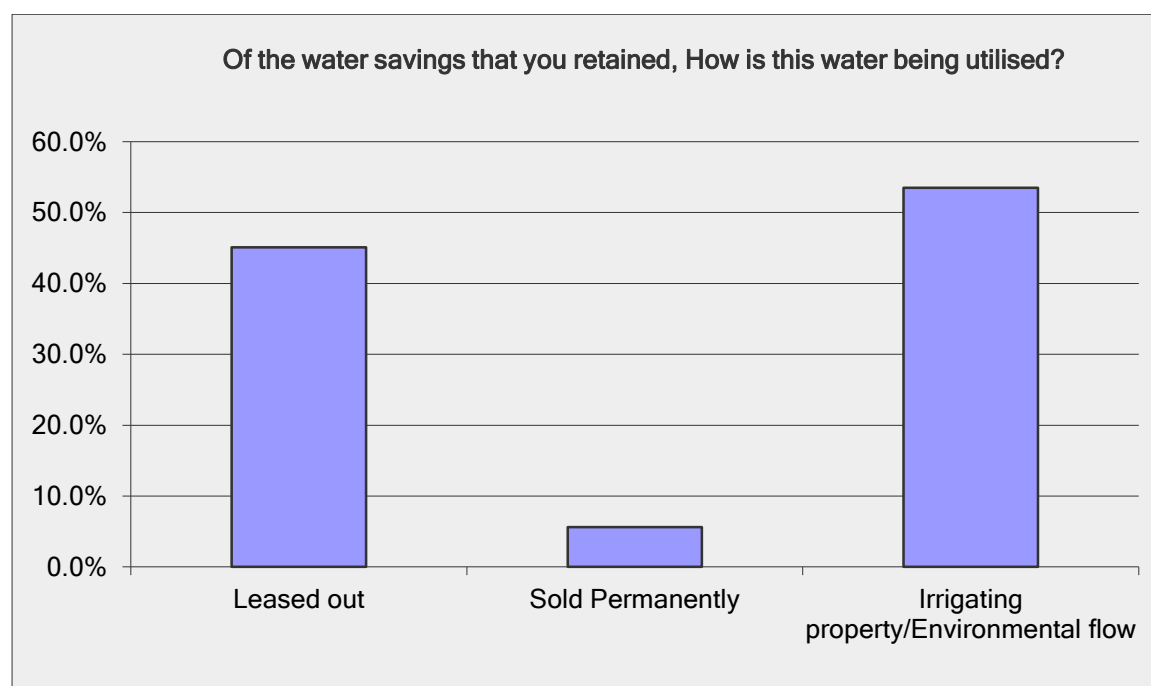


Figure 257: Q23 – Dripper conversions only (Chart)

### Wine grapes only

Of the water savings that you retained, How is this water being utilised?		
Answer Options	Response Percent	Response Count
Leased out	44.7%	38
Sold Permanently	7.1%	6
Irrigating property/Environmental flow	51.8%	44
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 258: Q23 – Wine grapes only (Table)

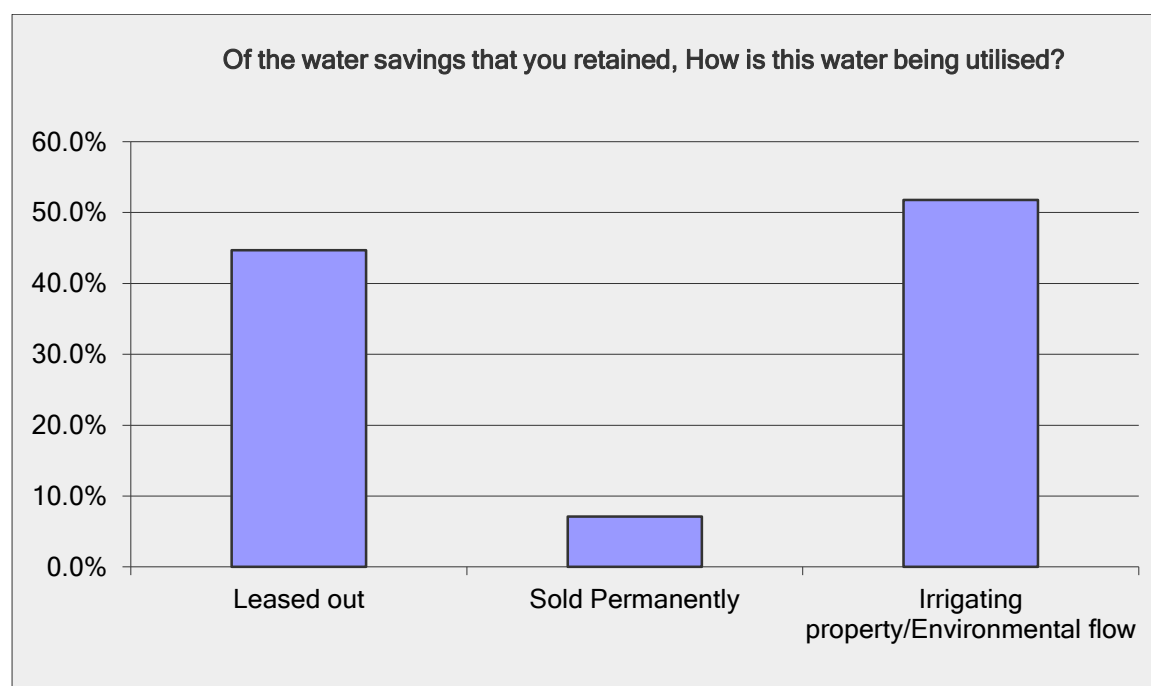


Figure 259: Q23 – Wine grapes only (Chart)

### Citrus only

Of the water savings that you retained, How is this water being utilised?		
Answer Options	Response Percent	Response Count
Leased out	37.9%	11
Sold Permanently	6.9%	2
Irrigating property/Environmental flow	58.6%	17
<b><i>answered question</i></b>		<b>29</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 260: Q23 – Citrus only (Table)

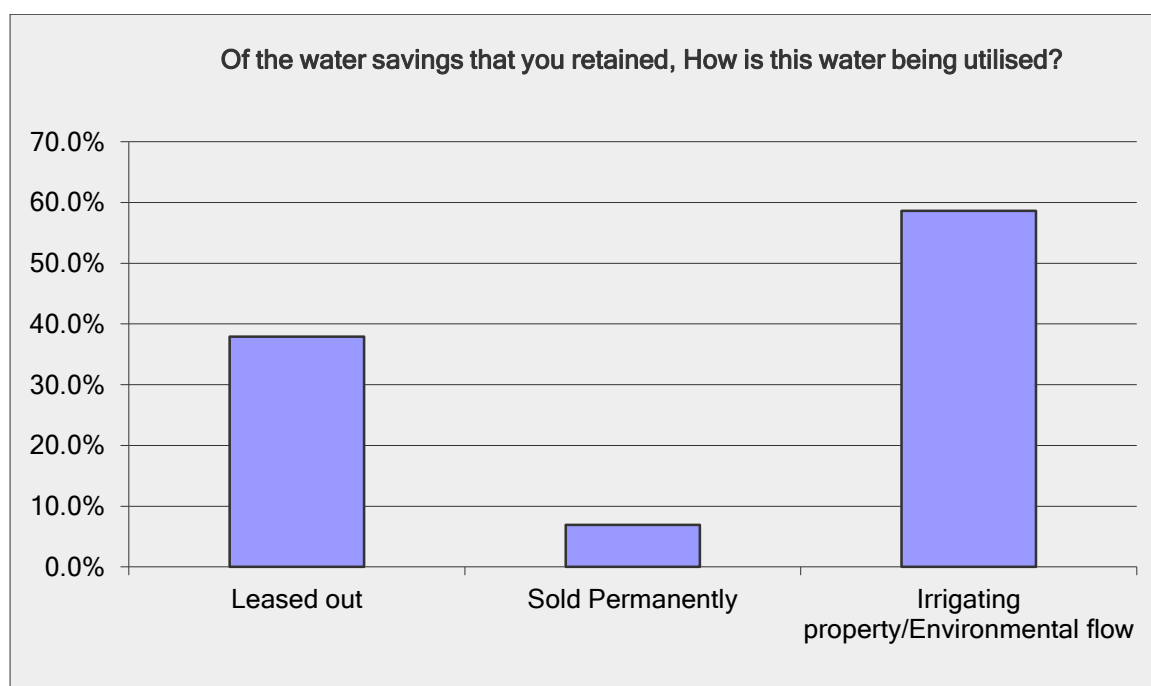


Figure 261: Q23 – Citrus only (Chart)

### Almonds only

Of the water savings that you retained, How is this water being utilised?		
Answer Options	Response Percent	Response Count
Leased out	38.5%	5
Sold Permanently	0.0%	0
Irrigating property/Environmental flow	69.2%	9
<b>answered question</b>		<b>13</b>
<b>skipped question</b>		<b>0</b>

Figure 262: Q23 – Almonds only (Table)

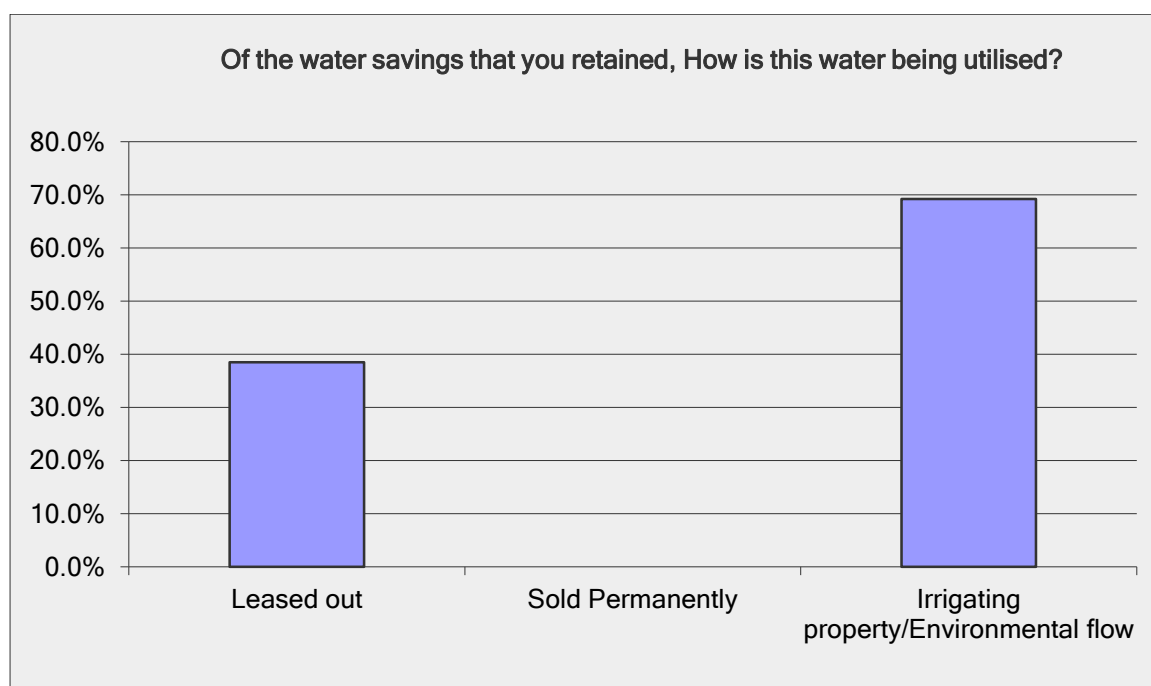


Figure 263: Q23 – Almonds only (Chart)

### Summary

Of the water saving retained, the majority of the water is being used to irrigate the project site/property and not being traded, although a significant amount of water is being leased out when surplus to each grower's requirements. Many growers indicated that they are just about to make this decision, hence these numbers for leased water could significantly increase. Very little permanent water is being sold on the market by rounds one and two participants. This is due to retained water being held for future irrigation infrastructure programs.



## Question 24

### Question

Has this retained water assisted you to....

### All data

Has this retained water saving assisted you to:?					
Answer Options	Yes	Undecided	No	N/A	Response Count
Increased production on project site	108	2	0	3	113
Increased production on property	108	2	0	3	113
Increased business flexibility	110	0	0	3	113
Increased profit	106	2	2	3	113
Increased management capacity	108	3	0	2	113
Other, Irrigating other land, examples					0
<b>answered question</b>					<b>113</b>
<b>skipped question</b>					<b>1</b>

Figure 264: Q24 – All data (Table)

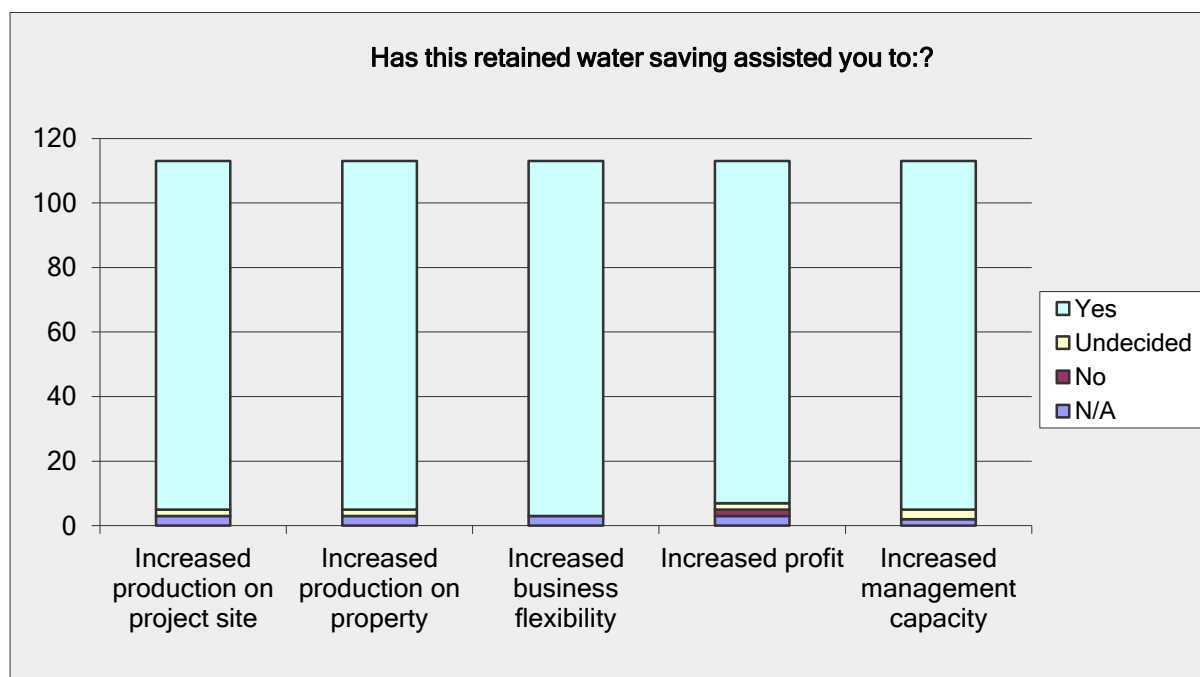


Figure 265: Q24 – All data (Chart)

## Round One

Has this retained water saving assisted you to:?					
Answer Options	Yes	Undecided	No	N/A	Response Count
Increased production on project site	18	1	0	0	19
Increased production on property	18	1	0	0	19
Increased business flexibility	19	0	0	0	19
Increased profit	17	2	0	0	19
Increased management capacity	19	0	0	0	19
Other, Irrigating other land, examples					0
<b>answered question</b>					<b>19</b>
<b>skipped question</b>					<b>1</b>

Figure 266: Q24 – Round One (Table)

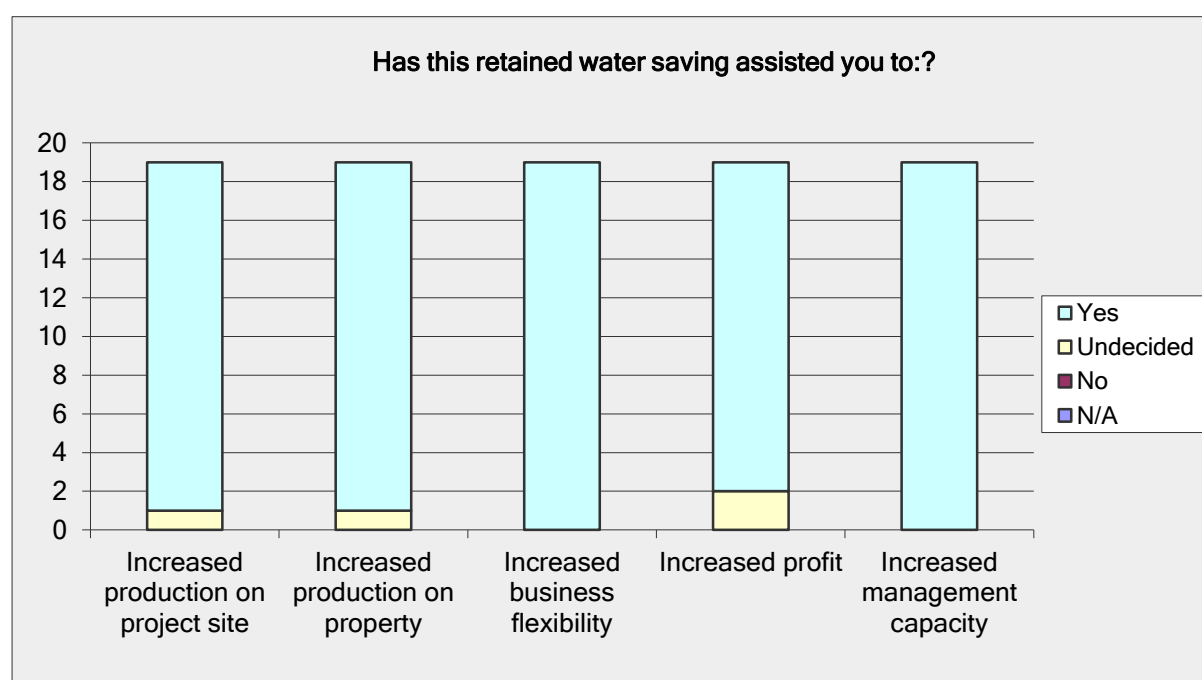


Figure 267: Q24 – Round One (Chart)

## Round Two

Has this retained water saving assisted you to:?					
Answer Options	Yes	Undecided	No	N/A	Response Count
Increased production on project site	90	1	0	3	94
Increased production on property	90	1	0	3	94
Increased business flexibility	91	0	0	3	94
Increased profit	89	0	2	3	94
Increased management capacity	89	3	0	2	94
Other, Irrigating other land, examples					0
<b>answered question</b>					<b>94</b>
<b>skipped question</b>					<b>0</b>

Figure 268: Q24 – Round Two (Table)

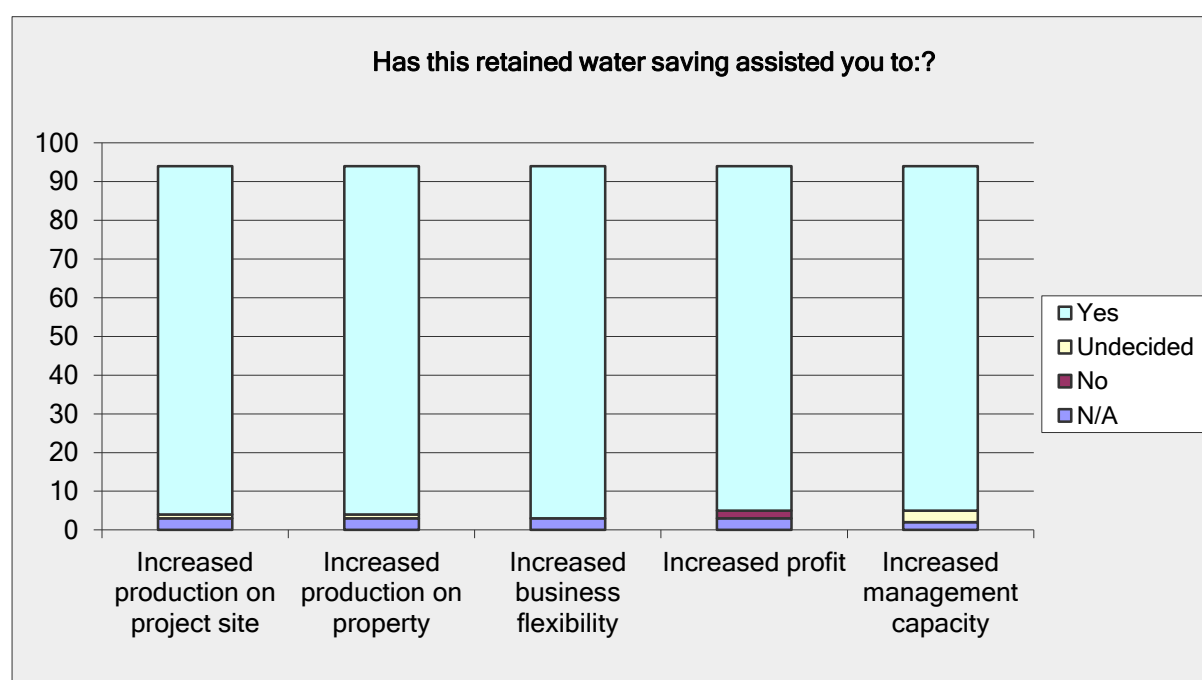


Figure 269: Q24 – Round Two (Chart)

### Dripper conversions only

Has this retained water saving assisted you to:?					
Answer Options	Yes	Undecided	No	N/A	Response Count
Increased production on project site	70	0	0	2	72
Increased production on property	70	0	0	2	72
Increased business flexibility	70	0	0	2	72
Increased profit	69	0	1	2	72
Increased management capacity	69	2	0	1	72
Other, Irrigating other land, examples					0
<b>answered question</b>					<b>72</b>
<b>skipped question</b>					<b>0</b>

Figure 270: Q24 – Dripper conversions only (Table)

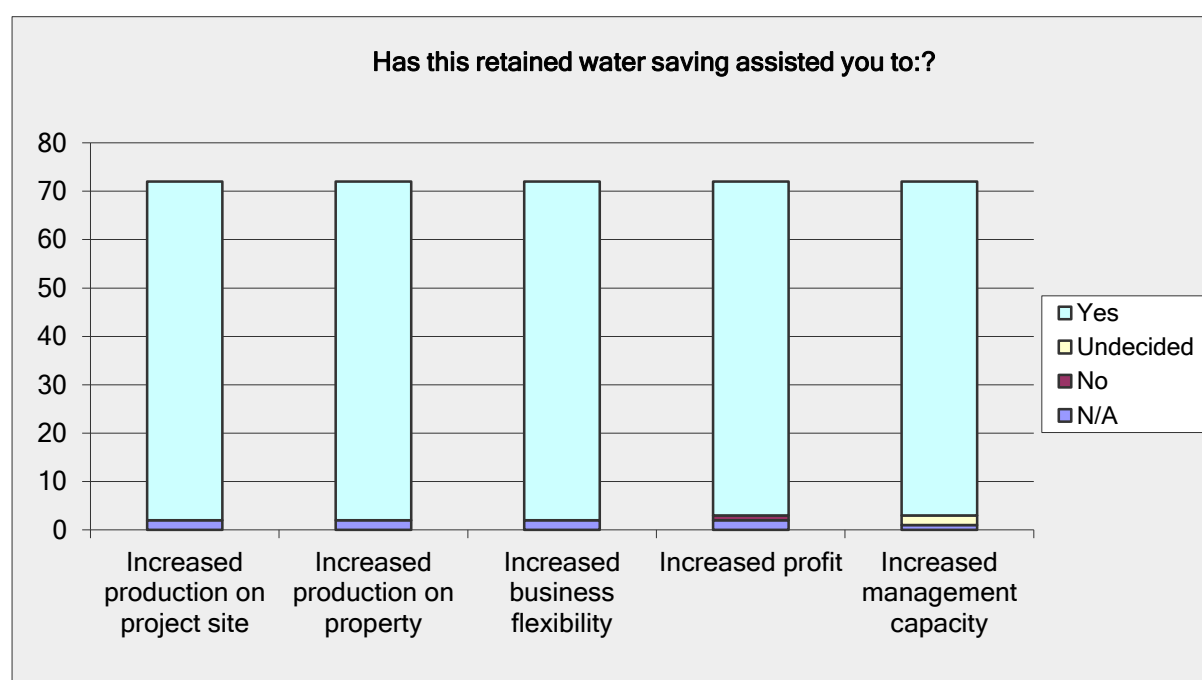


Figure 271: Q24 – Dripper conversions only (Chart)

### Wine grapes only

Has this retained water saving assisted you to:?					
Answer Options	Yes	Undecided	No	N/A	Response Count
Increased production on project site	80	2	0	3	85
Increased production on property	80	2	0	3	85
Increased business flexibility	82	0	0	3	85
Increased profit	79	1	2	3	85
Increased management capacity	80	3	0	2	85
Other, Irrigating other land, examples					0
<b>answered question</b>					<b>85</b>
<b>skipped question</b>					<b>0</b>

Figure 272: Q24 – Wine grapes only (Table)

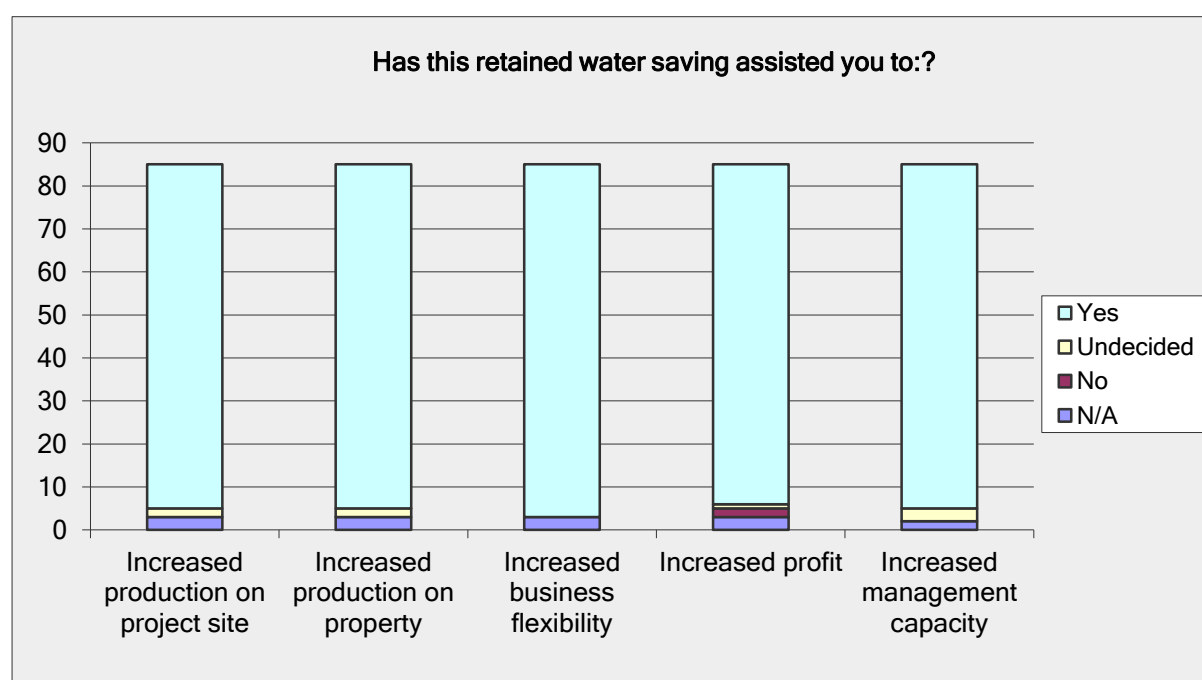


Figure 273: Q24 – Wine grapes only (Chart)

### Citrus only

Has this retained water saving assisted you to:?					
Answer Options	Yes	Undecided	No	N/A	Response Count
Increased production on project site	29	0	0	1	30
Increased production on property	29	0	0	1	30
Increased business flexibility	29	0	0	1	30
Increased profit	29	0	0	1	30
Increased management capacity	30	0	0	0	30
Other, Irrigating other land, examples					0
<b>answered question</b>					<b>30</b>
<b>skipped question</b>					<b>0</b>

Figure 274: Q24 – Citrus only (Table)

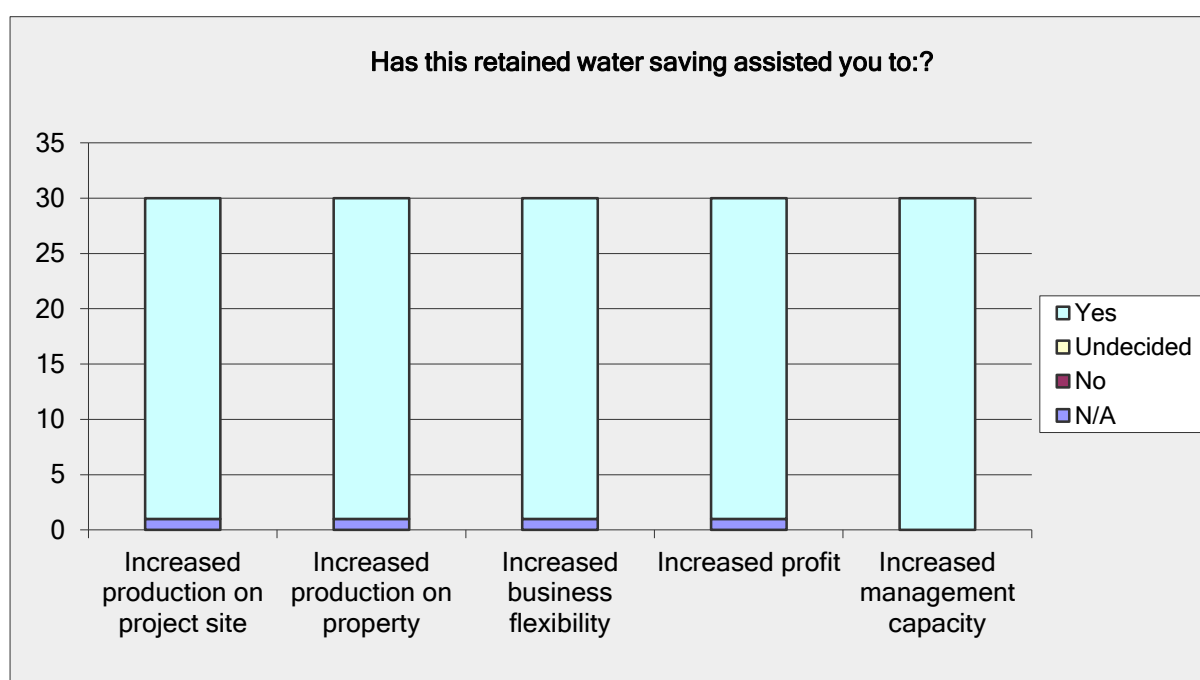


Figure 275: Q24 – Citrus only (Chart)

### Almonds only

Has this retained water saving assisted you to:?					
Answer Options	Yes	Undecided	No	N/A	Response Count
Increased production on project site	13	0	0	0	13
Increased production on property	13	0	0	0	13
Increased business flexibility	13	0	0	0	13
Increased profit	13	0	0	0	13
Increased management capacity	13	0	0	0	13
Other, Irrigating other land, examples					0
<b>answered question</b>					<b>13</b>
<b>skipped question</b>					<b>0</b>

Figure 276: Q24 – Almonds only (Table)

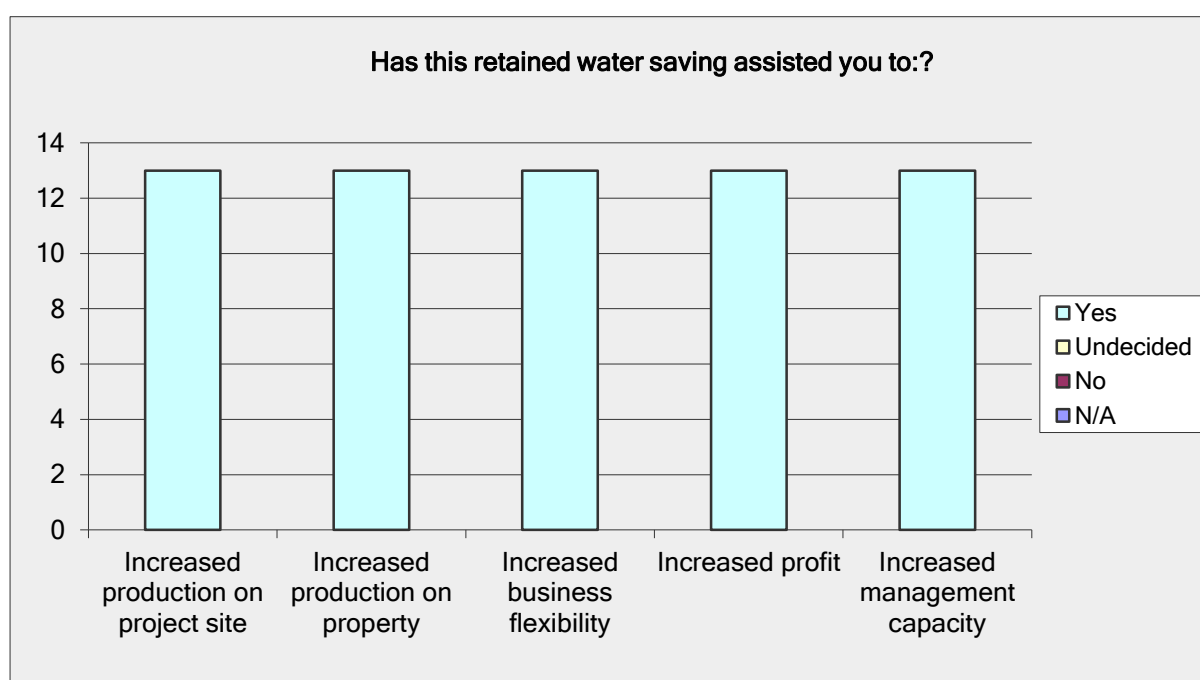


Figure 277: Q24 – Almonds only (Chart)

### Progress to target

03: Farm productivity is increased by 10% post project implementation

06: 15% of project water savings are retained by irrigators to increase business flexibility and management capacity.

Irrigators with increased capacity & flexibility to make business improvements

Achievement of these MATs is currently on course. As later rounds are surveyed, the cumulative percentage of water saving can be calculated against retained water holdings to ascertain achievement of this MAT. Farm productivity has increased, but this has not been quantified sufficiently to date, to confidently say that the MAT has been achieved.

## Summary

The responses from this question further support the results from parts of question 22. With respect to increasing production, business flexibility, profit and management capacity, all growers from each round, project scope and commodity indicated that all of these measures had increased significantly. The profit question created a lot of communication, with growers indicating that the upgrade of the irrigation system has not driven profit/loss, but rather the poor returns on commodities that have resulted in decrease profits/losses.



## Question 25

### Question

How do you assess your participation in water trading

### All data

How do you assess your participation rate in water trading?			
Answer Options	Inactive	Active	Response Count
Prior to the Project	37	76	113
Post Project	23	90	113
Into the future	22	91	113
Comments			0
<b><i>answered question</i></b>			<b>113</b>
<b><i>skipped question</i></b>			<b>1</b>

Figure 278: Q25 – All Data (Table)

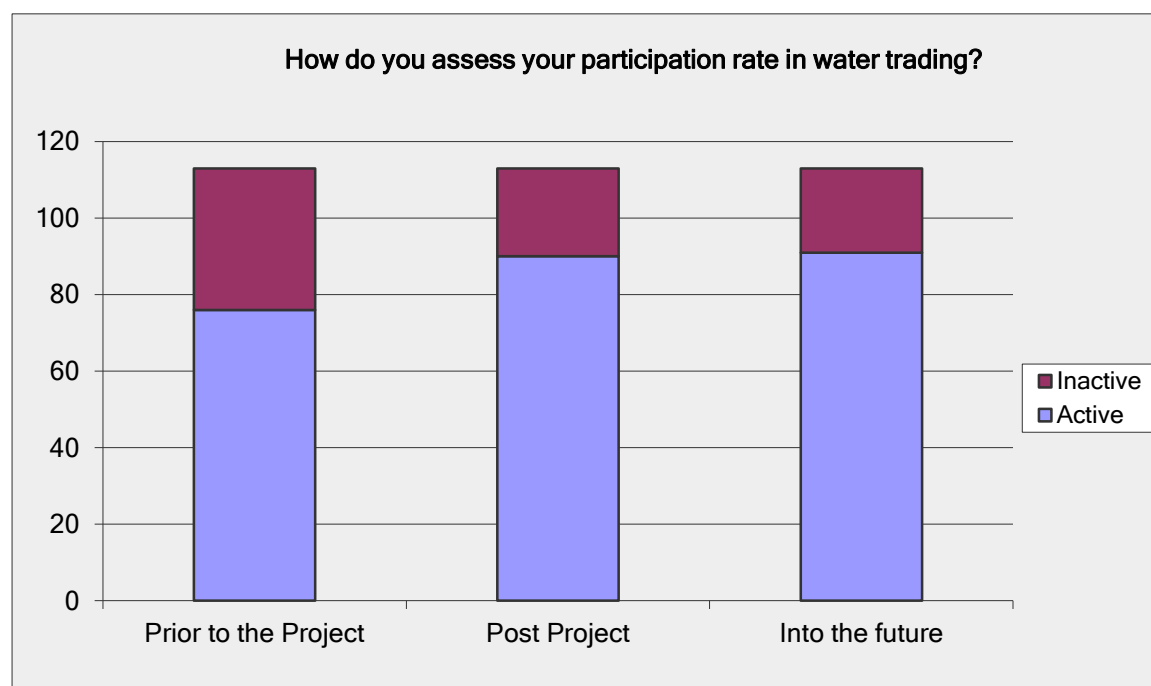


Figure 279: Q25 – All Data (Chart a)

## Q25 How do you assess your participation rate in water trading?

Answered: 113 Skipped: 1

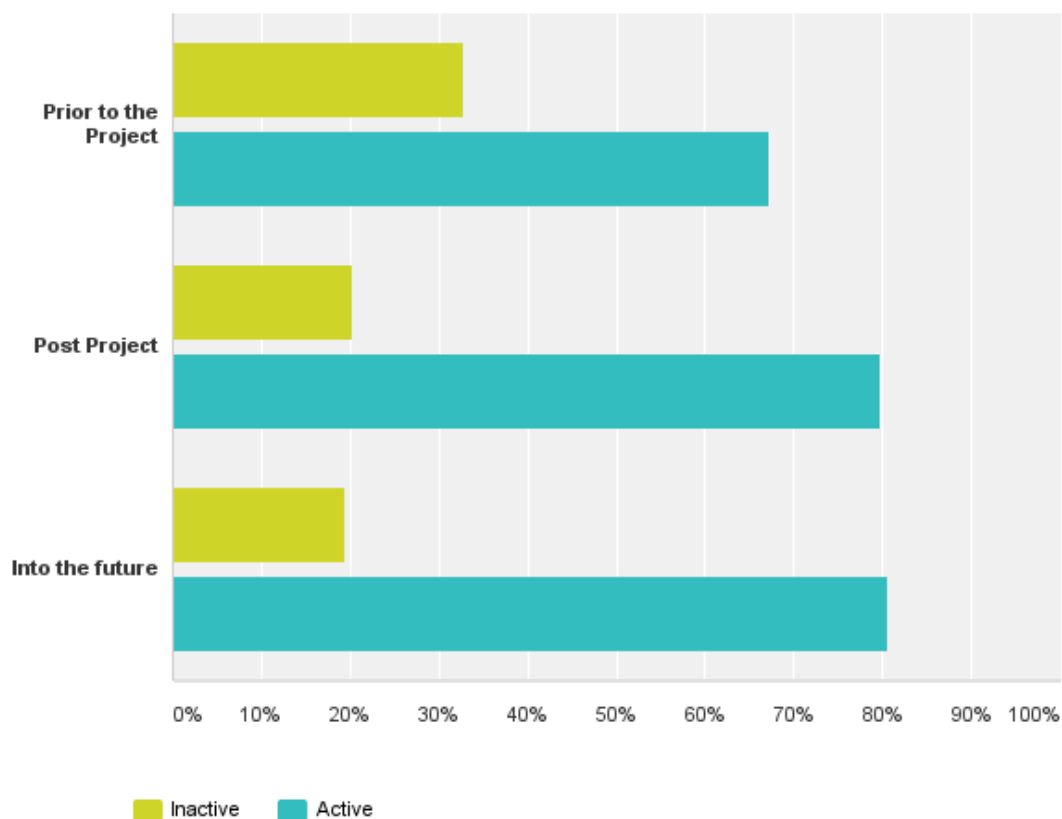


Figure 280: Q25 – All Data (Chart b)

## Round One

How do you assess your participation rate in water trading?			
Answer Options	Inactive	Active	Response Count
Prior to the Project	5	14	19
Post Project	3	16	19
Into the future	2	17	19
Comments			0
<b><i>answered question</i></b>			<b>19</b>
<b><i>skipped question</i></b>			<b>1</b>

Figure 281: Q25 – Round One (Table)

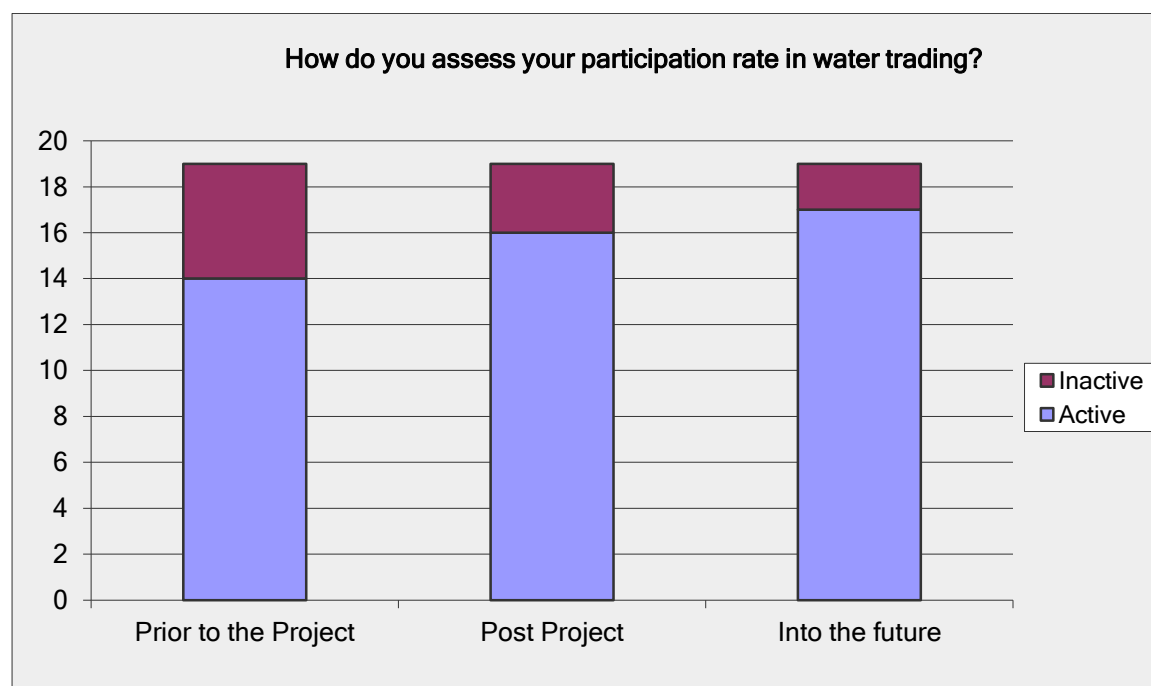


Figure 282: Q25 – Round One (Chart)

## Round Two

How do you assess your participation rate in water trading?			
Answer Options	Inactive	Active	Response Count
Prior to the Project	32	62	94
Post Project	20	74	94
Into the future	20	74	94
Comments			0
<b><i>answered question</i></b>			<b>94</b>
<b><i>skipped question</i></b>			<b>0</b>

Figure 283: Q25 – Round Two (Table)

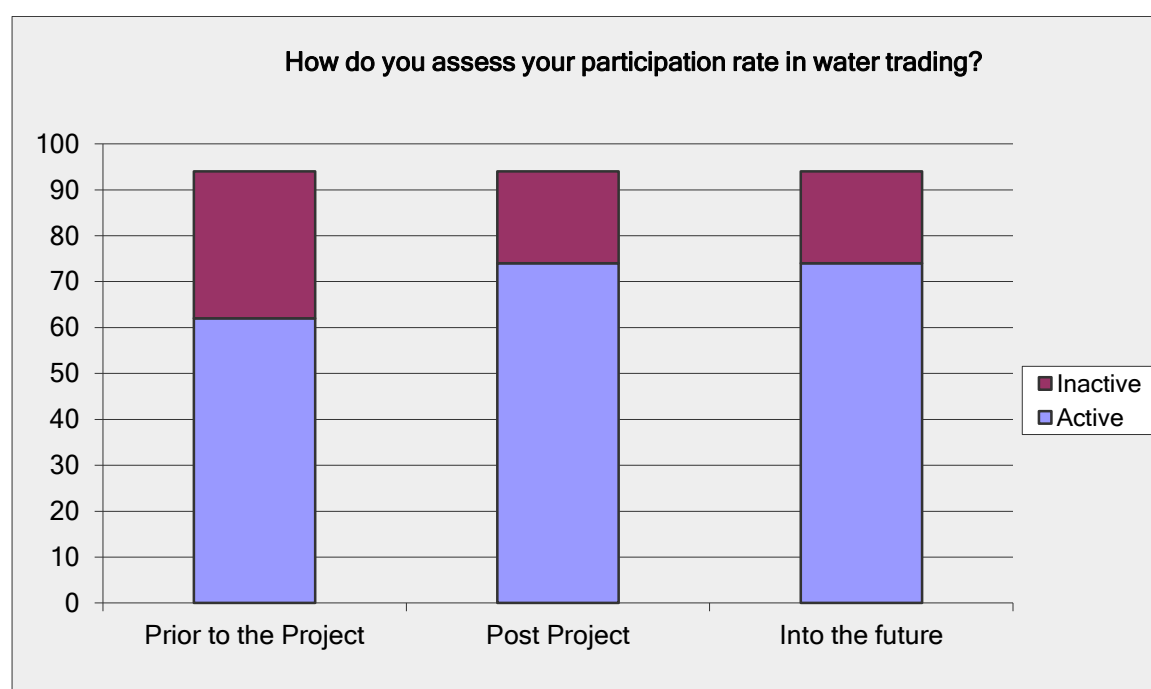


Figure 284: Q25 – Round Two (Chart)

### Dripper conversions only

How do you assess your participation rate in water trading?			
Answer Options	Inactive	Active	Response Count
Prior to the Project	23	49	72
Post Project	17	55	72
Into the future	16	56	72
Comments			0
<b><i>answered question</i></b>			<b>72</b>
<b><i>skipped question</i></b>			<b>0</b>

Figure 285: Q25 – Dripper conversions only (Table)

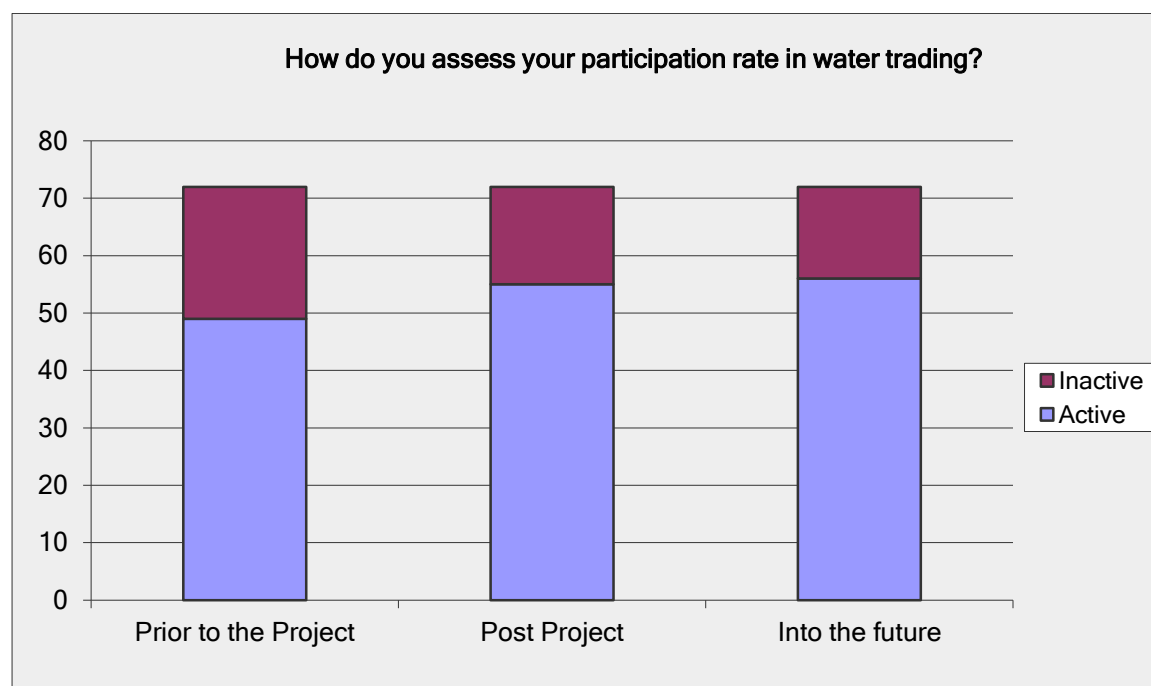


Figure 286: Q25 – Dripper conversions only (Chart)

### Wine grapes only

How do you assess your participation rate in water trading?			
Answer Options	Inactive	Active	Response Count
Prior to the Project	35	50	85
Post Project	18	67	85
Into the future	17	68	85
Comments			0
<b><i>answered question</i></b>			<b>85</b>
<b><i>skipped question</i></b>			<b>0</b>

Figure 287: Q25 – Wine grapes only (Table)

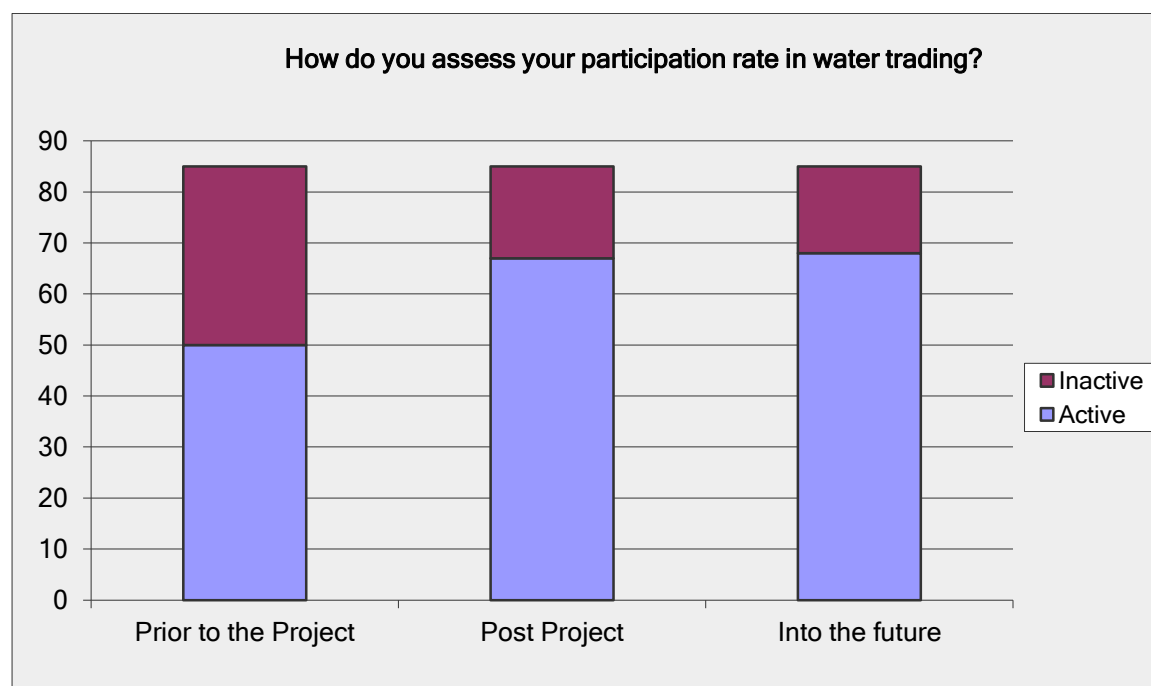


Figure 288: Q25 – Wine grapes only (Chart)

### Citrus only

How do you assess your participation rate in water trading?			
Answer Options	Inactive	Active	Response Count
Prior to the Project	6	24	30
Post Project	3	27	30
Into the future	3	27	30
Comments			0
<b><i>answered question</i></b>			<b>30</b>
<b><i>skipped question</i></b>			<b>0</b>

Figure 289: Q25 – Citrus only (Table)

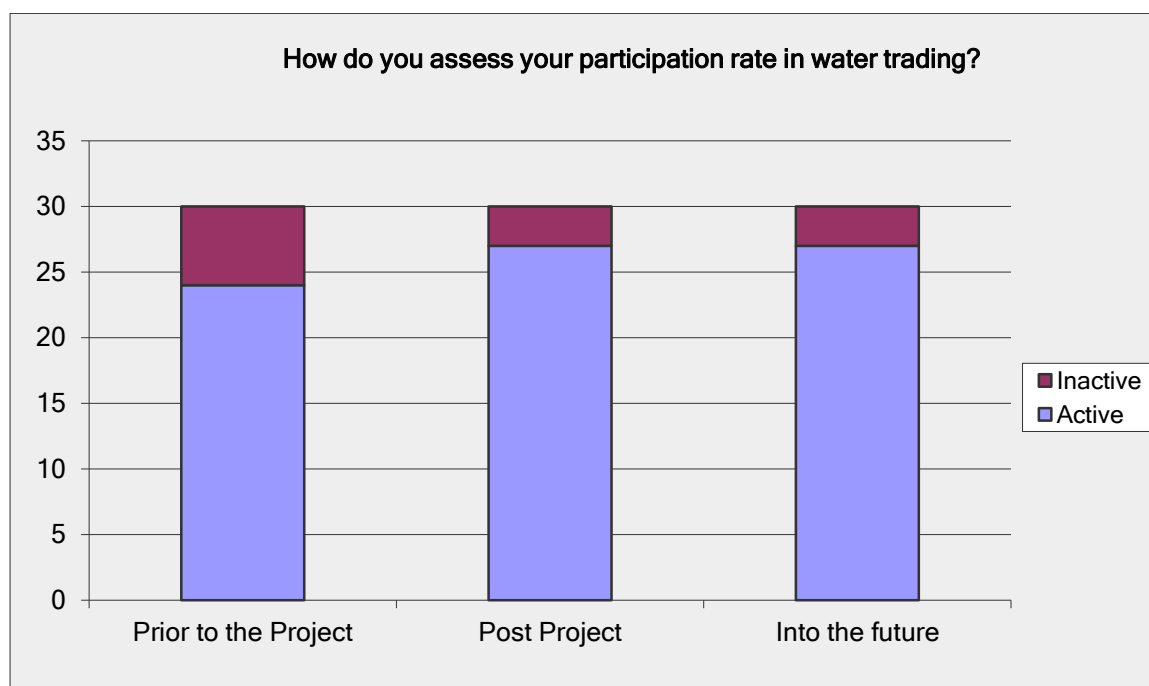


Figure 290: Q25 – Citrus only (Chart)

## Almonds only

How do you assess your participation rate in water trading?			
Answer Options	Inactive	Active	Response Count
Prior to the Project	1	12	13
Post Project	1	12	13
Into the future	2	11	13
Comments			0
<b><i>answered question</i></b>			<b>13</b>
<b><i>skipped question</i></b>			<b>0</b>

Figure 291: Q25 – Almonds only (Table)

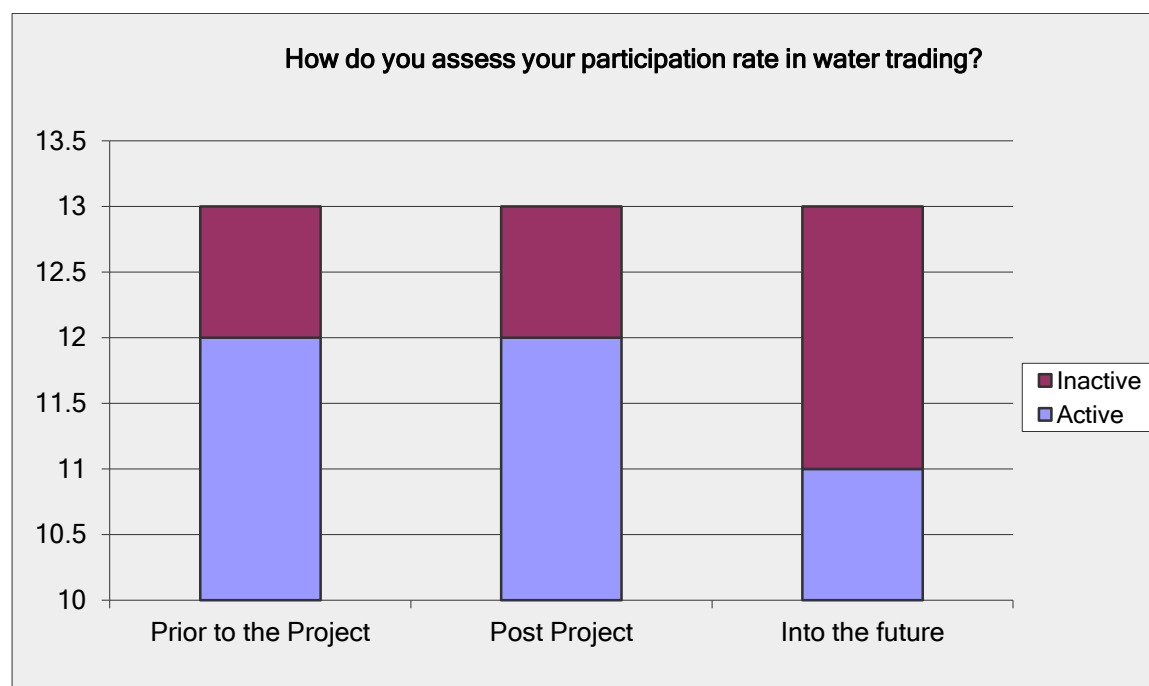


Figure 292: Q25 – Almonds only (Chart)

## Progress to target

Irrigators engaged in water use planning.

Increased accountability (irrigator & operator level) in water resource management.

Irrigators with increased capacity to manage reduced water availability.

## Summary

The data shows that growers are becoming increasing active in water trading post project implementation; this can be contributed to growers being increasing aware of the value of water and viewing it as a tradable commodity. This result is evident in growers who undertook dripper conversions, wine grape growers and citrus growers, while almond growers tended to reduce their activity in water trading.



## Question 26

### Question

Will you enter the water market in the future, and if so, what is the purpose?

### All data

Will you enter the water market in the future and is so for what purpose:			
Answer Options	Purchase Permanent entitlement	(Leased) Temp allocation	Response Count
This season	14	44	44
Next season	17	44	47
Within 3 years	19	41	44
Within 5 years	17	28	32
Not beyond 5 years	5	6	9
No	74	62	76
<b>answered question</b>			<b>113</b>
<b>skipped question</b>			<b>1</b>

Figure 293: Q26 – All data (Table)

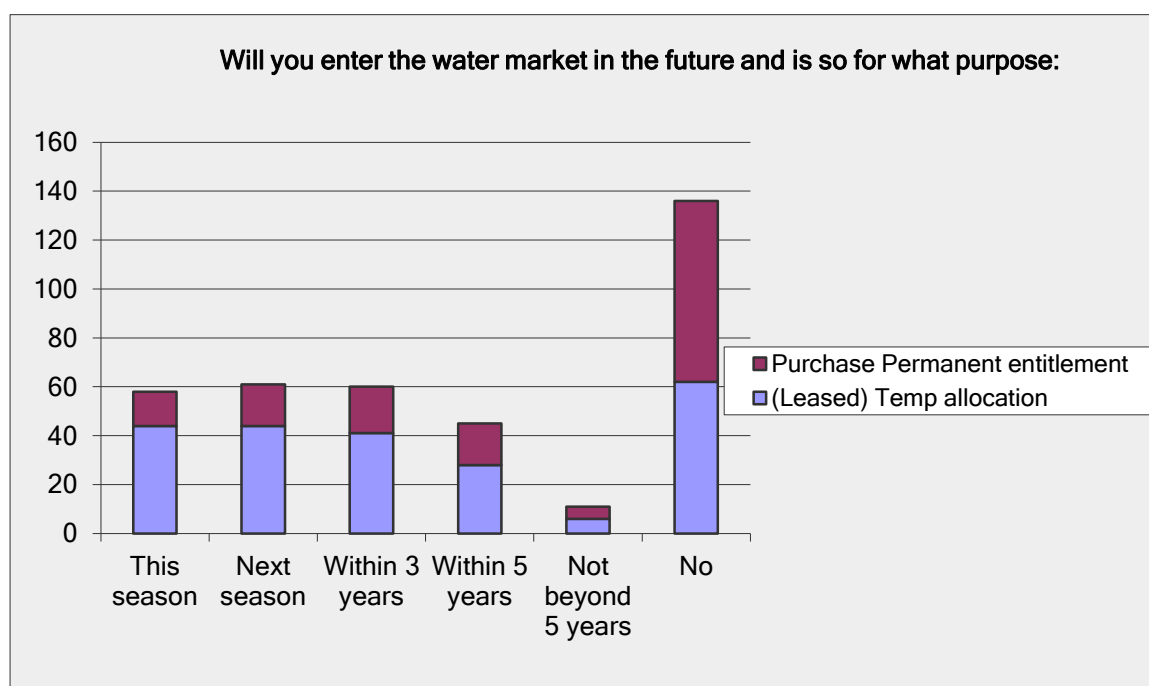


Figure 294: Q26 – All data (Chart a)

## Q26 Will you enter the water market in the future and is so for what purpose:

Answered: 113 Skipped: 1

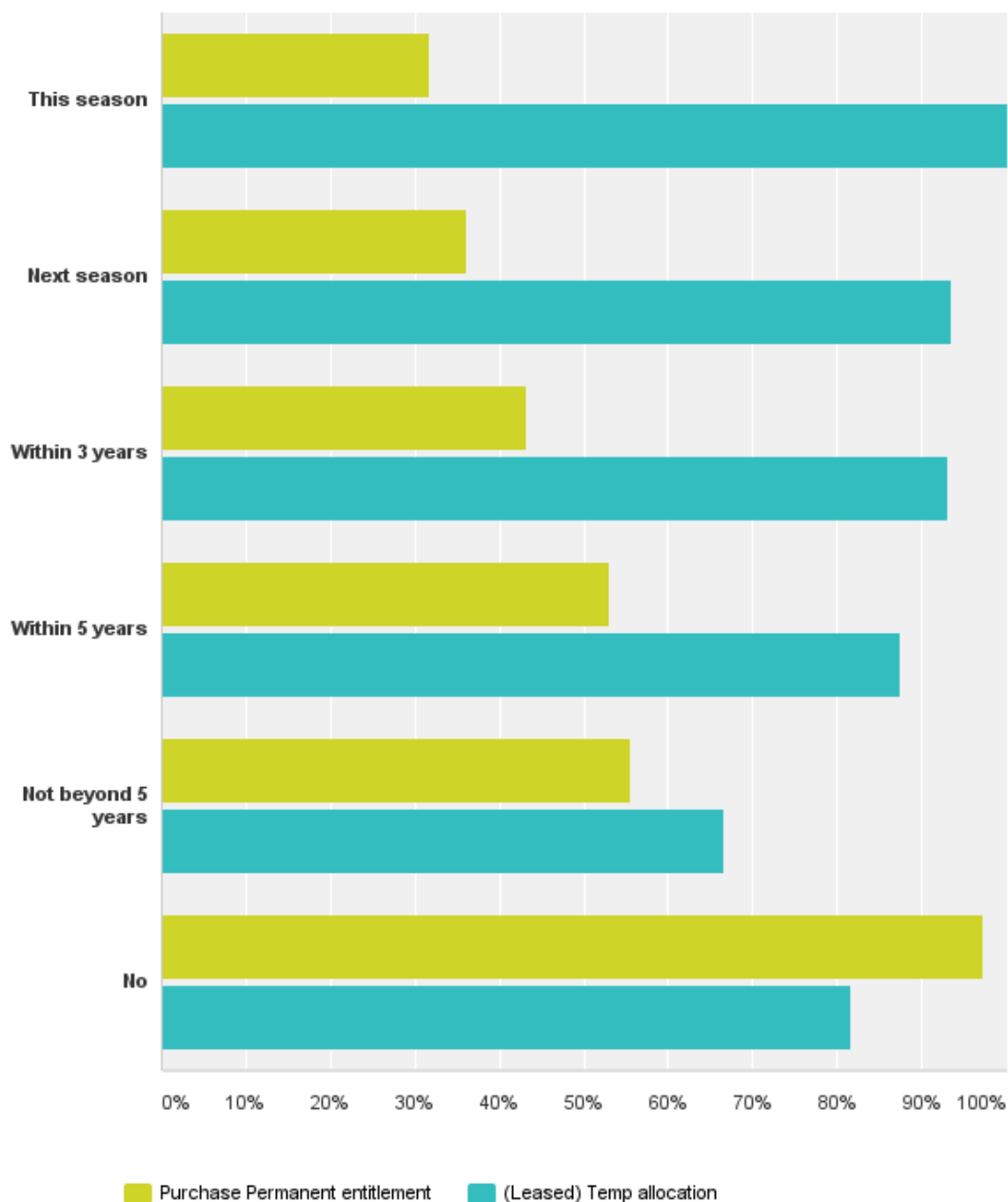


Figure 295: Q26 – All data (Chart b)

## Round One

Will you enter the water market in the future and is so for what purpose:			
Answer Options	Purchase Permanent entitlement	(Leased) Temp allocation	Response Count
This season	2	9	9
Next season	4	9	11
Within 3 years	4	8	9
Within 5 years	5	8	10
Not beyond 5 years	1	2	3
No	8	7	9
<b>answered question</b>			<b>19</b>
<b>skipped question</b>			<b>1</b>

Figure 296: Q26 – Round One (Table)

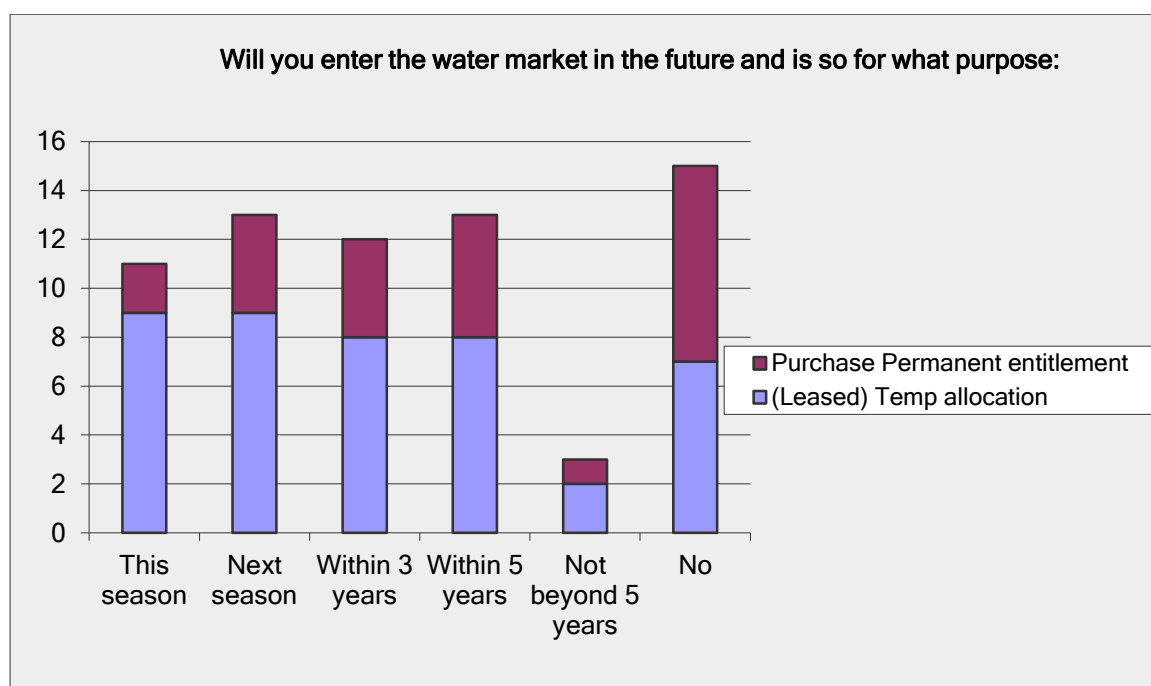


Figure 297: Q26 – Round One (Chart)

## Round Two

Will you enter the water market in the future and is so for what purpose:			
Answer Options	Purchase Permanent entitlement	(Leased) Temp allocation	Response Count
This season	12	35	35
Next season	13	35	36
Within 3 years	15	33	35
Within 5 years	12	20	22
Not beyond 5 years	4	4	6
No	66	55	67
<b>answered question</b>			<b>94</b>
<b>skipped question</b>			<b>0</b>

Figure 298: Q26 – Round Two (Table)

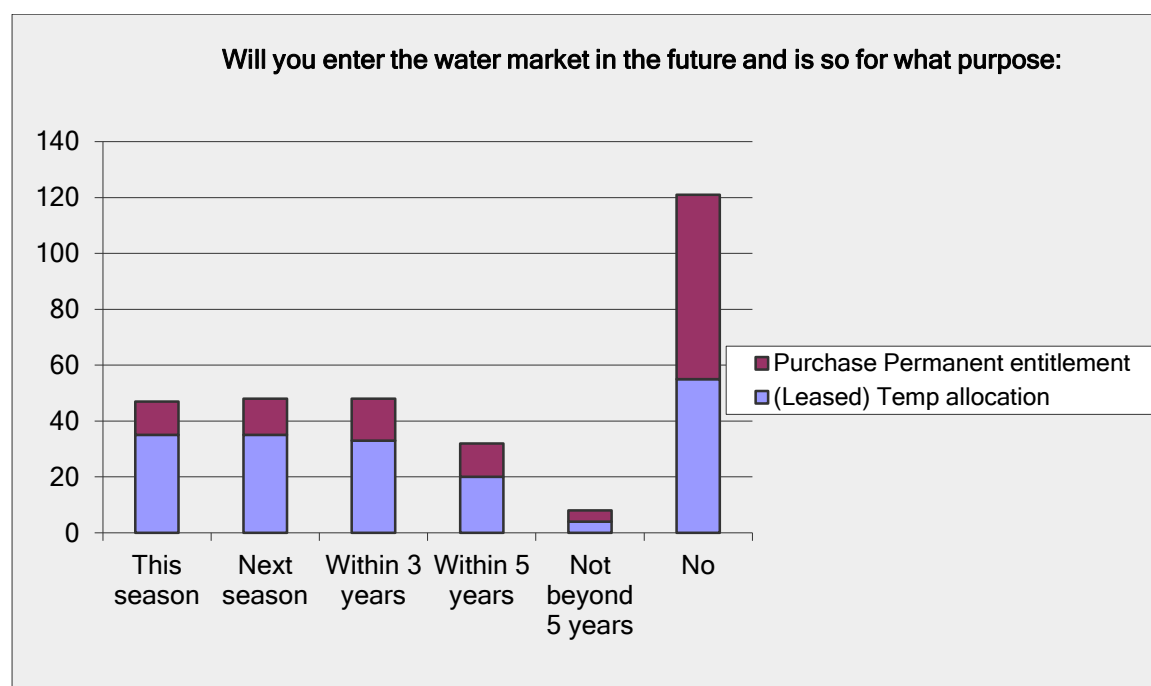


Figure 299: Q26 – Round Two (Chart)

### Dripper conversions only

Will you enter the water market in the future and is so for what purpose:			
Answer Options	Purchase Permanent entitlement	(Leased) Temp allocation	Response Count
This season	5	21	21
Next season	7	20	22
Within 3 years	6	20	21
Within 5 years	4	11	12
Not beyond 5 years	1	2	3
No	56	48	56
<b>answered question</b>			<b>72</b>
<b>skipped question</b>			<b>0</b>

Figure 300: Q26 – Dripper conversions only (Table)

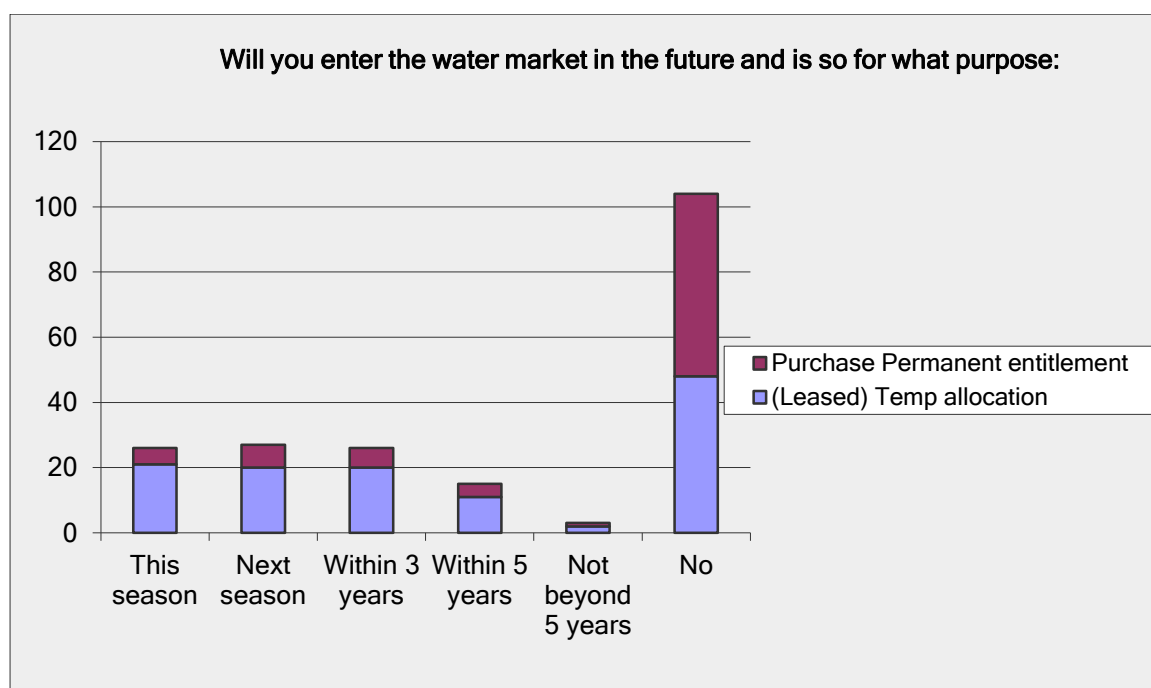


Figure 301: Q26 – Dripper conversions only (Chart)

### Wine grapes only

Will you enter the water market in the future and is so for what purpose:			
Answer Options	Purchase Permanent entitlement	(Leased) Temp allocation	Response Count
This season	3	26	26
Next season	5	26	28
Within 3 years	8	23	26
Within 5 years	5	12	15
Not beyond 5 years	3	4	7
No	62	55	64
<b>answered question</b>			<b>85</b>
<b>skipped question</b>			<b>0</b>

Figure 302: Q26 – Wine grapes only (Table)

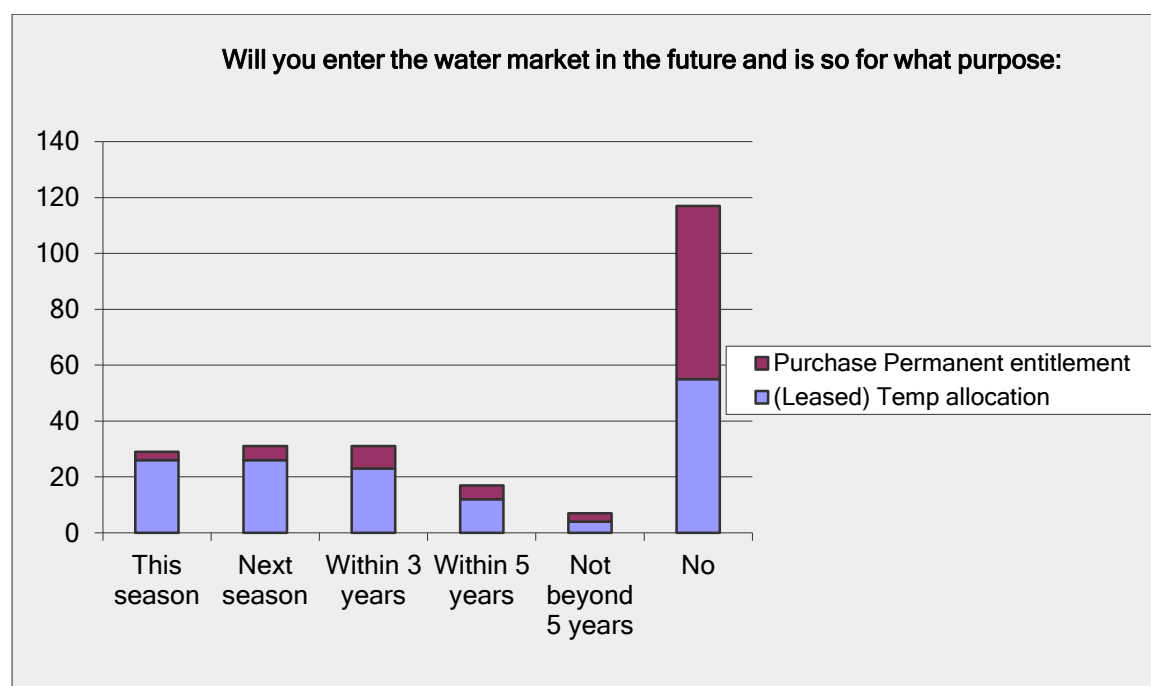


Figure 303: Q26 – Wine grapes only (Chart)

### Citrus only

Will you enter the water market in the future and is so for what purpose:			
Answer Options	Purchase Permanent entitlement	(Leased) Temp allocation	Response Count
This season	1	14	14
Next season	2	12	13
Within 3 years	2	12	12
Within 5 years	1	9	9
Not beyond 5 years	0	0	0
No	21	14	21
<b>answered question</b>			<b>30</b>
<b>skipped question</b>			<b>0</b>

Figure 304: Q26 – Citrus only (Table)

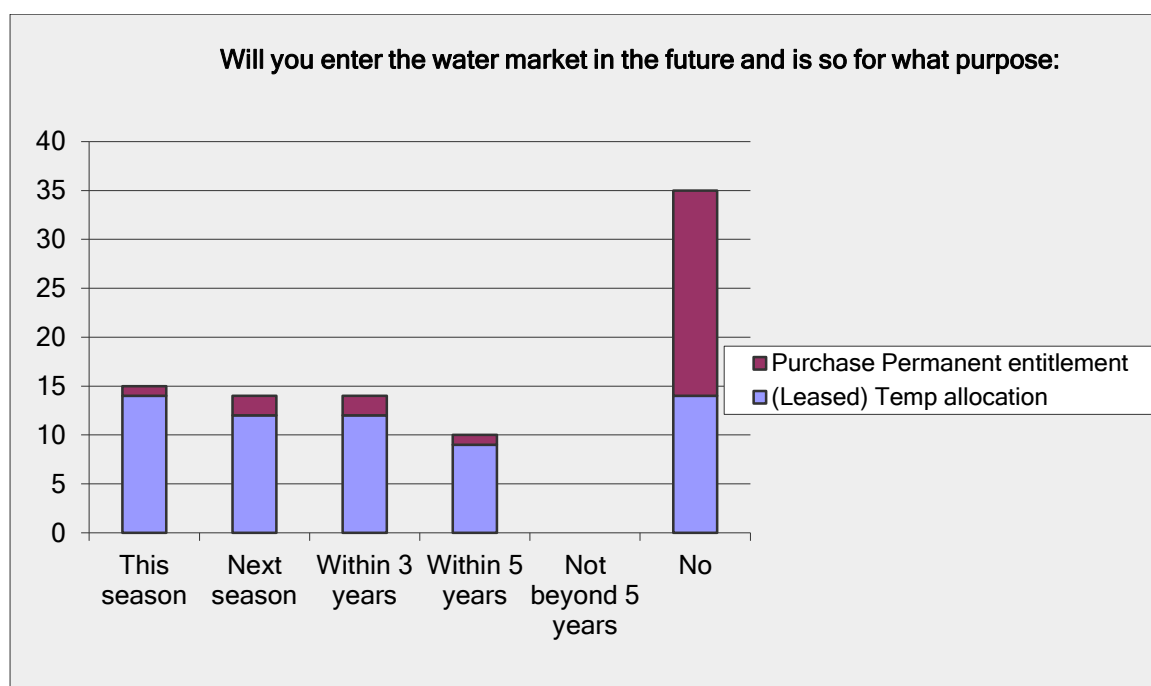


Figure 305: Q26 Citrus only (Chart)

## Almonds only

Will you enter the water market in the future and is so for what purpose:			
Answer Options	Purchase Permanent entitlement	(Leased) Temp allocation	Response Count
This season	8	9	9
Next season	8	9	9
Within 3 years	8	9	9
Within 5 years	8	7	8
Not beyond 5 years	2	2	2
No	3	3	3
<b>answered question</b>			<b>13</b>
<b>skipped question</b>			<b>0</b>

Figure 306: Q26 – Almonds only (Table)

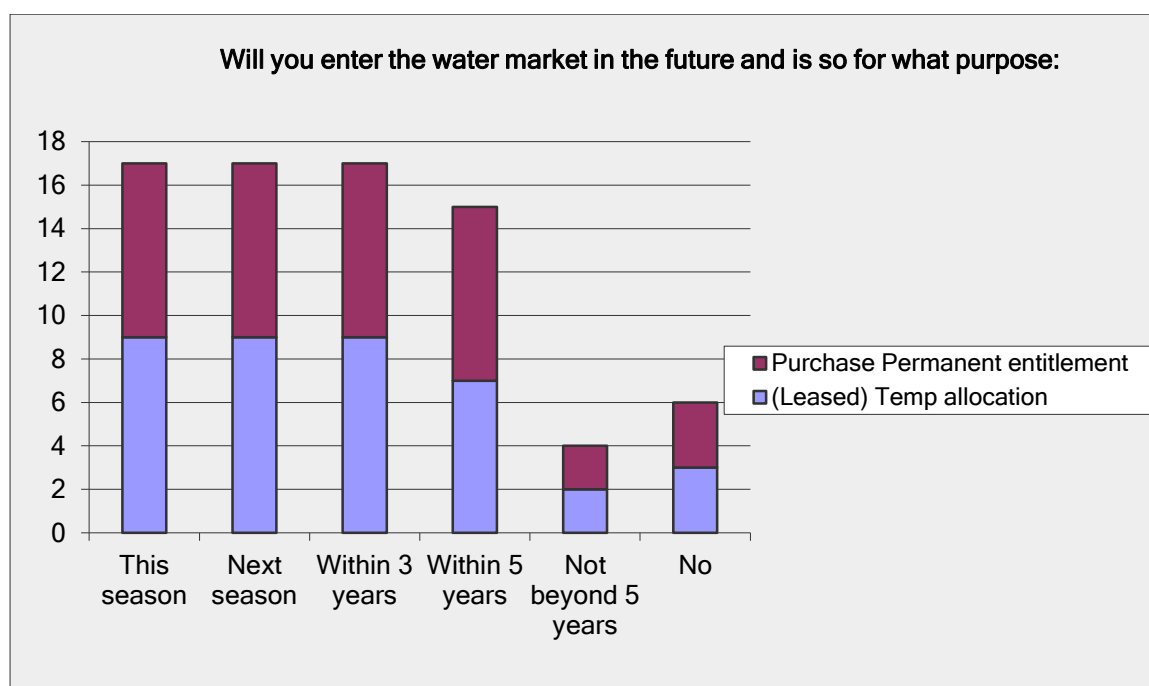


Figure 307: Q26 – Almonds only (Chart)

## Progress to target

Irrigators engaged in water use planning.

Increased accountability (irrigator & operator level) in water resource management.

Irrigators with increased capacity to manage reduced water availability.

## Summary

The majority of growers believe that they will be active in the water market into the future, currently leasing water in preference to permanent purchasing over the next five years. Many growers indicated that they still have adequate water license to fulfil their crops' requirements.



## Question 27

### Question

Would you have made these changes to your property without the funding?

### All data

Would you have made these changes to your property without the funding?		
Answer Options	Response Percent	Response Count
Yes immediately	5.4%	6
Yes in 1-3 years	8.9%	10
Yes in 3-5 years	19.6%	22
Yes more than 5 years time	13.4%	15
No	52.7%	59
<b><i>answered question</i></b>		<b>112</b>
<b><i>skipped question</i></b>		<b>2</b>

Figure 308: Q27 – All data (Table)

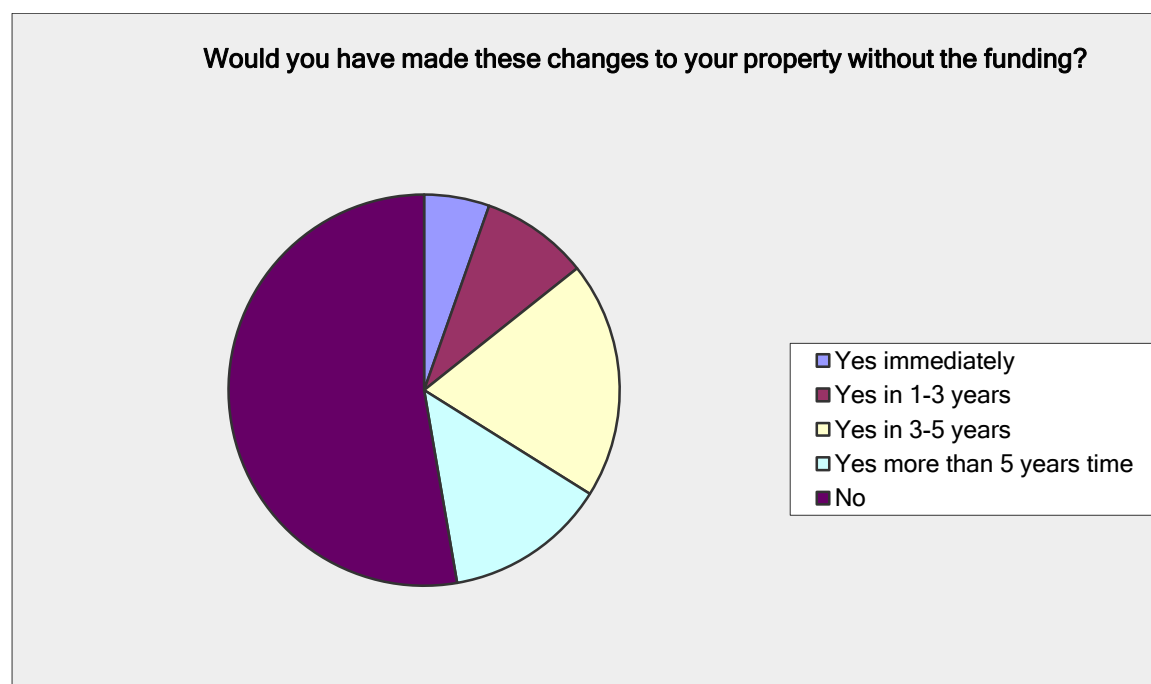


Figure 309: Q27 – All data (Chart)

## Round One

Would you have made these changes to your property without the funding?		
Answer Options	Response Percent	Response Count
Yes immediately	0.0%	0
Yes in 1-3 years	15.8%	3
Yes in 3-5 years	36.8%	7
Yes more than 5 years time	10.5%	2
No	36.8%	7
<b><i>answered question</i></b>		<b>19</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 310: Q27 – Round One (Table)

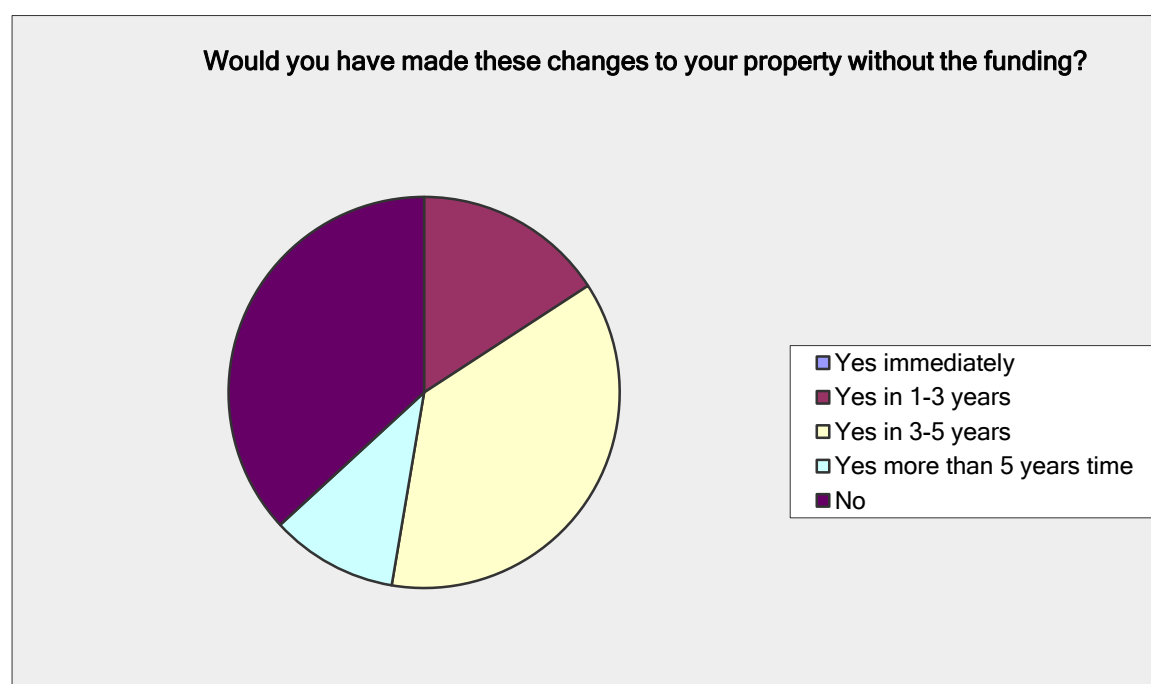


Figure 311: Q27 – Round One (Chart)

## Round Two

Would you have made these changes to your property without the funding?		
Answer Options	Response Percent	Response Count
Yes immediately	6.5%	6
Yes in 1-3 years	7.5%	7
Yes in 3-5 years	16.1%	15
Yes more than 5 years time	14.0%	13
No	55.9%	52
<b><i>answered question</i></b>		<b>93</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 312: Q27 – Round Two (Table)

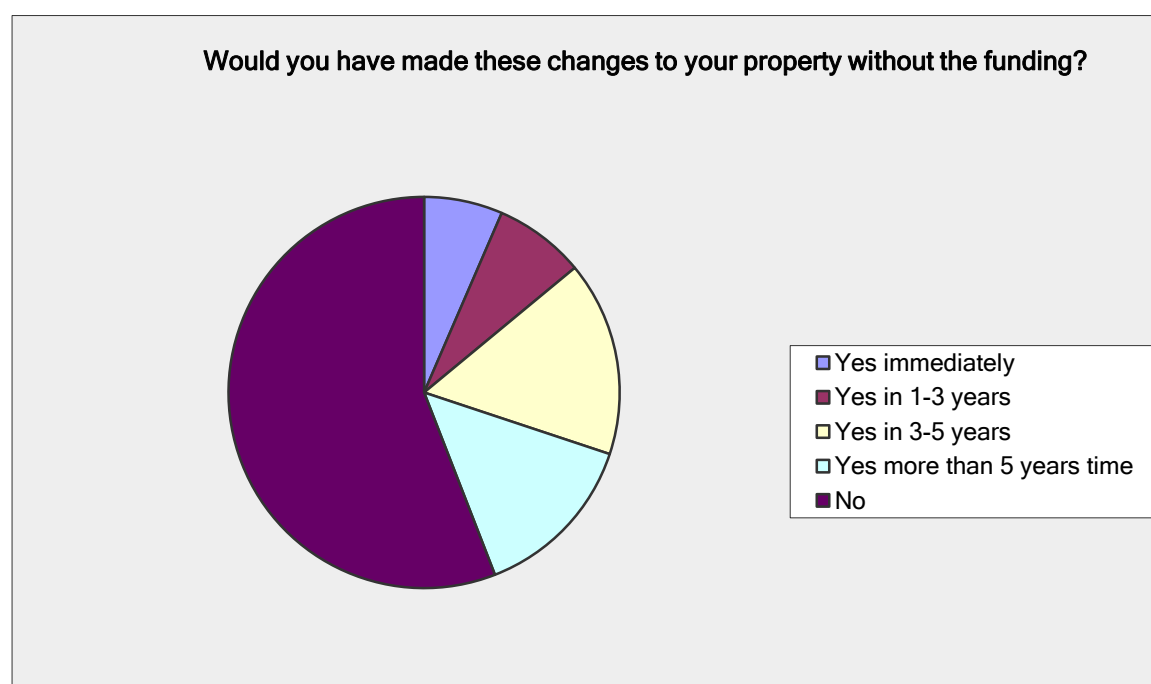


Figure 313: Q27 – Round Two (Chart)

### Dripper conversions only

Would you have made these changes to your property without the funding?		
Answer Options	Response Percent	Response Count
Yes immediately	1.4%	1
Yes in 1-3 years	4.2%	3
Yes in 3-5 years	16.9%	12
Yes more than 5 years time	15.5%	11
No	62.0%	44
<b><i>answered question</i></b>		<b>71</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 314: Q27 – Dripper conversions only (Table)

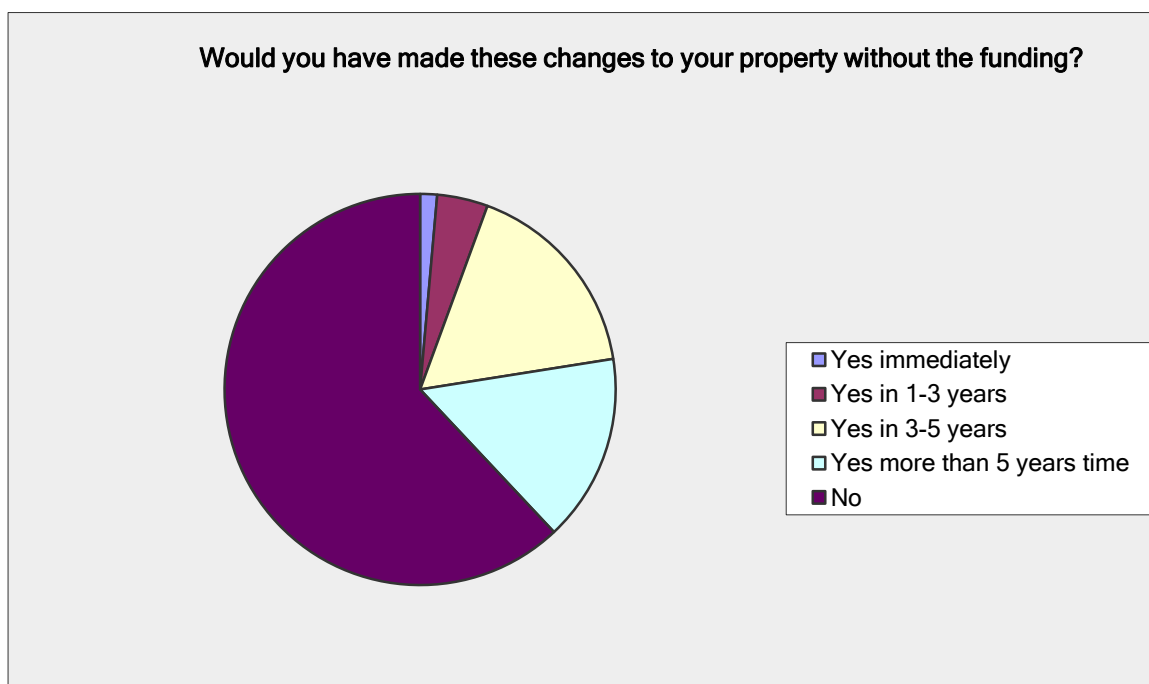


Figure 315: Q27 – Dripper conversions only (Chart)

### Wine grapes only

Would you have made these changes to your property without the funding?		
Answer Options	Response Percent	Response Count
Yes immediately	4.8%	4
Yes in 1-3 years	7.1%	6
Yes in 3-5 years	22.6%	19
Yes more than 5 years time	11.9%	10
No	53.6%	45
<b><i>answered question</i></b>		<b>84</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 316: Q27 – Wine grapes only (Table)

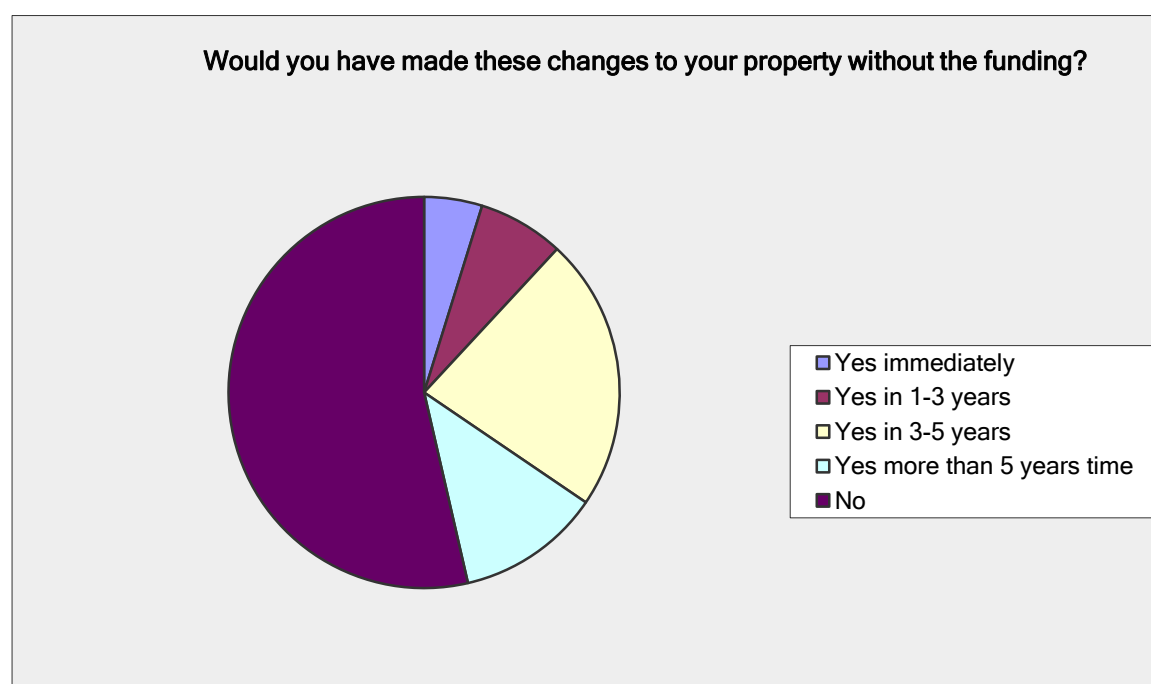


Figure 317: Q27 – Winr grapes only (Chart)

### Citrus only

Would you have made these changes to your property without the funding?		
Answer Options	Response Percent	Response Count
Yes immediately	6.7%	2
Yes in 1-3 years	0.0%	0
Yes in 3-5 years	26.7%	8
Yes more than 5 years time	16.7%	5
No	50.0%	15
<b>answered question</b>		<b>30</b>
<b>skipped question</b>		<b>0</b>

Figure 318: Q27 – Citrus only (Table)

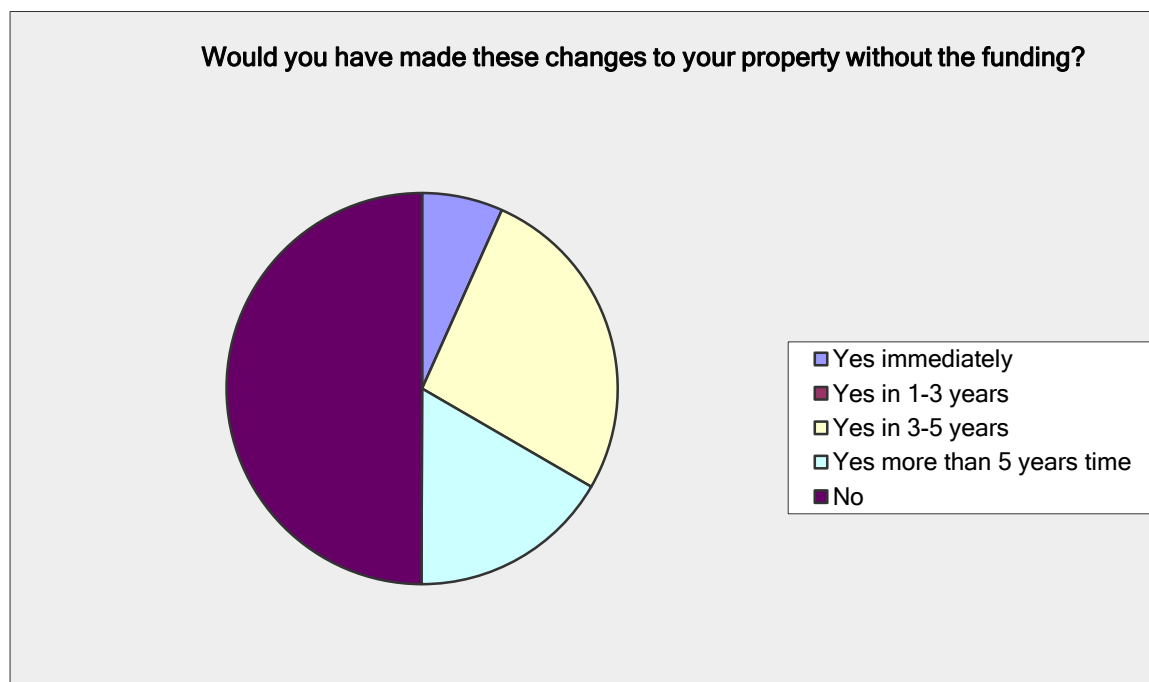


Figure 319: Q27 – Citrus only (Chart)

### Almonds only

Would you have made these changes to your property without the funding?		
Answer Options	Response Percent	Response Count
Yes immediately	0.0%	0
Yes in 1-3 years	15.4%	2
Yes in 3-5 years	7.7%	1
Yes more than 5 years time	38.5%	5
No	38.5%	5
<b>answered question</b>		<b>13</b>
<b>skipped question</b>		<b>0</b>

Figure 320: Q27 - Almonds only (Table)

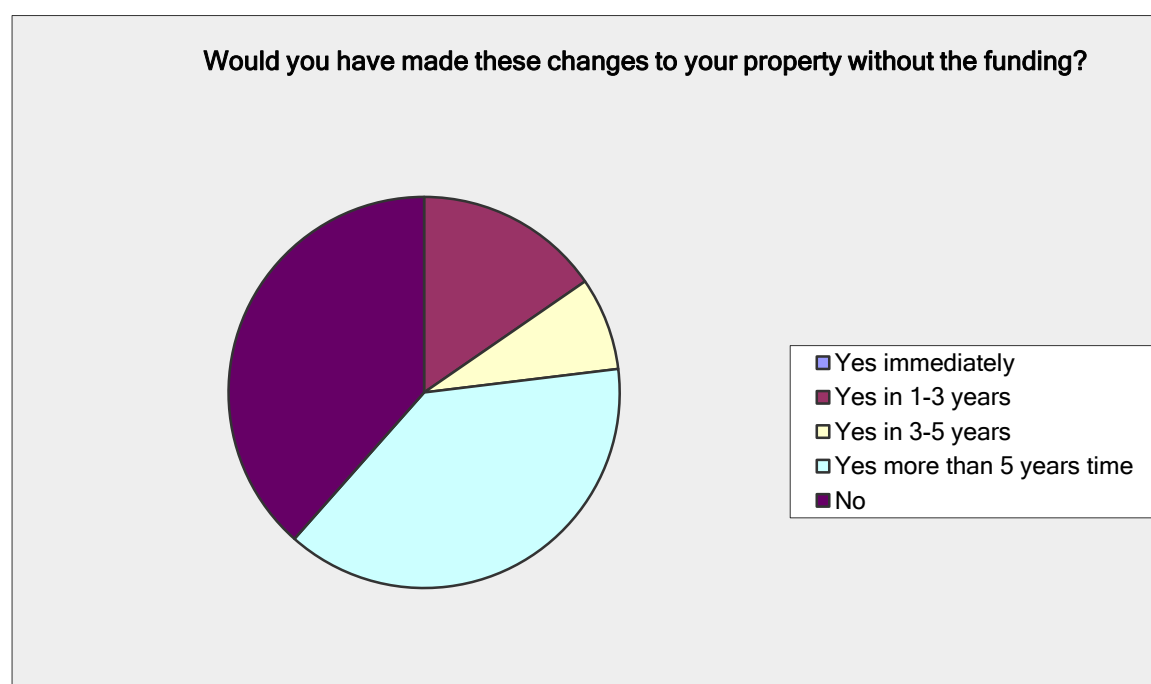


Figure 321: Q27 – Almonds only (Chart)

### Growers' comments

Many growers made comments such as “I would not be farming today if it was not for these grants”, and “These grants have enabled me to stay on the farm”. Generally the growers have been very happy with the program, the results, and the way in which the program has been conducted.

### Summary

The majority of the growers surveyed indicated that they would not have made the upgrades without the funding, or would have delayed the upgrades for several years. This trend was evident amongst all groups surveyed. The rounds one and two irrigation efficiency grant bought forward the on-farm efficiencies that we see today.

## Question 28

### Question

Did you purchase any additional water entitlement to participate in the program?

### All data

Did you purchase additional water entitlement to participate in the program?		
Answer Options	Response Percent	Response Count
Yes	0.9%	1
No	99.1%	112
<b><i>answered question</i></b>		<b>113</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 322: Q28 – All data (Table)

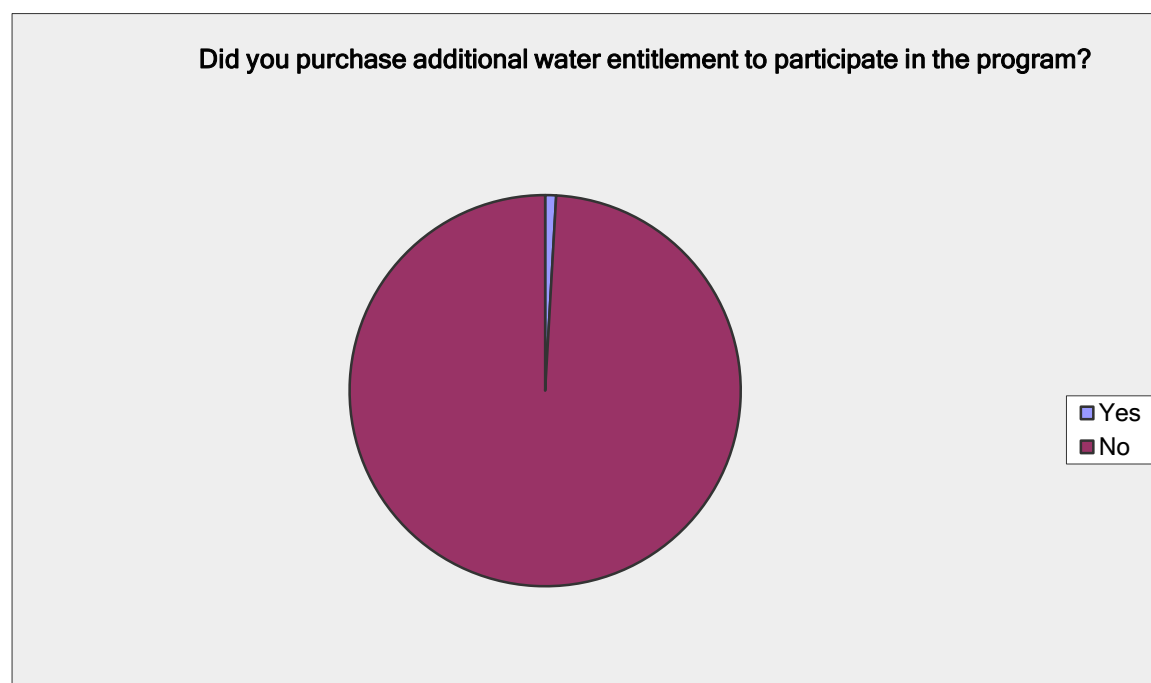


Figure 323: Q28 – All data (Chart)



## Round One

Did you purchase additional water entitlement to participate in the program?		
Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	100.0%	19
<b><i>answered question</i></b>		<b>19</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 324: Q28 – Round One (Table)

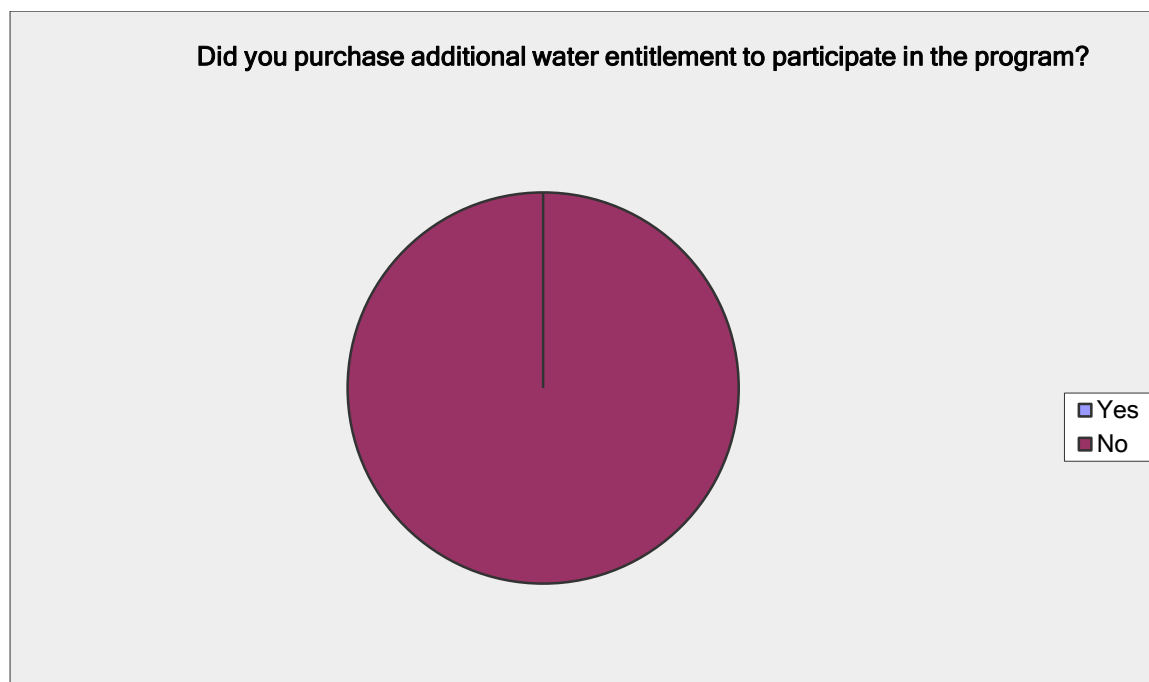


Figure 325: Q28 – Round One (Chart)

## Round Two

Did you purchase additional water entitlement to participate in the program?		
Answer Options	Response Percent	Response Count
Yes	1.1%	1
No	98.9%	93
<b><i>answered question</i></b>		<b>94</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 326: Q28 – Round Two (Table)

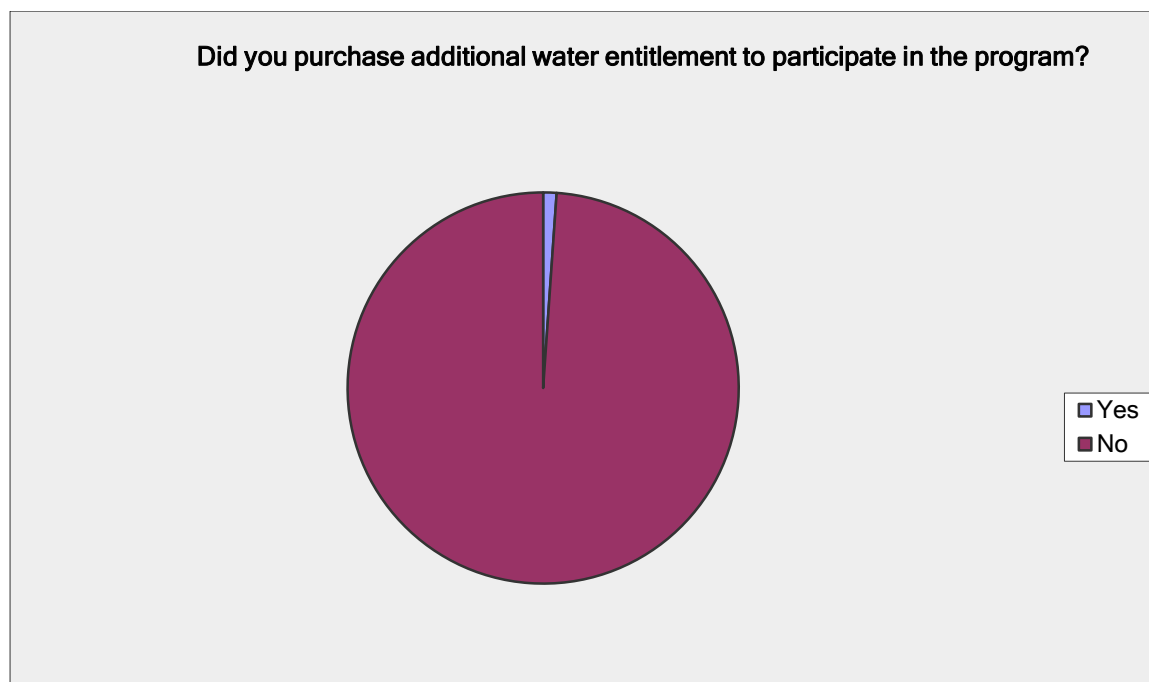


Figure 327: Q28 – Round Two (Chart)

### Dripper conversions only

Did you purchase additional water entitlement to participate in the program?		
Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	100.0%	72
<b><i>answered question</i></b>		<b>72</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 328: Q28 – Dripper conversion only (Table)

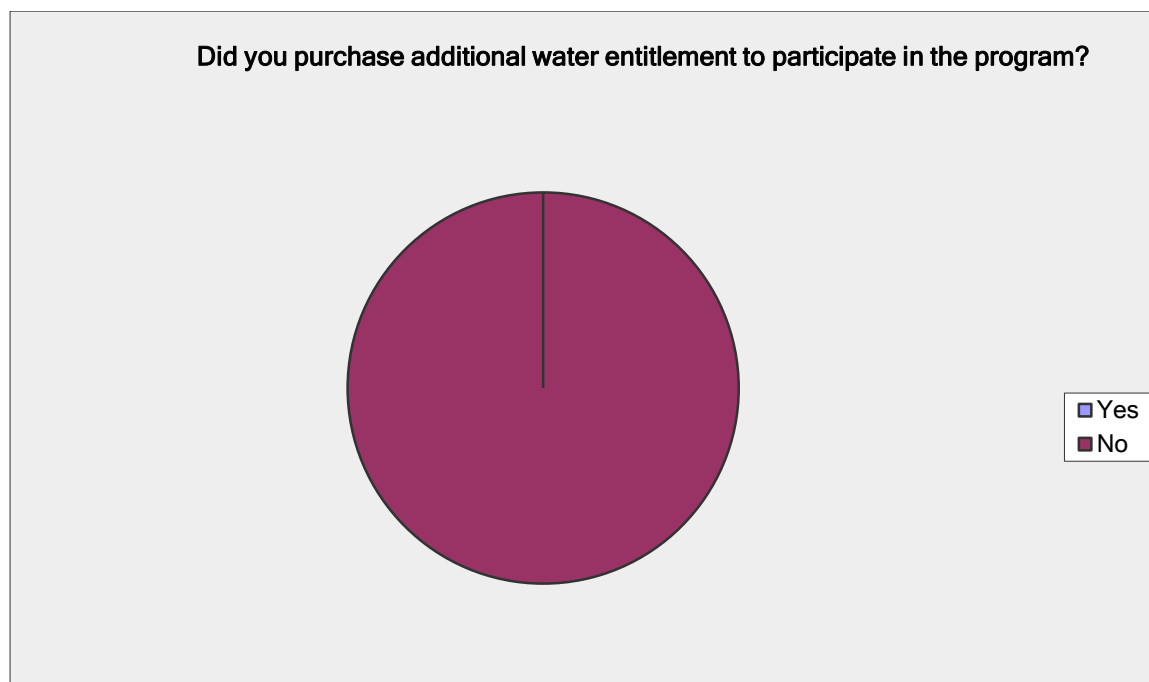


Figure 329: Q28 – Dripper conversion only (Chart)

### Wine grapes only

Did you purchase additional water entitlement to participate in the program?		
Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	100.0%	85
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 330: Q28 – Wine grapes only (Table)

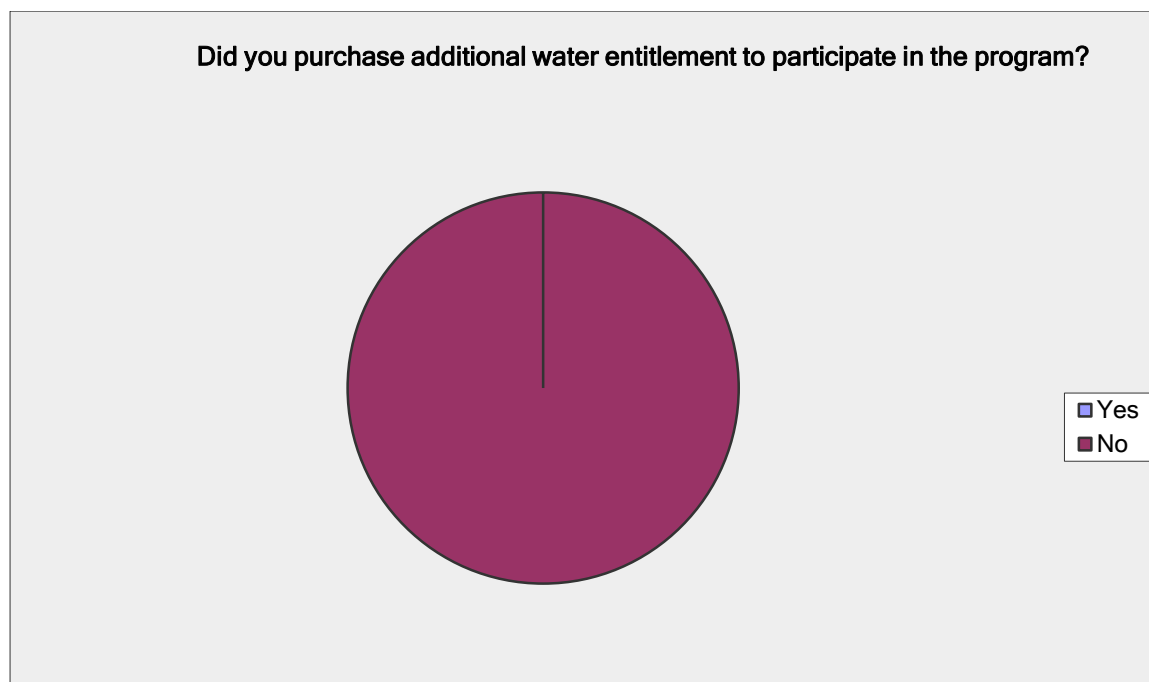


Figure 331: Q28 – Wine grapes only (Chart)

### Citrus only

Did you purchase additional water entitlement to participate in the program?		
Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	100.0%	30
<b><i>answered question</i></b>		<b>30</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 332: Q28 – Citrus only (Table)

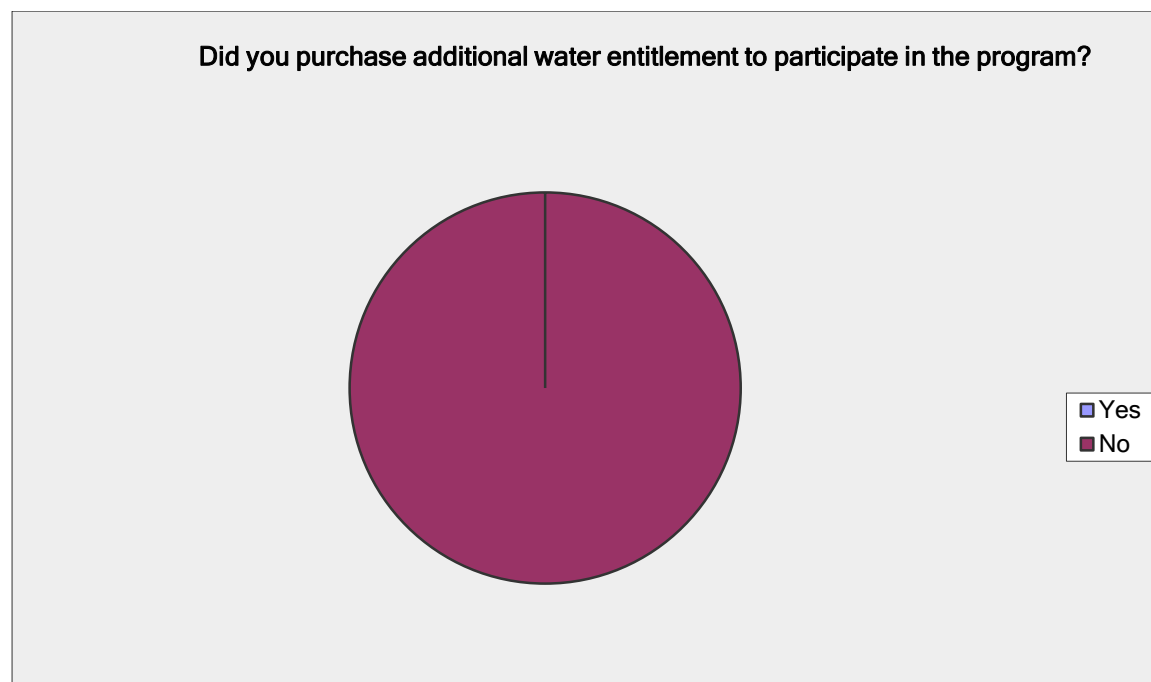


Figure 333: Q28 – Citrus only (Chart)

### Almonds only

Did you purchase additional water entitlement to participate in the program?		
Answer Options	Response Percent	Response Count
Yes	7.7%	1
No	92.3%	12
<b><i>answered question</i></b>		<b>13</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 334: Q28 – Almonds only (Table)

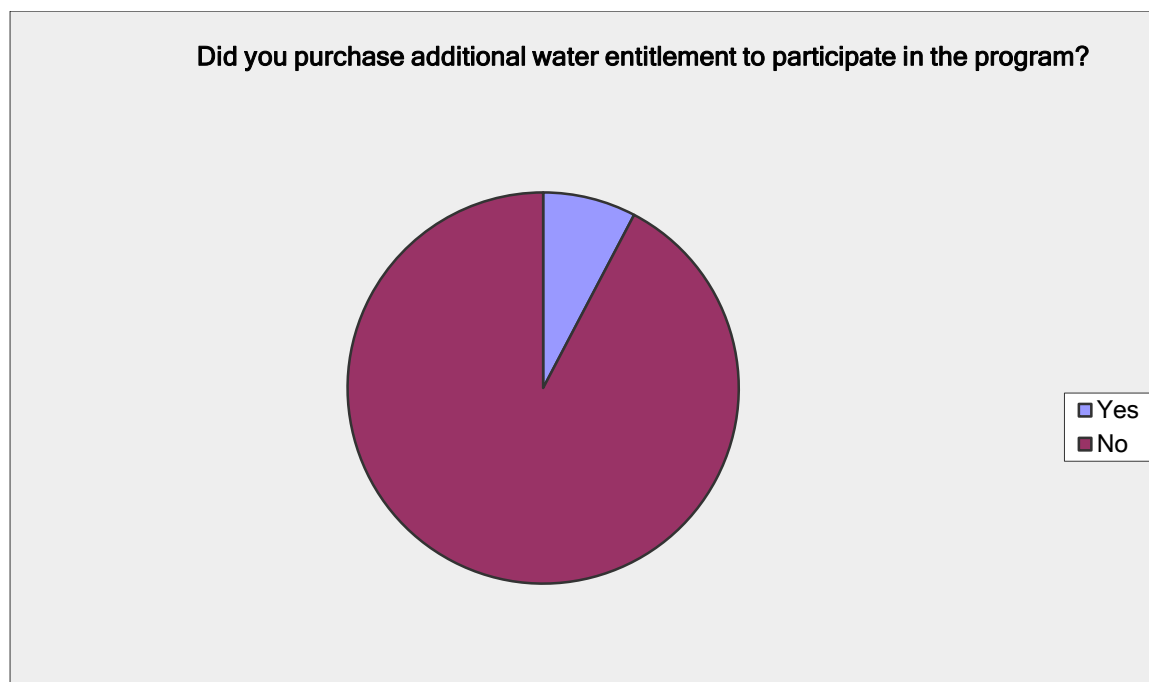


Figure 335: Q28 – Almonds only (Chart)

### Summary

Through rounds one and two, very few growers purchased water entitlement to participate in these programs. It could be expected that the number of growers purchasing water in later programs would increase.

## Question 29

### Question

If more funding was available, would you be interested in....

### All data

If more funding was available, would you be interested in:				
Answer Options	Yes	No	Undecided	Response Count
Further improvements to project site	32	79	2	113
Improvement to other potential sites	68	40	5	113
Training in, efficient management of modern irrigation systems for groups	13	90	10	113
Training in, efficient management of modern irrigation systems one-on-one	13	90	10	113
Training in, management and maintenance of your new irrigation system for groups	13	90	10	113
Training in, management and maintenance of your new irrigation system on-on-one	13	90	10	113
Training in, business development	13	90	10	113
<b>answered question</b>				<b>113</b>
<b>skipped question</b>				<b>1</b>

Figure 336: Q29 – All data (Table)

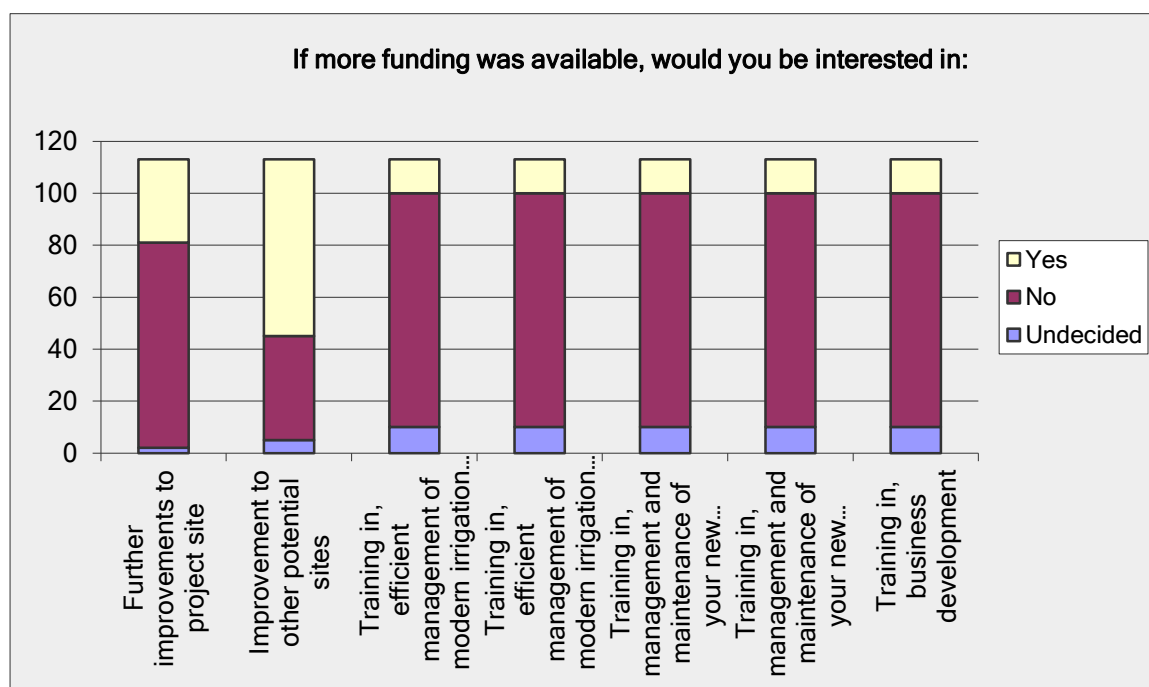


Figure 337: Q29 – All data (Chart a)

**Q29 If more funding was available, would you be interested in:**

Answered: 113 Skipped: 1

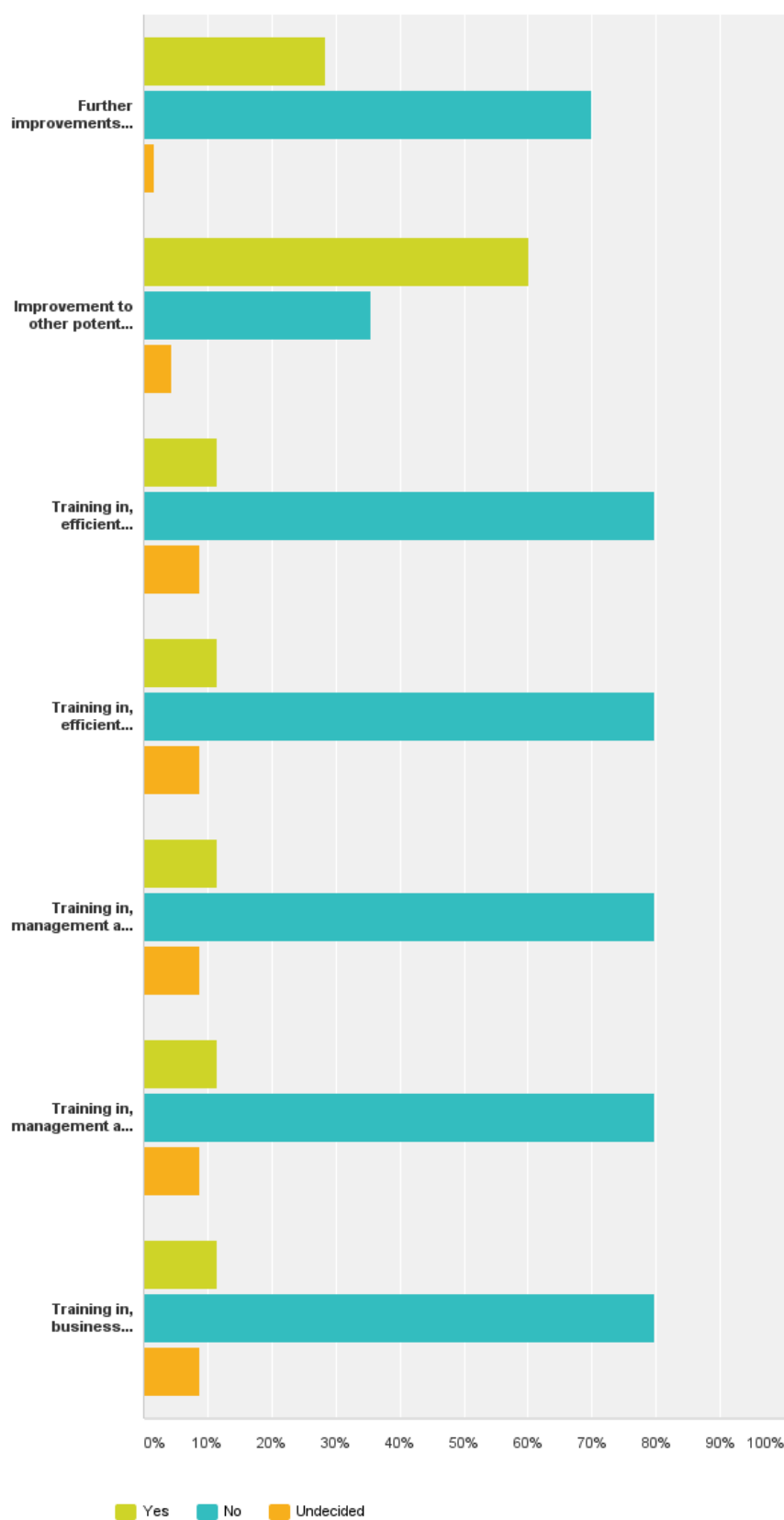




Figure 338: Q29 – All data (Chart b)

## Round One

If more funding was available, would you be interested in:				
Answer Options	Yes	No	Undecided	Response Count
Further improvements to project site	7	12	0	19
Improvement to other potential sites	14	4	1	19
Training in, efficient management of modern irrigation systems for groups	3	14	2	19
Training in, efficient management of modern irrigation systems one-on-one	3	14	2	19
Training in, management and maintenance of your new irrigation system for groups	3	14	2	19
Training in, management and maintenance of your new irrigation system on-on-one	3	14	2	19
Training in, business development	3	14	2	19
<b>answered question</b>				<b>19</b>
<b>skipped question</b>				<b>1</b>

Figure 339: Q29 – Round One (Table)

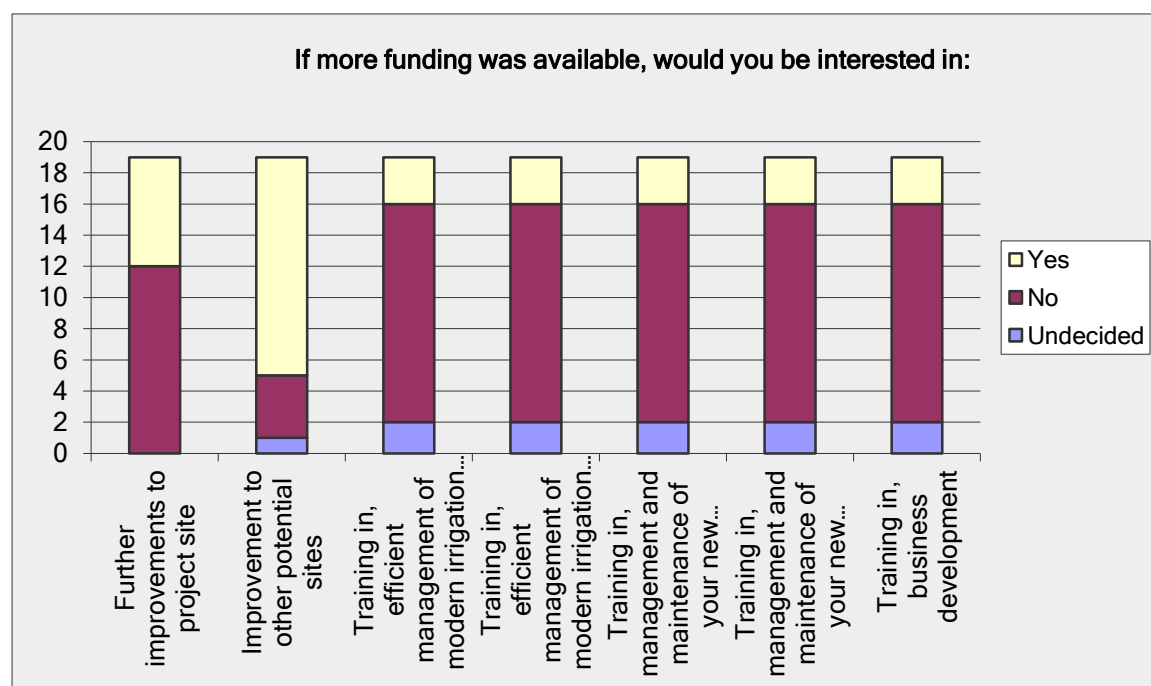


Figure 340: Q29 – Round One (Chart)

## Round Two

If more funding was available, would you be interested in:				
Answer Options	Yes	No	Undecided	Response Count
Further improvements to project site	25	67	2	94
Improvement to other potential sites	54	36	4	94
Training in, efficient management of modern irrigation systems for groups	10	76	8	94
Training in, efficient management of modern irrigation systems one-on-one	10	76	8	94
Training in, management and maintenance of your new irrigation system for groups	10	76	8	94
Training in, management and maintenance of your new irrigation system on-on-one	10	76	8	94
Training in, business development	10	76	8	94
<b><i>answered question</i></b>				<b>94</b>
<b><i>skipped question</i></b>				<b>0</b>

Figure 341: Q29 – Round Two (Table)

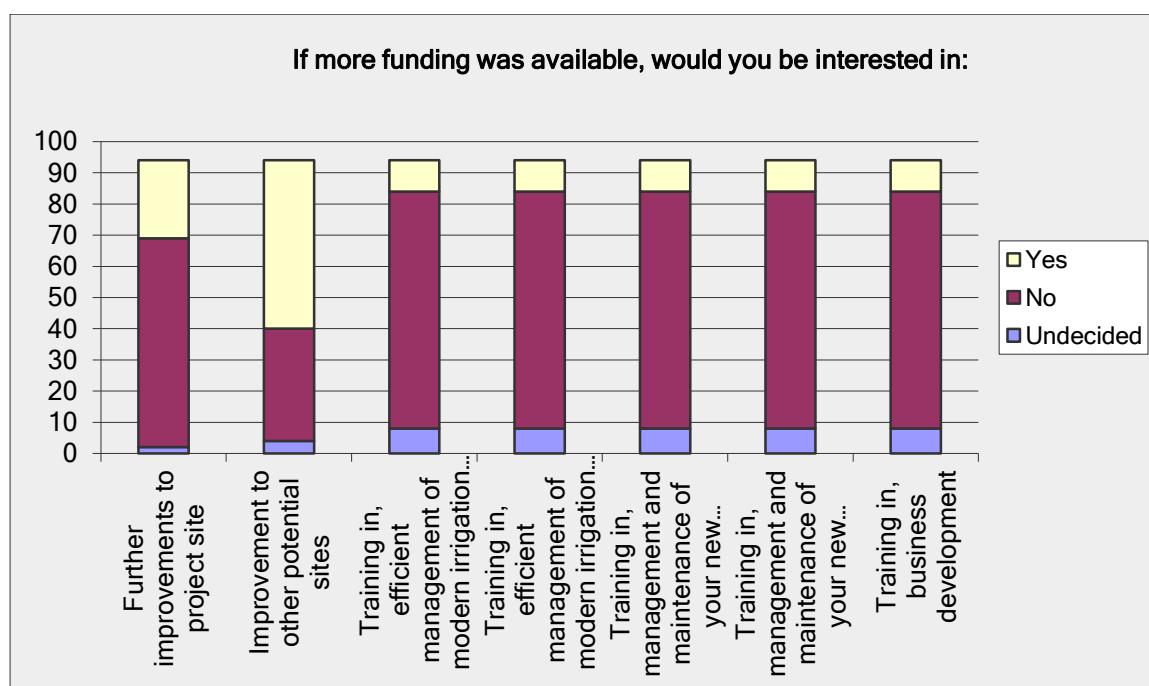


Figure 342: Q29 – Round Two (Chart)

### Dripper conversions only

If more funding was available, would you be interested in:				
Answer Options	Yes	No	Undecided	Response Count
Further improvements to project site	18	53	1	72
Improvement to other potential sites	44	27	1	72
Training in, efficient management of modern irrigation systems for groups	8	59	5	72
Training in, efficient management of modern irrigation systems one-on-one	8	59	5	72
Training in, management and maintenance of your new irrigation system for groups	8	59	5	72
Training in, management and maintenance of your new irrigation system on-on-one	8	59	5	72
Training in, business development	8	59	5	72
<b>answered question</b>				<b>72</b>
<b>skipped question</b>				<b>0</b>

Figure 343: Q29 – Dripper conversions only (Table)

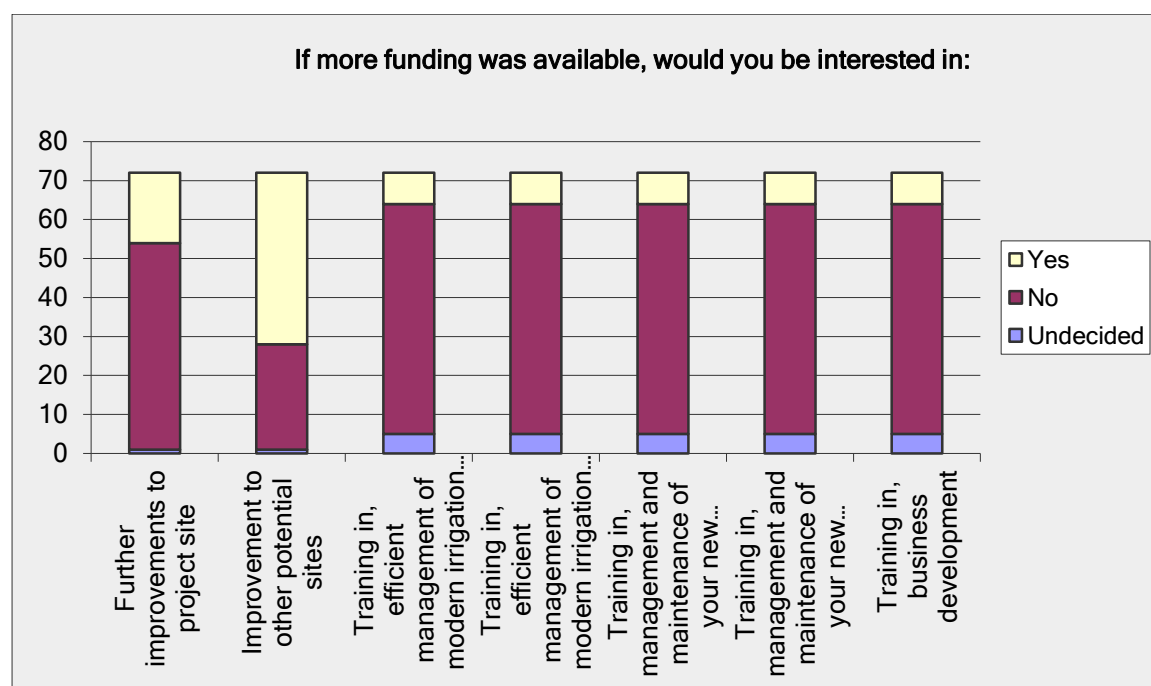


Figure 344: Q29 – Dripper conversions only (Chart)

## Wine grapes only

If more funding was available, would you be interested in:				
Answer Options	Yes	No	Undecided	Response Count
Further improvements to project site	21	62	2	85
Improvement to other potential sites	46	35	4	85
Training in, efficient management of modern irrigation systems for groups	8	69	8	85
Training in, efficient management of modern irrigation systems one-on-one	8	69	8	85
Training in, management and maintenance of your new irrigation system for groups	8	69	8	85
Training in, management and maintenance of your new irrigation system on-on-one	8	69	8	85
Training in, business development	8	69	8	85
<b><i>answered question</i></b>				<b>85</b>
<b><i>skipped question</i></b>				<b>0</b>

Figure 345: Q29 – Wine grapes only (Table)

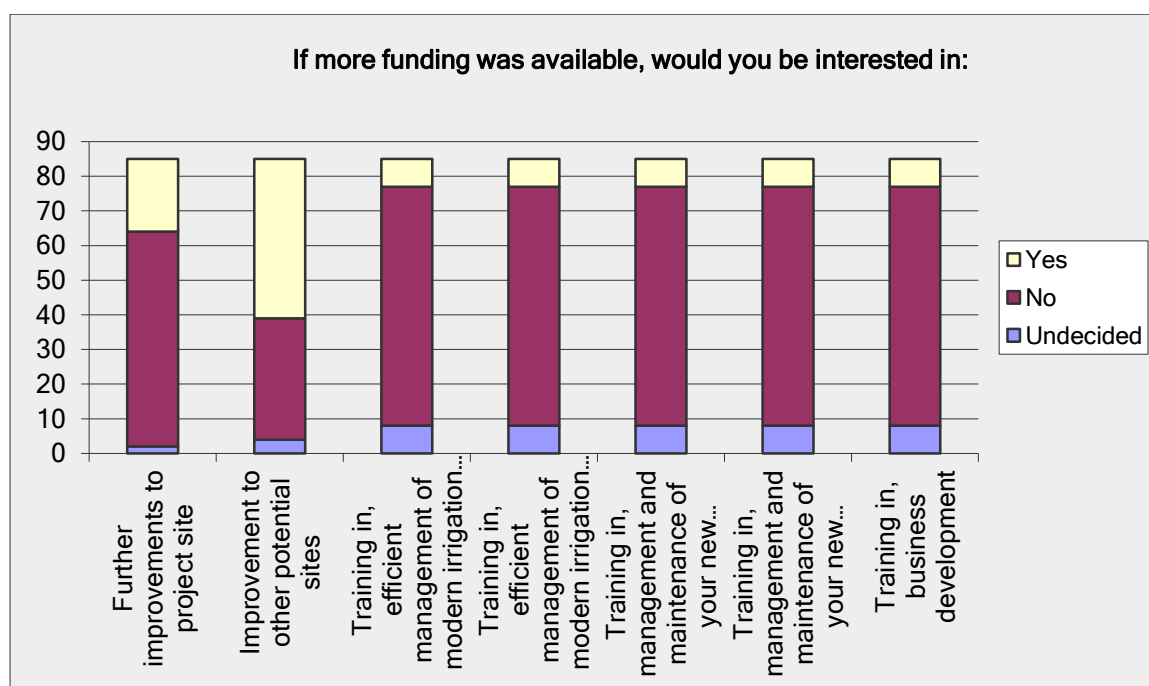


Figure 346: Q29 – Wine grapes only (Chart)

## Citrus only

If more funding was available, would you be interested in:				
Answer Options	Yes	No	Undecided	Response Count
Further improvements to project site	12	18	0	30
Improvement to other potential sites	24	5	1	30
Training in, efficient management of modern irrigation systems for groups	3	23	4	30
Training in, efficient management of modern irrigation systems one-on-one	3	23	4	30
Training in, management and maintenance of your new irrigation system for groups	3	23	4	30
Training in, management and maintenance of your new irrigation system on-on-one	3	23	4	30
Training in, business development	3	23	4	30
<b>answered question</b>				<b>30</b>
<b>skipped question</b>				<b>0</b>

Figure 347: Q29 – Citrus only (Table)

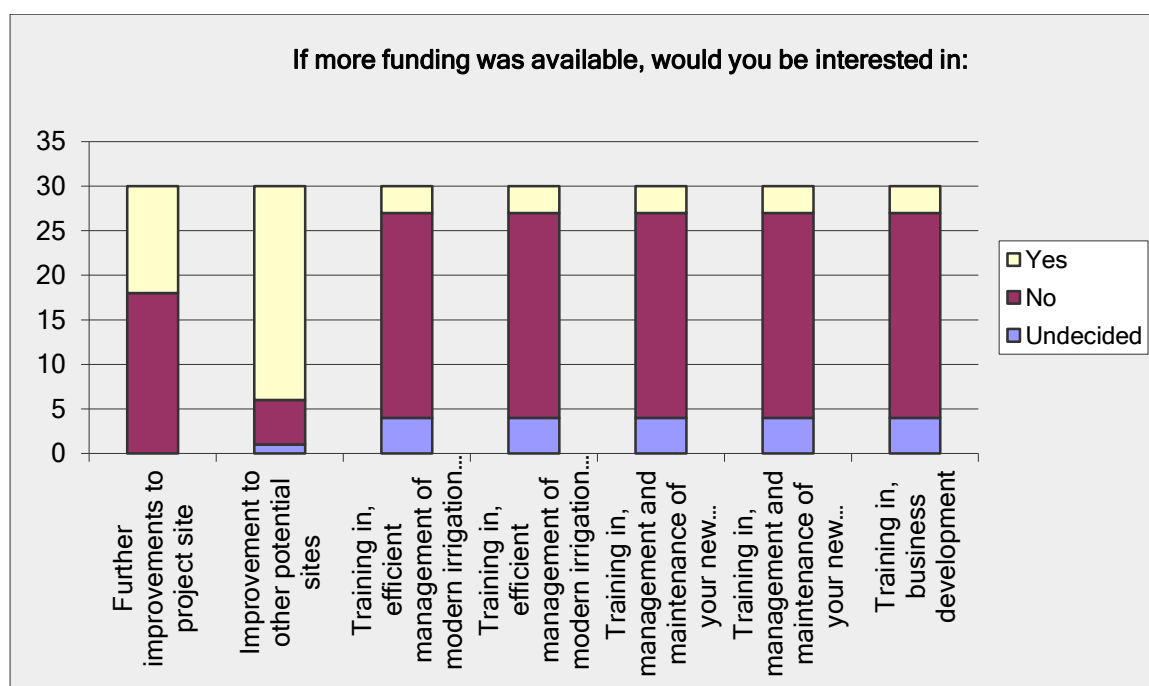


Figure 348: Q29 Citrus only (Chart)

## Almonds only

If more funding was available, would you be interested in:				
Answer Options	Yes	No	Undecided	Response Count
Further improvements to project site	5	8	0	13
Improvement to other potential sites	11	2	0	13
Training in, efficient management of modern irrigation systems for groups	4	7	2	13
Training in, efficient management of modern irrigation systems one-on-one	4	7	2	13
Training in, management and maintenance of your new irrigation system for groups	4	7	2	13
Training in, management and maintenance of your new irrigation system on-on-one	4	7	2	13
Training in, business development	4	7	2	13
<b><i>answered question</i></b>				<b>13</b>
<b><i>skipped question</i></b>				<b>0</b>

Figure 349: Q29 – Almonds only (Table)

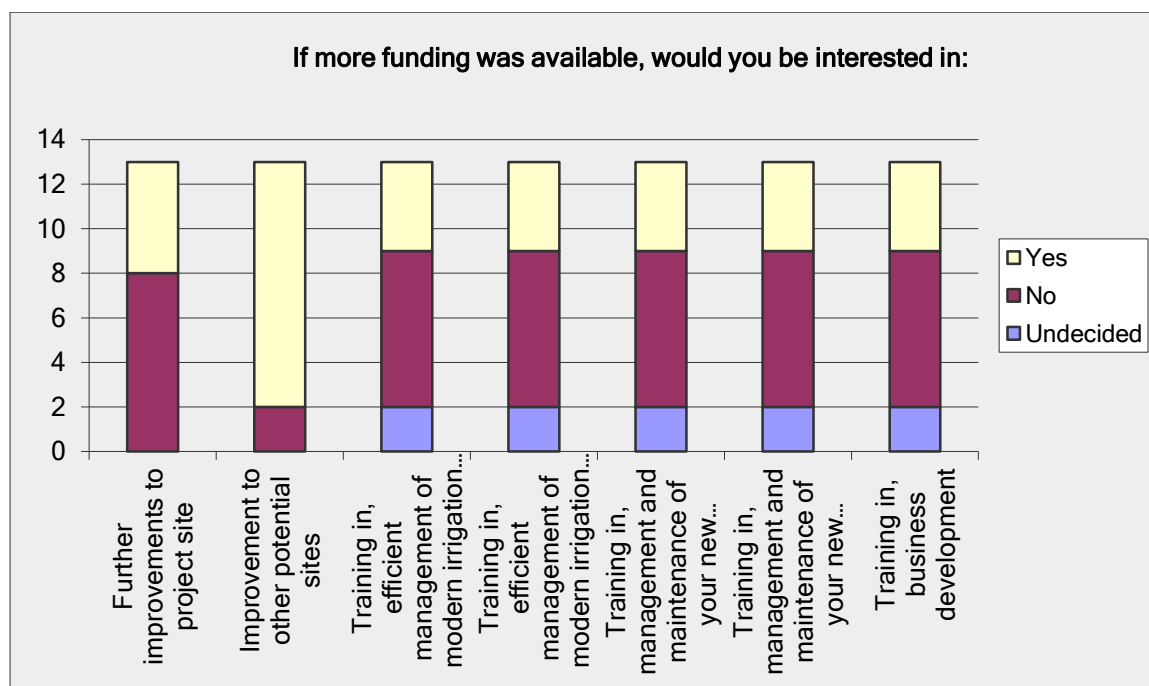


Figure 350: Q29 – Almonds only (Chart)

### **Sub-question-Further improvements to project site?**

#### **Summary**

The majority of growers surveyed believe that they have made most of the efficiency gains that are achievable, and therefore do not have many more improvements that they could make to their project site in term of irrigation. Those who wish to make changes were no irrigation upgrades, including energy efficiency systems (solar) to reduce energy consumption costs. This trend was evident across all groups surveyed.

### **Sub-question-Improvements to other potential sites?**

#### **Summary**

It is apparent that many growers wish to upgrade other area within their properties, if funding was available. This is clearly evident amongst both citrus and almond growers and less so for wine grape growers.

### **Sub-question-Training needs?**

**Training in efficient management of modern irrigation systems for groups?**

**Training in efficient management of modern irrigation systems one-on-one?**

**Training in management and maintenance of your new irrigation system for groups?**

**Training in management and maintenance of your new irrigation system one-on-one?**

**Training in business development?**

#### **Summary**

The data suggests that growers are not interested in courses in either irrigation management or business management, yet with the large number of dripper systems installed, courses on maintenance could be conducted. The reason for growers not requiring the courses include some time has passed since completion of the project and they feel they understand their systems and that the retail dealers have, in many cases, conducted on-on-one training on-farm through the installation procedure.

## Question 30

### Question

What area of land (ha) would you potentially upgrade if more funding was available?

### All data

What area of land (Ha) would you potentially upgrade if more funding was available?	
Answer Options	Response Count
	69
<i>answered question</i>	69
<i>skipped question</i>	45

Figure 351: Q30 – All data, summary (Table)

What area of land (Ha) would you potentially upgrade if more funding was available?	
Answer Options	Response Count
	69
<i>answered question</i>	69
<i>skipped question</i>	45
Number	Response Text
1	65
2	38
3	6
4	60
5	22
6	8
7	8
8	84
9	84
10	84
11	13
12	135
13	80
14	30
15	30
16	30
17	9
18	56
19	18
20	3



21	6
22	10
23	45
24	45
25	24
26	160
27	160
28	100
29	85
30	25
31	10
32	48
33	13
34	182
35	70
36	31
37	80
38	10
39	4
40	70
41	160
42	100
43	160
44	20
45	20
46	5
47	20
48	6
49	30
50	24
51	40
52	10
53	500
54	500
55	4
56	24
57	60
58	50
59	25
60	33
61	4
62	85
63	18
64	48
65	16
66	30
67	110
68	110
69	10

	4263

Figure 352: Q30 – All data, detail (Table)

### Round One

What area of land (Ha) would you potentially upgrade if more funding was available?	
Answer Options	Response Count
	14
<i>answered question</i>	<b>14</b>
<i>skipped question</i>	<b>6</b>

Figure 353: Q30 – Round One (Table)

### Round Two

What area of land (Ha) would you potentially upgrade if more funding was available?	
Answer Options	Response Count
	55
<i>answered question</i>	<b>55</b>
<i>skipped question</i>	<b>39</b>

Figure 354: Q30 – Round Two (Table)

### Dripper conversions only

What area of land (Ha) would you potentially upgrade if more funding was available?	
Answer Options	Response Count
	42
<i>answered question</i>	<b>42</b>
<i>skipped question</i>	<b>30</b>

Figure 355: Q30 – Dripper conversions only (Table)

### Wine grapes only

What area of land (Ha) would you potentially upgrade if more funding was available?	
Answer Options	Response Count
	44
<i>answered question</i>	<b>44</b>
<i>skipped question</i>	<b>41</b>

Figure 356: Q30 – Wine grapes only (Table)

### Citrus only

What area of land (Ha) would you potentially upgrade if more funding was available?	
Answer Options	Response Count
	25

<b><i>answered question</i></b>	<b>25</b>
<b><i>skipped question</i></b>	<b>5</b>

Figure 357: Q30 – Citrus only (Table)

### Almonds only

<b>What area of land (Ha) would you potentially upgrade if more funding was available?</b>	
<b>Answer Options</b>	<b>Response Count</b>
	12
<b><i>answered question</i></b>	<b>12</b>
<b><i>skipped question</i></b>	<b>1</b>

Figure 358: Q30 – Almonds only (Table)

### Progress to target

O4: 20% of sub project proponents participate in future programs.

### Summary

Of the growers from rounds one and two who indicated that they would be interested in further irrigation development on their property if funding were available, there was a potential 4,263 hectares of land which would be involved. Many of the growers have subsequently applied via future rounds to fund these projects.

## Question 31

### Question

Have you experienced any environmental impacts (positive or negative) as a result of the project on your property, in addition to those specified above?

### All data

Have you experienced any environmental impacts (Positive or Negative) as a result of the project on your property, over and above those already stated?		
Answer Options	Response Percent	Response Count
Yes	32.1%	36
No	67.9%	76
If Yes, can you elaborate		34
<b><i>answered question</i></b>		<b>112</b>
<b><i>skipped question</i></b>		<b>2</b>

Figure 359: Q31 – All data (Table)

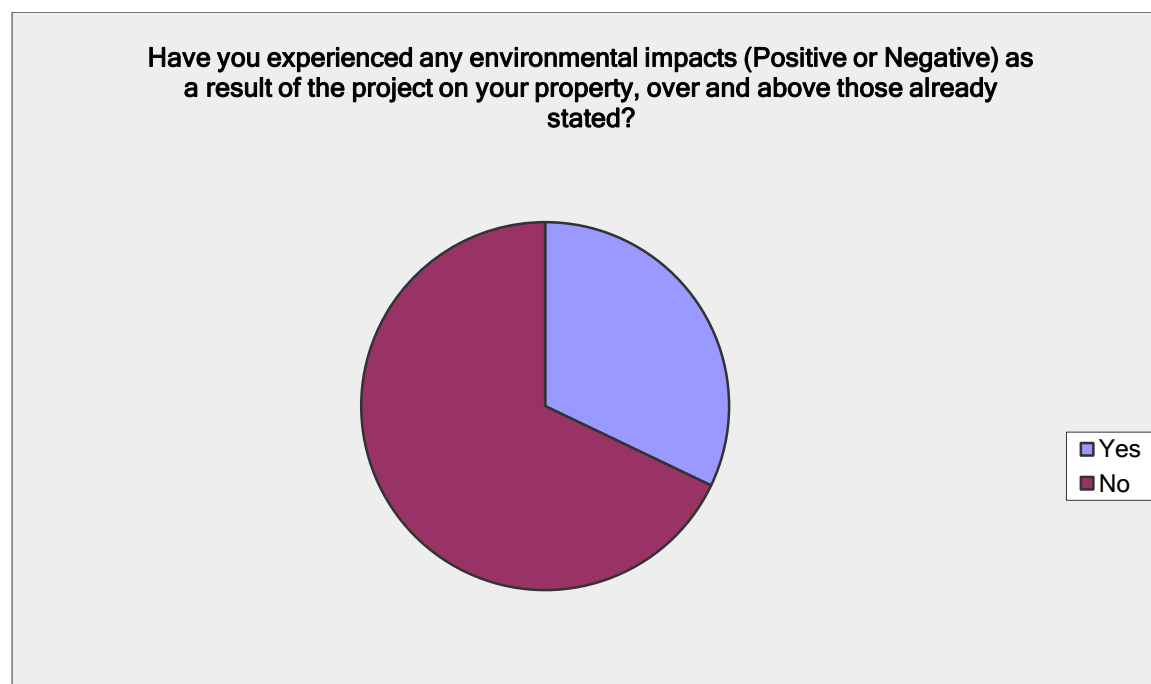


Figure 360: Q31 – All data (Chart a)

**Q31 Have you experienced any environmental impacts (Positive or Negative) as a result of the project on your property, over and above those already stated?**

Answered: 112 Skipped: 2

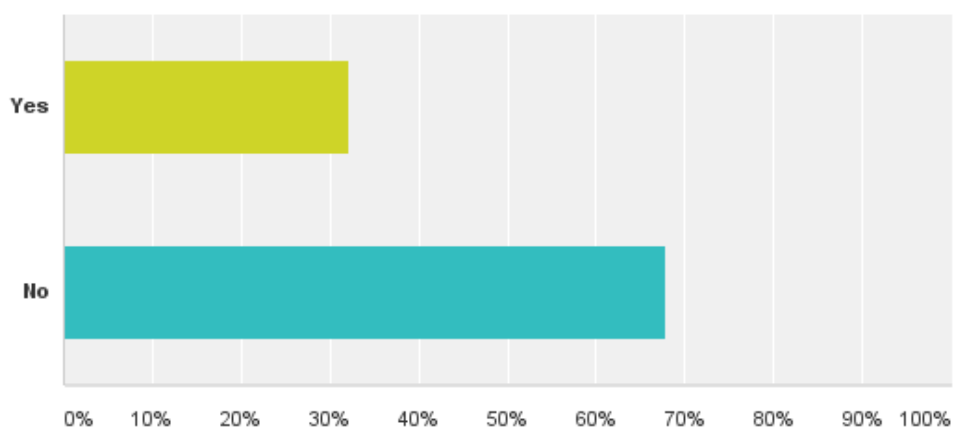


Figure 361: Q31 – All data (Chart b)

## Round One

Have you experienced any environmental impacts (Positive or Negative) as a result of the project on your property, over and above those already stated?		
Answer Options	Response Percent	Response Count
Yes	38.9%	7
No	61.1%	11
If Yes, can you elaborate		8
<b><i>answered question</i></b>		<b>18</b>
<b><i>skipped question</i></b>		<b>2</b>

Figure 362: Q31 – Round One (Table)

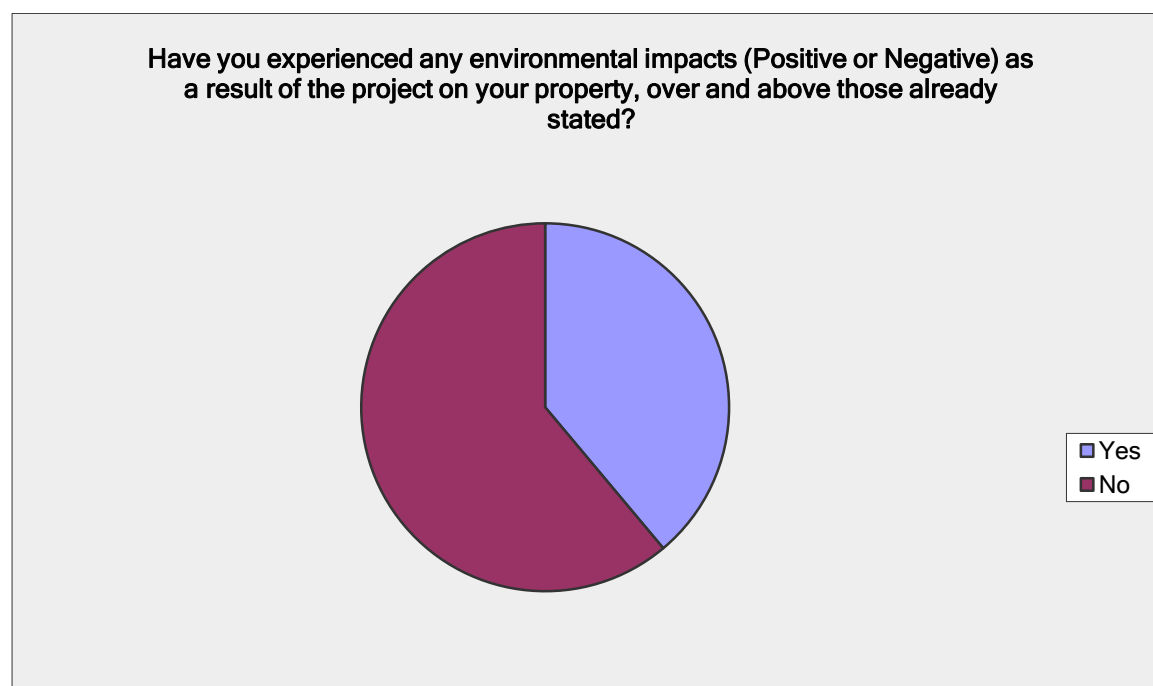


Figure 363: Q31 – Round One (Chart)

## Round Two

Have you experienced any environmental impacts (Positive or Negative) as a result of the project on your property, over and above those already stated?		
Answer Options	Response Percent	Response Count
Yes	30.9%	29
No	69.1%	65
If Yes, can you elaborate		26
<b><i>answered question</i></b>		<b>94</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 364: Q31 – Round Two (Table)

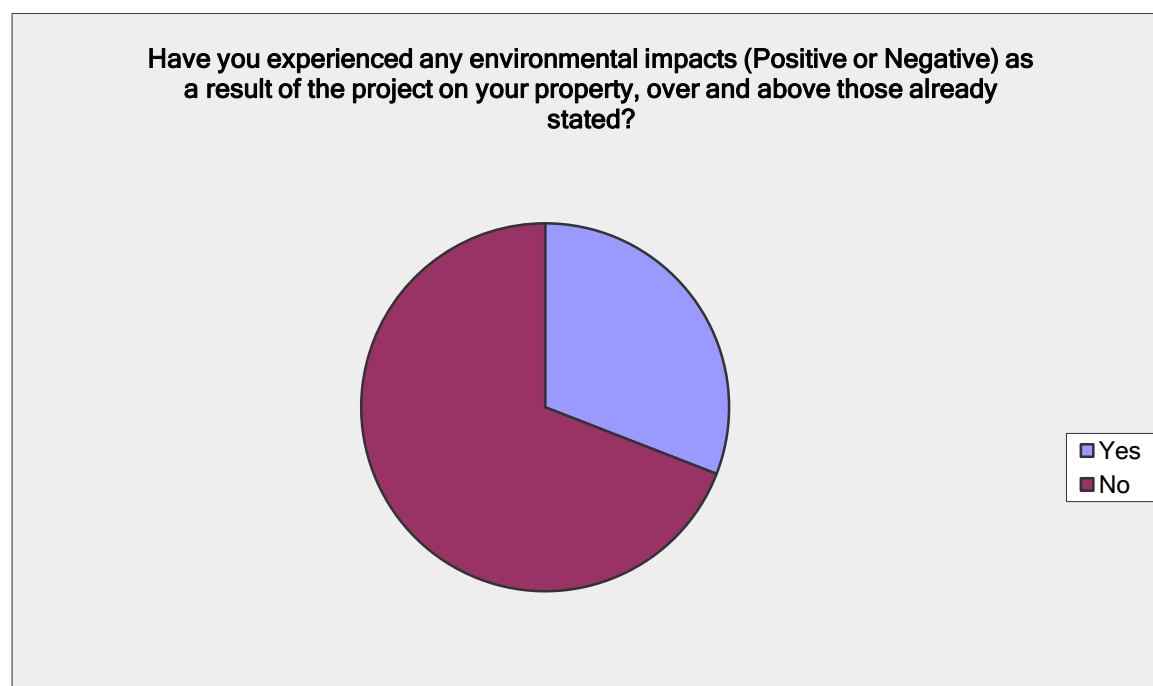


Figure 365: Q31 – Round Two (Chart)

### Dripper conversions only

Have you experienced any environmental impacts (Positive or Negative) as a result of the project on your property, over and above those already stated?		
Answer Options	Response Percent	Response Count
Yes	39.4%	28
No	60.6%	43
If Yes, can you elaborate		26
<b><i>answered question</i></b>		<b>71</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 366: Q31 – Dripper conversions only (Table)

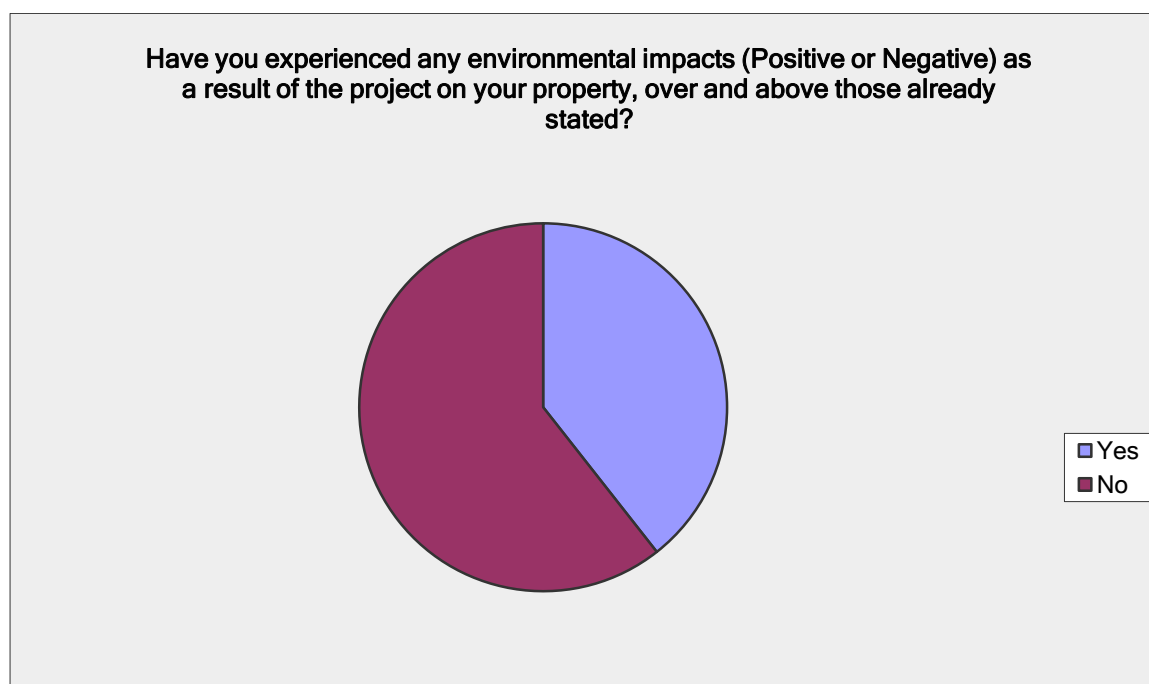


Figure 367: Q31 – Dripper conversions only (Chart)



### Wine grapes only

Have you experienced any environmental impacts (Positive or Negative) as a result of the project on your property, over and above those already stated?		
Answer Options	Response Percent	Response Count
Yes	35.7%	30
No	64.3%	54
If Yes, can you elaborate		30
<b><i>answered question</i></b>		<b>84</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 368: Q31 – Wine grapes only (Table)

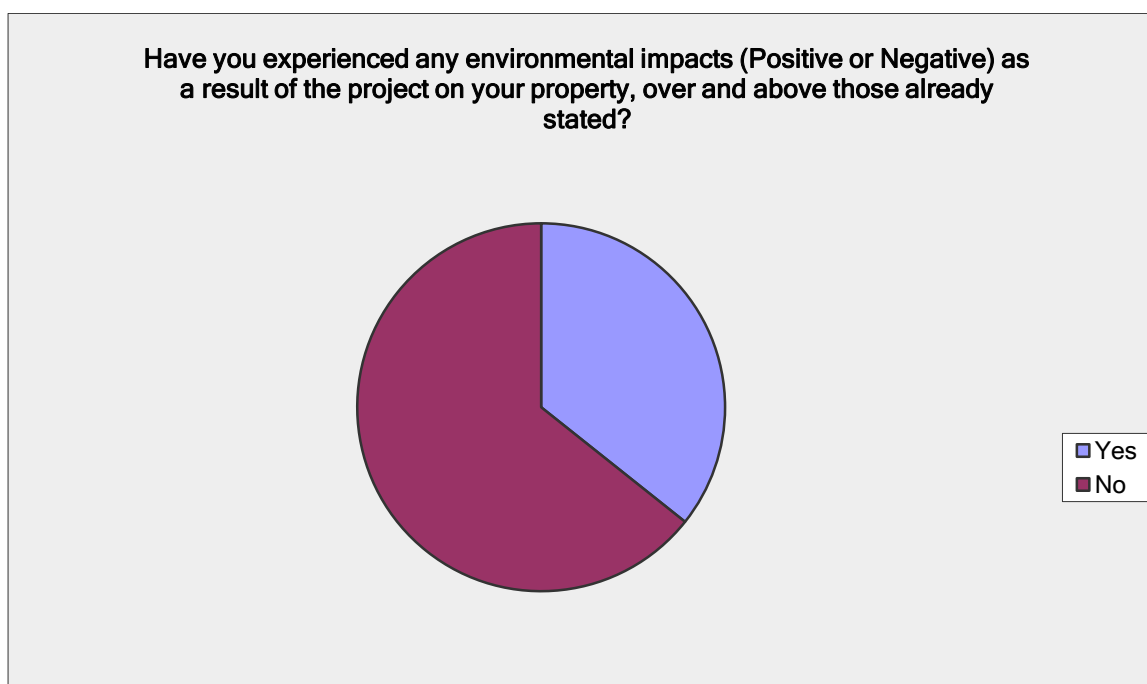


Figure 369: Q31 – Wine grapes only (Chart)

### Citrus only

Have you experienced any environmental impacts (Positive or Negative) as a result of the project on your property, over and above those already stated?		
Answer Options	Response Percent	Response Count
Yes	41.4%	12
No	58.6%	17
If Yes, can you elaborate		12
<b><i>answered question</i></b>		<b>29</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 370: Q31 – Citrus only (Table)

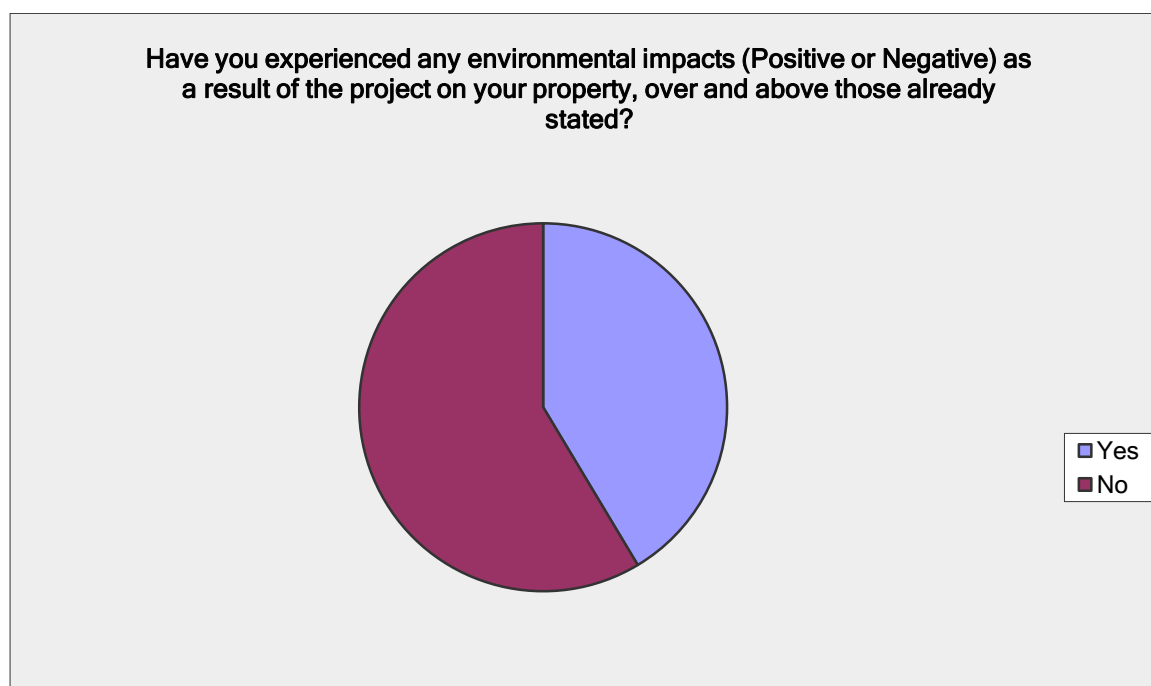


Figure 371: Q31 – Citrus only (Chart)

### Almonds only

Have you experienced any environmental impacts (Positive or Negative) as a result of the project on your property, over and above those already stated?		
Answer Options	Response Percent	Response Count
Yes	46.2%	6
No	53.8%	7
If Yes, can you elaborate		4
<b><i>answered question</i></b>		<b>13</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 372: Q31 – Almonds only (Table)

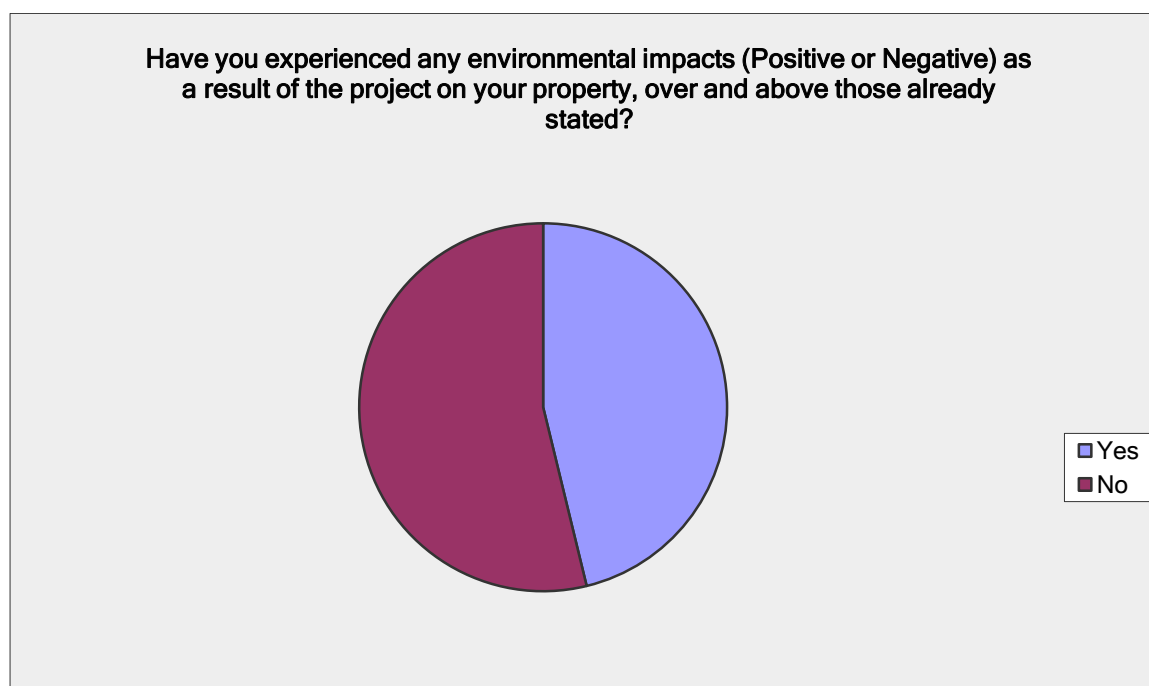


Figure 373: Q31 – Almonds only (Chart)

### Growers' comments

The majority of growers that indicated a positive environmental impact saw less drain running and more efficient water use. Only one grower expressed in increase in drainage water, while some growers expressed concern in an increase in native fauna on their property since the completion of the project.

### Summary

Many of the growers did not understand or correlate their saving of water, reduced run off, reduced drainage, less farm chemical use etc. to positive environmental benefits unfortunately. The majority of growers indicated that there were no environmental impacts (positive or negative) as a result of the project. An education program could be devised to increase the knowledge of local growers in how project like these have a positive impact on the environment.

## Question 32

### Question

In your opinion, what happens to the water returned to the Commonwealth?

### All data

In your opinion, what happens to the water returned to the Commonwealth?		
Answer Options	Response Percent	Response Count
Never to be used again	2.7%	3
Leased to irrigators on the market and used again	40.7%	46
Returned to the environment	75.2%	85
Stored for drought conditions	15.0%	17
Other (please specify)		0
<b><i>answered question</i></b>		<b>113</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 374: Q32 – All data (Table)

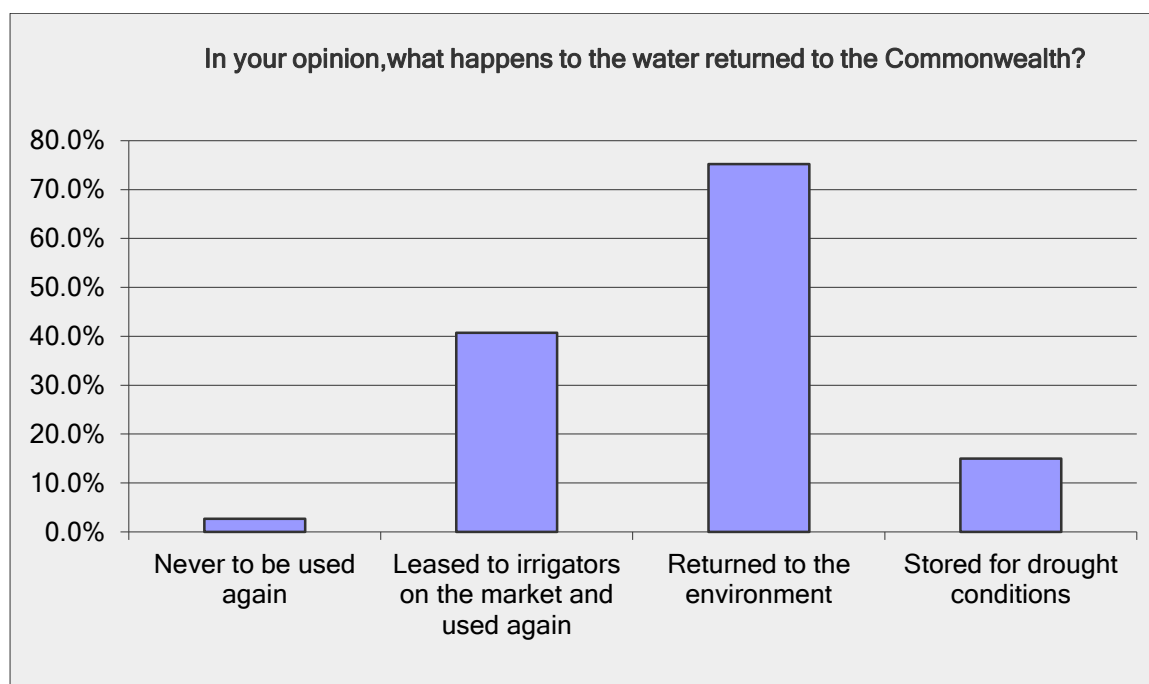


Figure 375: Q32 – All data (Chart a)

### Q32 In your opinion, what happens to the water returned to the Commonwealth?

Answered: 113 Skipped: 1

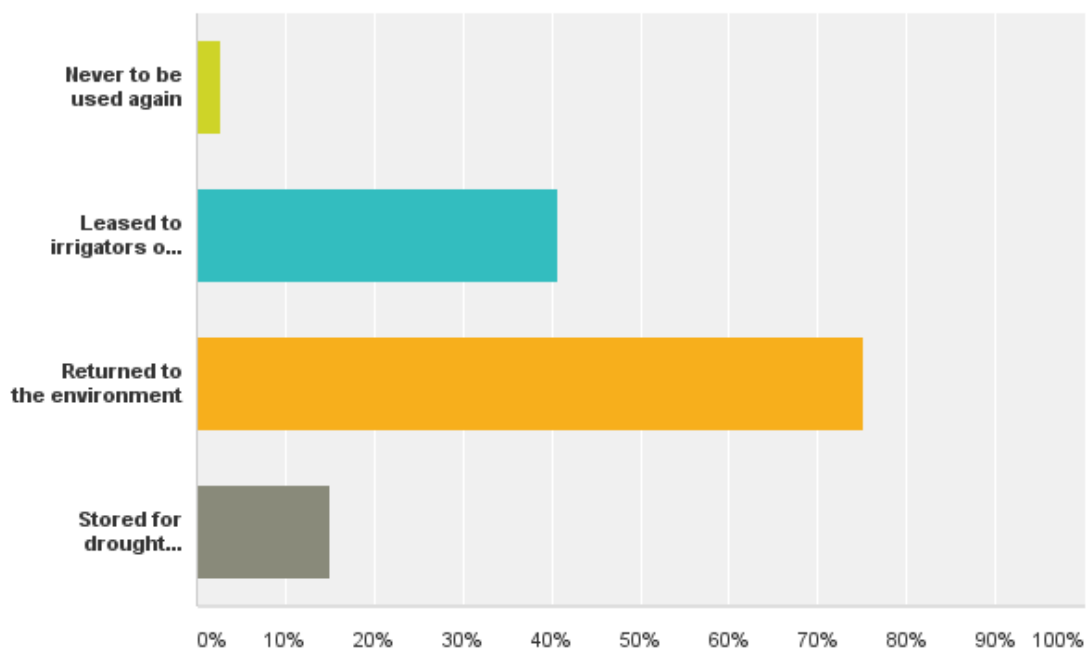


Figure 376: Q32 – All data (Chart b)

## Round One

In your opinion, what happens to the water returned to the Commonwealth?		
Answer Options	Response Percent	Response Count
Never to be used again	0.0%	0
Leased to irrigators on the market and used again	52.6%	10
Returned to the environment	68.4%	13
Stored for drought conditions	21.1%	4
Other (please specify)		0
<b><i>answered question</i></b>		<b>19</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 377: Q32 – Round One (Table)

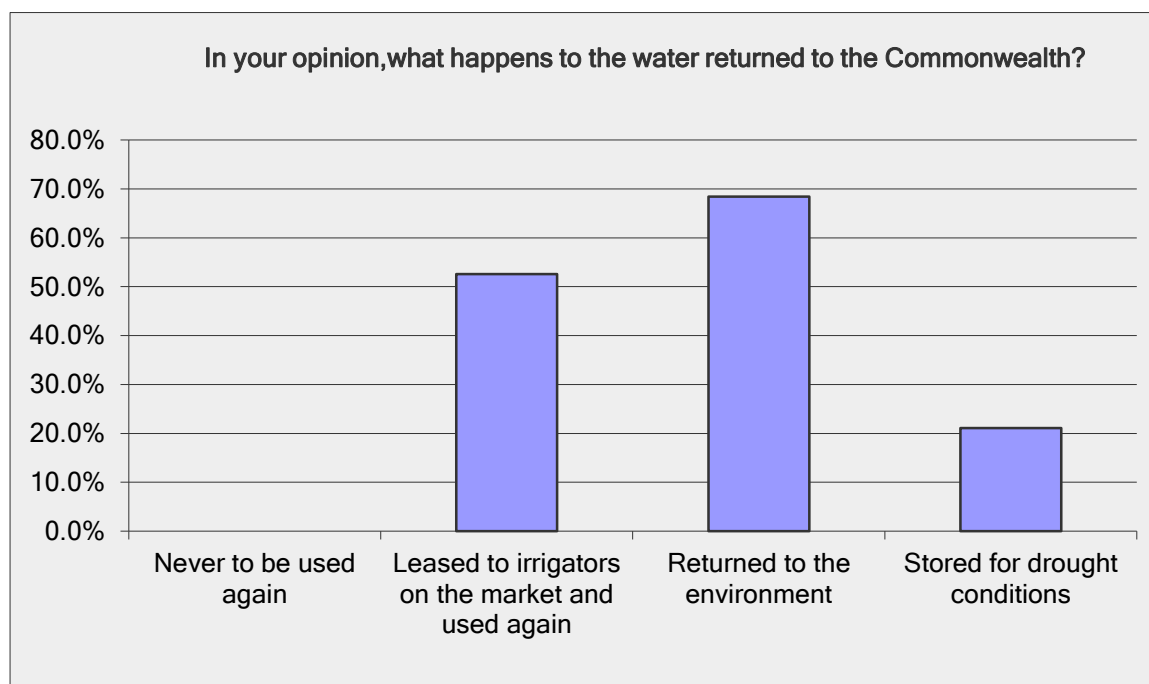


Figure 378: Q32 – Round One (Chart)

## Round Two

In your opinion, what happens to the water returned to the Commonwealth?		
Answer Options	Response Percent	Response Count
Never to be used again	3.2%	3
Leased to irrigators on the market and used again	38.3%	36
Returned to the environment	76.6%	72
Stored for drought conditions	13.8%	13
Other (please specify)		0
<b><i>answered question</i></b>		<b>94</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 379: Q32 – Round Two (Table)

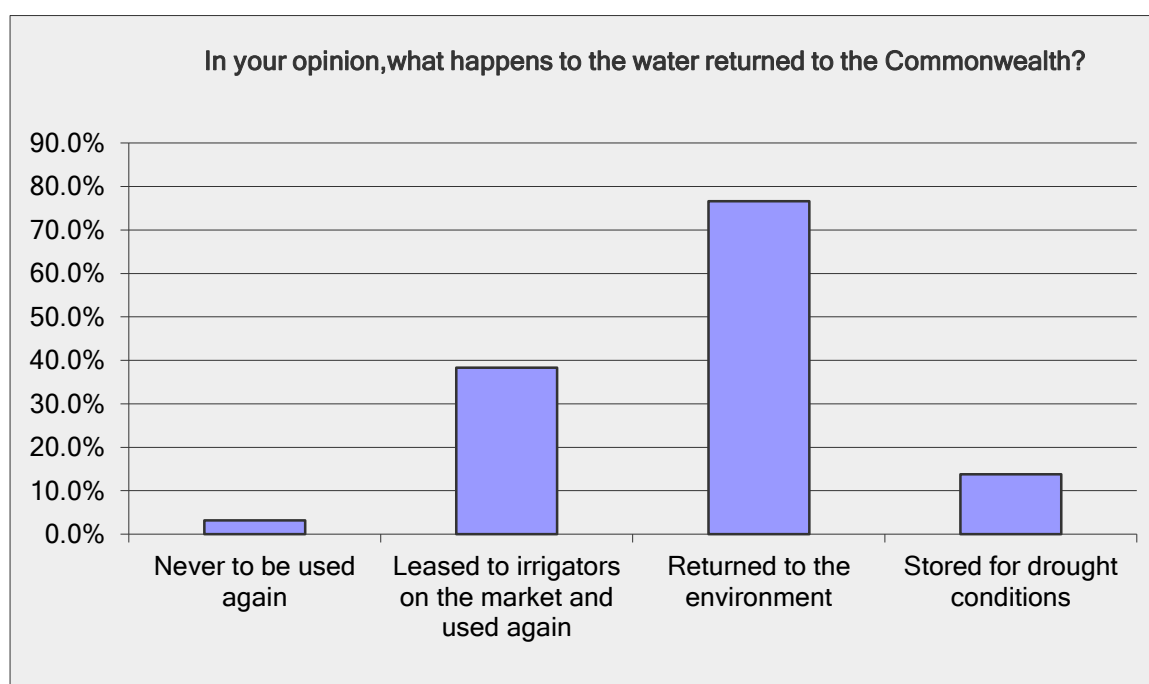


Figure 380: Q32 – Round Two (Chart)

### Dripper conversions only

In your opinion, what happens to the water returned to the Commonwealth?		
Answer Options	Response Percent	Response Count
Never to be used again	4.2%	3
Leased to irrigators on the market and used again	34.7%	25
Returned to the environment	72.2%	52
Stored for drought conditions	15.3%	11
Other (please specify)		0
<b><i>answered question</i></b>		<b>72</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 381: Q32 – Dripper conversions only (Table)

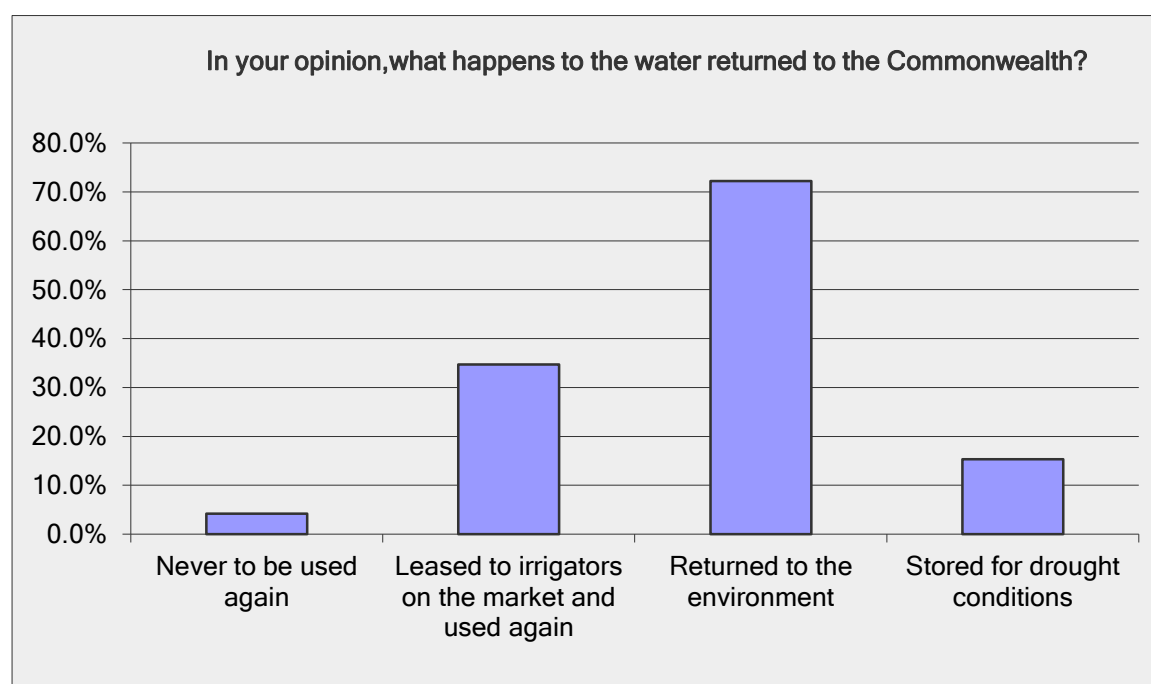


Figure 382: Q32 – Dripper conversions only (Chart)



### Wine grapes only

In your opinion, what happens to the water returned to the Commonwealth?		
Answer Options	Response Percent	Response Count
Never to be used again	3.5%	3
Leased to irrigators on the market and used again	48.2%	41
Returned to the environment	69.4%	59
Stored for drought conditions	16.5%	14
Other (please specify)		0
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 383: Q32 – Wine grapes only (Table)

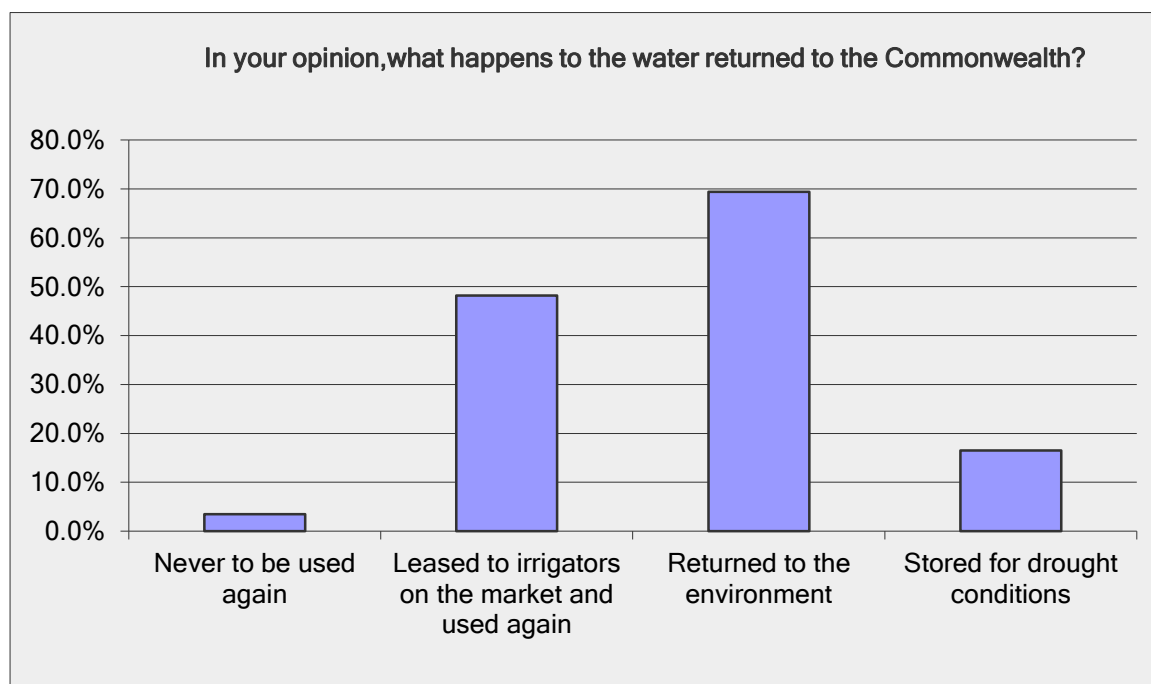


Figure 384: Q32 – Wine grapes only (Chart)

### Citrus only

In your opinion, what happens to the water returned to the Commonwealth?		
Answer Options	Response Percent	Response Count
Never to be used again	0.0%	0
Leased to irrigators on the market and used again	53.3%	16
Returned to the environment	70.0%	21
Stored for drought conditions	10.0%	3
Other (please specify)		0
<b><i>answered question</i></b>		<b>30</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 385: Q32 – Citrus only (Table)

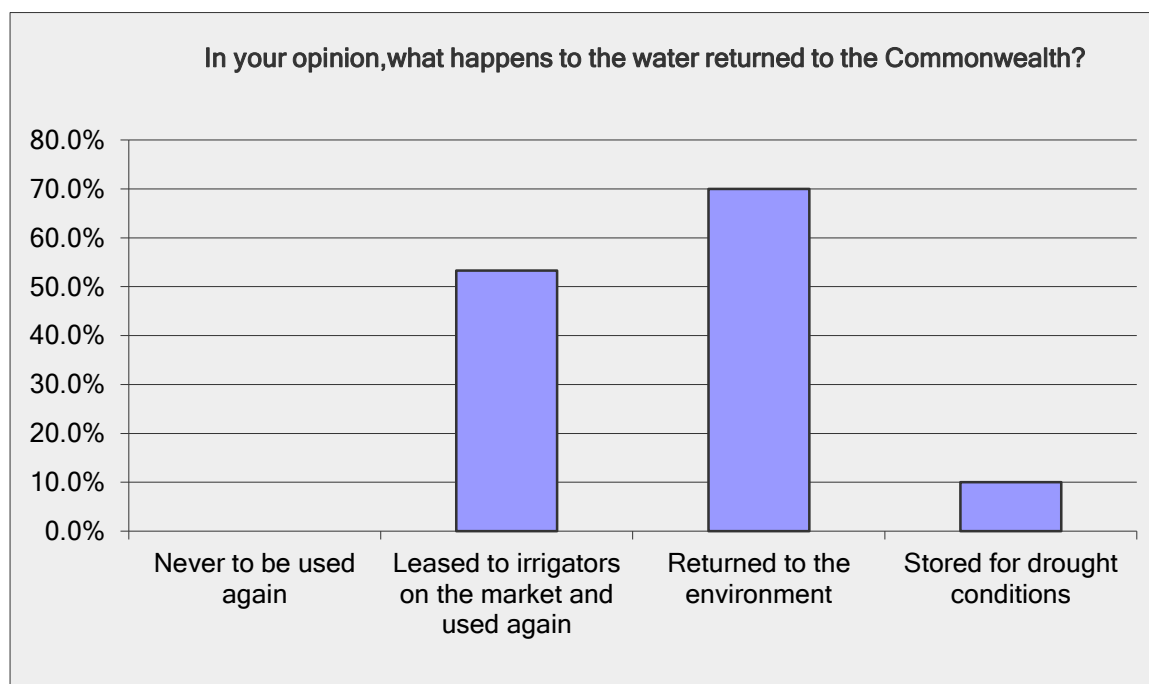


Figure 386: Q32 – Citrus only (Chart)

### Almonds only

In your opinion, what happens to the water returned to the Commonwealth?		
Answer Options	Response Percent	Response Count
Never to be used again	0.0%	0
Leased to irrigators on the market and used again	23.1%	3
Returned to the environment	92.3%	12
Stored for drought conditions	15.4%	2
Other (please specify)		0
<b><i>answered question</i></b>		<b>13</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 387: Q32 – Almonds only (Table)

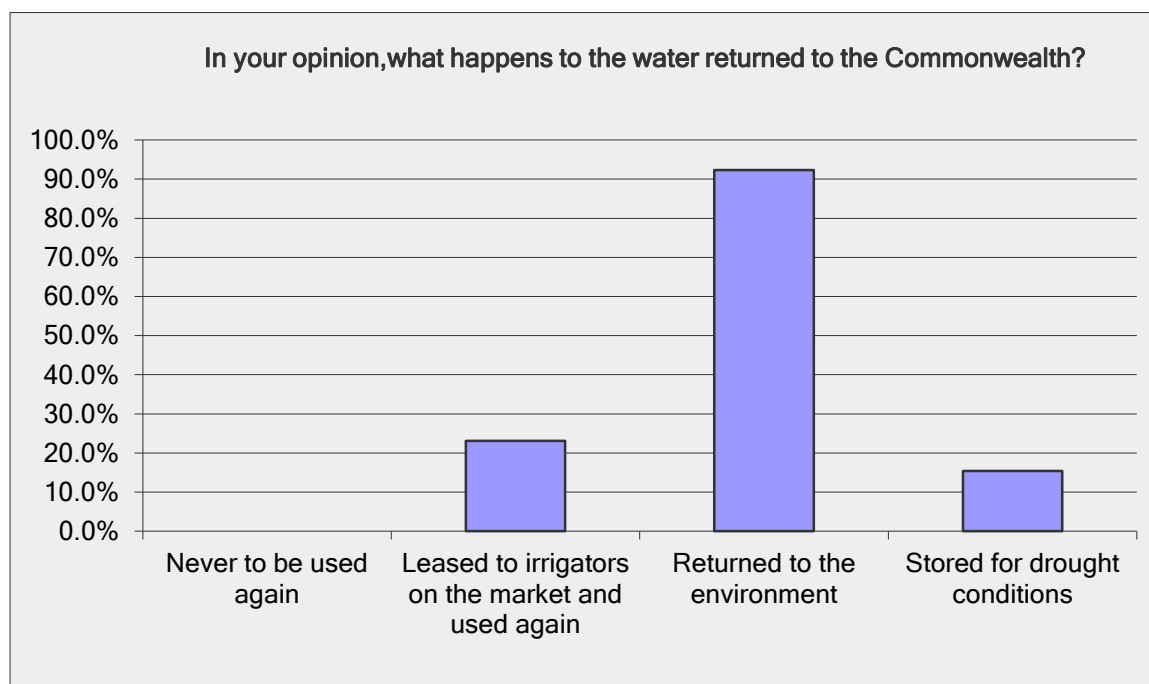


Figure 388: Q32 – Almonds only (Chart)

### Growers' comments

As the majority of growers indicated that in their opinion that the water was returned to the environment, many of the growers did not really know nor cared. Many of the growers stated "That's what I sold it for, didn't I"

### Summary

The majority of growers across all groups believed that the water returned to the government was returned to the environment. A significant group also believed that the water is being leased to other irrigators on the market and used again, many of the growers that believe this did not agree with this ideal. An education program could be initiated to increase growers knowledge of how the water that they sold is being used in their communities e.g.. Chowilla etc.

## Question 33

### Question

Do you believe that the water should be returned to the environment?

### All data

Do you believe that water should be returned to the environment?		
Answer Options	Response Percent	Response Count
Yes	91.2%	103
No	8.8%	10
<b><i>answered question</i></b>		<b>113</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 389: Q33 – All data (Table)

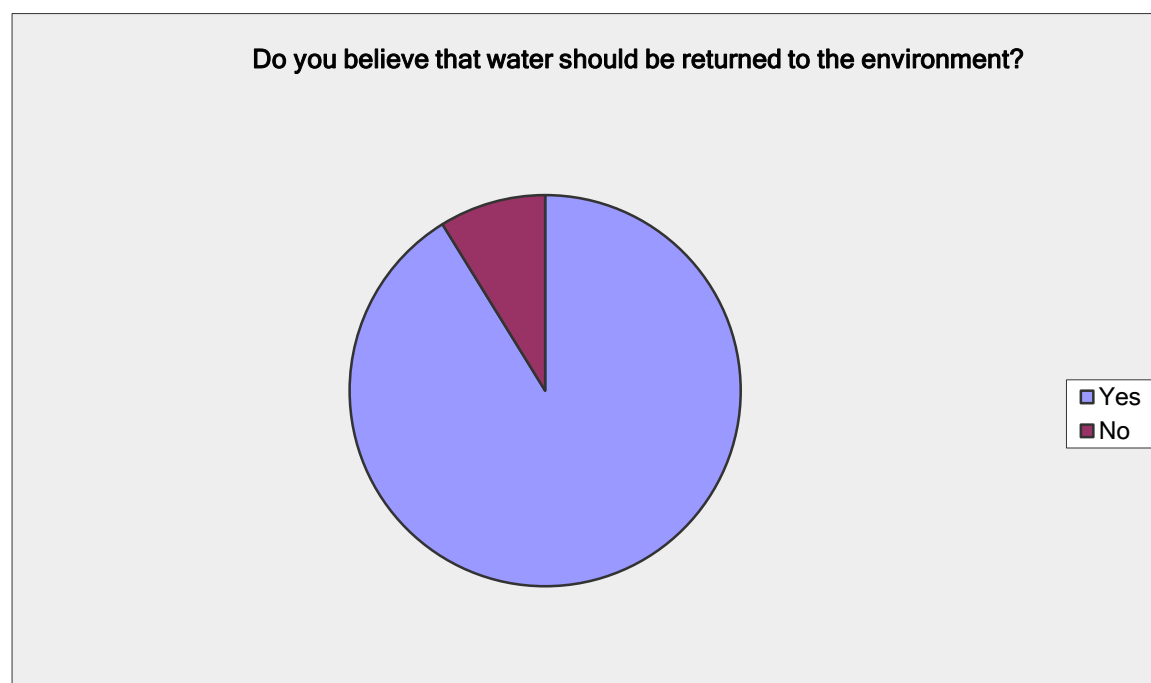


Figure 390: Q33 – All data (Chart a)

**Q33 Do you believe that water should be returned to the environment?**

Answered: 113 Skipped: 1

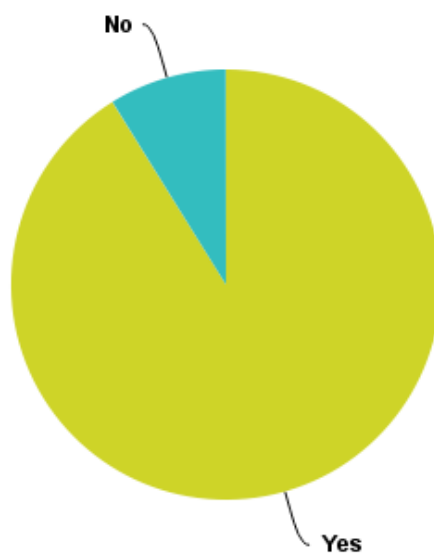


Figure 391: Q33 – All data (Chart b)

## Round One

Do you believe that water should be returned to the environment?		
Answer Options	Response Percent	Response Count
Yes	89.5%	17
No	10.5%	2
<b><i>answered question</i></b>		<b>19</b>
<b><i>skipped question</i></b>		<b>1</b>

Figure 392: Q33 – Round One (Table)

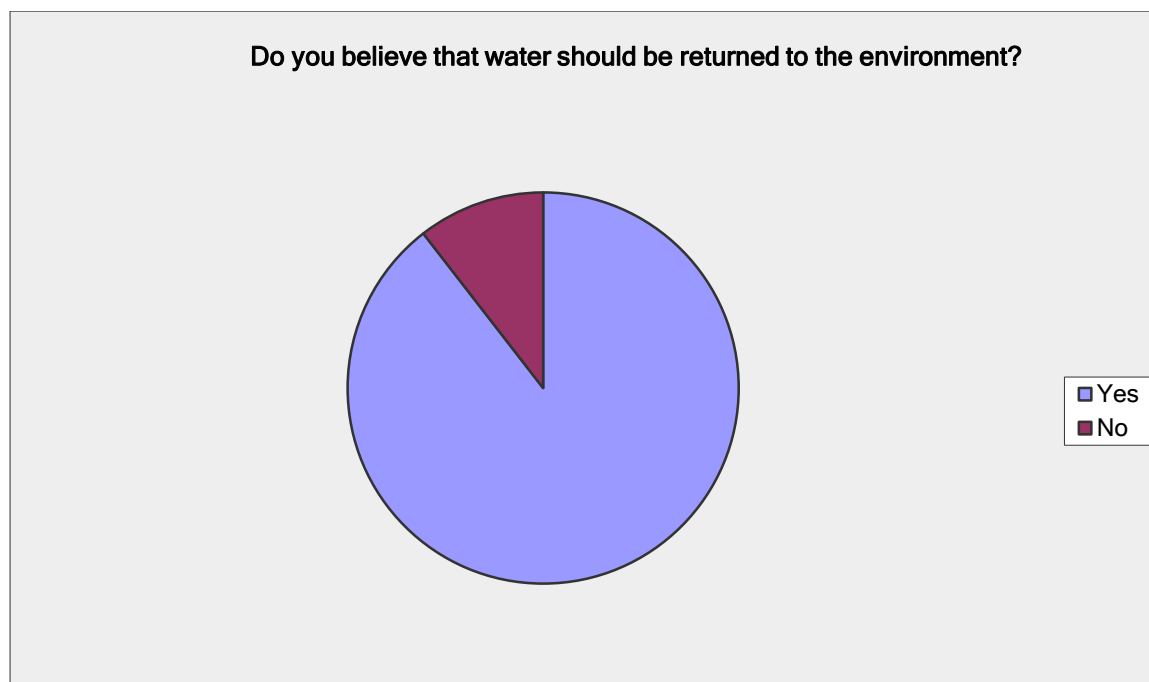


Figure 393: Q33 – Round One (Chart)

## Round Two

Do you believe that water should be returned to the environment?		
Answer Options	Response Percent	Response Count
Yes	91.5%	86
No	8.5%	8
<b><i>answered question</i></b>		<b>94</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 394: Q33 – Round Two (Table)

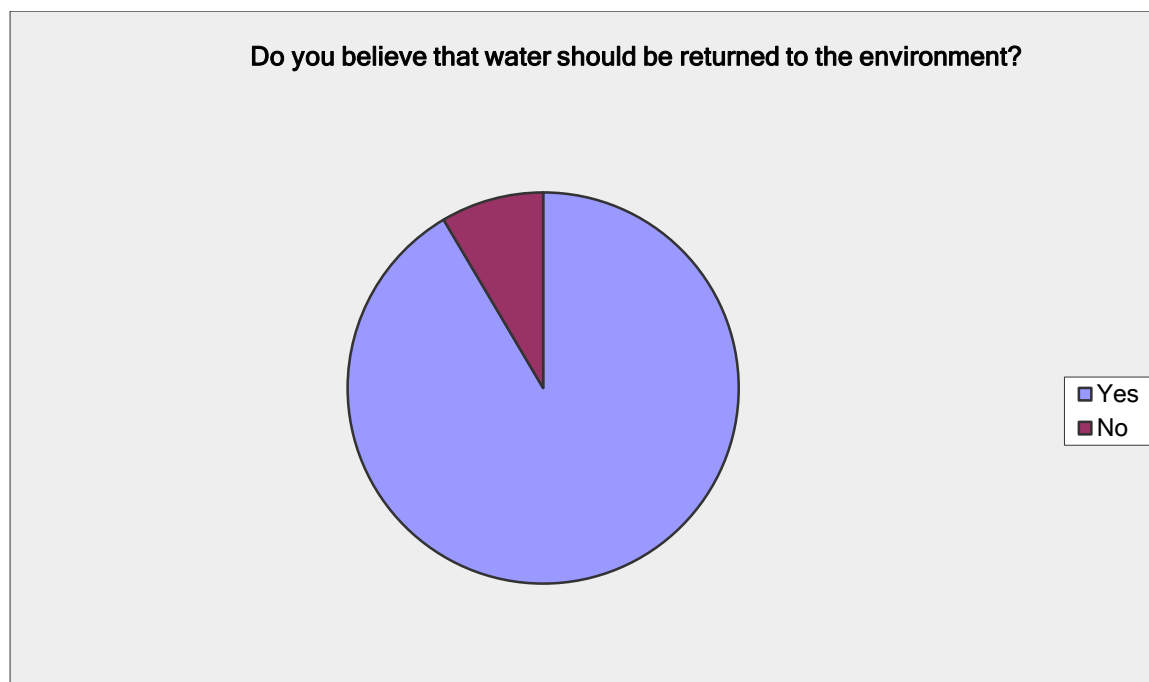


Figure 395: Q33 – Round Two (Chart)

### Dripper conversions only

Do you believe that water should be returned to the environment?		
Answer Options	Response Percent	Response Count
Yes	87.5%	63
No	12.5%	9
<b><i>answered question</i></b>		<b>72</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 396: Q33 – Dripper conversions only (Table)

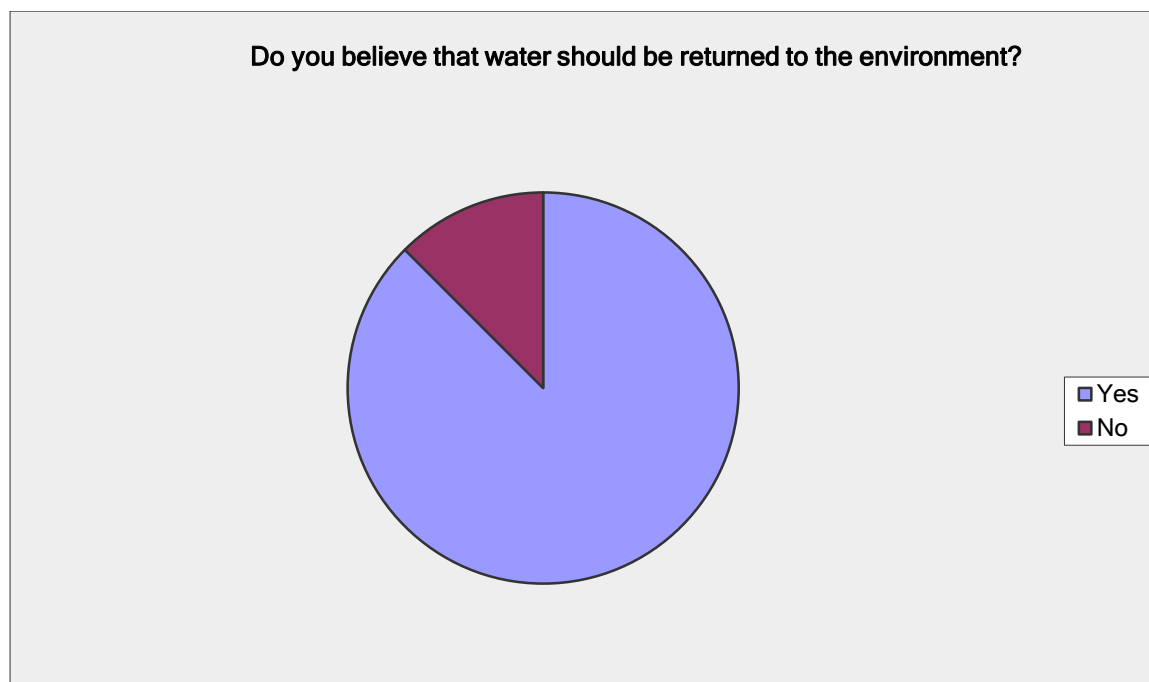


Figure 397: Q33 – Dripper conversions only (Chart)



### Wine grapes only

Do you believe that water should be returned to the environment?		
Answer Options	Response Percent	Response Count
Yes	92.9%	79
No	7.1%	6
<b><i>answered question</i></b>		<b>85</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 398: Q33 – Wine grapes only (Table)

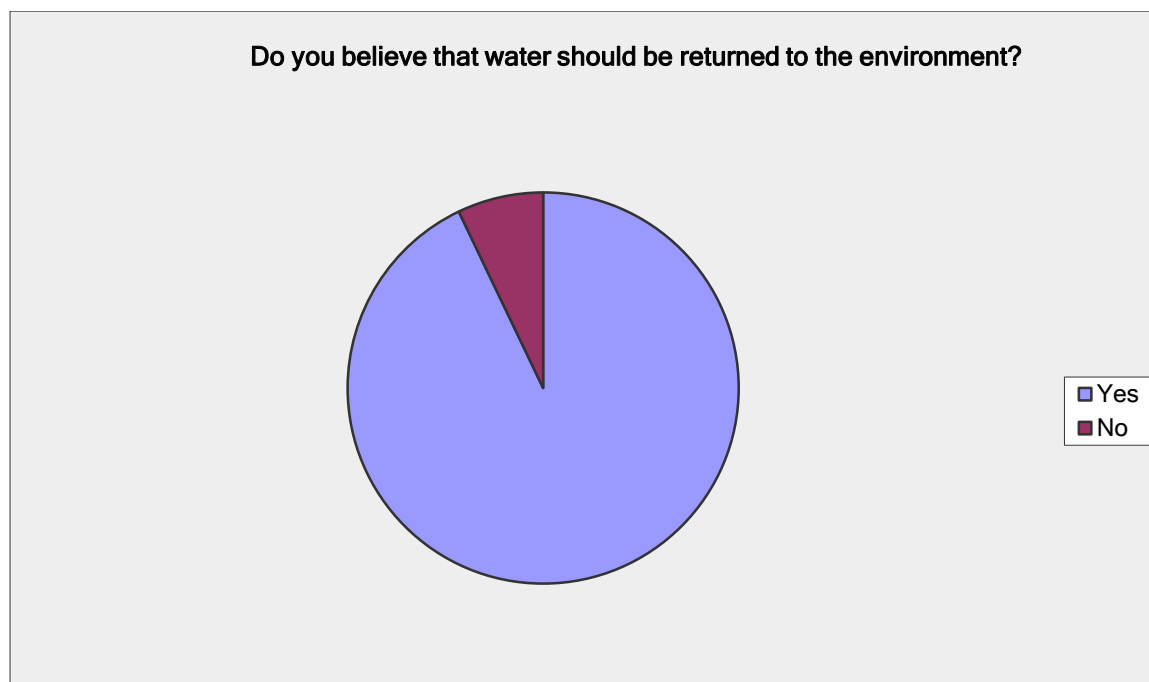


Figure 399: Q33 – Wine grapes only (Chart)

### Citrus only

Do you believe that water should be returned to the environment?		
Answer Options	Response Percent	Response Count
Yes	83.3%	25
No	16.7%	5
<b><i>answered question</i></b>		<b>30</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 400: Q33 – Citrus only (Table)

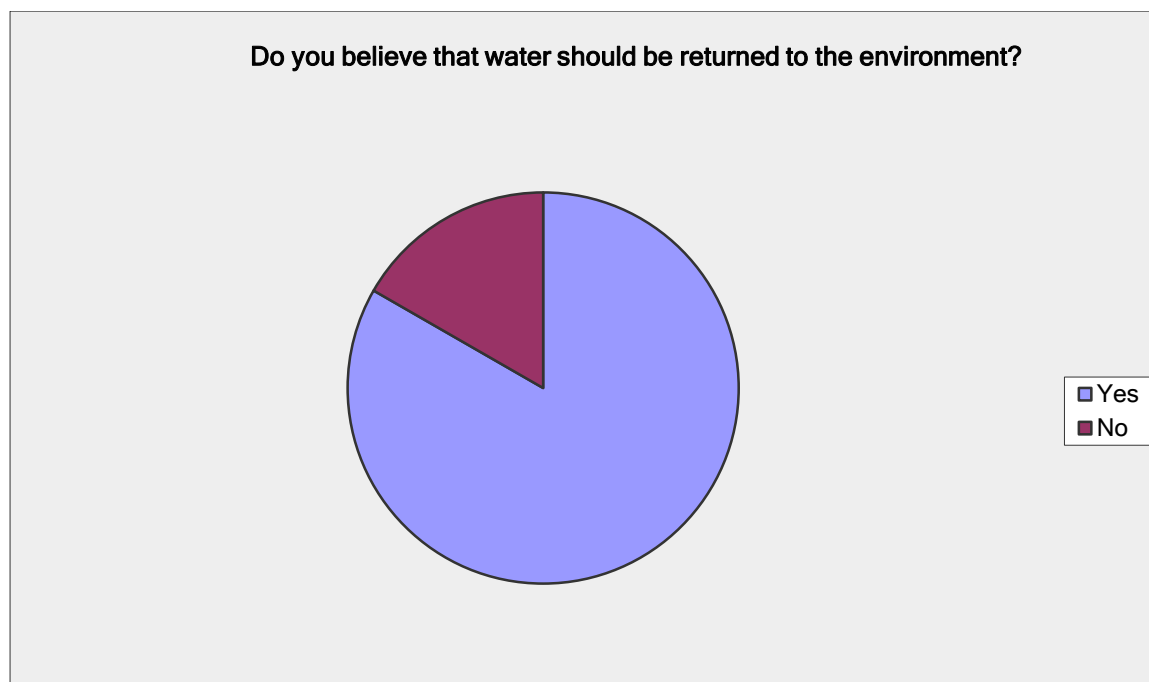


Figure 401: Q33 – Citrus only (Chart)

### Almonds only

Do you believe that water should be returned to the environment?		
Answer Options	Response Percent	Response Count
Yes	100.0%	13
No	0.0%	0
<b><i>answered question</i></b>		<b>13</b>
<b><i>skipped question</i></b>		<b>0</b>

Figure 402: Q33 – Almonds only (Table)

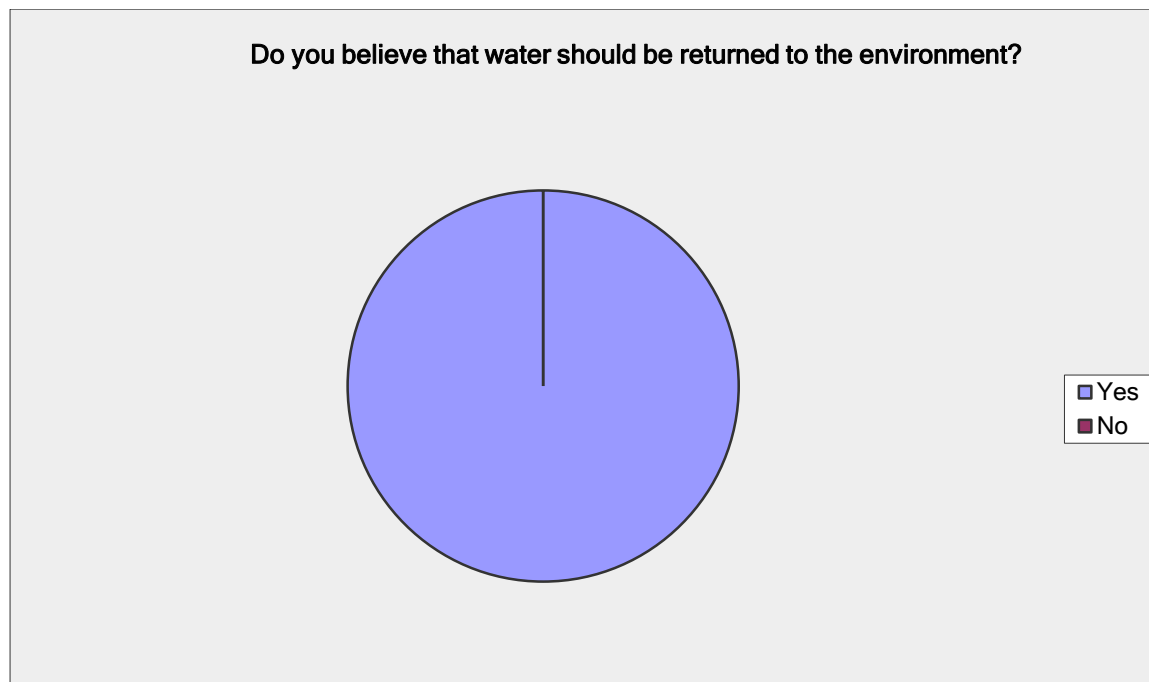


Figure 403: Q33 – Almonds only (Chart)

### Growers' comments

The standard answer to this question was, "Yes, but within reason".

### Summary

A significant majority of growers believe that water should be returned to the environment, but with reservations. Most of the growers interviewed believe that they are pro environment, but believe that the crops, communities and the growers themselves should have access to the water before the environment. The citrus growers surveyed disagreed most strongly about returning water to the environment, while the almond growers (mostly private irrigators) all believed that the water should be returned to the environment.