

MCLAREN VALE

One thing leads to another

**SUSTAINABLE
WINEGROWING
AUSTRALIA**



2012 RESULTS

McLaren Vale Grape Wine and Tourism Association
www.mclarenvale.info

Publisher

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INTRODUCTION

I'm delighted to introduce the results of the second year of assessment of the McLaren Vale Sustainable Winegrowing Australia.

This booklet presents the results from the new assessment method, developed for the program, using contributions from my on-going PhD at the University of Adelaide and co-funded by GWRDC.

Each Member assessed their vineyards following the topics from our Workbook and this short report shows the overall results of this group that represent 145 vineyards in McLaren Vale.

The McLaren Vale community embraced these changes and a group of engaged members contributed actively to adapt and improve the content of our program. I'd like to once more to say thank you to (in order of the chapters):

James Hook—Lazy Ballerina and DJ's Growers

Richard Leask—Leask Viticulture

Rachel Steer—Chapel Hill Wines

Giulio Dimasi—d'Arenberg Wines

Dee Hoad—d'Arenberg Wines

With our homework done, a group of recognized experts accepted the challenge to review the content of our assessment, generously donating their time and expertise in their area of knowledge:

Dr. Michael McCarthy—SARDI/PIRSA

Dr. Trevor Wicks—SARDI/PIRSA

Dr. Linda Thomson—University of Melbourne—Department of Zoology

Lynda Wedding—City of Onkaparinga—Waste and Recycling Education

Paul Georgiadis—Paulmara Estate Wines

I'd like also, to thank Jodie Pain, my predecessor managing the sustainability program. The McLaren Vale Sustainable Winegrowing would never be at the stage it is without her contribution.

Last, but not the least, I'd like to thank all Members who agreed to be part of the program and anytime they see me, ask about their spider graphs! I feel honoured and fortunate to be part of the McLaren Vale community and being part of this journey to increase the sustainability of our region.

Thank you all!

Irina Santiago
Sustainability Officer

The 2012 results of the MVSWA sustainability program represent a remarkably detailed snapshot of viticultural practice in McLaren Vale.

During 2011/12, the program underwent some major changes:

1. The assessment methodology and questions were re-written.
2. The name was changed from Generation Farming to **McLaren Vale Sustainable Winegrowing Australia** to better reflect the objectives of the program.
3. The trial phase ended and the program was made available to all members.

MVGWT members embraced the program and uptake has exceeded expectation. 87 members participated in 2012, representing 145 individual sites. This represented growth of 158.9% by area between 2011 and 2012.

The total area of vineyard reported by MVSWSGA members was 2,255Ha, an impressive 30.2% of the total McLaren Vale vineyard area. Wine-grape tonnage reported was 11,905 tonnes from a total McLaren Vale harvest of 31,755 tonnes, or 37.5% of the McLaren Vale wine-grape crop for 2012.

To have achieved better than 30% participation in each of these key measures can only be considered an exceptional result in the first full year of the program. A conscious decision was made to ensure that the system offers the opportunity to improve business performance in addition to encouraging (and offering a pathway to) environmental best practice. In assessing member feedback it seems reasonable to conclude that this focus has helped to encourage adoption amongst a wide segment of the grower base.

Along with specific measures of vineyard practice and environmental performance, the system has generated some very useful and powerful data with which to generate an overview of viticulture in the region. This data, over time, will be extremely useful for the Association in terms of understanding the region and its members, uncovering marketable trends, and as a tool when attempting to influence policy that affects the region. Notable examples include:

- Accurate measures of land use. Example: vegetation and creeks represent 16% of members land holdings.
- Farming systems: Example: 23% of respondents identify as using certified or uncertified organic/biodynamic farming systems. A further 51% identify their farming system as low-input conventional with IPM principles.
- Water resources: Example: Water used for irrigation by respondents averaged 1.08ML/Ha. The sources of water as a percentage of the total used- Willunga Basin Water Company (reclaimed): 50.4%, Bore: 39.3%, SA mains: 8.6%.
- Fruit destination: Example: 55% of members produced their own wine from their own grapes. 65.5% supplied fruit to other McLaren Vale wineries. 35.6% supplied other SA wineries outside of McLaren Vale.

These examples serve to highlight the powerful information that the system is capable of generating. Over time, comparisons from year to year will be possible which will only add to the value of the system.

MVSWSGA has emerged as the most highly developed regional system of its kind in the Australian wine industry. A number of new initiatives aim to improve the system and keep it at the forefront:

- Independent audits will add rigour to the system
- Compatibility with the WFA Entwine system is expected to be achieved and will eliminate the need for members to complete two assessments
- A more sophisticated electronic database will enable the data to be used more effectively and with more confidence
- Ongoing review of the booklet chapters is designed to continually push the boundaries of accepted best practice and encourage further improvement
- A winery assessment is a logical next step

Uptake and the results generated to date have exceeded expectation. It is a credit to those responsible for the system's initiation and development, MVGWT staff and the proactive attitude of McLaren Vale's grape growers and winemakers who have embraced the program and support its development and operation through their levy contributions.

MCLAREN VALE SUSTAINABLE WINEGROWING

In my introduction to the growers' handbook for the McLaren Vale Sustainable Wine Growing Australia handbook I observed that;

"Genuinely sustainable winegrowing must embrace the base "triple bottom line" principles relating to economic, social and environmental considerations and applied within a specific regional context. If continuous improvements in sustainability are desired, then actions cannot simply be reduced to using a universal template for accounting and reporting purposes.

The approach undertaken within the **McLaren Vale Sustainable Winegrowing Australia (MVSWA)** scheme has been founded squarely on "triple bottom line" (TBL) principles around which high priority-high impact regional drivers have been identified and incorporated for deliberately targeted action."

Data, its analysis and commentary from this the first of the substantially developed MVSWGA program illustrates very comprehensively the diversity of relevant regional measures to underpin "triple bottom line" performance.

The material within this report highlights the considerable commitment and progress growers have made in seeking sustainability with a generally outstanding report achieved in areas of "Water Management", "Soil Health, Nutrition and Fertiliser Management" and "Pest and Disease Management". Nevertheless and allowing the positive outcomes for these sections, perhaps the most disappointing of results sits around awareness and observance of biosecurity protocols for prevention of phylloxera and other pest, disease and weed incursions; this warrants particular attention in the near future.

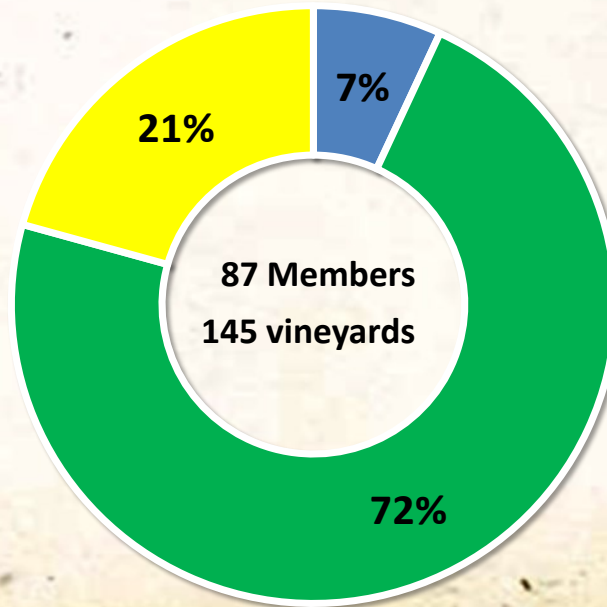
Greater variability and somewhat lesser attainment is demonstrated in other areas such as "Biodiversity Management", "Waste Management" and "Social Relations" although there remains clear evidence of a number of growers already with good-excellent performance in these areas. It seems clear that targetted awareness and training campaigns together with peer support from leading practitioners will go a long way to redress these weaknesses, especially where a number relate to poor record keeping and analysis rather than "poor practice" *per se*.

A substantial foundation has now been established for MVSWGA and I anticipate continued solid progress from current program members and new participants over the next 12 months; our region and its many wine consumers will continue to benefit greatly from this endeavour.

I invite your review of this document and continued engagement with our growers and supporters in this quest for continuous improvement and genuine TBL Sustainability

Peter Hayes
Chairman

**Number of Growers
by Sustainability Category (in%)**



◆ Blue (Excellent) ◆ Green (Very Good) ◆ Yellow (Good)

McLAREN VALE SUSTAINABLE WINEGROWING -MEMBERS

The pie chart on the left shows the percentage of members in each one of our sustainability categories. The majority of the members (72%) achieved the Green (Very Good) overall score in our system. 21% (Good) were placed in the yellow category and 7% are Blue (Excellent). The Members in the Blue category achieved high scores in most chapters and can be considered benchmarks for our region in terms of currently assessed sustainable practices.

MCLAREN VALE SUSTAINABLE WINEGROWING AUSTRALIA—FIGURES

Members	87
Distinct Vineyard Sites	145
Total farm area (ha)	3,028
Total area UNDER VINE (ha)	2,255
Area under RED grapes (ha)	2,021
Area under WHITE grapes (ha)	234
RED grapes production (ton)	10,444
WHITE grapes production (ton)	1,461
Average RED grape production (ton/ha)	5.2
Average WHITE grape production (ton/ha)	6.2

NUMBER OF MEMBERS IN EACH GROUP SIZE AREAS UNDER VINE

# Members	Total area under vine, including multiple sites per member
39	< 10 hectares
23	10 - 24 hectares
14	25-49 hectares
8	50-99 hectares
3	>100 hectares
87	TOTAL

MCLAREN VALE SUSTAINABLE WINEGROWING AUSTRALIA—FACT SHEET

This booklet shows the results of the McLaren Vale Sustainable Winegrowing program. 87 growers became members of MVSWSGA in 2012, representing 145 individual vineyards. In 2011, there were 41 growers comprising 56 sites. This represents a member growth of 112.2% and vineyard area growth of 158.9%.

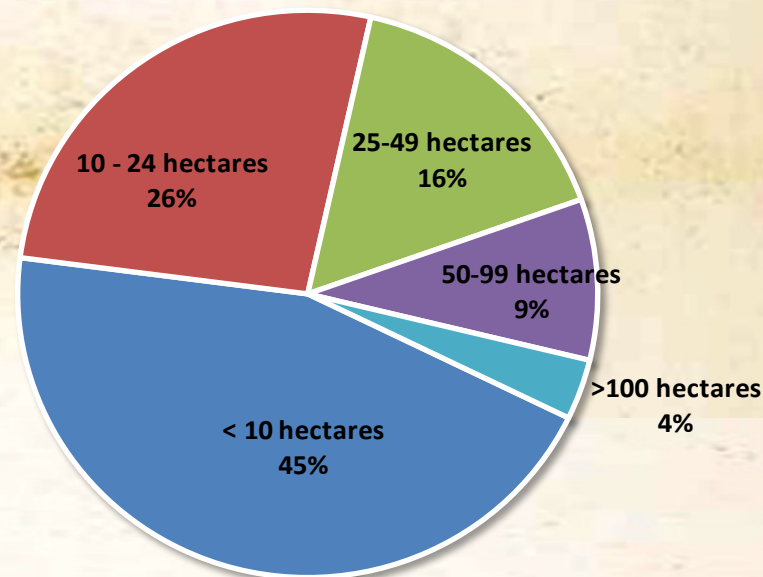
In 2012, the whole assessment methodology was reviewed and changed from what its original form. Many results will not be comparable with last year results, when the program was called Generational Farming.

Our members represent 3,028 hectares of farm land from which 2,255 is area under vines. Among members, there are 2,021 ha of red grapes and 234 ha of white grapes, which produced 10,444 tonnes and 1,461 tonnes respectively.

For the assessment season, the average red grape production per hectare is 5.2ton/ha and 6.2 ton/ha for white grapes.

45% of our members had vineyards smaller than 10 hectares. 26% had vineyards between 10 and 24 hectares, 16% had vineyards between 25-49ha, 9% had vineyards between 50-99ha and only 4% had vineyards larger than 100 hectares.

Members by size (total area under vine)

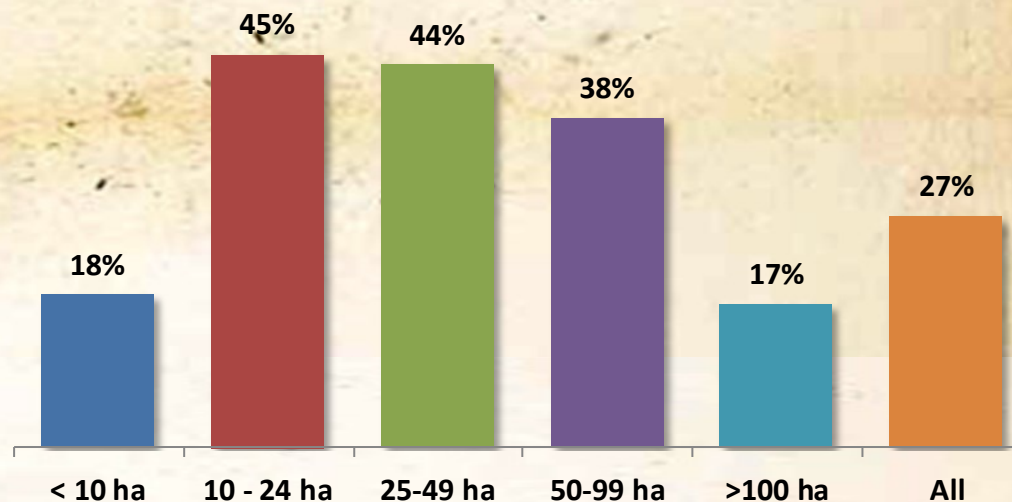


MCLAREN VALE SUSTAINABLE WINEGROWING AUSTRALIA—FIGURES
POSITION OF THE MEMBERS RELATIVE TO SOUTH AUSTRALIA AND MCLAREN VALE

	South Australia	McLaren Vale	MVSWGGA	McLaren Vale / South Australia	MVSWGGA / McLaren Vale	MVSWGGA / South Australia
Total grape (ton)	698,005	31,755	11,905	4.5%	37.5%	1.7%
Total red (ton)	416,582	26,399	10,444	6.3%	39.6%	2.5%
Total white (ton)	281,423	5,356	1,461	1.9%	27.3%	0.5%
Total area (ha)	76,589	7,472	2,255	9.8%	30.2%	2.9%
Red area (ha)	53,298	6,223	2,021	11.7%	32.5%	3.8%
White area (ha)	22,204	1,028	234	4.6%	22.8%	1.1%
Others (unknown, rootstocks, etc.) (ha)		221				
Number of Growers (distinct sites)	3,626	540	145	14.9%	26.9%	4.0%

Note: South Australia and McLaren data from the 2012 South Australian Winegrape Crush Survey. The Phylloxera Board estimates that the non-response rate for McLaren Vale is 9.7%.

Members' share in McLaren Vale Region (by vineyard group size)



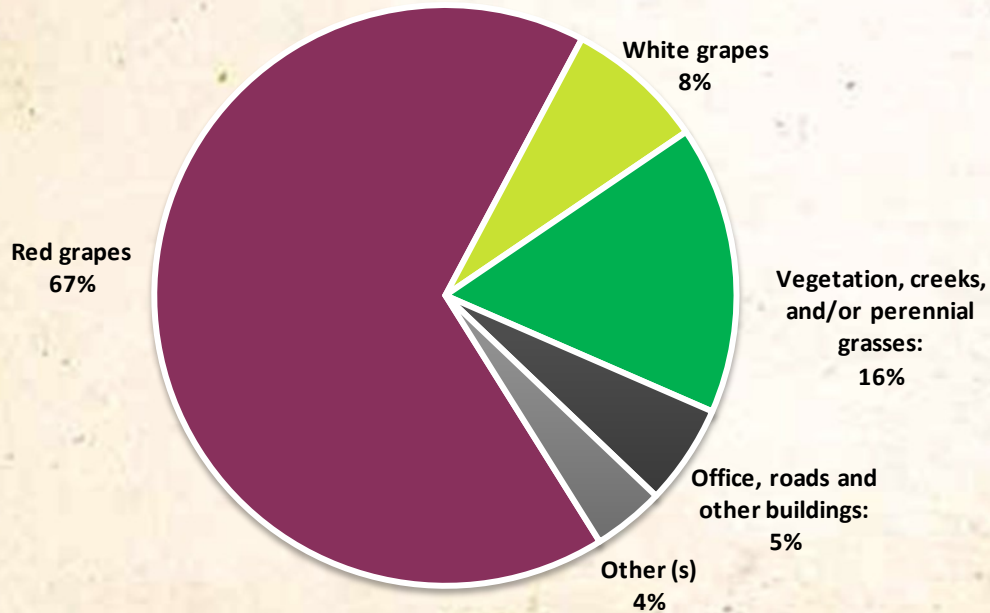
MCLAREN VALE SUSTAINABLE WINEGROWING AUSTRALIA—FACT SHEET

The table above shows the position of the Members, in relation to South Australia and the McLaren Vale Region.

MVSWGGA members represents 37.5% of the total amount of grapes produced in McLaren Vale or 1.7% in South Australia. Red grapes from members represent almost 40% of the total amount of red grapes produced in the region and 2.5% in the state. Members represent about 30% of the area in McLaren Vale or almost 3% of South Australia.

There are 540 vineyards in McLaren Vale from which 145 are part of the McLaren Vale Sustainable Winegrowing Australia. It represents about 27% of the total vineyards in McLaren Vale or 4% of the vineyards in South Australia. Considering vineyard group sizes, our members represent 18% of the vineyards smaller than 10 hectares, 45% of the vineyards between 10-24 hectares, 44% of the 25-49 hectares, 38% of the 50-90 hectares vineyards and 17% of the vineyards larger than 100 ha.

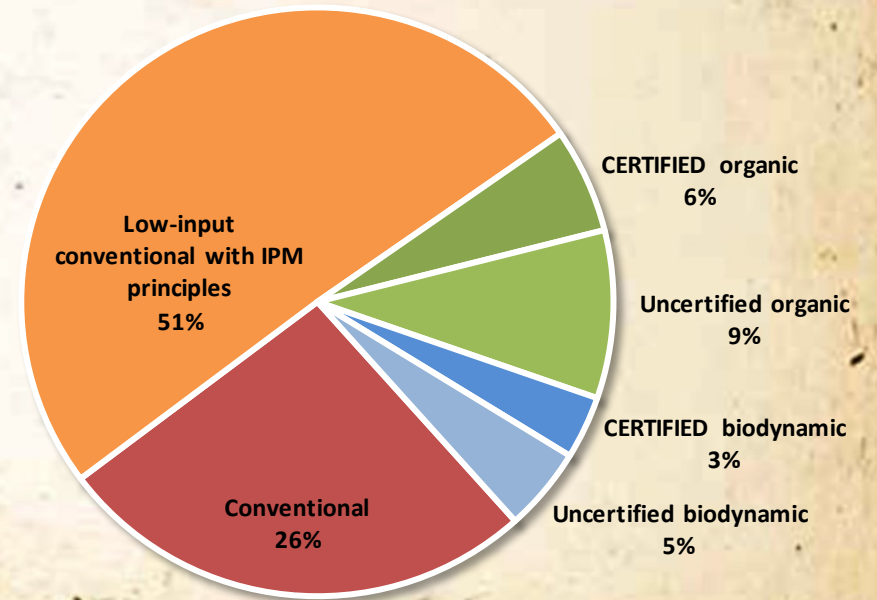
Farm Land Use



FARM LAND USE

From the total area of 3,028 hectares that the members represent, 67% was used for growing red grapes, 8% for white grapes. Vegetation, creeks and/or perennial grasses represent 16% and roads, offices, other buildings and others represent 4% of the total farm land.

Farming management systems

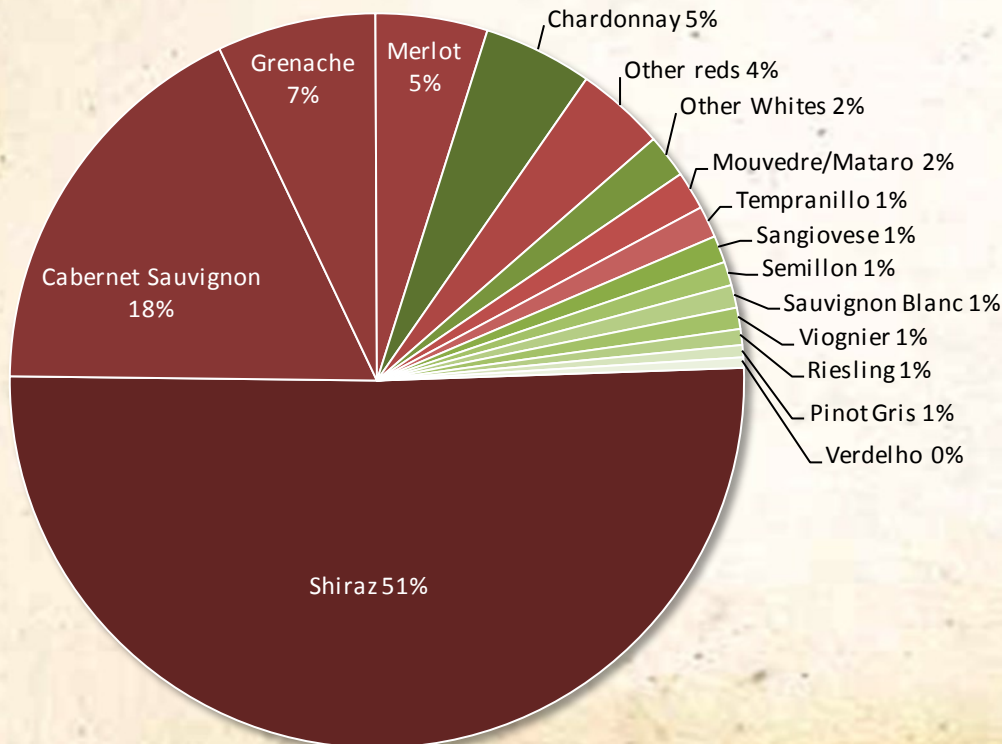


FARMING MANAGEMENT SYSTEMS

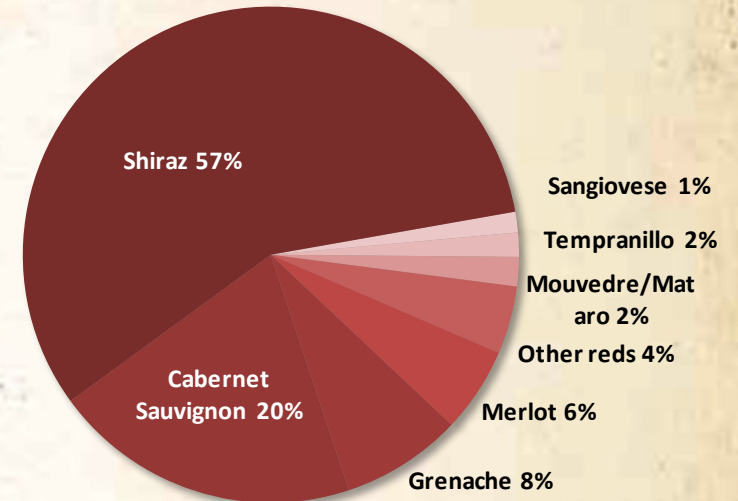
51% reported themselves as Low-input Conventional growers with IPM (Integrated Pest Management principles). 26% are conventional growers. 15% Organic, from which 6% are certified. 8% are Biodynamic, from which 3% are certified.

Area under vine—by grape variety

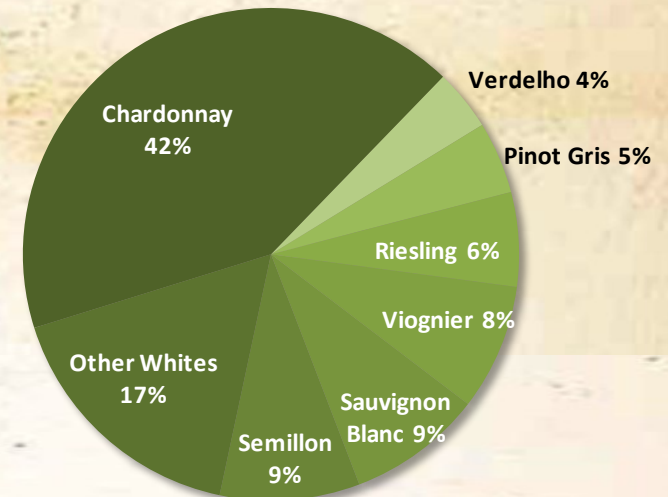
Area Under Vine - ALL Varieties



Area Under Vine - Only Red Grapes



Area Under Vine - Only White Grapes



GRAPES

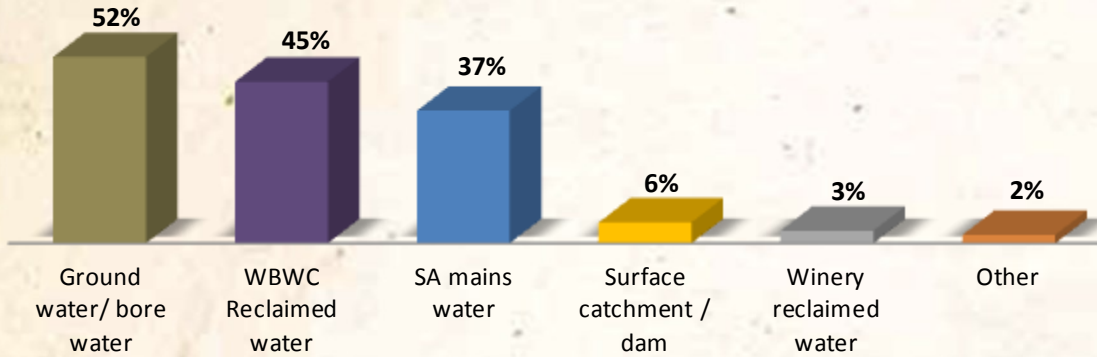
Shiraz is the most planted variety among all grapes (51%) in McLaren Vale, followed by Cabernet Sauvignon (18%), Grenache (7%), Merlot (5%), Chardonnay 5%. All other varieties represent about 14%.

McLaren Vale Sustainable Winegrowing Australia members produced 10,444 tons of red grapes in 2012. Shiraz is the most planted variety, representing 57% of the total red grapes, followed by Cabernet Sauvignon (20%), Grenache (8%), Merlot (6%). Other red varieties represent 4% of the total reds, Mataro (2%), Tempranillo (2%) and Sangiovese (1%).

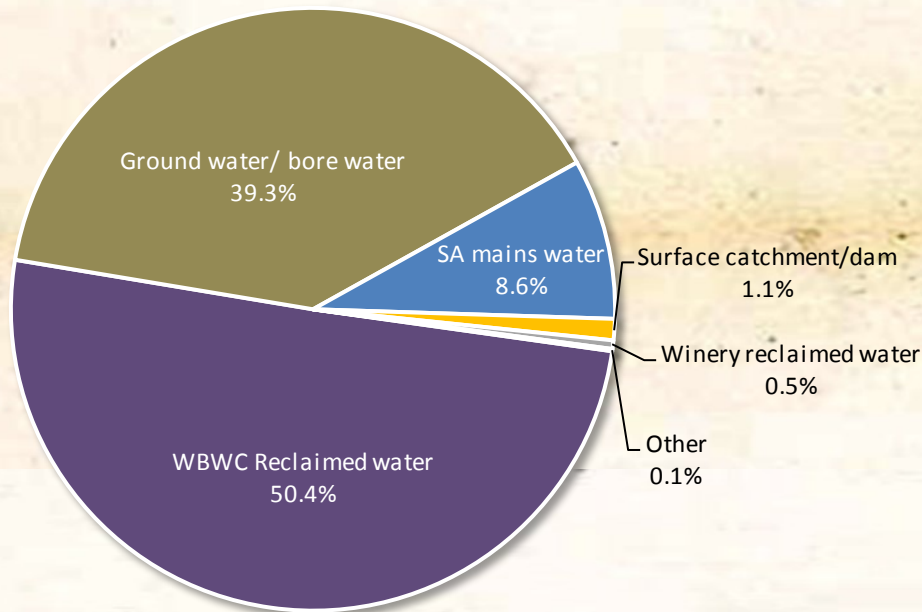
McLaren Vale Sustainable Winegrowing Australia members produced 1,461 tons of white grapes in 2012. The grapes came from 234 hectares under vine. The main white variety is Chardonnay (42%). There are many new varieties with small production that represent 17% of the total white grapes varieties. Semillon and Sauvignon Blanc are 9% each, Viognier 8%, Riesling (6%), Pinot Gris (5%) and Verdelho (4%).

Water—Irrigation Sources and Water Usage

% of Growers in each Irrigation Source



Total Water Usage (by source)



IRRIGATION SOURCES

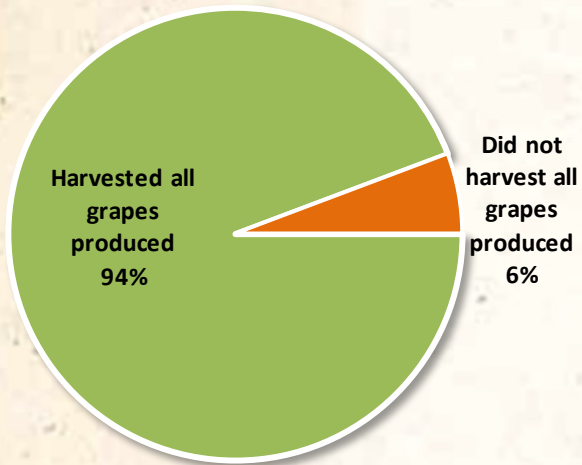
83 members irrigated their vineyards in 2012, representing 95% of the participants.

Only 5 members did not irrigate their vineyards in 2012.

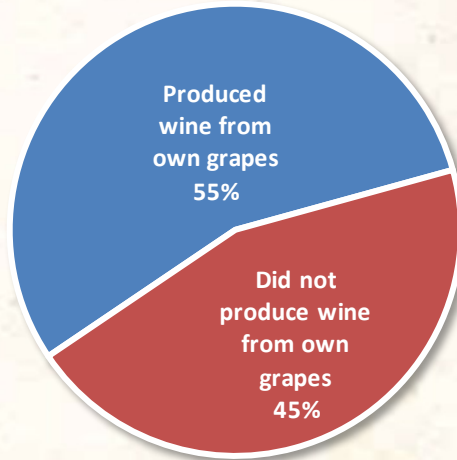
On average, McLaren Vale Sustainable Winegrowing Members used 1.08 ML/ha of water to irrigate their vineyards in 2012. The column graph on the left shows the source of irrigation water among members. A grower might use more than one water source. 52% used ground/bore water. 45% used reclaimed water from the Willunga Basin Water Company. 37% used mains water. 6% used water from surface catchment/dams, 3% used water recycled from the winery.

From the total amount of water used to irrigate vineyards and considering all irrigation sources, reclaimed water represents 50.4% of the total water used by members to irrigate their vineyards in the McLaren Vale region, followed by ground/bore water (39.3%), SA Mains Water (8.6%), recycle water from the winery (0.5%)

Grapes Harvested



Wine Production from Own Grapes



Grapes Harvested

Only 5 growers did not harvest all fruit they produced in 2012. The total amount of fruit that was not harvested among McLaren Vale Sustainable Winegrowing members in 2012 is 59 tonnes.

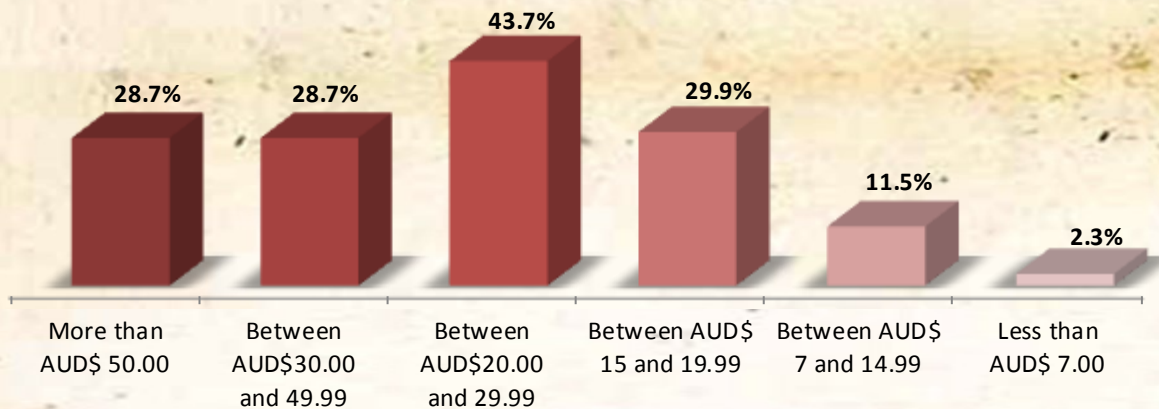
Wine Production among Members

55% of the members produced wines from their own grapes and 45% did not produce wine from their own grapes.

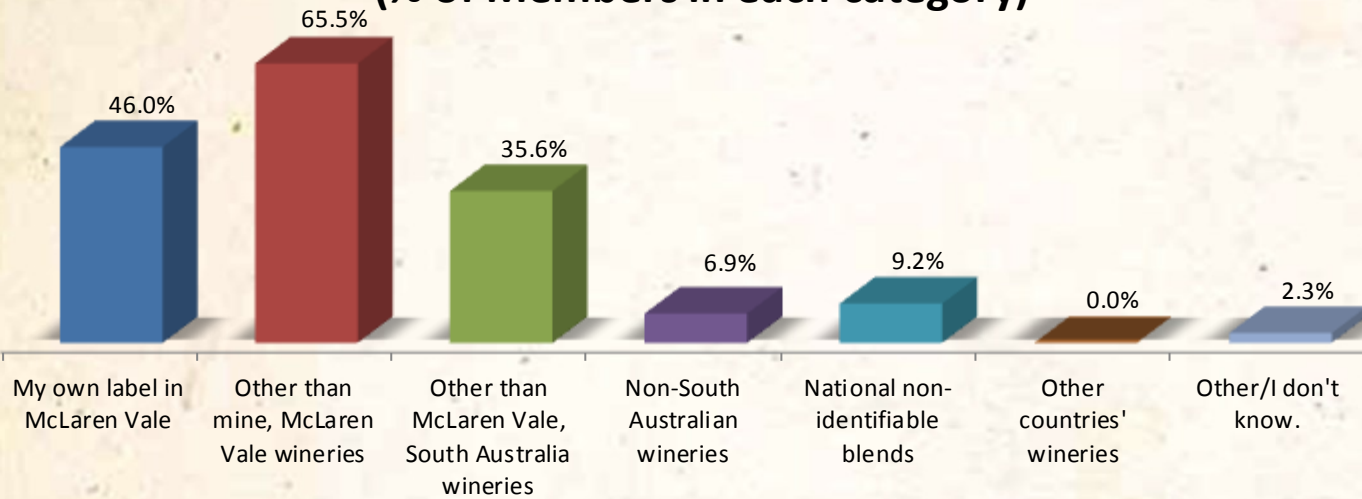
Price Range Categories of Wines Produced from Grapes from Members (% of Members in each price range category)

Among Members who had produced wines, 43.7% produced wines between \$20-29.99 dollars. About 30% produced wines between \$15-19.99; 28.7% produced wines between \$30-49.99; 28.7% produced wines that have prices higher than \$50.00; 11.5% produced wines ranging between \$7-14.99 and only 2.3% produced wines that are less than \$7.00 dollars at retailers.

Price Range Categories of Wines Produced from Members' Grapes (% of growers in each category)



Grape Destination for Wine Production
 (% of Members in each category)



Grapes Destination for Wine Production

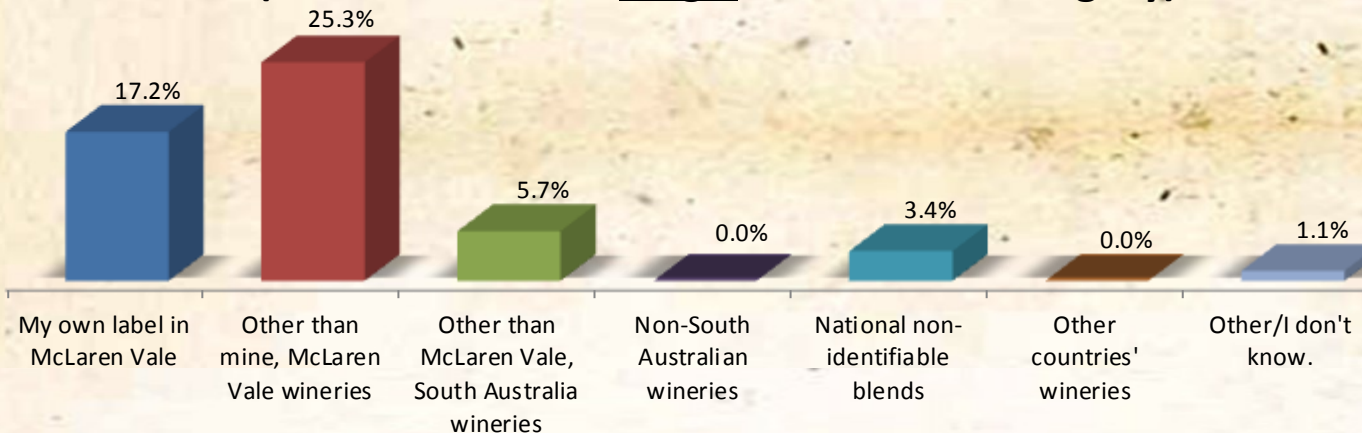
65.5% of the members informed us their grapes were used to produce wines by other than their own McLaren Vale winery/ wine label. 46% use the grapes to produce wines for their own McLaren Vale label. For 35.6% of the members, the grapes were used by other than McLaren Vale but in South Australia wineries. 9.2% sell their grapes to be used by national non-identifiable blends and 2.3% don't know.

Single Winery Category Destination

17.2% of the Members only used their grapes to produce wines to their own McLaren Vale label.

Grapes from 25.3% of the members were used only to produce wine other than their own, McLaren Vale label. 5.7% of the members informed that their grapes were used solely to produce wines from other than McLaren Vale but South Australian wineries. None of the Members produced exclusively to non-South Australian wineries or other countries' wineries

Grape Destination for Wine Production from Member's Grapes
 (% of Members in Single Destination category)

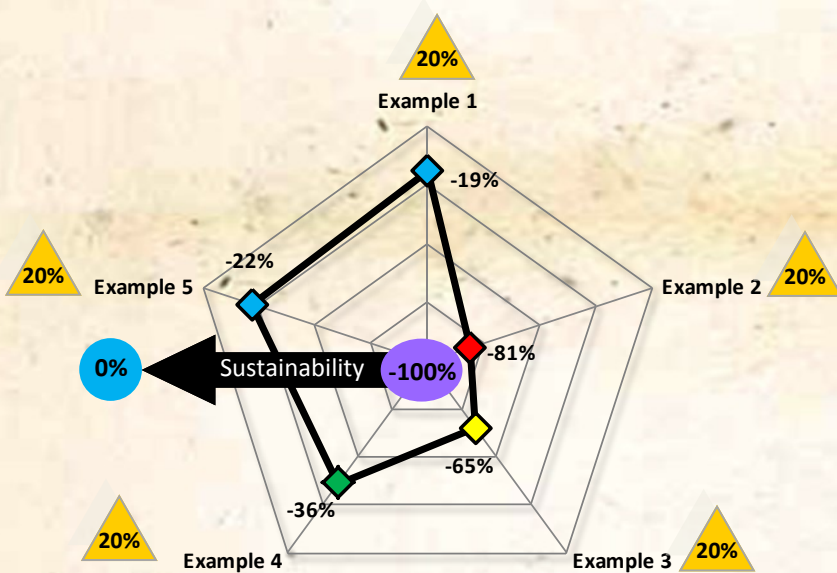


McLaren Vale Sustainable Winegrowing Australia— Understanding and reading our graphs

The results in this book are presented through two types of graphs:

1. Spider graphs

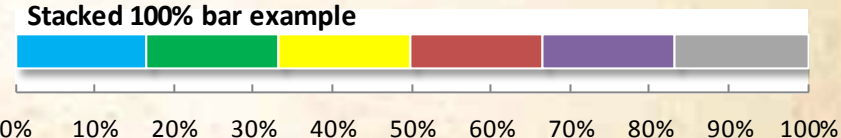
- Shows values relative to the whole system. The attributed weight (importance) for each item was taken into consideration and it is displayed (by the graph) in a little orange triangle.
- In the example below, each section is worth 20% of the whole.
- Results are shown as percentage difference between and maximum possible points and Members' mean.
- The centre of the graph represents -100% (minus one hundred per cent) between percentage difference of the maximum possible points and the Members' means.
- The outer line of the graph represent 0% (zero per cent) of percentage difference between the maximum points and the Members' means.
- The closer to zero (to the edges), the better the result! The sustainability journey is about moving from the centre to the edge of the spider graph.



2. Stacked 100% bar graphs (showing count value)

- Shows absolute values for each topic. The attributed weight (importance) for each item was not taken into consideration.
- The bar graphs show how many of our 87 Members, responded in each category.
- The results are shown in percentages out of 100% (=87 participants).
- It compares the percentage that each value contributes to a total, across categories.

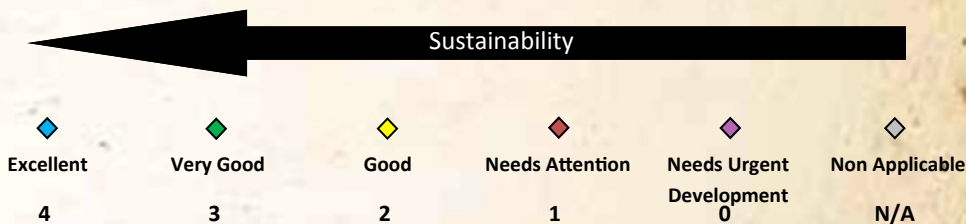
Stacked 100% bar example



How to interpret the results and colours

Each colour represents a category of the workbook, varying from grey (non-applicable) to 1 to 4.

The aim is to move from the right to the left as shown in the image below.



McLaren Vale Sustainable Winegrowing Australia—Overall Results

87 Members, representing 145 sites had their sustainability practices assessed in 2012. The assessment was by an individual workbook comprised of 6 major chapters. Each chapter had a weight attributed to it. Soil Health, Nutrition & Fertiliser Management represents 20% of the assessment, as well as Pest and Disease Management. The other four chapters (Biodiversity, Water Management, Waste Management and Social Relations) are each worth 15% of the system.

The Sustainability Chapters

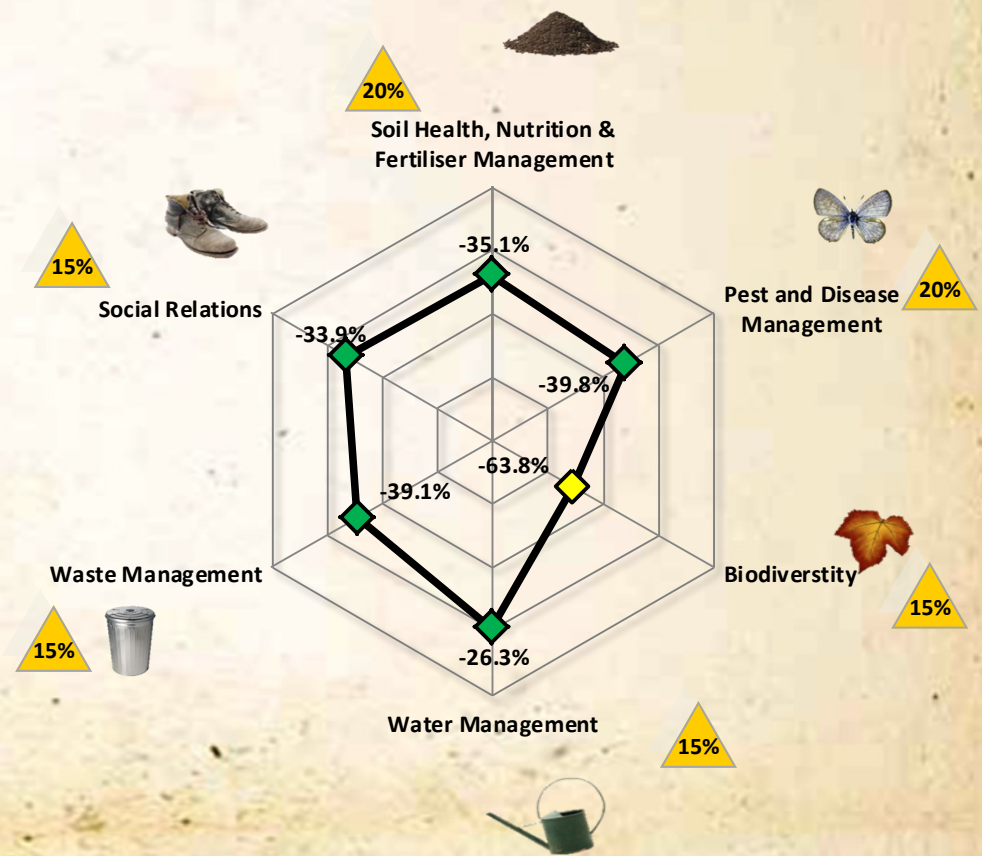
The average results of the McLaren Vale Sustainable Winegrowing Members were correlated to a colour category. The objective was to provide us with the ability to visualise our results in a easy but accurate way:

- ◆ 4 Excellent
- ◆ 3 Very Good
- ◆ 2 Good
- ◆ 1 Needs Attention

From the Members results , the highest rated chapters are Water Management and Waste Management. From our colour correlation both fit into the Blue (Excellent) category. Soil Health, Nutrition & Fertiliser Management, Pest & Disease Management and Social Relations chapters achieved the Green category (Very Good) and Biodiversity is the chapter that we need to improve the most (Yellow category—Good).

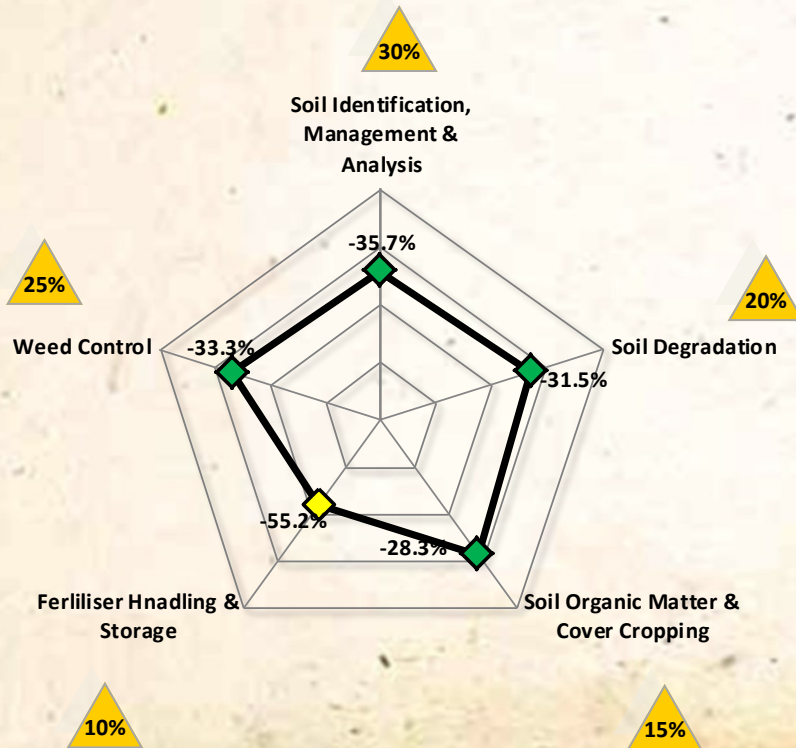
The system was built to promote continuous improvement over time, so all results are shown as the gap (as percentage difference) between the maximum possible points that can be achieved in the system and the regional average from participants in the program instead of static average results.

Each chapter is detailed in this booklet and the contribution of each specific section that comprises each chapter are individually presented and explained here.





SOIL HEALTH, NUTRITION & FERTILISER MANAGEMENT



Sections and Weights in the System:

The Soil Health, Nutrition & Fertiliser Management chapter is divided into 5 sections: Soil identification, Management and Analysis; Soil Degradation; Soil Organic Matter & Cover Cropping; Fertiliser Handling & Storage and Weed Control.

The Soil Health, Nutrition and Fertiliser Management chapter represents 20% of the total of the McLaren Vale Sustainable Winegrowing possible points.

From what is possible to score within the Soil Health, Nutrition & Fertiliser Management Chapter Soil Identification section represents (30%), Soil Degradation (20%), Soil Organic Matter and Cover Cropping (15%), Fertiliser Handling and Storage (10%) and Weed control (25%).

Overall Results: Categories within the System for Each Section:

Soil Organic Matter & Cover Cropping section has the best results for the chapter. The percentage difference between the maximum possible points and the members result is -28.3%, placing this section into the Blue (Excellent) category. All the other sections are in the Green (Very Good) category.

Comments:

McLaren Vale has a long and rich farming history. With this history comes a vast experience in soil management and this is reflected in an overall Good to Excellent assessment of member practices. The results of our program reflect that members have been putting increasing resources into their soil. They have been planning their soil management and nutrition and tracking the results of their actions. They have been developing vineyard techniques to not only maintain soil, but *improve it* by adding organic matter.

McLaren Vale farming practices have been evolving with an emphasis on using cover crops in harmony with grape growing. The very life is being put into the soil with ploughing the land replaced by cover cropping and leaving soil covered all year round. 25% of Members have gone to the step of using non-agricultural methods of weed control. Grape growers with steep slopes, saline or degraded land have identified these as important issues and most are actively managing their valuable land to keep it in production.

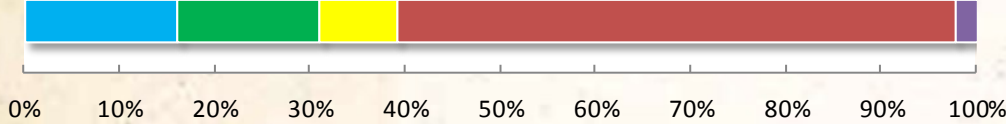
On farm storage and record keeping have been identified as continual improvement areas. McLaren Vale members will be a living demonstration that all farming is rooted in the soil and that great, healthy soils make great wines.

Excellent	Very Good	Good	Needs Attention	Needs Urgent Development	Non Applicable
4	3	2	1	0	N/A

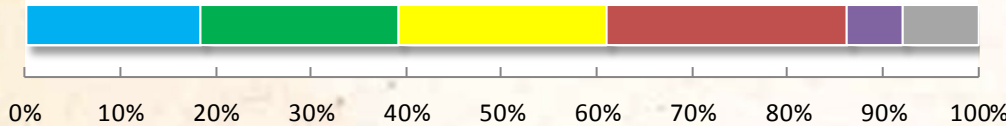


SOIL HEALTH, NUTRITION & FERTILISER MANAGEMENT
Section 1. 1—Soil Identification, Management and Analysis

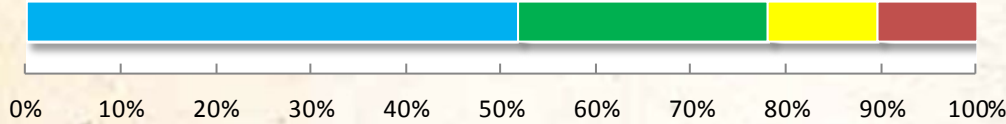
1.1.1 Soil management strategy



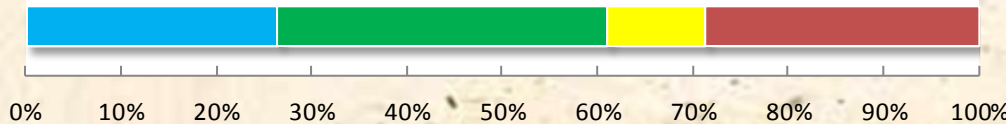
1.1.2 Fertiliser application records



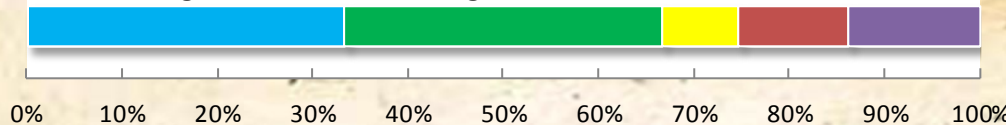
1.1.3 Soil management plan and vineyard nutrition



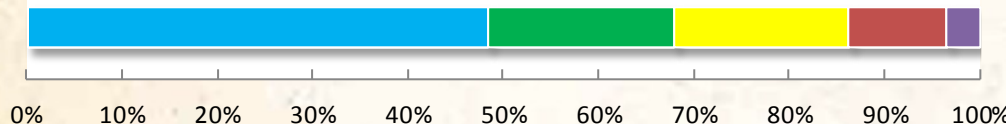
1.1.4 Soil identification



1.1.5 Soil organic carbon monitoring



1.1.6 Vine nutrition



1.1.1 SOIL MANAGEMENT STRATEGY

58% of the Members have a soil management strategy but it is not written. 8% have a soil management strategy that is recorded and followed. 15% of the Members, in addition, also have different strategies for different blocks which is reviewed each season in consultation with the winery. 16% of them, in addition to that, also update their strategy every year based on soil tests and identification of degraded areas.

1.1.2. FERTILISER APPLICATION RECORDS

8% of the Members do not use fertilisers of any type. 6% of the Members informed they do not have a record of vineyard fertiliser applications. 25% have records (product name, rates of nutrient within the product applied, application rates, operator name, date and block) but they are not recorded in rigid time. 22% of them have similar records but their records are made within 24 hours of fertiliser application. 18% of the Members also keep receipts and contractor invoices attached to these records.

1.1.3 SOIL MANAGEMENT AND VINEYARD NUTRITION

All growers have some sort of soil management plan regarding plant nutrition. 10% of the Members manage vineyard nutrition status using similar strategies used in the past or follow neighbours plus vine appearance. 11% also use soil tests from representative areas but not within the last 5 years. 26% do the same but within the last 5 years. 52% of the Members have their soil management strategy based on vine appearance and soil tests taken within the last 3 years.

1.1.4 SOIL IDENTIFICATION

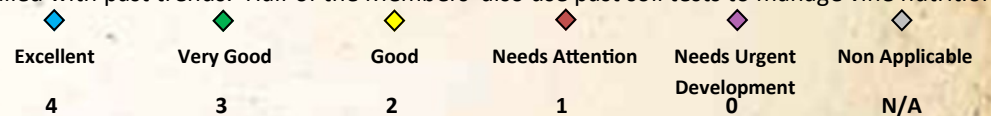
All growers have identified their soil types. In addition to that, 10% have used soil pits or soil mapping to view the soil horizon by depth. 34% have also identified the base geology from the McLaren Vale Geology Map. 26% of the Members, on the top of that, have also a map of how the soil type/geology changes across the vineyard.

1.1.5 SOIL ORGANIC CARBON MONITORING

14% of the Members do not monitor organic carbon levels. 11% have a single record from the vineyard establishment period. 8% have multiple records but these are older than 3 years. 33% of the Members have a current record taken within the last 3 years and they track changes to our levels over time by comparing them to older multiple records. 33% of the Members, in addition to that, have take action when the records show reduction of the organic carbon.

1.1.6 VINE NUTRITION

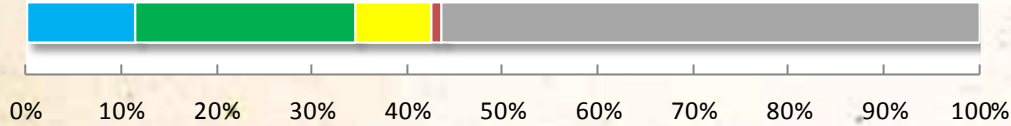
13% have never tested their vines. Nutrients are applied based on vine appearance, time of the growing season or what they've done in the past. 18% have tested their vines and use results to govern nutrition practices in consultation with wineries or qualified agronomist or they follow biodynamic calendar applications. 19% , in addition to that, also have identified problem blocks for regular testing and use these results allied with past trends. Half of the Members also use past soil tests to manage vine nutrition.





SOIL HEALTH, NUTRITION & FERTILISER MANAGEMENT
Section 1. 2.—Soil Degradation

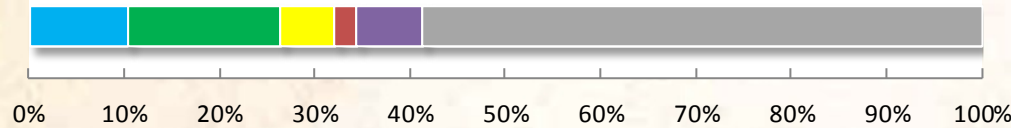
1.2.1 Degraded or eroded land



1.2.1 DEGRADED OR ERODED LAND

This topic is not applicable to 56% of the members as there is no degraded land within their vineyards. 8% of the Members have identified areas that are highly degraded or eroded and they have left the areas as they are. 23% have identified highly degraded areas and maintain cover on these areas to prevent erosion and have been proactive to prevent erosion. 11%, in addition to that, have been tracking the improvements from their corrective actions.

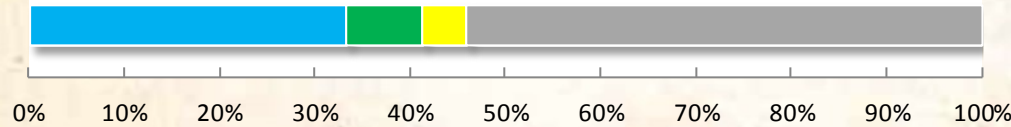
1.2.2 Saline land



1.2.2. SALINE LAND

This topic is not applicable to 58% of the Members as they informed they do not have saline land in their vineyards. 7% of the member don't know if they have problems with saline areas. 2% have identified saline areas but did not do anything about them. 6% have identified saline areas and they have used techniques like flushing irrigation and soil amendments. 16% of the members, in addition to that, have also been proactive to prevent increasing soil salinity. 10% of the Members informed that in addition of being proactive to prevent soil salinity they have been also tracking the improvements from their corrective actions.

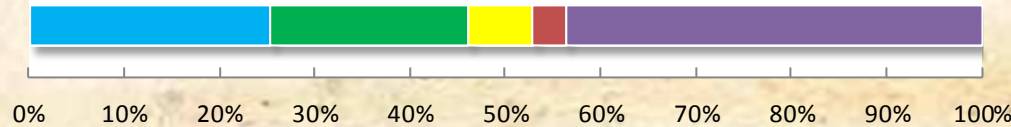
1.2.3 Steep slope erosion control



1.2.3 STEEP SLOPE EROSION CONTROL

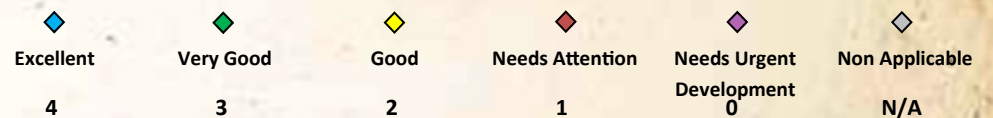
54% of the members informed they do not have steep slopes in their vineyards, so erosion control for these areas is not applicable for them. About 4% of the members have identified steep slopes in their property and they cultivate their steep slope areas each season and they have a annual cover crop system. 8% have identified steep slopes in their properties but they have not cultivated their soils or sprayed out the midrow in last 12 months. 33% of the members in the same situation have not cultivated or sprayed out the midrow in the last 24 months and they keep permanent cover crops throughout the year.

1.2.4 Heavy vehicle operations



1.2.4 HEAVY VEHICLE OPERATIONS

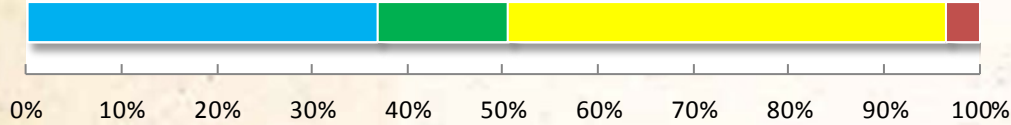
43% of the Members do not keep records of how many heavy vehicles operations occur each season. 3% keep a record of how many tractor passes occur each season. 7% of Members, in addition to the records also try to reduce the number of tractor passes by using multiple –row gantry machinery where possible. 25% of members, on the top of that also use equipment with large floatation tires where possible.





SOIL HEALTH, NUTRITION & FERTILISER MANAGEMENT
Section 1.3—Soil Organic Matter & Cover Crop

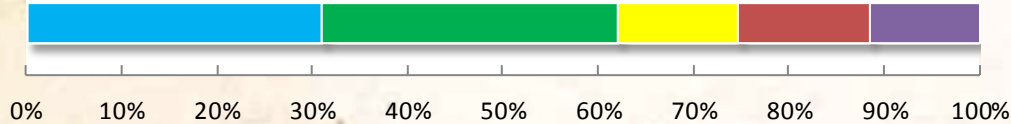
1.3.1 Machinery operations on wet soil



1.3.1 MACHINERY OPERATIONS ON WET SOIL

46% of the Members have identified soils in vineyard most at risk from compaction when wet and aim not to use machinery on wet soil. 14% of the Members, in addition to that, have a schedule of soil amendments and ripping to reduce the compaction effects of machinery on wet soil. 37% of the Members, on the top of that also monitor soil moisture levels and compaction risks before they perform tractor operations and select light weight machinery where possible and they reported that they only perform operations when absolutely critical and there is no other option or timing to do it as the forecast indicates continuing rain.

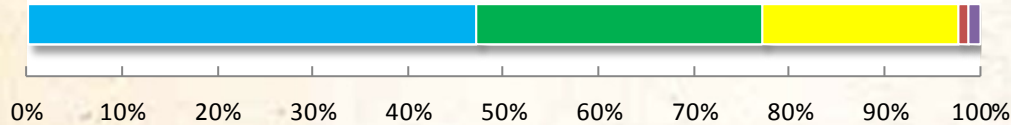
1.3.2 Organic matter soil amendment (compost, basalt or humates)



1.3.2. ORGANIC MATTER SOIL AMENDMENTS (COMPOST, BASALT OR HUMATES)

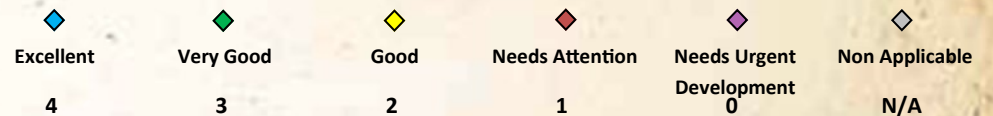
11% of the Members do not track organic matter content in their soils. 14% have applied organic matter intermittently in the past. 12% have applied intermittently and have also kept record of it. 31% have applied organic matter based on vine appearance, on as needed basis and they also kept records of their application. 31% of the Members have also used soil tests to measure and assist their decision to apply organic matter soil amendments and they have kept track of the effects of their applications.

1.3.3 Cover crops, organic matter and soil structure



1.3.3 COVER CROPS, ORGANIC MATTER AND SOIL STRUCTURE

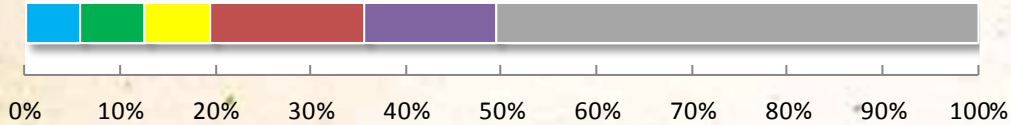
20% of the Members have established an annual cover crop system. 30% informed they have a permanent cover crop established within the last 5 years or a volunteer sward that has not been cultivated in that time. 47% of the Members have a permanent cover crop established or a volunteer sward that has not been cultivated for at least 5 years.





SOIL HEALTH, NUTRITION & FERTILISER MANAGEMENT
Section 1. 4—Fertiliser Handling & Storage

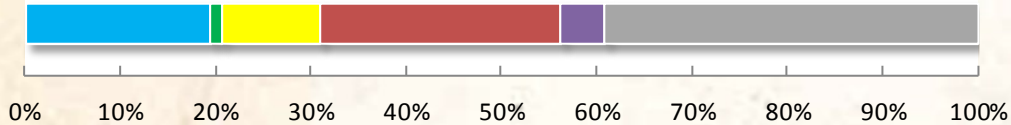
1.4.1 Specialist bulk fertiliser handling area



1.4.1 SPECIALIST BULK FERTILISER HANDLING AREA

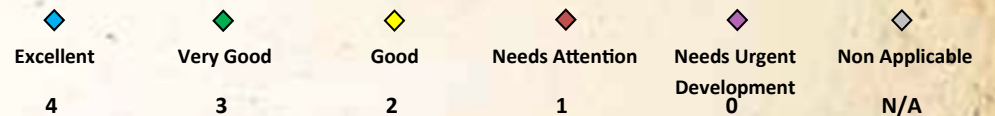
51% of the Members do not handle or use bulk fertiliser on their farms. 13% informed they do not have a specialized handing area on the farm. 16% have an area in the vineyard where they handle and store bulk fertiliser. 7% have an area and this area is identified with a sign. 7% of the Members also informed that this handling area is located, constructed and maintained to minimise harm to off target and sensitive areas from nutrient run off or leaching. 6% of the Members also keep this area secure .

1.4.2 Liquid fertiliser handling



1.4.2. LIQUID FERTILISER HANDLING

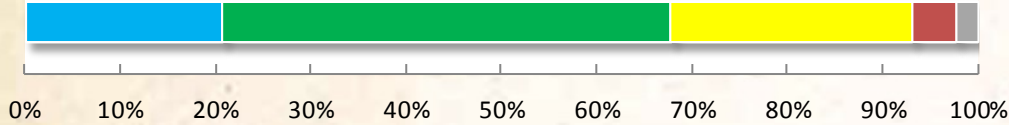
39% of the Members do not use or handle liquid fertiliser on their farms. 25% have an area where they store liquid fertiliser. 10% have this area identified with a sign and /or have it pointed out on the map. 19% of the Members, in addition to that have also the site located, constructed and maintained to minimise harm to off target and sensitive areas from nutrient leaching with bunding to control wash water where applicable and this area is secure to keep animals or people from disturbing it.



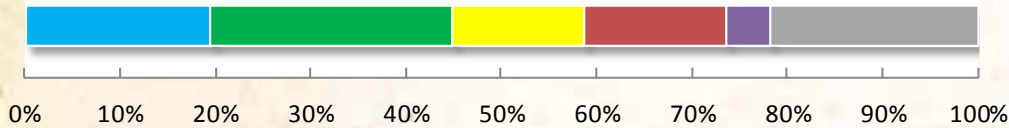


SOIL HEALTH, NUTRITION & FERTILISER MANAGEMENT
Section 1.5—Weed Control

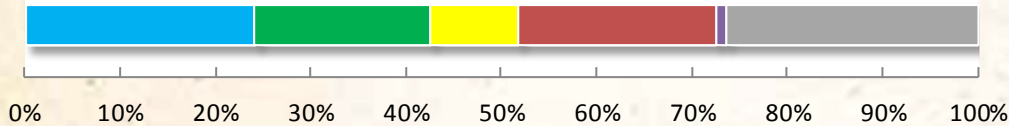
1.5.1 Weed control strategy



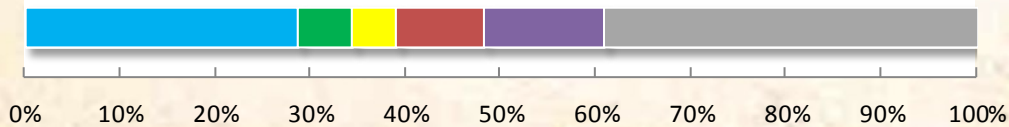
1.5.2 Herbicide use



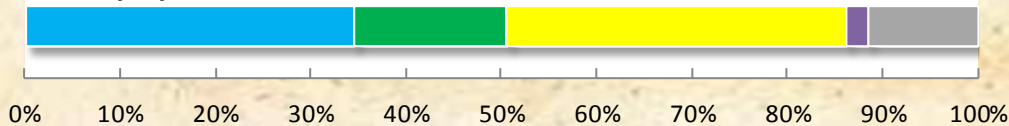
1.5.4 Herbicide resistance plan



1.5.5 Under vine cultivation in weed control



1.5.6 Spray drift



1.5.1 WEED CONTROL STRATEGY

2% of the Members do not have weed problems, so having an strategy is not applicable for them. 4% of the Members have identified their main weed problems and target their control to critical times of the year. 47% informed they manage weeds through an integrated weed control approach using conventional herbicide or organic weed management tools that are available or a combination or both. 21% of the Members, in addition to that, keep a written record.

1.5.2. HERBICIDE USE

22% do not use herbicide to control weeds and because of that this topic is not applicable to them. 4% do not keep records of herbicide applications. 15% record the herbicide application (amount used per hectare and date). 14% of the Members record herbicide application in a spray diary as a written record. 25% reported that, on the top of that, they also clean their equipment after spraying to prevent cross contamination and before entering other vineyards to prevent spreading weeds. 19% informed that in addition to that they are also developing methods to reduce their reliance on herbicide by integrating other alternative farming practices.

1.5.4 HERBICIDE RESISTANCE PLAN

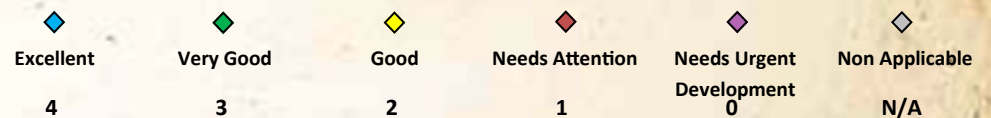
26% reported they do not use undervine herbicides to control weeds. 21% of the Members generally rely on the same herbicide but they said they have altered herbicides groups in the past. There is an assessment of the weeds before spraying. On the other hand, 9% informed they avoid herbicide resistance by not using the same herbicide from year to year without rotation. 18% informed that in addition to that, they also check if they are not using herbicides from the same group and they are also concern about the correct rate while getting good spray coverage. 24% reported that on the top of that they also apply herbicides at key times to prevent weeds from setting seeds to limit the carry over from year to year.

1.5.5 UNDER VINE CULTIVATION IN WEED CONTROL

39% of the Members do not use undervine cultivation to control weeds, so topic is not applicable. 12% do not plan their cultivations to keep a bare strip undervine. 9% use cultivation at key times to prevent weeds from setting seeds. 4% cultivate at key times and also clean the equipment before moving to other vineyards to limit the spread of weeds between sites.. About 6% informed they also assess soil moisture levels before undertaking cultivation. 28% of the Members, in addition to that also assess the performance of their weed controls.

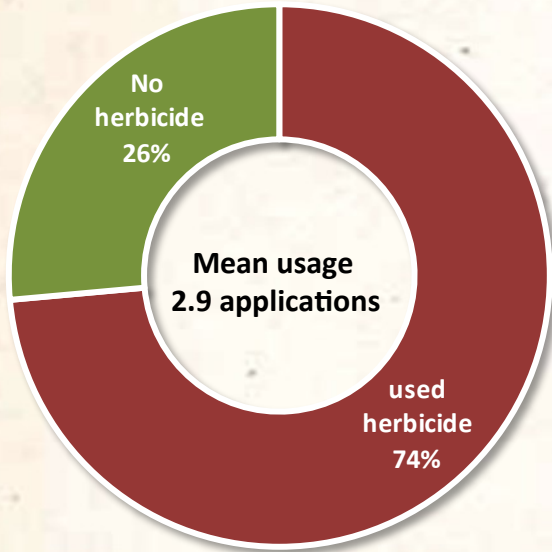
1.5.6 SPRAY DRIFT

The topic is non-applicable to 11% of the Members who do not use herbicides. 35% of the Members check weather conditions during application and only spray when it is suitable for spraying. 16% also check Delta T, low humidity or strong winds before spraying. 34% of the Members check how the herbicide cart (nozzle size and system pressure) is set up to have suitable droplet size to limit drift, in addition to the weather check.





Herbicide Usage



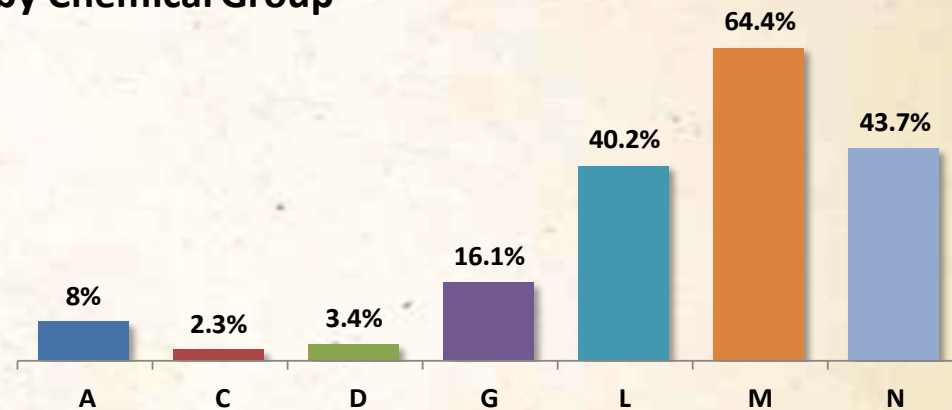
Herbicide Usage

67 members (or 77% of the total members) reported as being conventional or low input conventional with IPM principles. However, only 64 used synthetic chemicals to control weeds, representing 74% of the members.

Among Members who used herbicides, the mean usage was 2.9 applications per year. The most used herbicide used belong to Group M. 64.4% of the Members who had applied herbicides used it in an average of 1.2 applications. The second most widely applied herbicide groups belong to Group N. 43.7% of the Member who used herbicides used them on average 1.1 times a year.

The least used Groups were Group C (2.3%) and D (3.4%) . The table and graph on the right shows the numbers of herbicide application among members who have applied herbicides in their vineyards.

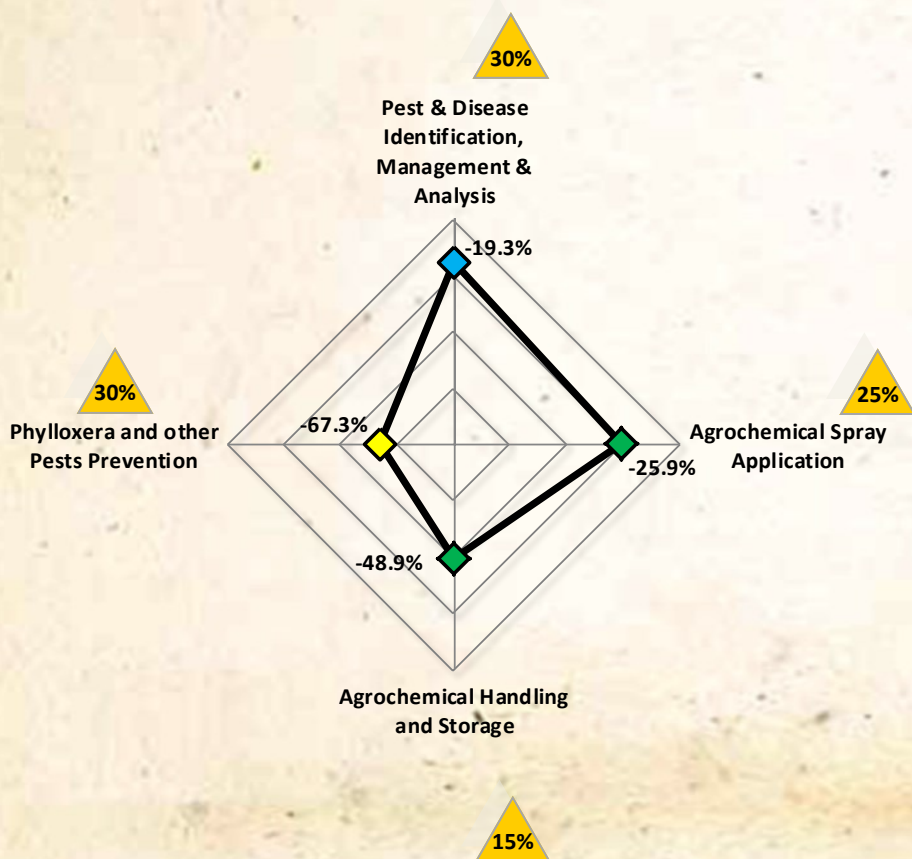
Growers who used herbicide by Chemical Group



Herbicide use - by chemical group									
Chemical group		A	C	D	G	L	M	N	
Amount of Growers	used	7	2	3	14	35	56	38	
	didn't use	80	85	84	73	52	31	49	
Growers who used		mean use	1.1	1.0	1.0	1.1	1.2	1.3	1.1



PEST AND DISEASE MANAGEMENT



Sections and Weights in the System:

The Pest and Disease Management chapter is divided in 4 sections: Pest & Disease Identification, Management & Analysis, Agrochemical Spray Application, Agrochemical Handling & Storage and Phylloxera and Other Pests Prevention.

Pest and Disease Management represents 20% of the total of the McLaren Vale Sustainable Winegrowing possible points.

From what is possible to score within the Pest and Disease Management chapter, both Pest & Disease Identification, Management & Analysis and Phylloxera and Other Pests Prevention represent 30% each. Agrochemical Spray Application represents 25% and Agrochemical Handling and Storage 15% of the chapter.

Overall Results: Categories within the System fro Each Section:

Pest & Disease Identification, Management & Analysis section has the best results for the chapter. The percentage difference between the maximum possible points and the members result is -19.3%, placing this section into the Blue (Excellent) category. Agrochemical Spray Application and Agrochemicals Handling and Storage are in the Green (Very Good) category. The percentage difference between the maximum points in the system and the McLaren Vale average is -25.9% and 48.9% respectively. The Phylloxera and Other Pests Prevention section had the worst result within the chapter, the gap between the maximum results and the section results is -67.3%.

Comments:

Producing clean and healthy grapes has helped make McLaren Vale a world acclaimed wine region. This is no accident judging by the responses in the Pest & Disease Chapter of the *McLaren Vale Sustainable Winegrowing Australia* program.

McLaren Vale grape growers members have excellent skills in identifying problems in their vineyard with pest and disease. Growers are practicing agrochemical resistance management strategies as per AVCARE advice and keeping records from season to season to assist their vineyard planning. They have good awareness of the cultural control options, using these in combination with conventional agrochemical control where possible. This reflects well on existing McLaren Vale regional pest and disease services like CropWatch which is now in its 10th season of monitoring climatic data from the regions weather stations.

Phylloxera prevention & bio-security is one area where the region is not close to best practice. *McLaren Vale Sustainable Winegrowing Australia* results from the 'Phylloxera and other Pests' highlights some significant weaknesses in vineyard hygiene and farm gate security. The majority of growers rated themselves in the needs improvement or needs urgent development category in a couple of key areas. Over the next few seasons growers have the challenge of developing practices in vine hygiene that match those of their pest and disease control.

Excellent	Very Good	Good	Needs Attention	Needs Urgent Development	Non Applicable
4	3	2	1	0	N/A



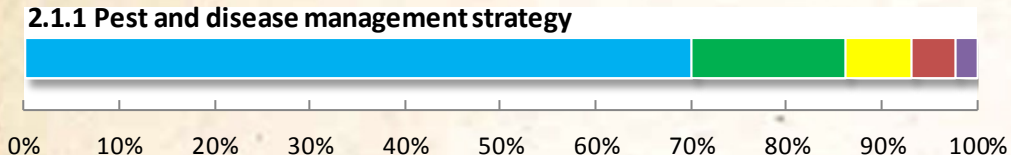
PEST AND DISEASE MANAGEMENT

Section 2.1—Pest & Disease Identification, Management & Analysis

McLAREN VALE

one thing leads to another

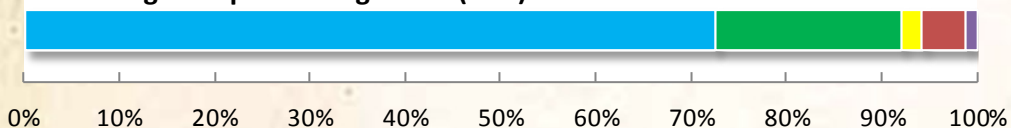
2.1.1 Pest and disease management strategy



2.1.1 PEST AND DISEASE (P&D) MANAGEMENT STRATEGY

Two growers don't have a pest and disease management strategy. 5% have a plan based on P&D problems that have affected their vineyards. 7% update their plan occasionally and have a resistance management guidelines. 16% have an annually updated plan using not only P&D problems that have affected their vineyards, but also information from other vineyards through services including CropWatch and winery advice and 70% do the same, but seasonally and also use professional advice on P&D from monitoring reports from their vineyard.

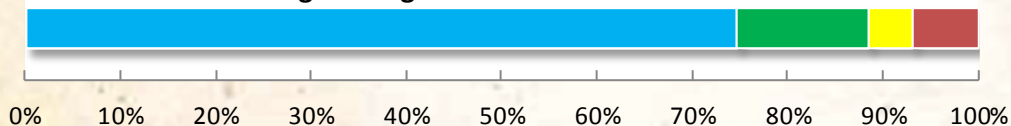
2.1.2 Integrated pest management (IPM)



2.1.2. INTEGRATED PEST MANAGEMENT (IPM)

One grower does not use IPM. 5% informed their seasonal P&D control is governed by set spraying intervals and cost of the agrochemical control programs versus potential losses through P&D crop damage. 2% reported their seasonal P&D control is governed by knowledge of risk gained through weather and disease forecasting, monitoring and identification information. 19%, in addition to that also use susceptibility of the grape variety to the particular P&D. 72% also assess any potential impacts on beneficial organisms.

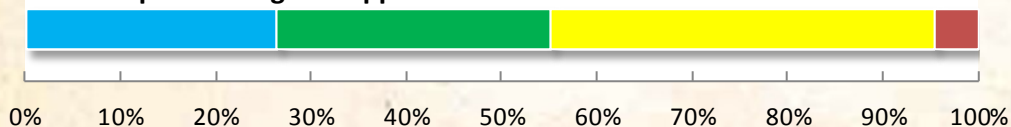
2.1.3 Resistance management guidelines



2.1.3 RESISTANCE MANAGEMENT GUIDELINES

7% have altered their fungicide groups occasionally in the past, but generally rely on the same ones. 5% are aware of AVCARE resistance management guidelines and they minimise fungicide resistance by not using chemicals from the same activity group from year to year without rotation. About 14% also ensure that they are using the correct rate while getting good spray coverage when applying agrochemicals. 74%, in addition to that, also apply fungicide at key times to limit disease carry from year to year.

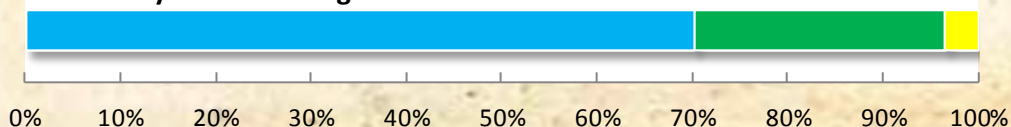
2.1.4 Grapevine fungicide application records



2.1.4 GRAPEVINE FUNGICIDE APPLICATION RECORDS

All growers have fungicide application records but 4% only record whenever they have time to do it (not a rigid time frame). 40%, in addition to that, include weather condition during spraying, growth stage, product name, rates of use, spray type, water rates, operator name and block. 28% also keep receipts and/or contractor invoices attached to these records. 26% of the Members, on the top of that, relate fungicide application to nutritional tests.

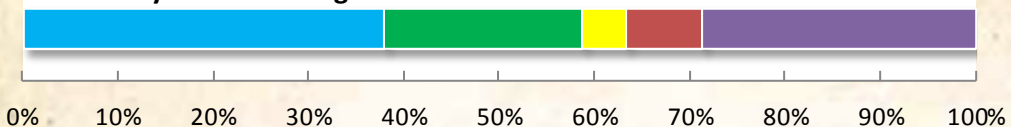
2.1.5 Vineyard monitoring



2.1.5 VINEYARD MONITORING

3% of the Members monitor representative areas of their vineyard frequently. 26% also informed their monitoring is backed up with CropWatch McLaren Vale and other industry information to keep up to date. 70%, in addition to that, also attend regularly to P&D workshops and /or work closely with other growers to identify problems

2.1.6 Vineyard monitoring records



2.1.6 VINEYARD MONITORING RECORDS

28% do not monitor their vineyards or keep records. 8% record each P&D monitoring (date, name of monitoring person, P&D target, weather conditions, management response and outcome). 5% also record growth stage. 20%, in addition to that, record any observable season or fungicide spray impacts. 38%. on the top of that, cross check records from previous years.



Excellent

4



Very Good

3



Good

2



Needs Attention

1



Needs Urgent Development

0

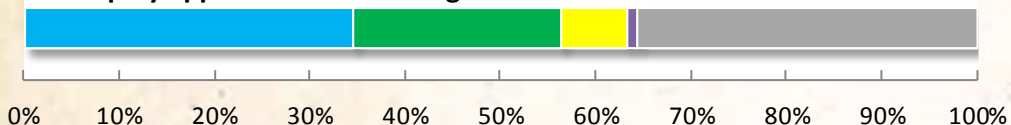


Non Applicable

N/A



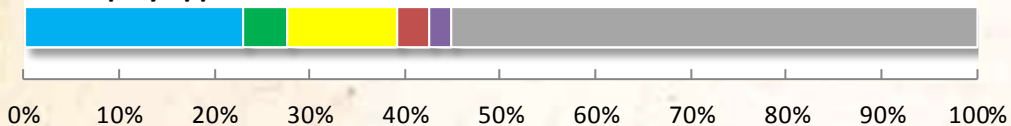
2.2.1 Spray application - self managed



2.2.1 SPRAY APPLICATION—SELF MANAGED

This topic is not applicable to 36% of the members who do not spray their vineyards or use contractors to do so. 7% check the application rate, method and application before applying agrochemicals. They also check the forecast weather and conditions to assess their suitability for spraying. 22% , in addition to that, also check the fungicide spray unit is set up to have suitable droplet size to limit drift by considering nozzle size and system pressure. 34% of the Members, on the top of that, also check current weather conditions (i.e. Delta T).

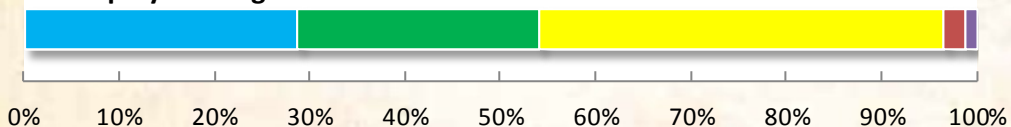
2.2.2 Spray application - contractor



2.2.2. SPRAY APPLICATION—CONTRACTOR

This topic is not applicable to 55% of the growers who do not use contractors to spray their vineyards. 2% informed they check the application rate, method and application before the contractor applies agrochemicals in their vineyard. They also check if contractor holds all appropriate licences. 3% also ask for documentation that their contractors fungicide unit is set up to have suitable droplet size to limit drift considering nozzle size and system pressure. 23%, in addition to that, also request that contractor follows a “cut-off” of weather conditions i.e. Delta T or high winds, when they halt spraying because it is likely to cause drift.

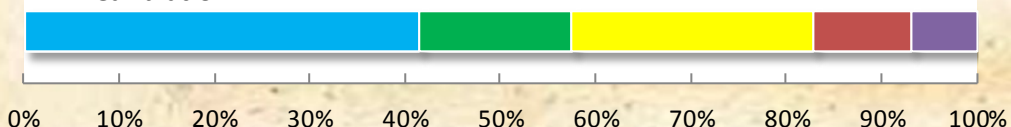
2.2.3 Spray coverage



2.2.3 SPRAY COVERAGE

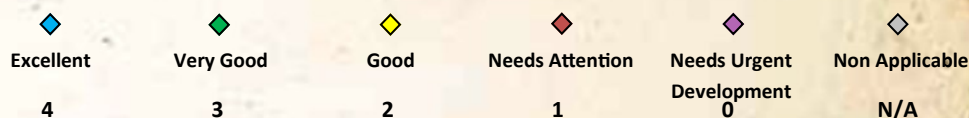
One grower is not aware of the spray coverage. 2% monitor the performance of their spray unit ensuring the system is operating at correct pressure and nozzles are operating during application or they ask their contractors to do so, providing if asked evidence of that. 42% , in addition to that also consider the canopy set up and design to adjust fungicide spray coverage accordingly. 25%, on the top of that , also assess spray coverage during critical times of the season with spray sensitive paper or by other means. 28% of the growers, in addition to that also test the quality of the water (cleanliness and pH).

2.2.4 Calibration



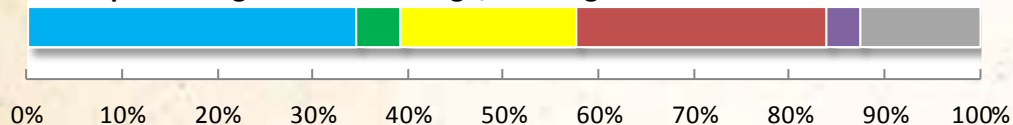
2.2.4 CALIBRATION

7% do not calibrate spray units. 10% calibrate fungicide sprayer set up annually, before the season starts or ask the contractor to do so. 25% calibrate sprayer set up more than once a season. 16%, in addition to that also check the nozzles to be within 10% +/- of the manufacturer output. 41% of the growers, on the top of that also check if filters are clean and system pressure gauge is checked to be accurate and operational.





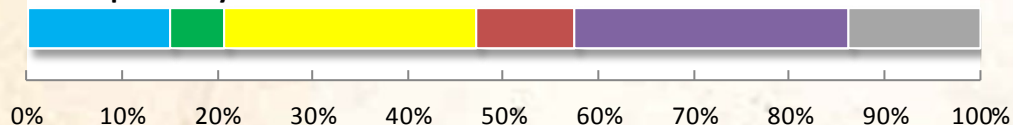
2.3.1 Specialist agrochemical storage/ handing area



2.3.1 SPECIALIST AGROCHEMICAL STORAGE/HANDING AREA

This topic is non-applicable to 13% of the Members who do not store/handle agrochemicals. 3% do not have a specialist handling area. 26% have an area on their vineyard where they handle and store agrochemicals. 18%, also informed the are is identified with relevant signage and map location. About 4% of the Members, informed that, in addition to that, the site is located, constructed and maintained to be secure and bunded to prevent run off or leaching. 34% also informed the are is secure to keep animals or people from disturbing it.

2.3.2 Spill safety



2.3.2 SPILL SAFETY

This topic is non-applicable to 13% of the Members. 29% informed they do not have spill safety kits. 10% have a spill kit and safety kit on hand. 26% also informed they keep accessible MSDS's on file in an easily accessible location. About 6%, in addition to that , also have a written containment plan to follow in the event of a chemical spillage or safety issue. 15% of the members informed that, on the top of that they also check and update their plans and MSDS's at least annually before they commence spray operations.

◆
Excellent
4

◆
Very Good
3

◆
Good
2

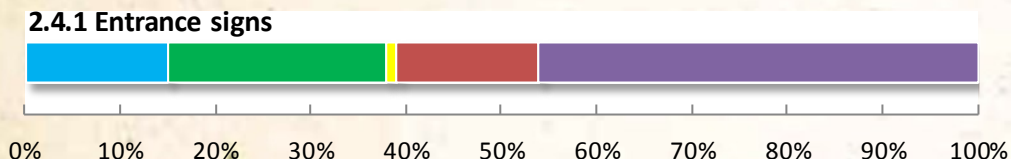
◆
Needs Attention
1

◆
Needs Urgent
Development
0

◆
Non Applicable
N/A



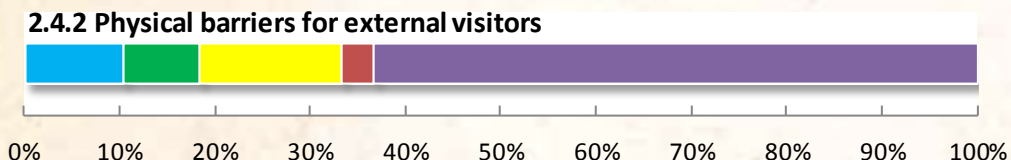
2.4.1 Entrance signs



2.4.1 ENTRANCE SIGNS

46% of the Members do not have entrance signs. 15% have entrance signs but these do not advise entrance conditions and restrictions. One grower has entrance signs that advise conditions. 23% of the Members on the top of that, informed their signs are related to the risk of phylloxera and 15% responded that the sign also have a contact number, if access is required.

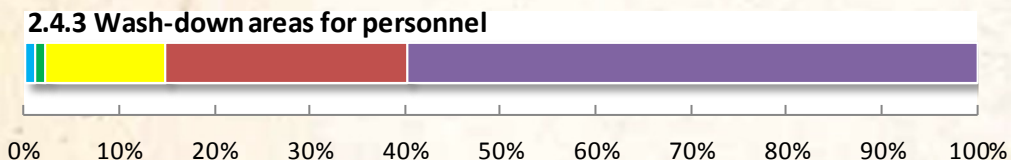
2.4.2 Physical barriers for external visitors



2.4.2 PHYSICAL BARRIERS FOR EXTERNAL VISITORS

63% of the Members do not have vineyard gates. Three growers have gates but do not have other fences and other natural barriers to avoid entrance of external visitors, 15% have gates, fences and/or natural barrier to limit entrance of external visitors. 8%, in addition to that, keep their gates close to limit any external visitors' entre to the vine row as much as possible. 10% have additional measure in place during times of high visitor number in the McLaren Vale region such as Sea and Vines Festival or Tour Down Under.

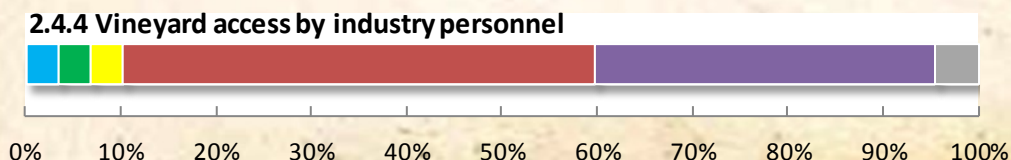
2.4.3 Wash-down areas for personnel



2.4.3 WASH-DOWN AREAS FOR PERSONNEL

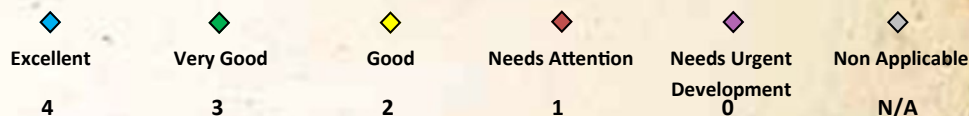
About 60% of the members do not have a wash down area or footwear kit for personnel. 25% informed that, despite not having a wash-down are they visually inspect or instruct that footwear is inspected for mud and plant materials before allowing entry onto the vineyard and if there is mud of plant material, the members ask the them to wash their boots on a hard surface (gravel, concrete or bitumen) and well way from grapevines. 12% have a wash-down area or kit for footwear.

2.4.4 Vineyard access by industry personnel



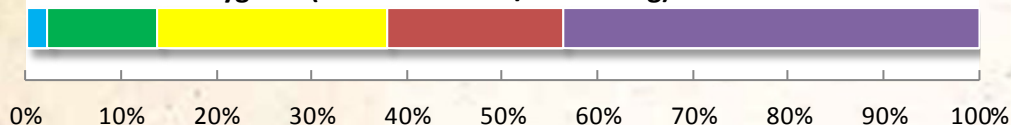
2.4.4 VINEYARD ACCESS BY INDUSTRY PERSONNEL

35% of the members informed that they do not have a visitors log or policy. 49% informed that they do not have a visitor's log but they ask where the visitor has been previously, before commencing work or entering rows. 3% have a visitor's log and policy. 3% of the members, in addition to that, record the date and time of the entry. 3% informed that the log is kept for future reference in case of an outbreak of phylloxera.





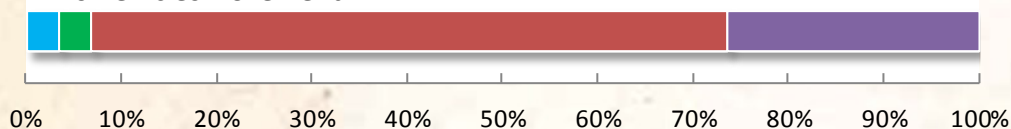
2.4.5 Vehicles hygiene (disinfection and/or cleaning)



2.4.5 VEHICLES HYGIENE (DESINFECTATION AND/OR CLEANING)

44% of the members do not have facilities or procedures for vehicle disinfection. 18% do not have a formal written procedure for disinfection but they visually inspect vehicles and if there is mud or plant materials, the machinery is cleaned as needed. 24% of the members, in addition to that, informed that the cleaning happens on hard surfaces and away from grapevines. 11% do have a wash-down area and machinery is cleaned there, if necessary. 2% of the members, on the top of that, have a formal written procedure for vehicle disinfection.

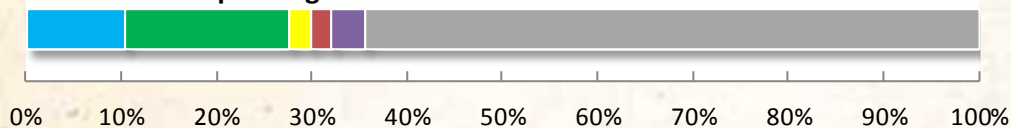
2.4.6 Vehicles movement



2.4.6 VEHICLES MOVEMENT

26% do not have any type of control for external vehicles. 66% do not have an external vehicle policy that asks where vehicles have been prior to their vineyard before commencing work, but they require notifications when vehicles enter their vineyard and they also keep a written log of them. 3% informed they also keep the date and time of entry. 3% informed that, on the top of that, they keep the log for future reference in case of an outbreak of phylloxera.

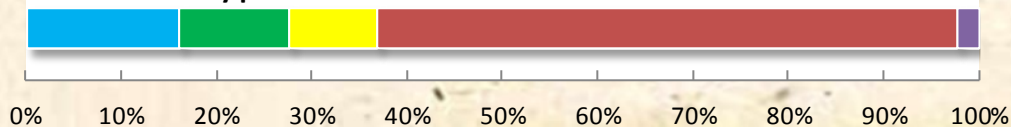
2.4.7 New vine planting



2.4.7 NEW VINE PLANTING

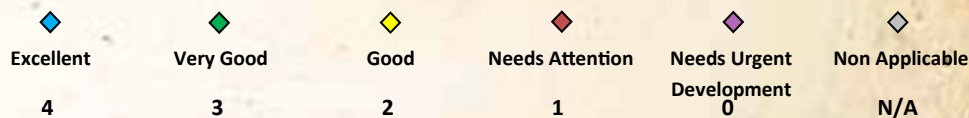
The topic is not applicable to 64% of the Members who did not plant new vines last season. 3 members informed they do not use certified materials when planting new vines. Two members use certified planting material purchased through a nursery or Vine Improvement Society. 2% of the members informed that the material was inspected to be clean of soil and other foreign plant materials. 17%, in addition to that responded they have a receipt for the planting materials. 10% informed that in addition to that, the material was hot water treated.

2.4.8 Biosecurity protection



2.4.8 BIOSECURITY PROTECTION

Two members informed that they are not aware of anything related to biosecurity protection. 61% are aware that there is biosecurity legislation and regulations to protect South Australian from phylloxera. 9% informed that they also have a copy of the biosecurity legislation. 11% responded that, on the top of that, they are aware of the process or have sent grapes or vine material interstate by applying for permits from PIRSA. 16%, in addition to that, informed they have a copy of the Phylloxera Board protocol on had for additional guidance.





BIODIVERSITY MANAGEMENT

Sections and Weight in the System:

The Biodiversity Management chapter is divided in 3 sections: Biodiversity Management & Audit, Biodiversity Audit and Bushfire Management.

Biodiversity Management represents 15% of the total of the McLaren Vale Sustainable Winegrowing possible points.

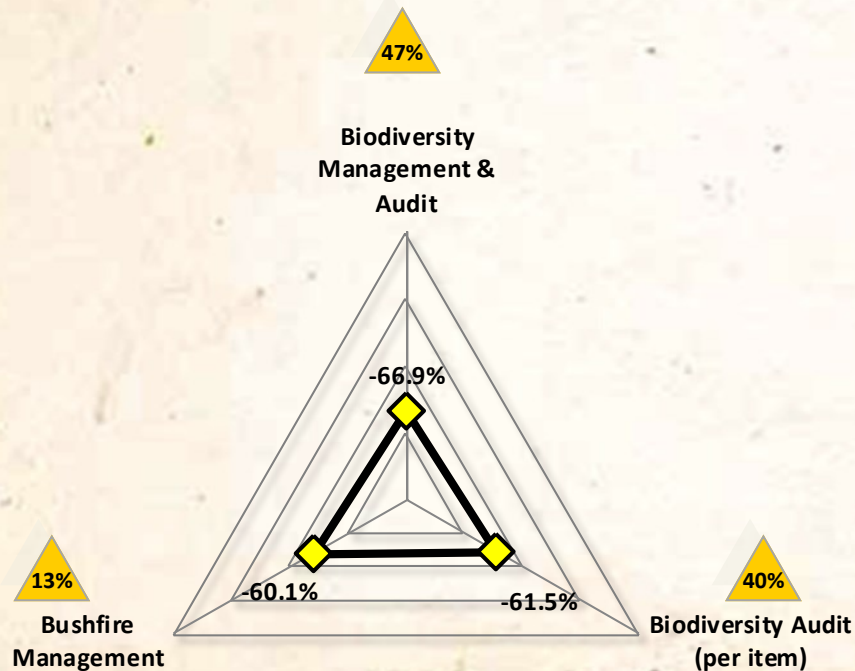
From what is possible to score within the Biodiversity Management chapter, Biodiversity Management & Audit represents 47% of the chapter, Biodiversity Audit (40%) and Bushfire Management, 13%.

Overall Results: Categories within the System for Each Section:

The results from all sections within the Biodiversity chapter were categorized as Yellow (Good). The percentage difference between the maximum score the region could achieve and the section Biodiversity Management & Audit is -66.9%, Biodiversity Audit (-61.5%) and Bushfire Management (-60.1%).

Comments:

The keys to this biodiversity chapter, indeed biodiversity management in general are observation and measurement. They can and indeed, at times do work independently of one another. All of us as individual growers have our own unique environments that surround and interact with our vineyards. We already, to varying degrees, understand some of the linkages that occur between these various systems and the way in which they have positive and negative impacts on what we are trying to achieve. What we need to improve on and expand is our formal measurement of these key relationships so that we can better manage these linkages to have a more profoundly positive outcome for, not only what we are trying to achieve, but the surrounding environment as well. Improved measurement of these systems will allow us as a region, to identify the key positive influences of the region and how to expand on them, and to also allow us to identify and provide management solutions for the negative influences around us. Over time this will allow this region to properly plan and manage the important biodiversity linkages on our individual properties and, as a region, to ensure the most sustainable outcome for both.

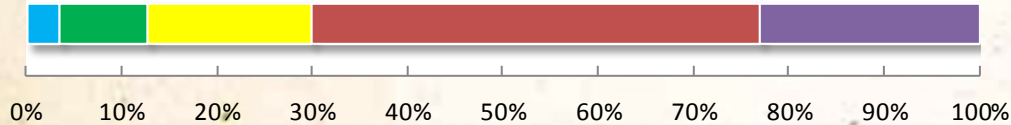


Excellent	Very Good	Good	Needs Attention	Needs Urgent Development	Non Applicable
4	3	2	1	0	N/A

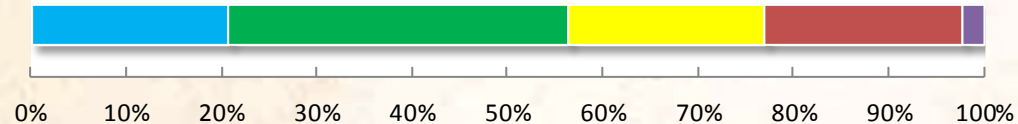


BIODIVERSITY MANAGEMENT
Section 3. 1—Biodiversity Management Audit

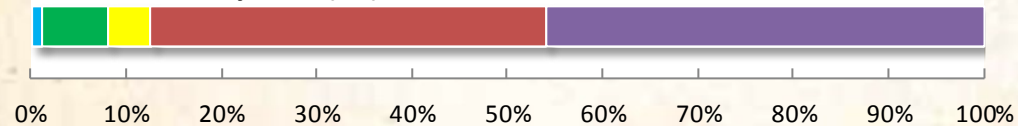
3.1.1 Biodiversity management plan



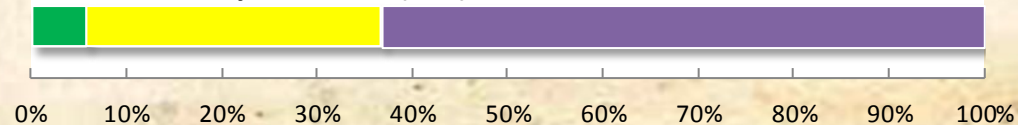
3.1.2 Potential for biodiversity enhancement



3.1.3 Biodiversity Audit (BA)



3.1.4 Biodiversity Action Plan (BAP)



3.1.1 BIODIVERSITY MANAGEMENT PLAN

23% of the Members informed they do not have a biodiversity management plan. 47% responded they have information about the land area in their properties and they have been developing some initiatives to improve biodiversity. 17% of the Members informed, that on the top of that, there is a designated person in charge of biodiversity management and they have a defined budget and understanding of all necessary resources to begin their biodiversity management plan. 9%, in addition to that have a written plan but not annually updated. Only 3% of the Members have an up to date written plan with yearly targets and records of biodiversity enhancement.

3.1.2 POTENTIAL BIODIVERSITY ENHANCEMENT

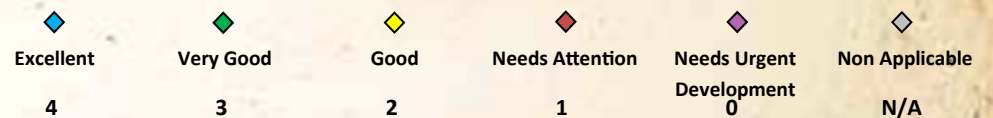
Two growers don't know where biodiversity could be enhanced in their vineyards. 20% know the total size of the production area of their vineyard (vines, mid row and under vine) and surrounds (headlands, border, non-producing areas around infrastructure and land unsuitable for productive grape growing). 20% know the individual sizes of all the above areas. 36%, in addition to that, have a map indicating each of the above areas. 20% informed that, in addition to that, their map also indicates the major activities on adjacent land areas to their vineyards.

3.1.3 BIODIVERSITY AUDIT (BA)

46% of the Members have not done a biodiversity audit (BA) of any of their property. 41% have not done a BA but they monitor and have monitoring records of pest and potential beneficial insects during the growing season. About 5%, in addition to that, informed they have recorded flora and fauna species in the vineyard and headlands, including a written description. Only one grower had a professional audit of every section of the property including a written description of them.

3.1.4 BIODIVERSITY ACTION PLAN (BAP)

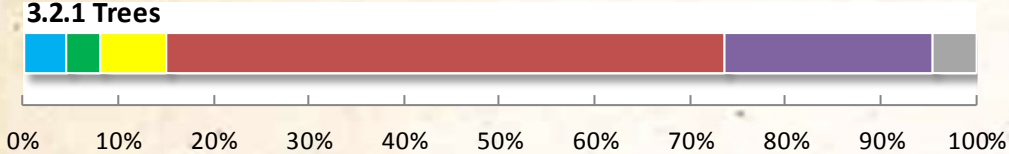
63% of the Members do not have a Biodiversity Action Plan. 31% responded that they have attended biodiversity workshops and/or training but have not yet written a plan. 6% have a written BAP, including a written description for their vineyard headland zones.



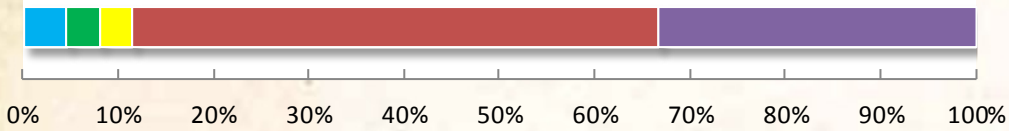


BIODIVERSITY MANAGEMENT
Section 3.2—Biodiversity Audit

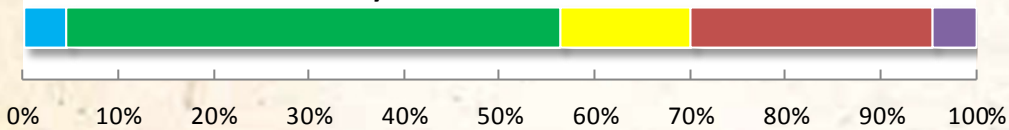
3.2.1 Trees



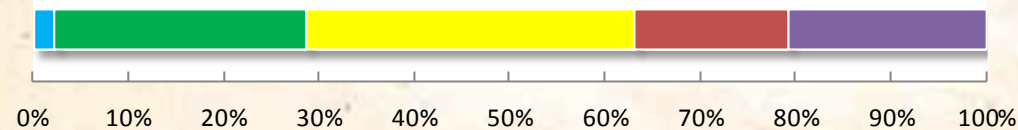
3.2.2 Habitat Trees



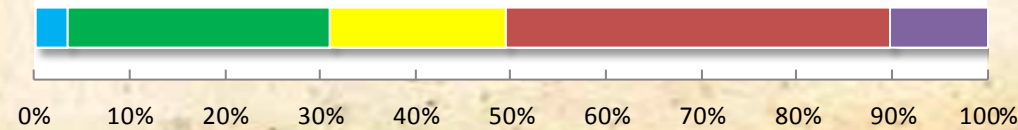
3.2.3 Weeds and biodiversity



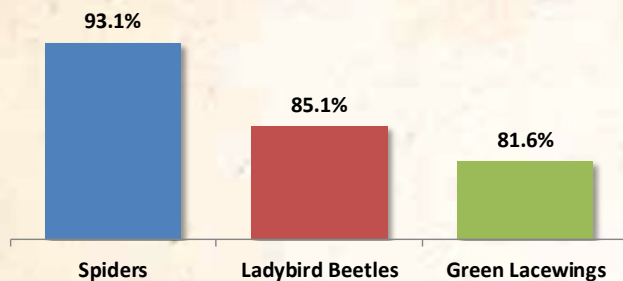
3.2.4 Insects



3.2.5 Birds



Growers reported presence of beneficial insects



3.2.1 TREES

The topic was not applicable to 4 growers that informed they do not have any trees in their vineyard. 22% have never assessed tree types or amounts within their vineyards. 58% have identified the main types of trees but do not know the amount per hectare and the identification is not written. 7% have identified the trees and informed that there are less than 10 trees/ha (average). 3% informed that there are 10-20 tree/ha and about 5% informed that there are more than 20 trees/ha.

3.2.2 HABITAT TREES

33% informed they have never assessed habitat trees within their vineyards or adjoining land. 55% have but do not know the amount per hectare. Three growers informed there are less than 2 trees/ha within their vineyard or adjoining land, three other growers informed there are 3-5 trees/ha and four growers informed there are more than 5 trees/ha.

3.2.3 WEEDS AND BIODIVERSITY

4% of the Members have never assessed weed types or amounts within their vineyard. 25% have identified the dominant weed species. 14% , in addition to that have also determined the potential risk to the biodiversity on their property. 52%, on the top of that have an understanding of the weed's growth behaviour and use this information to help them to manage weed systemically. 4% informed they also have a written plan based on economic thresholds.

3.2.4 INSECTS

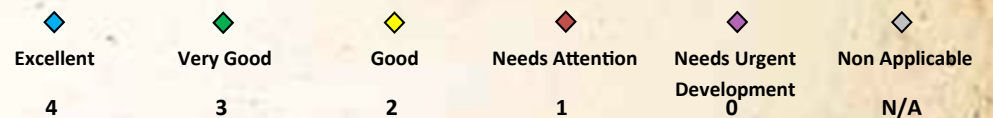
20% have never assessed insect species. 16% have identified the main insect species. 34%, in addition to that, have also identified the main beneficial and non-beneficial insects and their potential role in either controlling pests and/or creating pest problems. Only two growers have a written plan based on economic thresholds.

3.2.5 BIRDS

10% have never assessed bird population. 40% have identified the main bird species within their vineyard. 18%, in addition to that, have identified the insectivorous and/or territorial birds and their potential role in controlling insect pest and bird pest problems. 27% informed they also have an understanding of food sources, habits and bird behaviour and use the information to help to manage the vineyard systemically. Three growers, on the top of that, have an written plan.

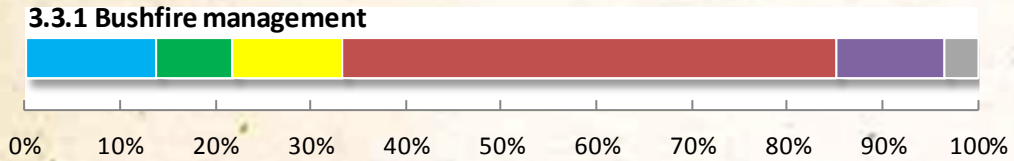
MEMBERS REPORTED PRESENCE OF BENEFICIAL INSECTS

81.6% reported presence of green lacewings in their vineyards. 85% informed presence of ladybird beetles and 93% reported spider presence.



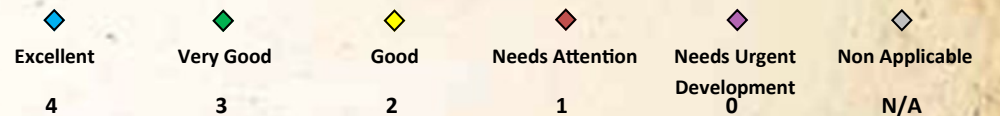


3.3.1 Bushfire management



3.3.1 BUSHFIRE MANAGEMENT

The topic is non-applicable to 3% of the Members who reported that they are not located in bushfire management zones. 11% of the Members are not aware of the risk level regarding bushfire. 51% are aware of the risk level regarding bushfire within their property and surrounding areas that might impact on their property (general, medium or high risk). 11% , in addition to that, have a bushfire management plan. 8% informed that everybody in the farm has been exposed to the plan to know what to do to in case of fire. 14%, on the top of that, have been implementing measures to reduce the risk of bushfire and its potential impacts on the biodiversity of the property.





WATER MANAGEMENT

Sections and Weights in the System:

The Water Management chapter is divided in 3 sections: Water Source & Quality, Irrigation Planning & Application and Irrigation System & Maintenance.

Water Management represents 15% of the total of the McLaren Vale Sustainable Winegrowing possible points.

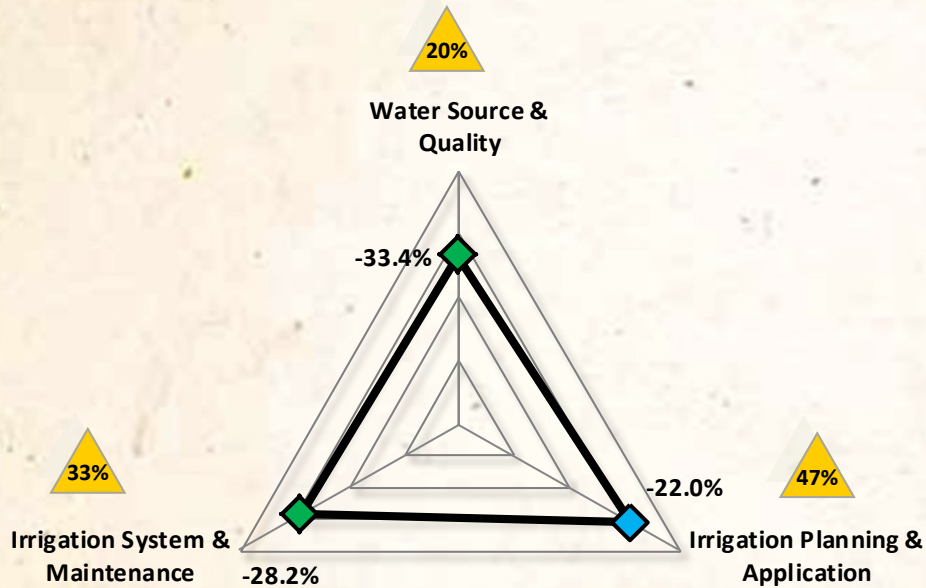
From what is possible to score within Water Management Chapter, Water Source represents 20%, Irrigation Planning & Application (47%) and Irrigation System Maintenance (33%).

Overall Results: Categories within the System for Each Section:

Irrigation Planning & Application is in the Blue (Excellent) category. The gap between the maximum possible points and overall results for this section is -22%. Both Water Source Quality and Irrigation System & Maintenance were placed in the Green (Very Good) category as the percentage difference between the maximum points and the average results are -33.4% and -28.2% respectively.

Comments:

The McLaren Vale wine region has a long history of responsible water management. It was an early adopter of drip irrigation and soil moisture monitoring equipment. These practices are considered "standard" here but are still only just being utilized in some other wine regions around the world. McLaren Vale has been progressive in the management of its natural water assets with the adoption of a basin wide water management plan to preserve its underground water resource for generations to come. It has the largest privately owned recycled water network in Australia that helps previously thought to be waste water irrigate large portions of the regions vineyards. It is this network that has allowed MGVWTA, in partnership with both Commonwealth and State Governments, to administer the McLaren Vale Water Plan, a mains water substitution program. This program has been running for 4 years and with the help of 4 million dollars in funding from the Commonwealth and State Governments will achieve potable water savings of around 900 ML for some 80-odd growers. It has enabled these growers to convert from potable mains water to recycled water for vineyard irrigation. This will have social, financial and environmental benefits for the entire region.



◆
Excellent
4

◆
Very Good
3

◆
Good
2

◆
Needs Attention
1

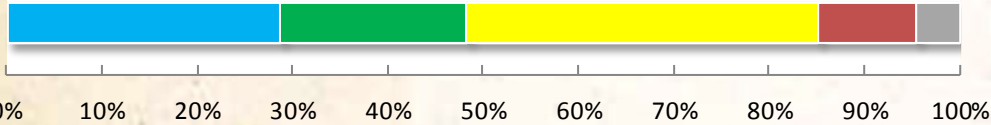
◆
Needs Urgent
Development
0

◆
Non Applicable
N/A

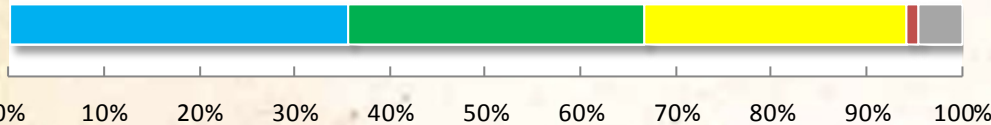


WATER MANAGEMENT
Section 4.1—Water Source & Quality

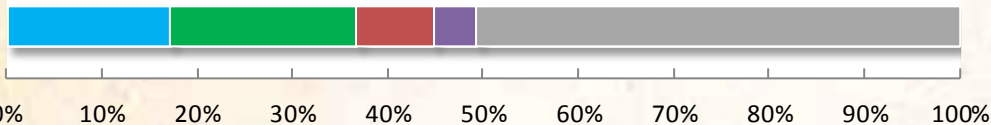
4.1.1 Water Source for Vineyard Irrigation



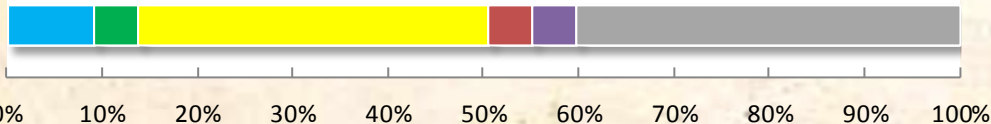
4.1.2 Water availability and licences



4.1.3 Reclaimed water



4.1.4 Water quality



4.1.1 WATER SOURCE FOR VINERYARD IRRIGATION

This topic is non-applicable to 5% of the Members who do not irrigate their vineyards. 10% use mains water. 37% use bore or surface runoff water (e.g. dam or creek) as their main source for irrigation. 19% use a combination of reclaimed and mains, bore or surface runoff of water and 28% responded they use reclaimed water for irrigation.

4.1.2. WATER AVAILABILITY AND LICENCES

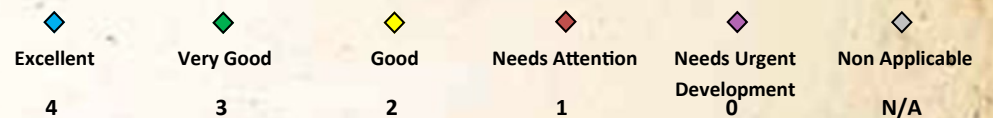
All growers know how much water they have available for vineyard irrigation from various water sources and have the appropriate licences for usage. 27%, in addition to that, also responded they do not exceed their allocation. 31% of the Members also plan their water usage to reduce their reliance on the more 'at-risk' resources such as mains, bore and surface run-off. 35% only used reclaimed water and know how much water is available for vineyard irrigation and they also responded that they always follow the rules of usage and understand the penalties that apply for misuse.

4.1.3 RECLAIMED WATER

This topic is not applicable to 50% of the Members as they already have reclaimed water. 5% of the Members would not change to reclaim water even it becomes available to their vineyard. About 8% of the Members would consider changing to reclaimed water if it became available to their vineyard and if it is a cost effective option for their business model. 19% would change to reclaimed water if it becomes available through a cost effective option for their business. 17% would change to reclaimed water if it becomes available as they believe it is the most sustainable water source for vineyard irrigation.

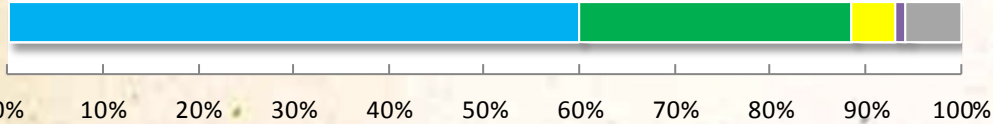
4.1.4 WATER QUALITY

40% of the Members do not test the quality of their water because they only use either reclaimed or mains water which is tested regularly by the providers, so the topic is non-applicable for them. 5% of the Members never tested their water. 5% informed they have tested their water for salinity within the last 3 years for salinity (TDS or EC) but they are unsure of how to use the test results. 37% have tested the quality of their irrigation water within the last 3 years for salinity (TDS or EC) with an appropriately calibrated salinity meter and have use the information to determine whether they have a problem with salinity in their water. 5%, in addition to that, used accredited laboratory and also tested sodium absorption ratio, pH, bicarbonate, suspended soils and other nutrients appropriate for the site and they have an amendment plan if problems are identified. 9% informed they test the quality of their irrigation water annually.

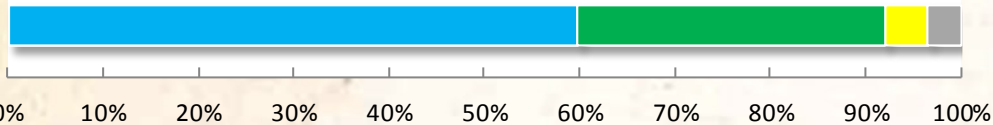




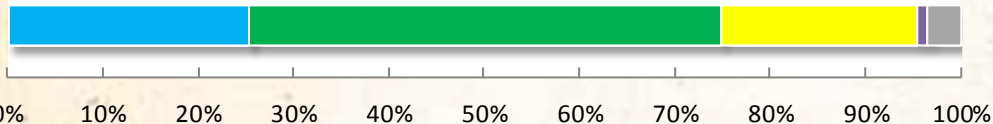
4.2.1 Irrigation plan



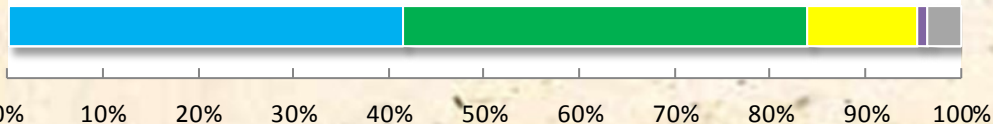
4.2.2 Volume of water applied per irrigation



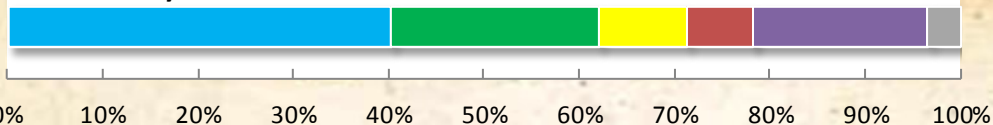
4.2.3 Timing of irrigation



4.2.4 Forecast heatwaves



4.2.5 Readily available water



4.2.1 IRRIGATION PLAN

Only one grower does not have an irrigation plan. About 5% informed they have a weekly/ fortnightly irrigation plan which best utilises the water available to them to reach a specific yield and/or quality targets. 28% responded they have a flexible, seasonal irrigation plan which best utilises the water available to reach specific yield and/or quality targets which are negotiated with the winery/buyer and the plan is reviewed weekly to account for seasonal variation. 60%, in addition to that, also review the irrigation plan annually and make improvements where necessary.

4.2.2. VOLUME OF WATER APPLIED PER IRRIGATION

About 5% of the Members responded that the volume of water applied is determined by water availability, the forecast weather conditions and by the appearance of the vine. 32% informed the volume of water they applied is determined by their irrigation plan which takes into account water availability, soil type, plant water usage, forecast weather conditions and appearance of the vine. 60%, in addition to that use monitoring data to ensure the correct amount of irrigation is applied.

4.2.3 TIMING OF IRRIGATION

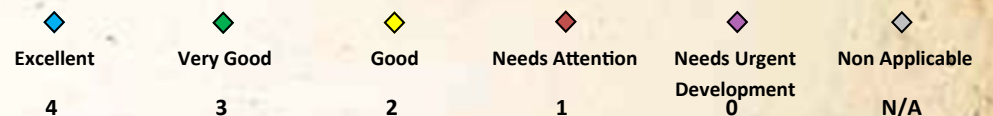
21% of the Members answered that, where possible, they schedule irrigation to avoid the hottest part of the day to reduce evaporation. 49% informed that, where possible, they schedule irrigation at night to reduce not only evaporation but also electricity costs for pumping. 25% informed that on the top of that, their irrigation system has the capacity to allow for schedule the irrigation for the night period.

4.2.4 FORECAST HEATWAVES

11% informed they follow the weather forecasts and aim to apply extra irrigation to any blocks that need it, prior to a forecast of heatwave. 42% also prioritise blocks based on their value and susceptibility to damage and their irrigation system has the capacity to allow them to do this. 41%, in addition to that, also informed their seasonal irrigation plan has water allocated for heat waves events and block value and/or susceptibility to damage.

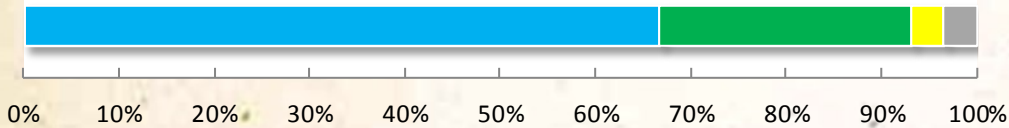
4.2.5 READILY AVAILABLE WATER

18% of the Members do not know the RAW (Readily Available Water) in their soil. 7% estimate RAW based on soil type. 9% estimate RAW based on soil texture charts and approximate root zone depth and use this information to help plan irrigation. 22% have estimated their RAW using soil pits or soil moisture monitoring data. 40% have also estimated their DAW (Deficit Available Water) and use soil moisture monitoring to optimise the vines use of DAW in an effort to improve grape quality.





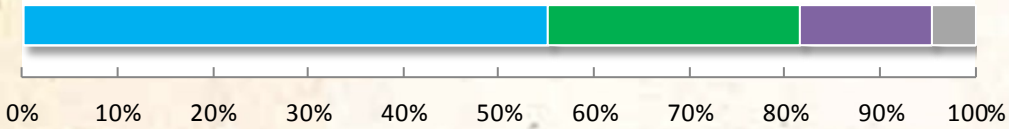
4.2.6 Infiltration



4.2.6 INFILTRATION

26% of the Members informed that water infiltration under vine is adequate and that they address soil permeability issues as they arise via increased organic matter or soil amendments. 67% informed that water infiltration under vine is good and they have been proactive in addressing any soil permeability issues.

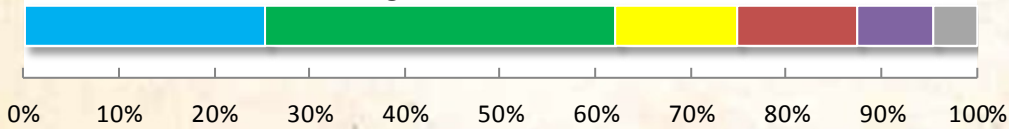
4.2.7 Irrigation deep drainage



4.2.7 IRRIGATION DEEP DRAINAGE

14% of the Members informed they do not know if they are over irrigating resulting in deep drainage. 26% know the water holding capacity of their soil and their irrigations are calculated so as to prevent the loss of water to deep drainage. 55% informed that in addition to that they use soil moisture monitoring to ensure they are not losing water to deep drainage.

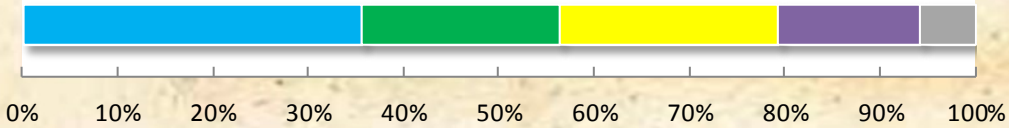
4.2.8 Soil moisture monitoring



4.2.8 SOIL MOISTURE MONITORING

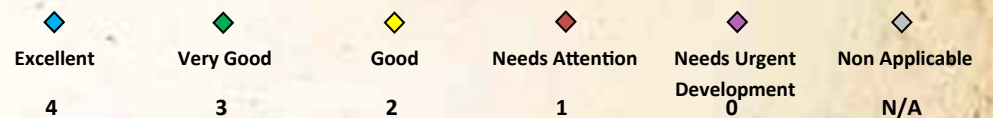
8% of the Members informed they do not monitor soil moisture. 12% responded they occasionally monitor soil moisture using basic techniques such as dig stick and the 'ribbon test'. 12% of the Members occasionally monitor soil moisture using gypsum block or capacitance probes or they regularly monitor soil moisture using the same techniques as the previous group. 37% regularly monitor their soil moisture using gypsum blocks or capacitance probes and they keep a record of their results to refine their irrigation plan as the season progresses. 25% informed they have a continuous soil moisture monitoring system and they review their data regularly and use it to refine their irrigation plan as the season progresses.

4.2.9 Irrigation records



4.2.9 IRRIGATION RECORDS

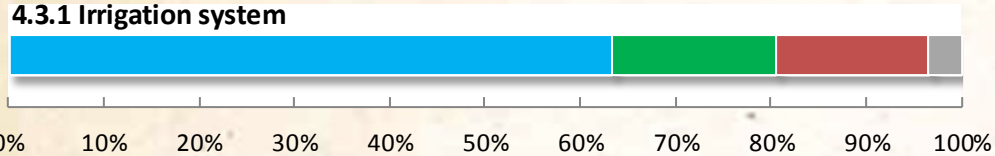
15% of the Members do not keep irrigation records. 23% keep irrigation records showing the block, date and hours of irrigation applied. 21%, in addition to that also record length of shift and the metered volume of water per shift and make note of any significant rainfall events. 35% of the Members on the top of that also records growth stage of the vine and make note of any significant rainfall events or any problems or anomalies.



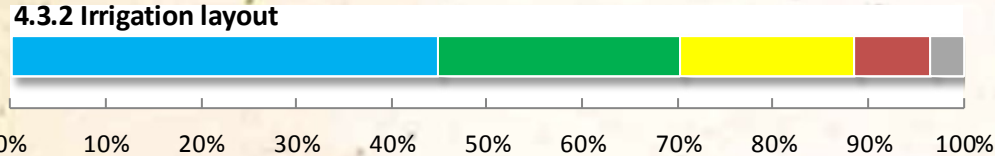


WATER MANAGEMENT
Section 4.3—Irrigation System & Maintenance

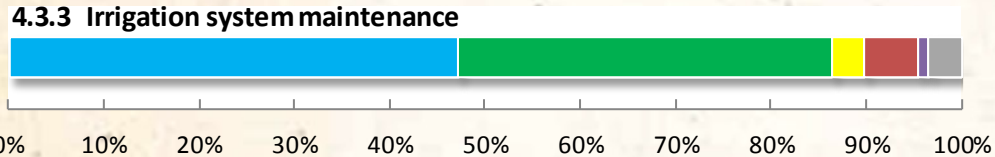
4.3.1 Irrigation system



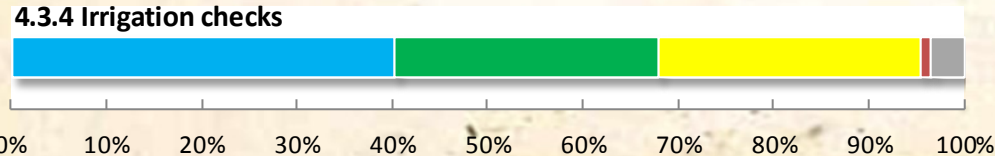
4.3.2 Irrigation layout



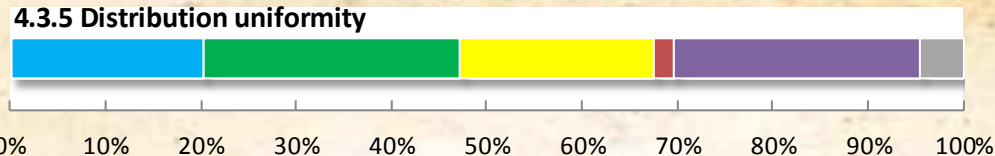
4.3.3 Irrigation system maintenance



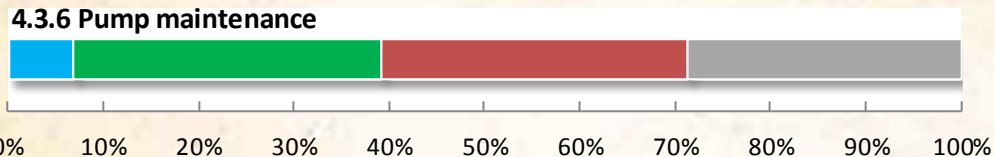
4.3.4 Irrigation checks



4.3.5 Distribution uniformity



4.3.6 Pump maintenance



4.3.1 IRRIGATION SYSTEM

All growers in the McLaren Vale Sustainable Winegrowing Australia that irrigate, use drip irrigation. However 16% of the Members have a non-engineered drip. 17% have an engineered surface or subsurface drip irrigation system which includes flow meters, filtration and pressure and pressure compensation. 63%, in addition to that, also have an automated system.

4.3.2 IRRIGATION LAYOUT

8% of the Members informed they are familiar with the layout of their irrigation system but do not have a plan. 18% have drawn a basic plan. 25% have the initial plan of their irrigation layout showing mainlines, sub-mains, solenoids, irrigation sections, etc. but it has never been updated. 49% of the Members have a detailed and up to date plan of their irrigation layout.

4.3.3 IRRIGATION SYSTEM MAINTENANCE

6% of the Members informed they clean their irrigation filters and flush their lines occasionally. 3% do at the beginning of each irrigation season. 39% informed they also clean their irrigation system when they notice problems. 47% responded that, in addition, they monitor the quality of the irrigation water and clean filter and lines during the season to prevent pressure and uniformity problems or they have a auto flushing and self-cleaning system which they check regularly.

4.3.4 IRRIGATION CHECKS

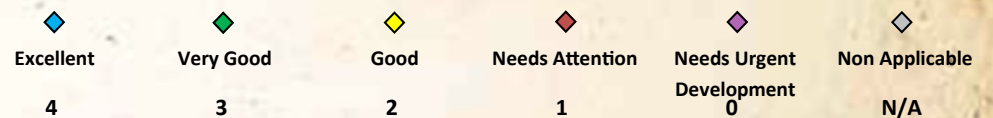
27% occasionally do a visual check inspection of blocks whilst the irrigation is running. 27% of the Members regularly perform visual inspection within the blocks whilst the irrigation is running and keep accurate records of water volume pre-shift to determine if there are problems. 40% informed they have an automated system and regularly check water volumes, flow and block pressure to ensure there are no anomalies and they regularly perform visual inspection whilst the irrigation is running as well.

4.3.5 DISTRIBUTION UNIFORMITY

26% of the Members do not test the distribution of uniformity of their irrigation system. 20% occasionally check the distribution of uniformity by performing dripper output tests. 27% check uniformity at the beginning of the growing season and make adjustments if necessary. 20%, on the top of that, keep records of water flow rates and volumes and/or system pressure to determine problems when they arise.

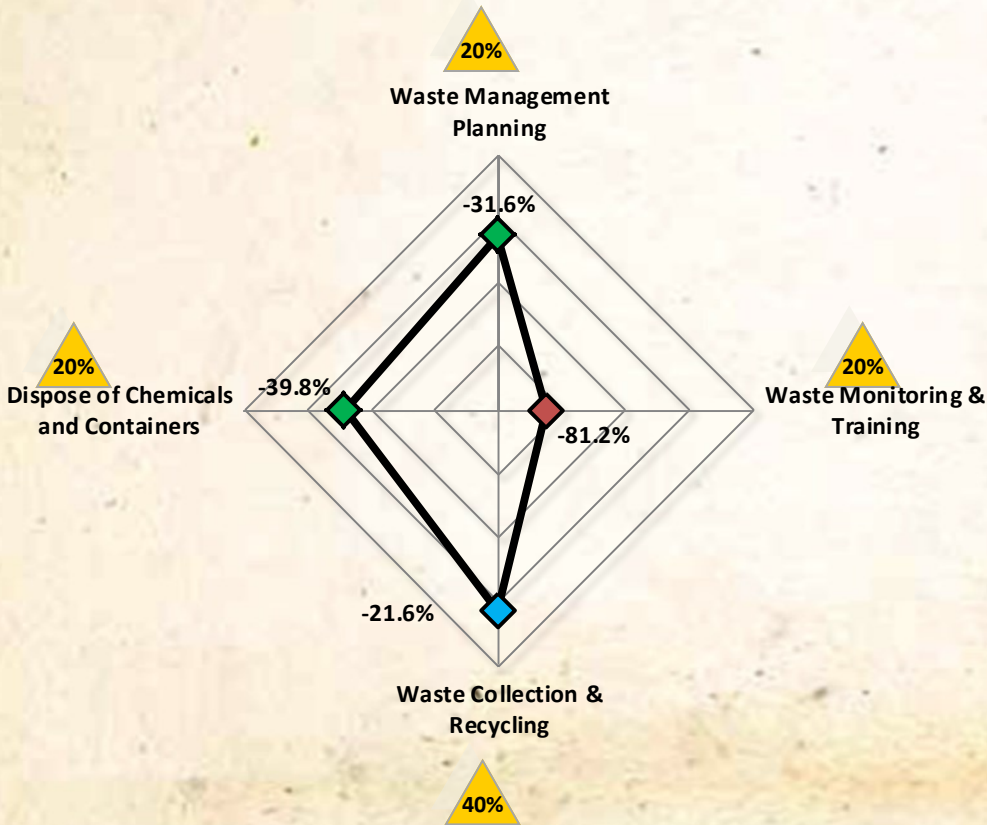
4.3.6 PUMP MAINTENANCE

The topic is non-applicable to 29% of the Members who use reclaimed water which is delivered at pressure and does not to be re-pumped. 32% service their pumps only when there is a problem. 32% service their pumps routinely to prevent problems. 7% informed that, in addition to that, they have a preventive maintenance schedule.





WASTE MANAGEMENT



Sections and Weights in the System:

The Waste Management chapter is divided in 4 sections: Waste Management Planning, Waste Management & Training, Waste Collection & Recycling and Dispose of Chemicals and Containers.

Waste Management represents 15% of the total of the McLaren Vale Sustainable Winegrowing possible points.

From what is possible to score within the Waste Management Chapter, Waste Management Planning, Waste Management & Training, and Dispose of Chemicals and Containers represent 20% of the chapter each and Waste Collection & Recycling (40%).

Overall Results: Categories within the System for Each Section:

The Waste Collection and Recycling section has the best result within the chapter. The gap between the maximum achievable points within the system and the McLaren Vale's result is only -21.6%, placing this section in the Blue (Excellent) category. Waste Management and Dispose of Chemical and Containers results are in the Green (Very Good) category. Waste Monitoring & Training is amongst the lowest average in the whole system. The gap between the maximum points and regional average is -81.2%.

Comments:

The results for Waste Management vary across the categories with excellent results for Waste Collection and Recycling, and good results for Waste Management Planning and Disposal of chemicals and Containers. However the Waste Monitoring and Training area needs attention.

These results reflect the nature of the majority of participants in the McLaren Vale Sustainable Winemaking program, mostly being small, family owned vineyards that are less likely to have procedures and monitoring systems in place due to their small size. However, it is clear that the majority of participants make an effort to reduce and recycle waste, with waste collection incorporated in their daily routine to keep the landscape clean and tidy, and recycling implemented in the majority of member's vineyards.

Improvements could easily be made by implementing simple procedures for waste management, such as training employees during induction, discussing waste reduction and recycling with family members and keeping recycling and disposal records by waste type. Council information sessions could also provide important information that could be incorporated into vineyard operations, such as following the waste hierarchy as shown below:

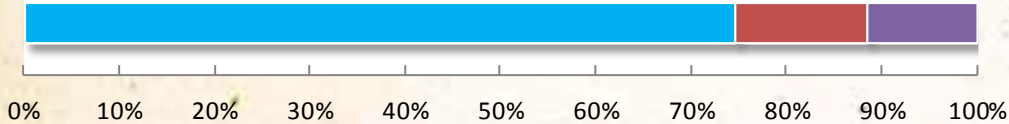




WASTE MANAGEMENT

Section 5.1 —Waste Management Planning

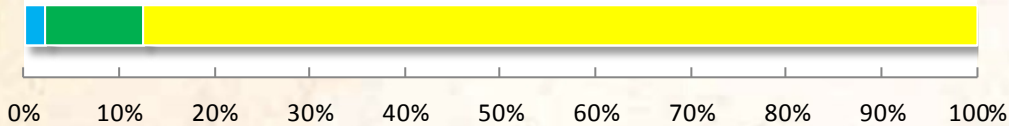
5.1.1 Council and EPA regulations



5.1.1 COUNCIL AND EPA REGULATIONS

11% of the Members are not aware of the Council and Environmental Protection Authority (EPA) regulations. 14% informed they are aware of the Council and EPA regulations regarding solid waste management but they don't really follow all guidelines to dispose wastes from their vineyard. 75% informed they are aware of the regulations and they follow their guidelines to dispose wastes from their vineyards.

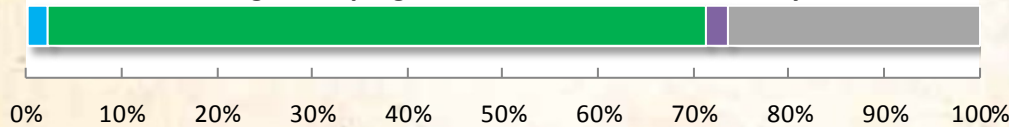
5.1.2 Waste management program for the vineyard



5.1.2. WASTE MANAGEMENT PROGRAM FOR THE VINEYARD

The majority of the Members, 87% informed they understand waste management and recycling but do not have an up to date waste management program. They collect wastes and take actions on as needed basis. 10% have a detailed and up to date waste management program and have targets to reduce the amount of waste currently produced. Two growers, in addition to that, have also attended at least one training event on waste and recycling in the last 12 months.

5.1.3 Waste management program for households within vineyards



5.1.3 WASTE MANAGEMENT PROGRAM FOR HOUSEHOLDS WITHIN VINEYARDS

The topic is non-applicable to 26% of the Members that informed that there is no household within the vineyard. 2% of the Members do manage waste from the house. 69% separate and recycle domestic waste materials using the kerbside bin system and have targets to reduce the amount of waste currently produced. Two growers, in addition to that, have also attended at least one training event on waste and recycling in the last 12 months.



Excellent

4



Very Good

3



Good

2



Needs Attention

1



Needs Urgent Development

0



Non Applicable

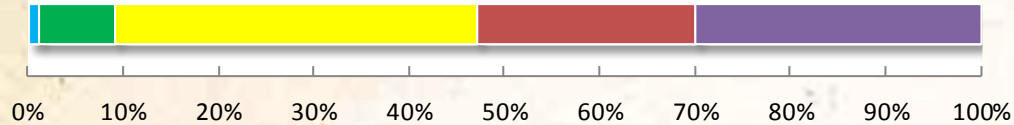
N/A



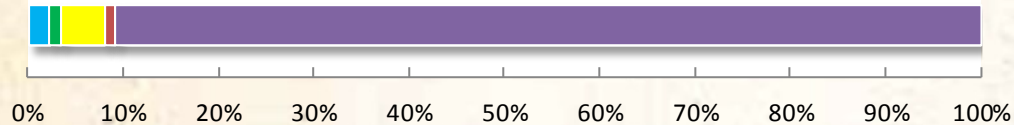
WASTE MANAGEMENT

Section 5.2 —Waste Management & Training

5.2.1 Training on waste management



5.2.2 Waste management monitoring

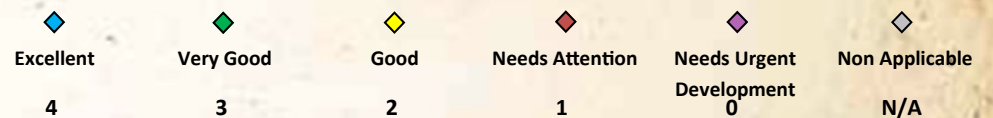


5.2.1 TRAINING ON WASTE MANAGEMENT

30% of the Members have never discussed waste management among family members involved in the vineyard management or have employees and have never discussed waste management with employees or contractors and do not have any sort of training or procedure in place for waste management. 23% informed they are aware of the need to collect solid wastes or there is a waste management program available in the office for the employees upon request. 38% informed that waste collection is incorporated in their daily routine to keep the landscape clean and they have never attended formal training but they read and save informative materials or when they have employees, informative materials are given for all new employee, but they are not trained. 8%, in addition to everything informed by the previous group, have attended at least one formal training event on waste management or have permanent employees who have been trained within the first 12 months of work. Only one grower (with employees) have a nominated person in charge of waste management who is up to date with current practices and implements new industry practices.

5.2.2. WASTE MANAGEMENT MONITORING

90% of the Members do not have monitoring procedures for waste management. One grower has a written monitoring spread sheet but is not up to date. About 5% have a written spread sheet and they record their waste. One grower has a detailed and up to date monitoring system and the waste management program is monitored to allow improvements in their waste management program. Two growers, in addition to that, have targets to reduce their waste.

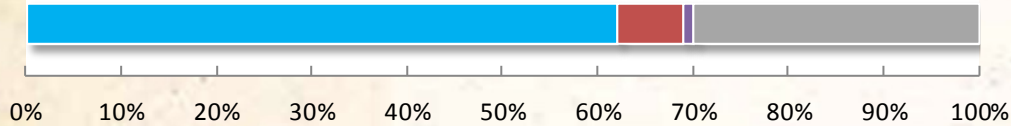




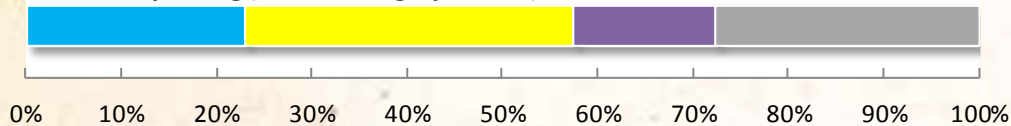
WASTE MANAGEMENT

Section 5.3 —Waste Collection & Recycling

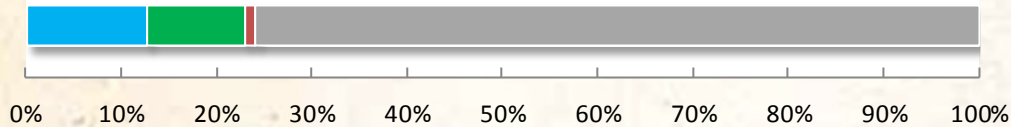
5.3.1 Hard waste collection from households in vineyards.



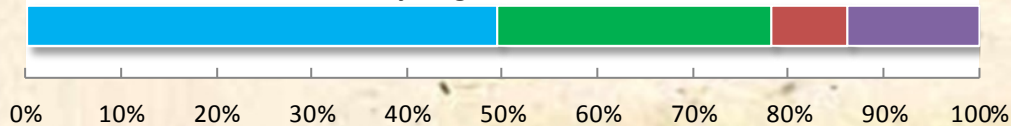
5.3.2 Composting (other than grape marc)



5.3.3 Grape marc composting



5.3.4 Waste collection and recycling containers and/or bins



5.3.1 HARD WASTE COLLECTION FROM HOUSEHOLDS

28% informed there are not households in the vineyard, so the topic is non-applicable for them. One grower neither collects nor separates hard wastes from their property. 7% of the Members collect and put everything together in a designated area but have no plans for removing or recycling their hard waste. 62% of the Members in addition to collecting hard waste and putting it in a designated area, they also remove or recycle their hard waste at least once a year and are aware of the Council's Pre-Booked Hard Waste Collection Service for domestic households and dispose of items using the system, when necessary.

5.3.2. COMPOSTING (OTHER THAN GRAPE MARC)

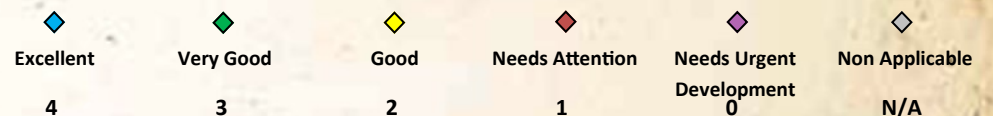
The topic is non-applicable to 27% of the Members as they do not have households in the vineyard. 15% do not compost organic matter. 34% compost garden and non-vineyard vegetation only and 23%, in addition to that also compost all vineyard wastes (when they are classified as waste and need to be removed from the field).

5.3.3 GRAPE MARC COMPOSTING

76% of the Member do not crush grapes on site and because of that the topic is non-applicable for them. One grower responded that the marc is stored on site for landfill or appropriate disposal. 10% responded that they spread the grape marc directly to the vineyard or they send it to a compost facility. 12% compost their marc on site and any excess is sent to a composting facility.

5.3.4 WASTE COLLECTION AND RECYCLING CONTAINERS AND/OR BINS

14% of the Members do not have separated recycling containers/bins. 8% collect most waste that is produced in the vineyard and place it in a recycling container/bin. 29% responded that they collect all waste that is produced in the vineyard and place it in a recycling container/bin. 49%, in addition to that, separate all waste into appropriate recycling containers/bins.

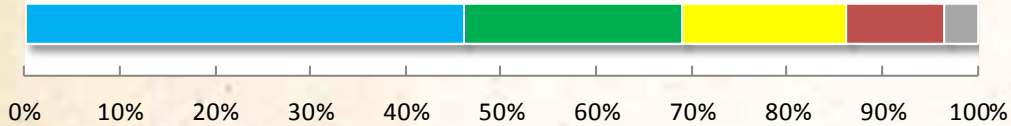




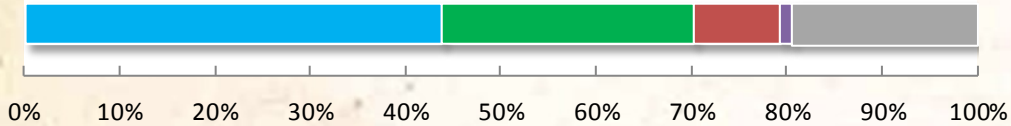
WASTE MANAGEMENT

Section 5.3 —Waste Collection & Recycling

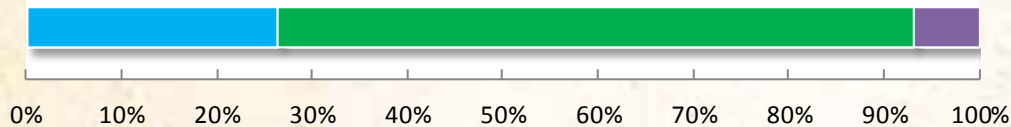
5.3.5 Creosote or CCA timber posts



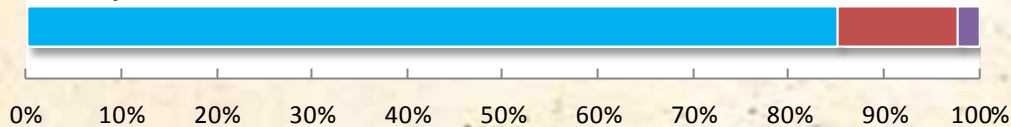
5.3.6 Machinery & vehicle metal spare parts (not tyres)



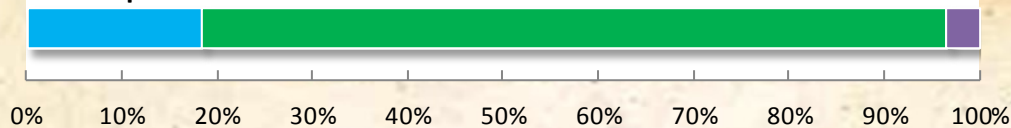
5.3.7 Oils



5.3.8 Tyres



5.3.9 Paper and cardboards



5.3.5 CREOSOTE OR CCA TIMBER POSTS

Three growers do not use timber posts, so the topic is non-applicable for them. 10% stock pile all post in a reserved area within the site. 17% stock pile their posts in a reserved area within the site and this area is away from wetlands and waterways. 23%, in addition to that have identified and put in practice some re-use options (e.g. fence posts, landscape timber, parking lot bumpers, guardrail posts, etc.) . 46% on the top of that informed that when is not possible to recycle on site, the posts are sold to companies that recycle them or they give them away to employees for fencing or similar usage.

5.3.6 MACHINERY & VEHICLE METAL SPARE PARTS (NOT TYRES)

The topic is non-applicable to 19% of the Members as they do not own any machinery. One grower does not collect machinery and vehicle spare parts. 9% of the Members informed that their machinery and vehicle spare parts are collected for disposal to landfill. 26% collect spare parts of machinery and vehicles and they store them in a designated are for reuse or recycling (when possible). 43%, in addition to that, informed they only dispose as last resort through appropriate disposal.

5.3.7 OILS

7% do not collect oils. 68% informed that oils are collected in designated containers and recycled appropriately. 26% of the Members, in addition to that, have a written maintenance program for all machines in the vineyard to avoid unnecessary oil usage due to lack or servicing.

5.3.8 TYRES

Two growers do not collect old tyres from their vineyard. 13% of the Members collect tyres and they are stored in a designated area. 85%, in addition to that, reuse (where possible) or recycle/dispose through appropriate channels.

5.3.9 PAPER AND CARDBOARDS

Three growers do not collect cardboards from their vineyards and they are spread out anywhere. 78% collect cardboards and store in a designated area where they are recycle appropriately (e.g. kerbside bin system, SA Paper & Cardboard, Peat's Soil, etc.)

◆
Excellent
4

◆
Very Good
3

◆
Good
2

◆
Needs Attention
1

◆
Needs Urgent
Development
0

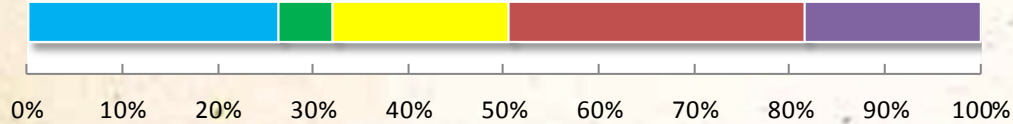
◇
Non-Applicable
N/A



WASTE MANAGEMENT

Section 5.4 —Dispose of Chemical and Containers

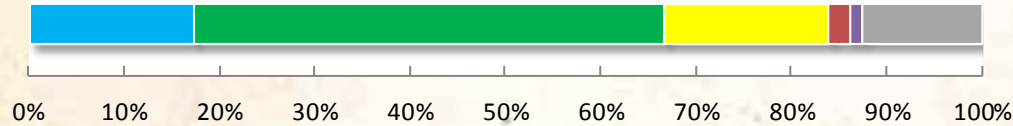
5.4.1 Dispose of unusable chemical



5.4.1 DISPOSE OF UNUSABLE CHEMICALS

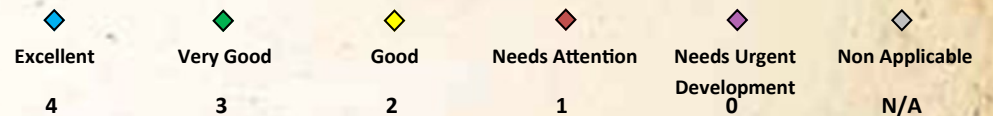
18% do not collect unusable chemicals and there is no procedure to dispose them. 31% store all unusable chemicals but do not have procedures to dispose them. 18%, in addition to that, have an inventory of all unwanted chemicals. 6%, informed that their inventory for unwanted chemicals includes manufacturer and product name, size of the container and estimation of the remaining quantity. 26% informed that they dispose of unusable chemical through ChemClear.

5.4.2 Disposal of empty chemical containers



5.4.2 DISPOSAL OF EMPTY CHEMICAL CONTAINERS

The topic is non-applicable to 12% of the Members that responded that they do not use any chemicals sold in containers. One grower does not collect empty containers. Two growers collect and store all unusable empty containers. 17% separate containers following DrumMUSTER groups and also rinse the containers using appropriate methods. 49% not only separate containers but dispose them through DrumMUSTER. 17%, on the top of that, only purchase chemicals that have DrumMUSTER approved drums (with DrumMUSTER logo).

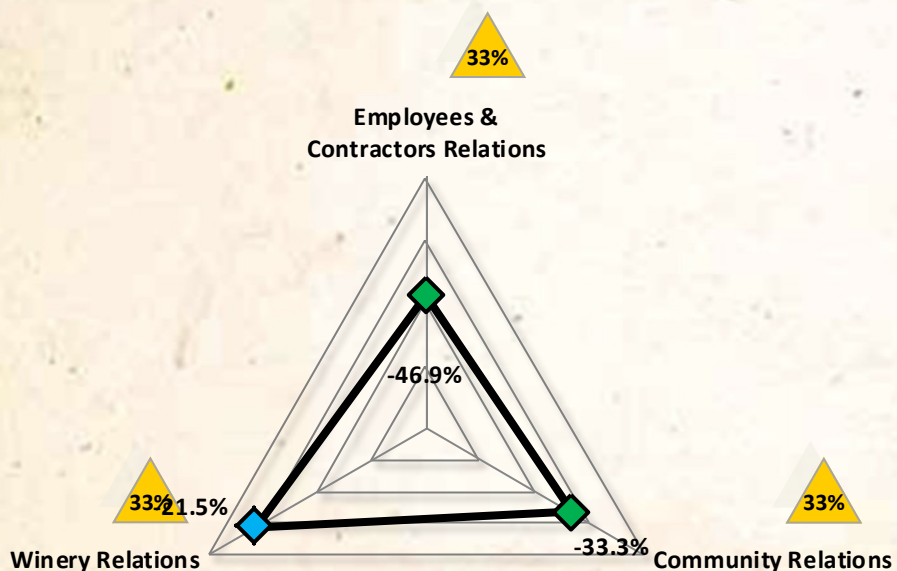




SOCIAL RELATIONS (Employee & Contractor, Community and Wineries Relations)

MCLAREN VALE

one thing leads to another



Sections and Weights in the System:

The Social Relations chapter is divided in 3 sections: Employees and Contractors Relations, Community Relations and Wineries Relations.

The Social Relations chapter represents 15% of the total McLaren Vale Sustainable Winegrowing Australia possible points.

From what is possible to score within the Social Chapter, the three sections were evenly weighted. Each one represents 33% of total points for the chapter.

Overall Results: Categories within the System for Each Section:

The average results of members for Employees & Contractors Relations falls into the Green Category (Very Good). Community Relations is also Green (Very Good) and the section that assesses the relations between growers and Wineries is classified as Blue (Excellent).

The spider graph on the left always shows the gap that we still want to pursue. The percentage difference between the possible maximum points the region can score and the members result for Employees & Contractors Relations is -46.9%, for Community Relations is -33.3%, and for Wineries Relations is -21.5%.

Comments:

Informal recruitment strategies are utilised more than a formal recruitment structure, indicating that members successfully recruit employees, irrespective of the method used. Most members have some type of interviewing process in place, assisting them to evaluate and select suitable employees. Contractor selection is based on a combination of cost competitiveness and quality, in conjunction with recommendations from other members.

A large number of contracts, especially between smaller growers and contractors in the region are verbal, suggesting there is a high level of mutual respect and trust. Written contracts on the other hand do eliminate any room for misinterpretation. On the job training is the most common approach to training whilst inductions are more structured. With the introduction of the new National Work Health and Safety Bill (WHS) next year, training and inductions may need to be better documented.

Community involvement is high and locals are generally committed to the development of community initiatives such as the McLaren Vale Sustainable Winegrowing program.

Interaction between neighbours is excellent with regular communication in relation to vineyard matters and sharing of ideas. The region supports one another.

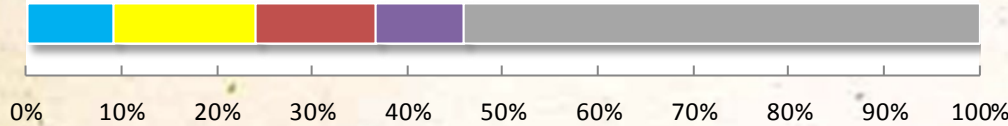
Growers value communication with the wineries in order to achieve the expected results from their grape production. For the majority of growers harvest decisions as well as the grape grading system are commonly agreed between growers in wineries in McLaren Vale.

Excellent	Very Good	Good	Needs Attention	Needs Urgent Development	Non Applicable
4	3	2	1	0	N/A

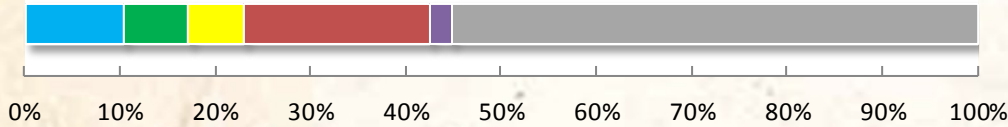


SOCIAL RELATIONS
Section 6.1 —Employees & Contractors Relations

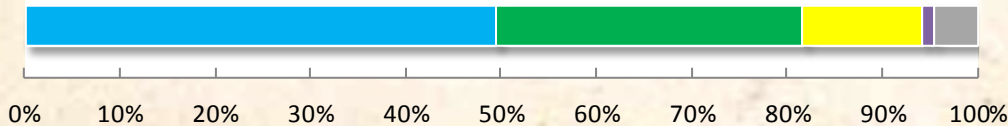
6.1.1 Recruitment of employees



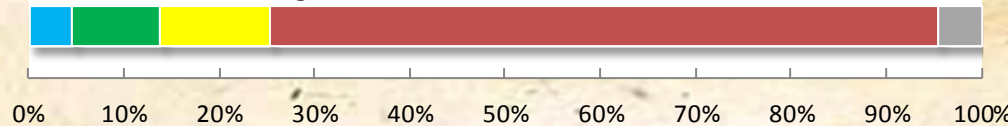
6.1.2 Interviewing for hiring



6.1.3 Contractor selection



6.1.4 Contractor hiring



6.1.1 RECRUITMENT OF EMPLOYEES

Recruitment of employees is not applicable to 55% of the members as they don't have employees. If they hire someone to do seasonal work such as pruning or harvesting, they do so through contractors. This number is consistent with the vineyard sizes among members. 39 members are smaller than 10-hectares representing 45% of the members.

Among members who reported having employees, 9% do not have a recruitment plan, 12 recruit as required through an informal recruitment strategy which includes a list of potential casual employees. 15% have someone or an agency filling the role of recruitment with a recruitment strategy developed as required. 9% of the members, have a written recruitment plan with standard job descriptions for each position and they have selection criteria and a benchmark for the time required for developing each role.

6.1.2 INTERVIEWING FOR HIRING

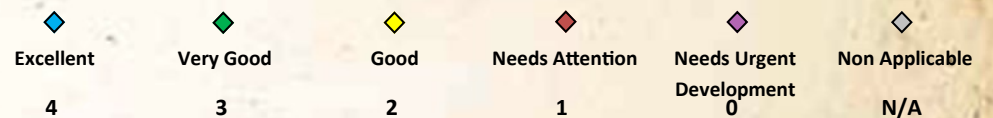
Similar to recruitment, interviewing is not applicable to 55% of the members. Among those who have employees, 2% do not have an interview process in place. 19% have an informal interview process in place and 6% have a generic interview process in place. 7% have an structured interview process in place based on the job description. 10% have a structured interview process in place based on selection criteria.

6.1.3 CONTRACTOR SELECTION

50% of members choose contractors based on a combination of the lowest quote and their potential to develop a quality job. These Members also use references from other growers and expect contractors to bring innovative solutions to operations. 32% select contractors similarly but do not necessarily check contractors licences and certificates. 12% do not expect contractors to bring innovative solutions.

6.1.4 CONTRACTOR HIRING

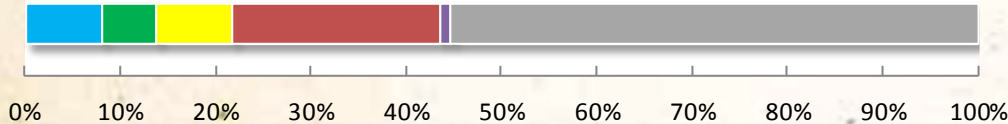
Most contracts between growers and contractors in McLaren Vale are verbal, representing 70% of the total. 11% have an written commitment and 9% have an actual written contract. About 5% of the Members use written contracts specifying costs, location, task, responsibilities, starting and finishing dates and they also check all necessary licenses.



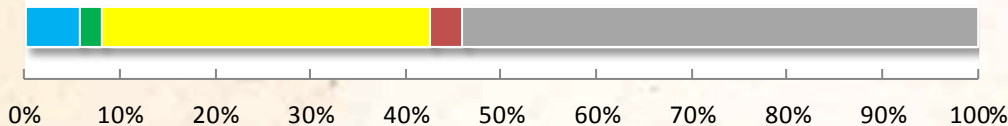


SOCIAL RELATIONS
Section 6.1 —Employees & Contractors Relations

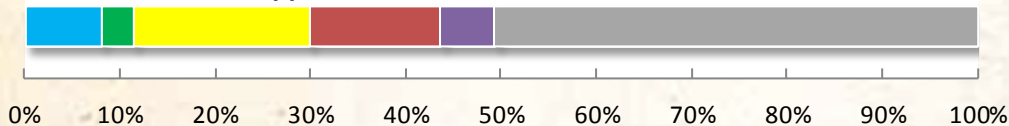
6.1.5 Induction and training



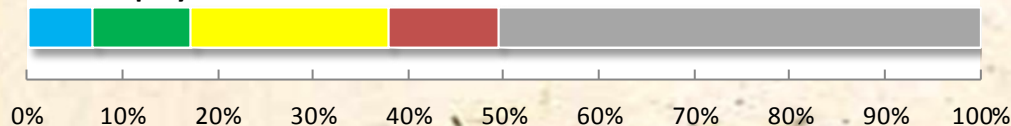
6.1.6 Remuneration



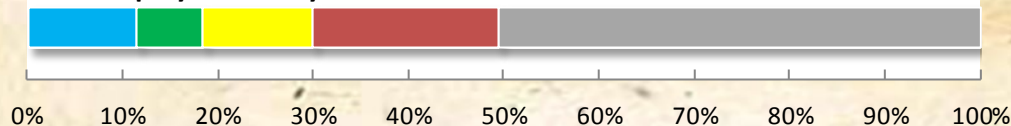
6.1.7 Performance appraisals



6.1.8 Employee relations and communication



6.1.9 Employees' safety



6.1.5 INDUCTION AND TRAINING

Induction and training is not applicable to 55% of the Members. 22% conduct an informal induction with employees and some on the job training is provided. 6% have formal inductions which are documented and training is also provided. 8% have formal documented induction and provide structured training. SOP's are available for the employees and further training needs are also structured

6.1.6 REMUNERATION

3% pay basic rates when employees commence working, irrespective of their experience. 35% pay above industry award rates to attract suitable qualified staff when necessary but they don't have a formal plan or system in place. For about 6% of the Members, remuneration reflects skills and qualifications and a grading system provide guidelines or they have a 'pay for performance' system to reward more efficient employees.

6.1.7 PERFORMANCE APPRAISALS

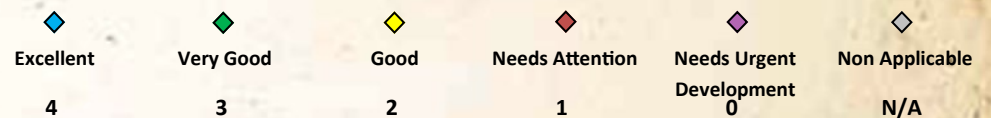
14% of the Members conduct performance appraisals when requested by an employee. 18% Conduct appraisals as required and the outcomes are documented. 3% conduct performance appraisals regularly following a structured process. 8% use the regular performance appraisals for career development, planning and further training.

6.1.8 EMPLOYEE RELATIONS AND COMMUNICATION

11% reported that they rarely have meeting with employees but recognise the need to keep them informed. 21% hold meetings as required. 10% schedule regular meetings and minutes are taken and toolbox meetings are held as required. 7% of the Members have monthly scheduled meetings with minutes taken and distributed to employees. In addition to that, toolbox meetings (very short and informal morning meetings between workers and supervisor) are held regularly.

6.1.9 EMPLOYEE'S SAFETY

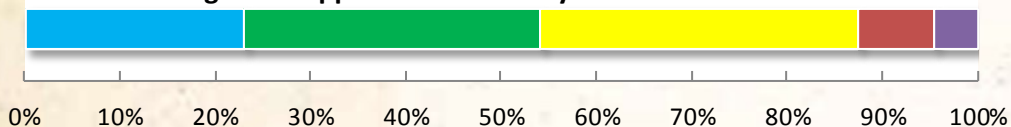
20% of the Members endeavour to follow safe practices, and follow legislative requirements. 11% also conduct informal OH&S training regularly. 18% have formal and informal OH&S training regularly and also have a incident/accident reporting system in place. Furthermore, they require or supply PPE (personal protective equipment). 11% of the larger companies also have an OH&S committee who make recommendations.



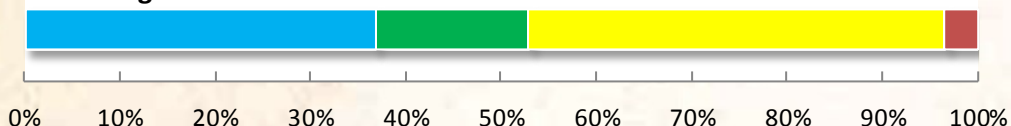


SOCIAL RELATIONS
Section 6.2 —Community Relations

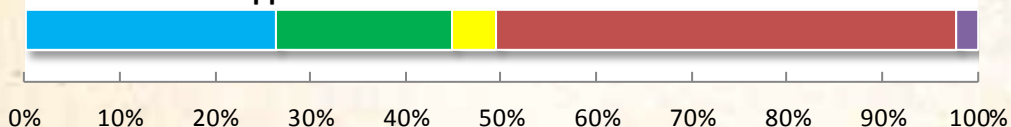
6.2.1 Knowledge and support on community initiatives



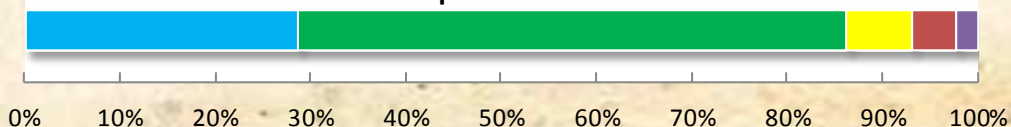
6.2.2 Neighbours' relations



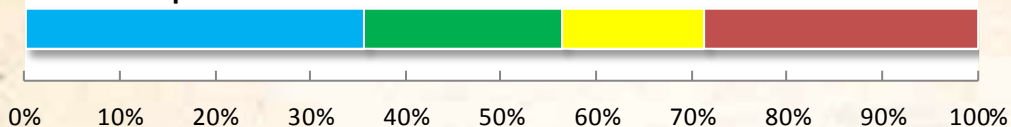
6.2.3 MVSWGA Support



6.2.4 Local seminars and workshops related to viticulture



6.2.5 Participation in committees and volunteer work



6.2.1 KNOWLEDGE AND SUPPORT ON COMMUNITY INITIATIVES

5% of the Members are not aware of any community initiatives. 8% are aware of some community initiatives. 33% of the Members reported they are aware of some community initiatives and they have also helped to promote them. 31% of the Members, on the top of that, also have volunteered to help the development of community initiatives. 23% of the Members helped to promote these initiatives, also volunteering to help the development of the community initiatives but they have also encourage employees or other family members to be part of the initiatives.

6.2.2 NEIGHBOURS' RELATIONS

Only 3% of the members reported that don't have any contact with their neighbours. 44% reported they not only know their neighbours but they also exchange information with them regarding vineyard matters on an as needs basis. 16% reported they often exchange information and ideas with them regarding vineyard matters. 37% of the Members, beside regular exchange of information with neighbours regarding vineyard matters also support them when necessary (e.g. during vintage, finding specialised service, equipment hire, loans, tips on how to do things, etc.)

6.2.3 MVSWGA SUPPORT

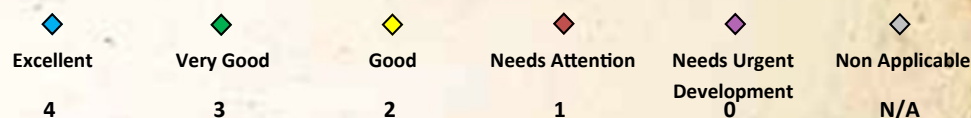
About 50% were not members of McLaren Vale Sustainable Winegrowing Australia in 2011. All the others have sent at least one written feedback to the program coordinator. 5% of the Members, who were previous members, informed they have helped to bring at list one new member to the program. 18% of the Members, who were also previous members reported that they not only helped to bring a new member but have also attended at least one of the events of the program. 26% of the members, in addition to that also have volunteered to help the program development.

6.2.4 LOCAL SEMINARS AND WORKSHOPS RELATED TO VITICULTURE

48% of the Members reported they have attended locally organised workshops and /or seminars but none in the last 24 months. 5% have attended locally organised workshops and/or seminars within the last 24 months. 18% have attended at least one locally organised seminar/workshop in the last 12 months. 26% have not only attended seminars within the last 12 months but also provided feed-back on their training requirements.

6.2.5 PARTICIPATION IN COMMITTEES AND VOLUNTEER WORK

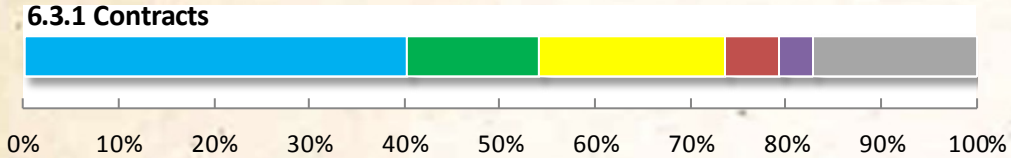
2% of the Members don't think committee participation and volunteer work is important. 5% believe it is important but haven't had opportunities to participate. 7% had participated in committees or volunteered in the last 24 months. 57% have participated in committees or volunteered in the last 12 months. 29% are on going members of committees and participate in voluntary work on a regular basis.





SOCIAL RELATIONS
Section 6.3 — Winery Relations

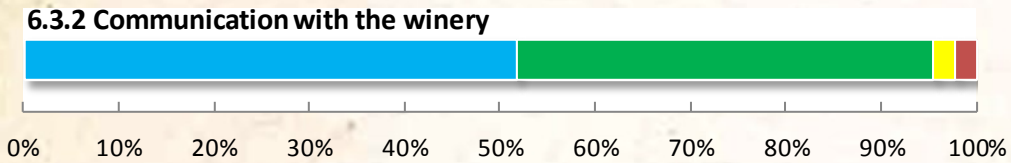
6.3.1 Contracts



6.3.1 CONTRACTS

7% of the Members do not have written contracts to sell their grapes. 7% reported that they usually sell their grapes using contracts and when they do, the contracts specify, at least, variety, price, amounts, payment conditions and delivery location. 14% always sell their grapes using contracts and the contract also specify the expected quality for the fruit and it also has a reward system for quality and quality and penalty control standard clauses. 40% of the Members, in addition to that, also specify other possible winery requirements, such as certifications, block details, tonnage, variety, areas clones, rootstock, irrigation system.

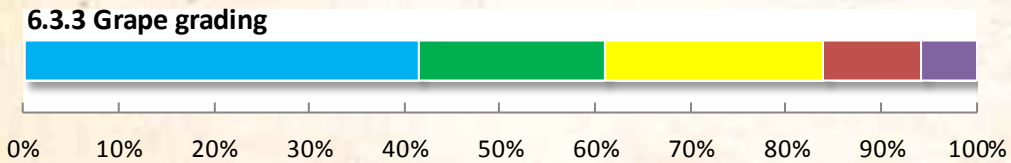
6.3.2 Communication with the winery



6.3.2 COMMUNICATION WITH THE WINERY

All growers think communication with the winery is important. 2% of the Members informed that prior to harvest they inform the overall situation in the vineyard that might impact on fruit quality or yield at least once prior to harvest. 43% reported they have an on-going dialogue with the winery during the growing season. 52% of the Members, in addition to that, reported that their communication with the wineries reinforces the contracts to assure meeting specification targets.

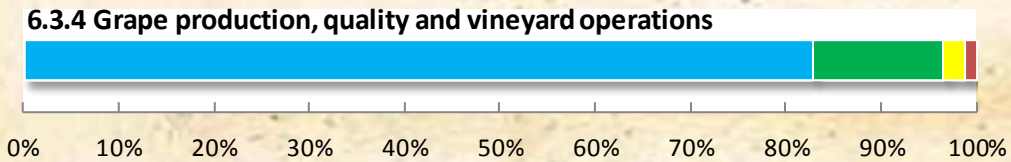
6.3.3 Grape grading



6.3.3 GRAPE GRADING

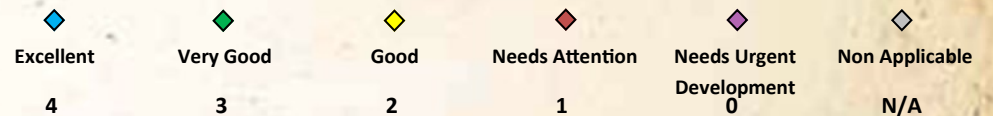
6% of the Members reported they do not know how their grapes are graded. 10% informed the grading system is based on a winery system and they said they have an overall understanding of the system. 23% use a winery system and the winery has explained how they grade their grapes. 20% of the Members use a winery system and also participate in vineyard assessment workshops with the wineries. 41% of the Members, in addition to all of that, also participate of comparative tastings at the wineries to learn how their wines compare to other growers/grades and when there is a different perception of quality between themselves and the winery, there is an option for dispute resolution.

6.3.4 Grape production, quality and vineyard operations



6.3.4 GRAPE PRODUCTION, QUALITY AND VINEYARD OPERATIONS

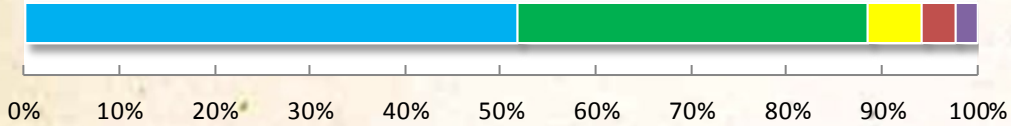
14% of the Members reported that operations that might impact on the grape quality are discussed with the winery on critical phenological stages to meet the winery requirements. 83%, in addition to that, informed they also participate in the decision on harvest date and grape maturity to meet the specifications (produce the best wine possible).





SOCIAL RELATIONS
Section 6.3 — Winery Relations

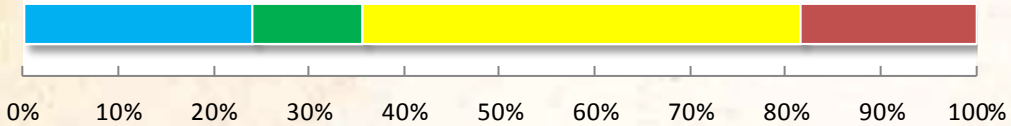
6.3.5 Grape chemistry testing



6.3.5 GRAPE CHEMISTRY TESTING

2% do not perform chemical tests for the grapes. 3% only do when requested by the winery. 6% of the growers perform (or the winery) grape chemistry tests a least once before harvest, including TSS, TA and pH. 36% perform the same tests to follow up grape maturity. 52% do the same but also use historical data to help to improve operational decisions in the vineyard.

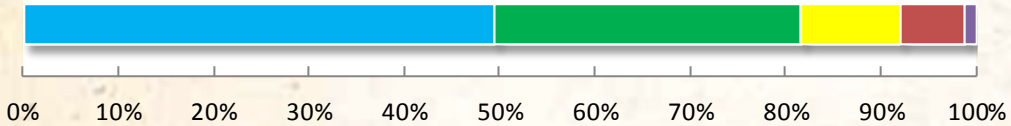
6.3.6 Record keeping for the winery



6.3.6 RECORD KEEPING FOR THE WINERY

18% of the Members reported they have their records available for the wineries upon request. 46% have their records available for the winery and the records are organised so they can be checked/be used to answer questions from the wineries during their visits. 24% of the Members, on the top of that, also send out regularly short reports, emphasizing the key operational issues in the vineyard (e.g. sprays, irrigation, rainfall, heat degree days, etc.) that might impact on the wineries' requirements.

6.3.7 Wine produced from your grapes



6.3.7 WINE PRODUCED FROM OWN GAPES

Only one grower does not know what sort of wine is produced from their grapes. 7% informed they have an overall idea on what type of wine the wineries produce from their grapes. 10% informed they have a transparent relationship with the wineries which allows them to know what wine is produced from their grapes. They also have met all the specifications of the winery for their grapes. 50% of the Members, in addition to that, also make some wine from their blocks to benchmark their grapes/wines produced.

