

SUSTAINABLE AUSTRALIA WINEGROWING

2017 / 2018
GROWING SEASON RESULTS



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2018

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ABOUT THE PROGRAM

The Sustainable Australia Winegrowing (SAW) program is the result of a series of initiatives developed by the McLaren Vale Grape Wine and Tourism Association (MVGWTA) since the early 2000's. These initiatives were developed with the objective to improve viticultural practices, fruit quality and financial viability in the region. Among others, the initiatives included seminars and workshops, a growers' bulletin (CropWatch) providing information and pest and disease alerts for the region from weather monitoring stations, field days and research trials.¹

In 2005, the Association also released a series of materials and codes to support growers' development, including the financial benchmark for McLaren Vale growers, and a Pest and Disease Code of Conduct in 2006. The growers voluntarily endorsed both documents in 2007. In this same year the Soil Management, Water Management and Preservation of Biodiversity Codes were also released.¹

While the investments in grower education made by MVGWTA yielded dramatic on-farm results for many growers, the Association was unable to measure and discuss the outputs of these investments because a process for systematically measuring on-farm results had not been developed.

In 2009, MVGWTA launched the Generational Farming pilot program and compiled the most relevant tools and information available to develop a self-assessment tool for growers to improve their sustainability.

In 2010, the Association was fortunate enough to hire Dr Irina Santiago-Brown while she assessed all major global viticultural sustainability systems for her PhD research. The learnings from the research were applied to improve the assessment methodology and revamped into the current SAW program.

Since its conception, the Sustainable Australia Winegrowing Program has been meeting the objectives of the program by maximising the overall sustainability of the region and the region's growers and minimising environmental harm. The data capture and reporting components of the Program have provided growers with a best management tool that demonstrates their performance against their regional peers and recognised best practice.

Sustainable Australia Winegrowing is now available to any grower across Australia and has implemented by five additional regions. The program is also an Entwine-approved certification program.

For more information on Sustainable Australia Winegrowing visit: <http://mclarenvale.info/industry-development/sustainable-australia-winegrowing>

¹ Dr Irina Santiago-Brown, Implementation Manual Sustainable Australia Winegrowing – SAW, 2015

NOTE FROM PROGRAM COORDINATOR

The Sustainable Australia Winegrowing (SAW) program is an exceptional regional tool that provides grape growers with a set of sustainable practices to work towards. Monitoring and reviewing results from an individual and regional level is a valuable exercise that provides the McLaren Vale Grape Wine and Tourism Association (MVGWTA) with knowledge that assists with the future development of regional training and education.

The most significant result for this growing season was the inclusion of Tinlins McLaren Vale vineyards in SAW. They are now the largest grower in the SAW program for McLaren Vale. It is excellent to see great support for the program from one of the largest growers in McLaren Vale. The SAW program now represents 50.27% of McLaren Vale vineyards.

One area where there is room for improvement is the number of growers that operate under a conventional farming practice. Currently 20% of SAW members are conventional farmers. A more sustainable approach is low-input conventional farming with integrated pest management. However, this practice is a little more involved but in the long term, it is more effective and cheaper.

The future of Sustainable Australia Wine growing is exciting with the potential development of a single national sustainability program. This does not lose sight of the importance of a program that is administered at a regional level like MVGWTA is currently providing. The development of a single national sustainability program will incorporate many elements that have helped develop SAW into a valuable management and benchmarking tool for sustainability.

It has been a pleasure to coordinate the management of the SAW program for the 2017-2018 growing season.

Cameron S. Brewster
Sustainability Officer
McLaren Vale Grape Wine & Tourism Association
August 2018

WHERE AND HOW TO READ THE GRAPHS

WHERE TO FIND THE GRAPHS

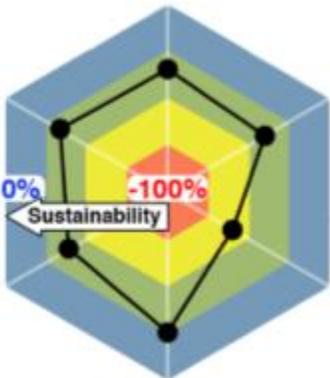
The graphs for each individual member and region can be found in the online system as soon as the results are released. The graphs are located in the “Reports” section of the system. Users can select to view reports in up to three columns to facilitate the comparison between years and keep track of their individual and regional performances. Regional results published in this report reflect the date of its publication. The online system automatically updates the regional reports as individual data is changed. A slight variation between the data published in this report and the online system may occur after the individual growers auditing process by independent third party auditors.

HOW TO INTERPRET THE RESULTS AND COLOURS

Each colour represents a category of the workbook, varying from grey (non-applicable) through 0 to 4. The aim is to move from the right to the left as shown in the image below.



SPIDER GRAPHS

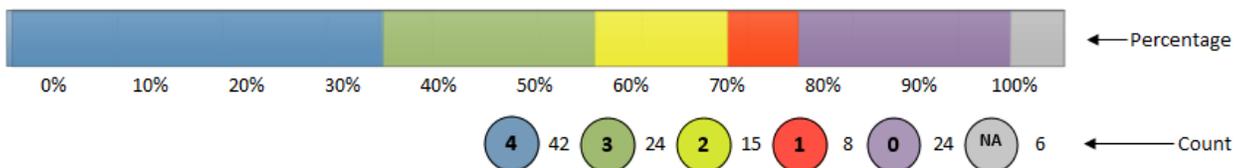


The spider graphs show values relative to the maximum ‘perfect score’ that can be achieved. The attributed weight (importance) for each item is taken into consideration and is displayed on the table below the graphs.

Results are shown as percentage change between maximum possible points and the score for the specific member or region. The centre of the graph represents -100% (minus one hundred percent), the worst possible result or least sustainable situation. The outer edge of the graph represents 0% (zero percent), the best possible result, i.e. ‘perfect score’ or most sustainable situation. The closer to zero (the outer edge), the better the result.

The sustainability journey is about moving from the centre to the edge of the spider graph.

STACKED 100% BAR GRAPHS



The stacked 100% bar graphs show the number and percentage of members in each category for each topic. The attributed weight (importance) for each item is not taken into consideration.

SUMMARY OF RESULTS: 2017 / 2018 GROWING SEASON



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VINEYARD SITES

USED THE SAW PROGRAM TO MEASURE SUSTAINABILITY AND IMPROVE PRACTICES. MCLAREN VALE CONTINUES TO PERFORM IN THE **GREEN** (VERY GOOD).CATEGORY.

The 2017 / 2018 Sustainable Australia Winegrowing season has proven to be another successful year. The region, on average, has continued to perform in the green category with a 37.5% gap to reach best practice compared to a 38.1% gap last season.

Seven new members joined the program in 2018 to take the total number of members to 129 - a 0.8% decrease from last season and a 50% increase from when the program first started in the 2011 / 2012 season. SAW represents 233 distinct sites in McLaren Vale, covering 5,239 hectares of farm area, which is an increase of 10% from previous season. For area under vine, the program represented 3,670 hectares, which is an increase of 14% and accounts for 50% of the whole region's area under vine. The significant increase of area under vine for this season can be attributed to the inclusion of one of McLaren Vale's largest growers.

The total crush for SAW members was 25,679 tonnes, with 23,244 tonnes of red grapes and 2,435 tonnes of white grapes. SAW members achieved a 10% average yield decrease from last season compared to the 19%

SEASON SNAPSHOT	16/17	17/18	VARIANCE
Members / Vineyards (Ha)	130	129	-1%
Distinct Vineyard Sites / Sites (Ha)	206	233	+14%
Total Farm Area (Ha)	4,732	5,239	+10%
Total Area Under Vine (Ha)	3,227	3,670	+13%
Area Under RED Grapes (Ha)	2,903	3,350	+15%
Area Under WHITE Grapes (Ha)	252	249	-1%
RED Grape Production (t)	26,326	23,244	-11%
WHITE Grape Production (t)	2,341	2,435	+4%
Average RED Grape Productivity (t/Ha)	9.1	6.9	-24%
Average WHITE Grape Productivity (t/Ha)	9.3	9.7	+4%

average yield decrease for region. Yield decrease can be attributed to a much dryer spring and summer in the 2017/18 growing season.

By variety, Shiraz continues to be the most widely grown grape variety at 1,972.1 hectares and accounting for 55.0% of total vineyard area within the program. Cabernet Sauvignon was the second most widely planted variety for SAW members with 687.9 hectares planted, representing 19% of total vineyard area within the program. Similar to last year, plantings of Shiraz, Cabernet Sauvignon, Grenache, and Mataro accounted for the majority of the area under vine (84%) within the program.

COMPARISONS: SAW VERSUS REGION VERSUS SOUTH AUSTRALIA



72%

OF MCLAREN VALE'S WINEGRAPES ARE GROWN ON VINEYARDS WHICH USE THE SAW PROGRAM TO ASSESS AND IMPROVE PRACTICES

The table below highlights the key wine industry statistics for Sustainable Australia Winegrowing, McLaren Vale and South Australia.

SAW represents over two thirds of McLaren Vale's total crush at 72%, and accounts for 3.4% of South Australia's crush.

The SAW Program contributes 70% of McLaren Vale's total red grape crush, and 84% of the region's white grape crush.

As a region, McLaren Vale makes up 4.7% of South Australia's total crush, 7.24% of the red grape crush, and 1.0% of the white grape crush.

McLaren Vale accounts for 9.7% of South Australia's total area under vine, with SAW members accounting for 50% of McLaren Vale's area under vine.

	South Australia	McLaren Vale	SAW	Comparisons		
				SAW VS McLaren Vale	SAW VS South Australia	McLaren Vale VS South Australia
TOTAL grapes (t)	747,361	35,650	25,679	72.03%	3.44%	4.77%
Total RED (t)	452,324	32,762	23,244	70.95%	5.14%	7.24%
Total WHITE (t)	295,037	2,888	2,435	84.31%	0.83%	0.98%
TOTAL under vine area (ha)	75,565	7,324	3,682	50.27%	4.87%	9.69%
RED area (ha)	55,152	6,461	3,350	51.85%	6.07%	11.71%
WHITE area (ha)	19,256	657	251	38.20%	1.30%	3.41%
Others (unknown, rootstocks, etc.)	844	206	82	39.80%	9.71%	24.40%

Note: South Australian and McLaren Vale data from the SA Winegrape Crush Survey—2018.

MAIN SURVEY RESULTS:



80%

OF SAW MEMBERS PERFORMED IN THE "VERY GOOD" CATEGORY OR ABOVE (19% PERFORMED IN THE "EXCELLENT CATEGORY")

43%

OF VINEYARDS IN THE SAW PROGRAM ARE LESS THAN 10 HECTARES IN SIZE

17%

OF SAW MEMBERS GROW THEIR WINE GRAPES ORGANICALLY OR BIODYNAMICALLY

10%

OF SAW MEMBER'S WINE GRAPES ARE CERTIFIED ORGANIC OR BIODYNAMIC

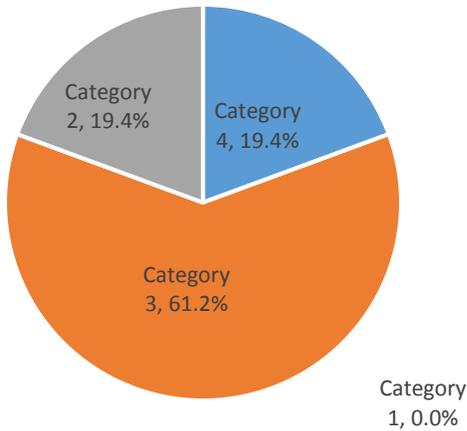
68%

OF SAW MEMBER'S FRUIT IS USED BY MCLAREN VALE WINERIES

55%

OF SAW VINEYARD AREA IS PLANTED TO SHIRAZ

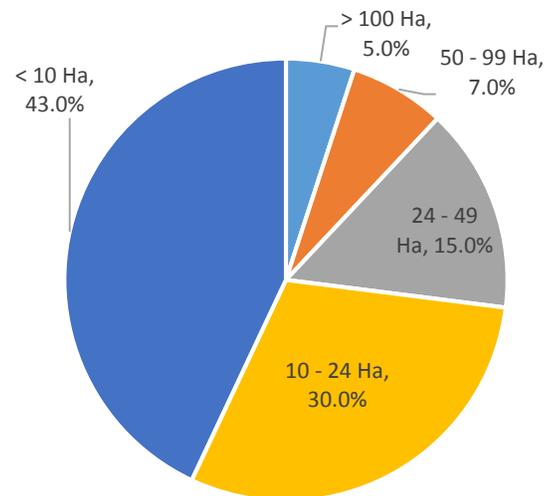
MEMBERS BY SUSTAINABILITY CATEGORY



McLaren Vale SAW members continued to perform well this year with 19.4% of members performing in the blue category (score of 4, excellent), 61.2% performing in the green category (score of 3, very good), 19.4% performing in the yellow category (score of 2, good) and 0% performing in the red category (score of 1, needs attention).

MEMBERS BY VINEYARD SIZE

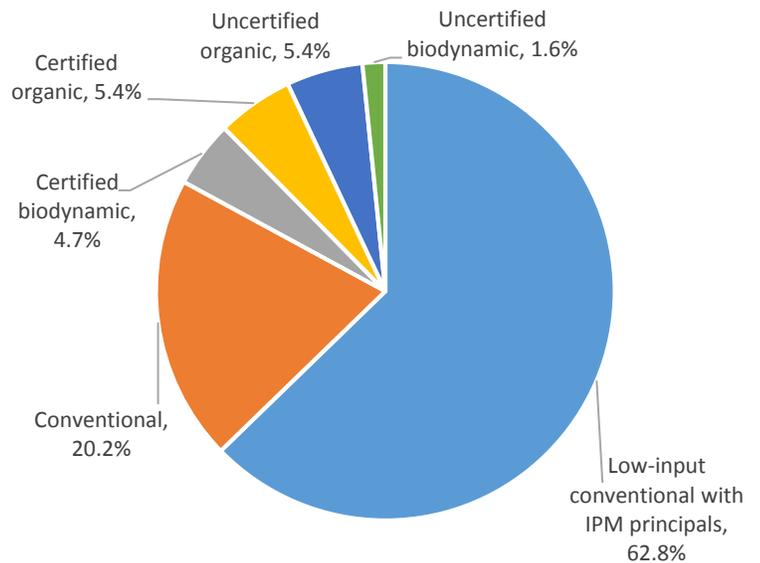
Consistent with previous years, the vineyard area of individual SAW members is primarily under 10 hectares in size (43.0%). Only seven SAW members (5.0%) have a vineyard area over 100 hectares – up from 6 members last year. 30.0% of SAW members have a vineyard area between 10 – 24 hectares while 7.0% have a vineyard area between 50 – 99 hectares.



MEMBERS BY FARMING SYSTEM

The majority of SAW members use low-input conventional practices with IPM principals (62.8%) while 20.2% used conventional practices.

The number of members that used either organic or biodynamic practices increased from 20 last year to 22 this year and the number of members certified organic or biodynamic remained the same as last year (13).

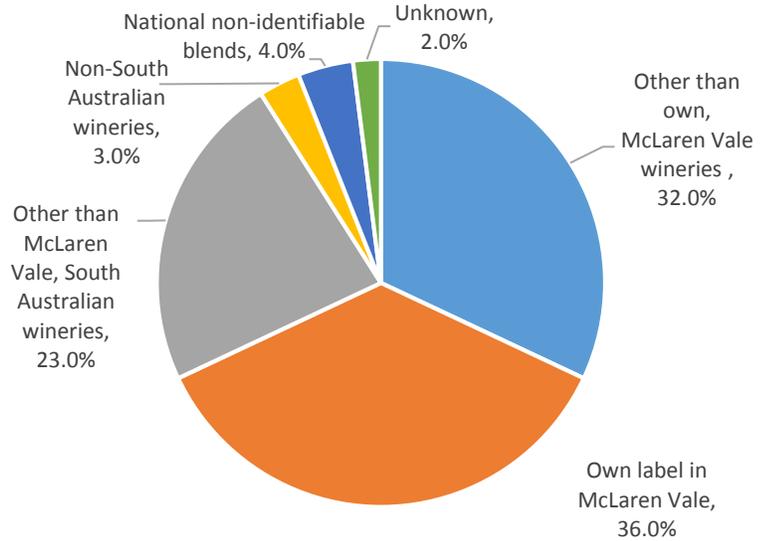


MEMBERS BY GRAPE DESTINATION

The majority of SAW member's grapes (36%) went into their own McLaren Vale label, while 32% of the grapes were sold to a McLaren Vale winery.

23% of member's grapes were sold to South Australian wineries outside of McLaren Vale while 3% of were sold to non-South Australian wineries. 4% of SAW member's grapes were used in National non-identifiable blends.

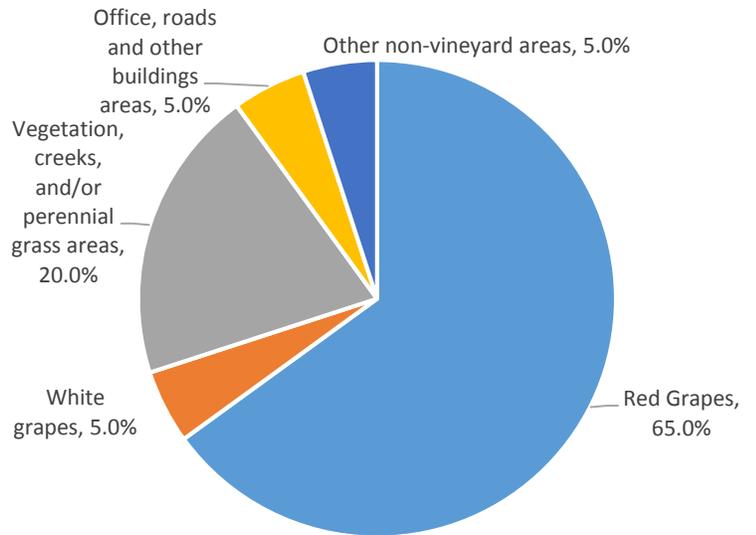
As in previous years, no SAW members categorised their grapes as being used for international wineries or labels.



MEMBERS BY LAND USE

Land use for SAW members continues to be dominated by red grapes at 65% of the area, while 5% of SAW land area is planted to white varieties.

On average, vegetation, creeks and/or perennial grassed areas make up 20% of the land area of SAW members.



MEMBERS BY GRAPES HARVESTED

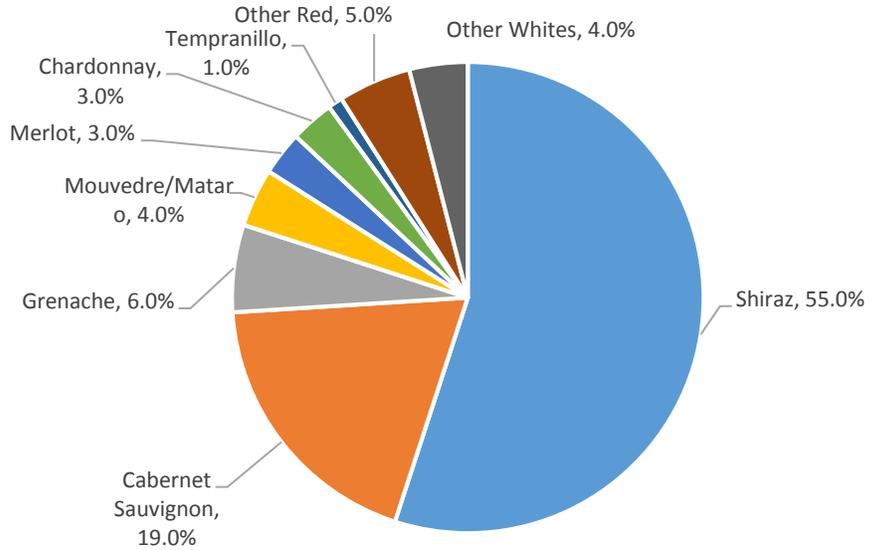
99.8% OF SAW MEMBER'S GRAPES WERE HARVESTED THIS YEAR

98.7% OF SAW MEMBER'S GRAPES WERE SOLD OR USED TO MAKE THEIR OWN WINE

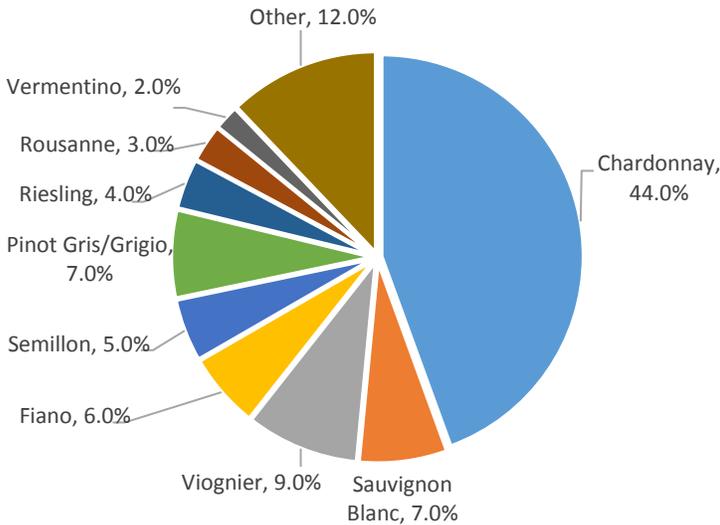
MEMBERS BY VARIETY

Shiraz represents the largest area under vine in the SAW program at 55.0%, while Cabernet Sauvignon accounts for 19.0% and Grenache 6.0%.

While Grenache represents a small percentage of area under vine, it is an important variety for the region as the third most planted grape for the last five years.



MEMBERS BY WHITE VARIETIES



A combination of 16 different white varieties are grown over 251 hectares of SAW Member's land, producing 2,435 tonnes and averaging 9.7 tonnes per hectare.

Of these white varieties, Chardonnay was the most widely grown (44.0%), followed by Viognier (9.0%), Sauvignon Blanc (7.0%) and smaller amounts of Pinot Gris/Grigio (7.0%), Fiano (6.0%), Semillon (5.0%), Riesling (4.0%), Rousanne (3.0%) and Vermentino (2.0%).

The 'Other White' category is made up of small amounts of Verdelho (2%), Chenin Blanc (2%), White Frontignac (2%), White Savagnin (1%) and White Marsanne (1%).

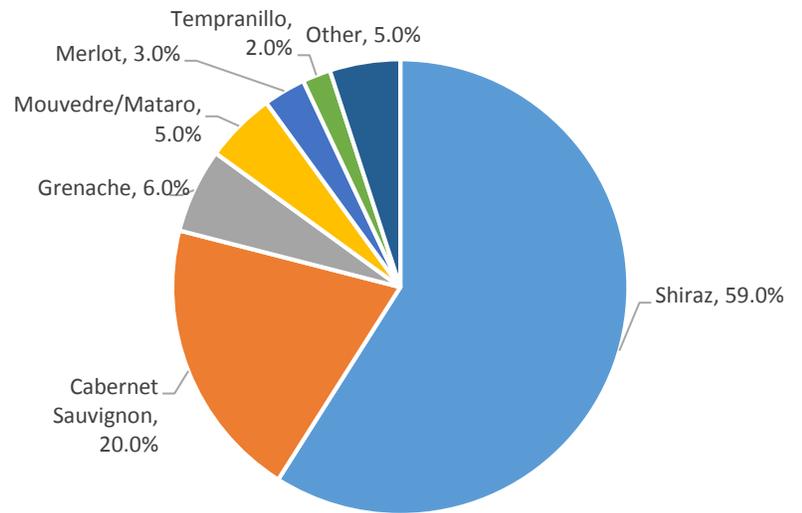


MEMBERS BY RED VARIETIES

A combination of 26 different red varieties are grown over 3,353 hectares of SAW Member's land, producing 23,244 tonnes and averaging 6.9 tonnes per hectare.

Of these red varieties, Shiraz was the most widely grown (1,972.0 Ha) followed by Cabernet Sauvignon (687.9 Ha), Grenache (217.7 Ha), Mouvedre (154.0 Ha) and Merlot (95.0 Ha).

In the "Other Red" category, the majority of the area is made up of Pinot Noir (21.0 Ha), Sangiovese (24.0 Ha), Petit Verdot (15.0 Ha) and smaller amounts of Touriga (18.0 Ha), Cabernet Franc (8.0 Ha), Graciano (9.0 Ha), D'Avola Nero (6.0 Ha), Malbec (15.0 Ha), Barbera (6.0 Ha), Aglianico (5.0 Ha) and Red Frontignac (4.0 Ha) and very small amounts of other red varieties such as Caringnan, and Primitivo/Zinfadel, Cinsaut, Nebbiolo, Durif, Tannat, Souzao and Tinta Cao.



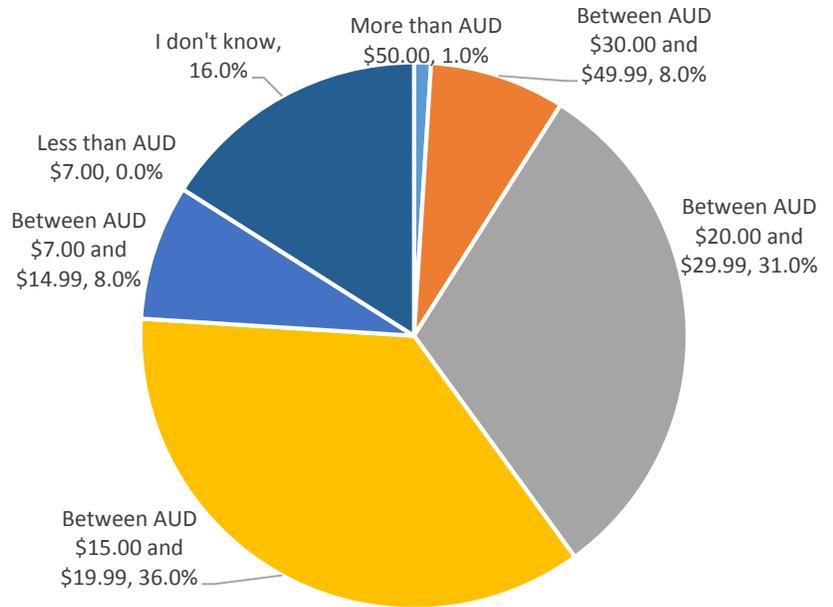
MEMBERS BY WINE RETAIL PRICES

White Wine

Of the SAW members who reported on white wine price, 36.0% of respondents sold their white wine in the \$15 - \$19.99 price range and 31.0% sold their wine in the \$20 - \$29.99 price range.

8.0% of respondents sold their white wine in the \$30 - \$49.99 price range and 8.0% sold their white wine in the \$7 - \$14.99 price range.

1.0% of respondents sold their white wine for more than \$50 while no respondents sold their white wine for less than \$7.

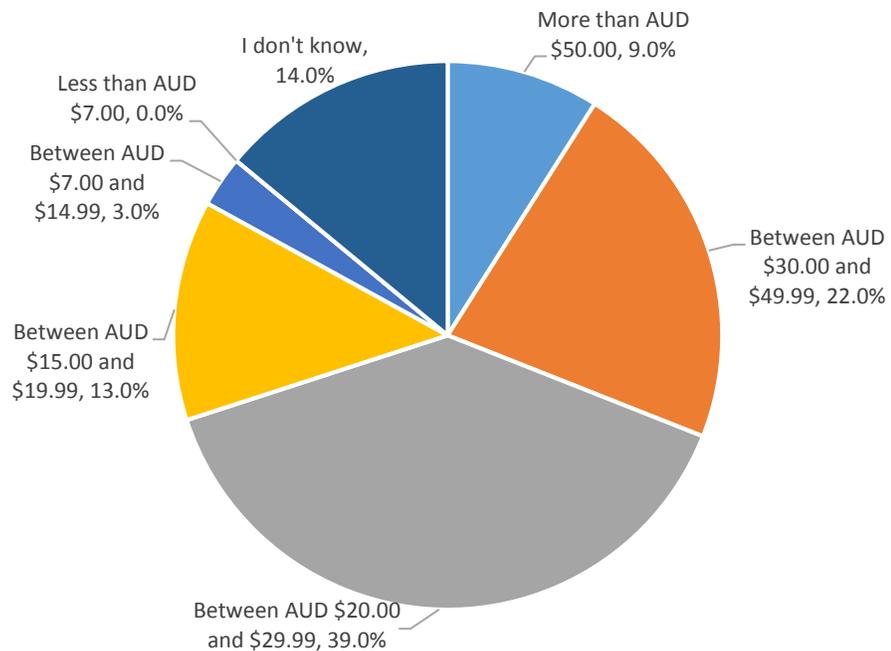


Red Wine

Of the SAW members who reported on red wine price, 39.0% sold their red wine in the \$20 - \$29.99 price range and 22.0% of respondents sold their red wine in the \$30 - \$49.99 price range.

13.0% of respondents sold their red wine in the \$15 - \$19.99 price range while 9.0% sold their wine for more than \$50.

3.0% sold their red wine in the \$7 - \$14.99 price range while no respondents sold their red wine for less than \$7.

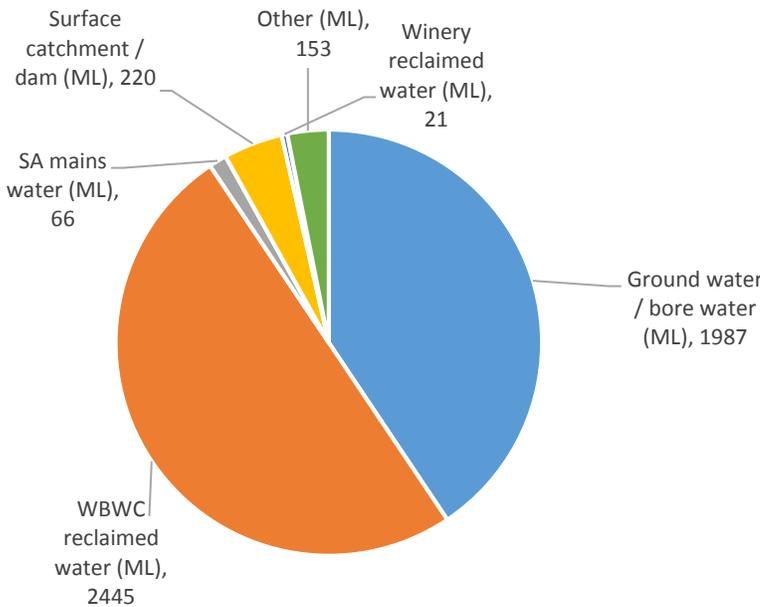
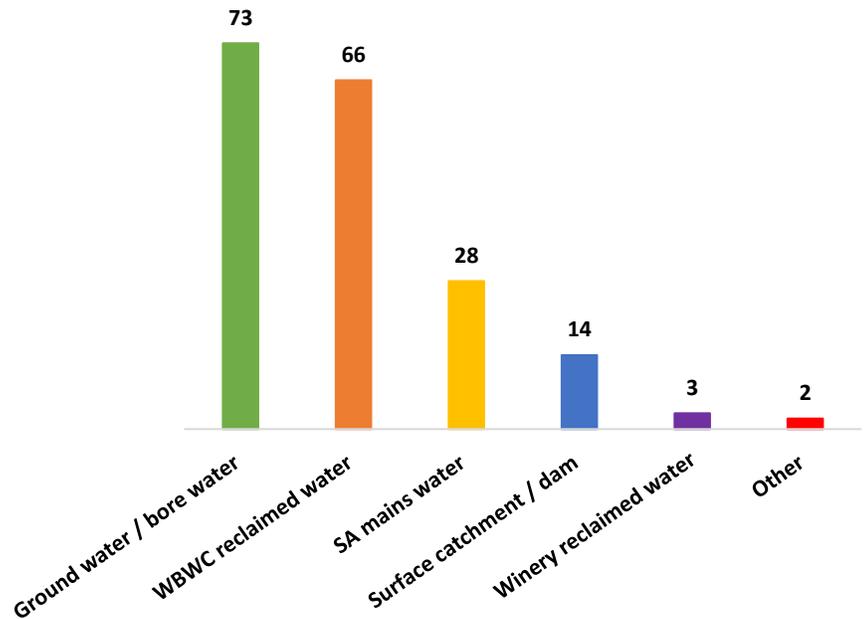


MEMBERS BY WATER SOURCE AND USAGE

Sustainable Australia Winegrowing members continue to utilise ground/bore water, Willunga Basin Water Company (WBWC) reclaimed water, and South Australia mains water as the three main irrigation water sources.

56% of members use ground/bore water, 51% use WBWC reclaimed water and 21% use SA mains water. The remaining 14% of members used surface catchment/dam water, winery reclaimed water, and 'other' water sources.

Note: Members were able to select more than one option for irrigation sources and water usage, leading to a higher total response rate than total number of SAW members.



When comparing the actual amount of each water source used by SAW members, the largest amount of irrigation water came from WBWC reclaimed water 2445 ML (50%) followed by ground water/bore water 1987 ML (40%). The remaining 10% of water used by SAW members was sourced from surface catchment/dam 220 ML (4.5%), SA mains 66 ML (1.3%), winery reclaimed water 21 ML (0.5%) and 'other' 153 ML (3.1%).

REMEMBER!

When inputting your irrigation sources and water usage, be sure to use **mega litres (ML)**!

If applicable, be sure to convert your kilo litres (KL) to ML before you input your data next season.

1,000 KL = 1 ML

1.33 ML

OF IRRIGATION WATER PER HECTARE OF VINEYARD WAS USED BY SAW MEMBERS COMPARED TO .95ML LAST SEASON

CHAPTER RESULTS

OVERVIEW

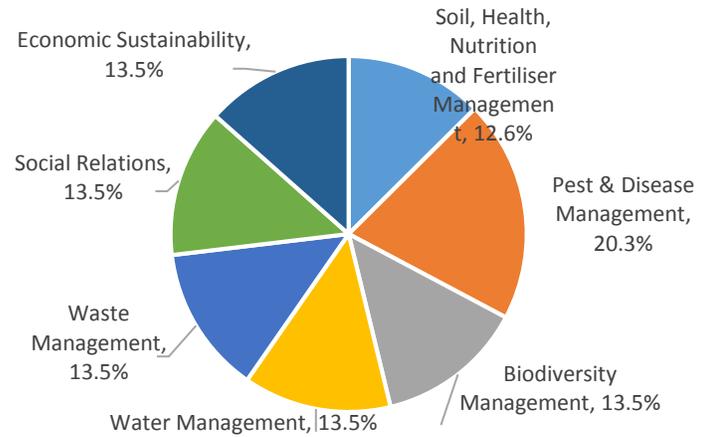
Sustainable Australia Winegrowing consists of 7 chapters (excluding the Main Survey) and 125 questions. The chapters cover Soil Health, Nutrition & Fertiliser Management, Pest & Disease Management, Biodiversity Management, Water Management, Waste Management, Social, and Economic Sustainability.

The weighting of each chapter was reviewed in 2017 by working groups of industry representatives and external subject matter experts.

The majority of questions within the SAW program have been given equal weighting. This means that the chapters with more questions, such as Pest & Disease Management, have a higher overall weighting.

The Biodiversity chapter only consists of 7 questions compared to 13-14 for the majority of the other chapters, therefore, the questions within Biodiversity Management have been given a slightly higher weighting.

The final weightings for the chapters is as follows: 13.5% weighting for the Biodiversity Management, Water Management, Social and Economic Sustainability and Waste Management chapters. A 12.6% weighting for the Soil Health, Nutrition & Fertiliser Management chapter and a 20.3% weighting for the Pest & Disease Management chapter.

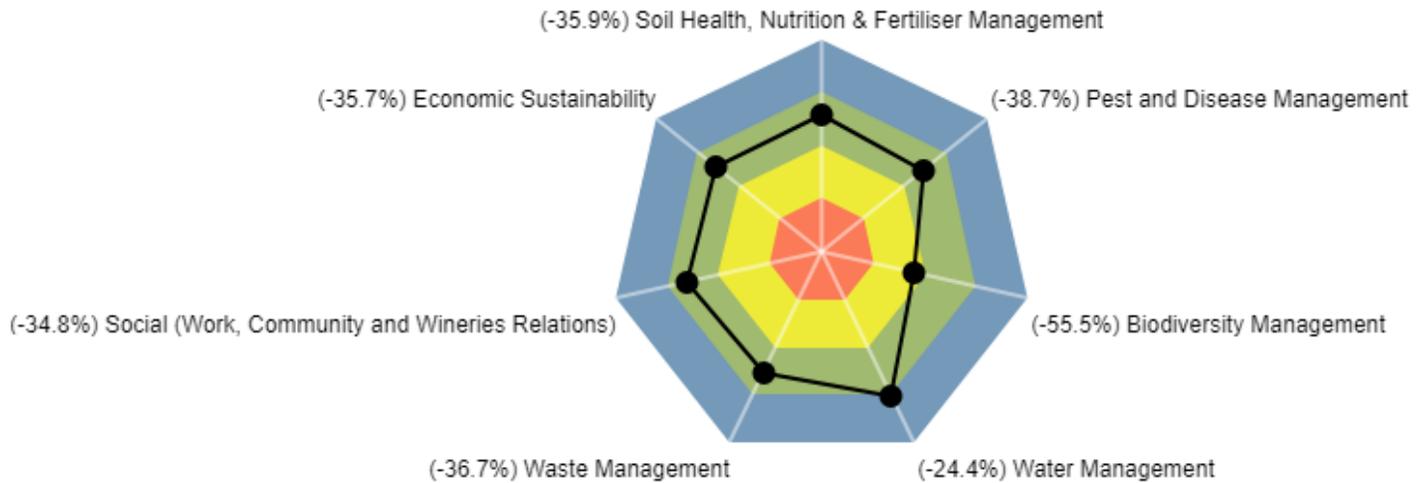


Overall, the McLaren Vale region has performed in the **green** (“very good”) category with a 37.5% gap to reach best practice.

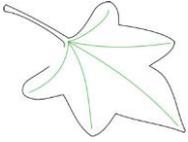
Water Management continues to be a strong chapter for the region, with only 24.4% to reach best practice. Biodiversity Management continues to be the weakest

chapter for this region, with a 55.5% gap to reach best practice.

Regionally, the highest improvements were shown in Economic Sustainability and Social Relations.



CHAPTER	GAP TO REACH THE 'PERFECT SCORE'		% CHANGE FROM PREVIOUS SEASON VS CURRENT SEASON
	2016-17	2017-18	
Soil, Health, Nutrition and Fertiliser Management	-35.7%	-35.9%	-0.2%
Pest & Disease Management	-39.2%	-38.7%	0.5%
Biodiversity Management	-56.9%	-55.5%	1.4%
Water Management	-24.1%	-24.4%	-0.3%
Waste Management	-36.2%	-36.7%	-0.5%
Social Relations	-36.5%	-34.8%	1.7%
Economic Sustainability	-37.7%	-35.7%	2.0%
Overall Workbook	-38.1%	-37.5%	0.6%



OVERVIEW

AS A REGION, MCLAREN VALE IS PERFORMING IN THE **GREEN** SUSTAINABILITY CATEGORY AND IS 37.5% AWAY FROM REACHING BEST PRACTICE IN THE SAW



PEST & DISEASE MANAGEMENT

80% OF SAW MEMBERS USE LOW INPUT CONVENTIONAL OR ORGANIC MANAGEMENT PRACTICES TO CONTROL PESTS AND DISEASES



SOIL MANAGEMENT

75% OF SAW MEMBERS HAVE IDENTIFIED AREAS AT RISK OF COMPACTION AND HAVE TAKEN MEASURES TO REDUCE THE RISK



BIODIVERSITY MANAGEMENT

91% OF SAW MEMBERS ACTIVELY CONSERVE THE BIODIVERSITY OF THEIR PROPERTY



WATER MANAGEMENT

51% OF SAW MEMBERS USE RECLAIMED WATER AS AN IRRIGATION SOURCE



WASTE MANAGEMENT

98% OF SAW MEMBERS HAVE A PAPER AND CARDBOARD RECYCLE PROGRAM

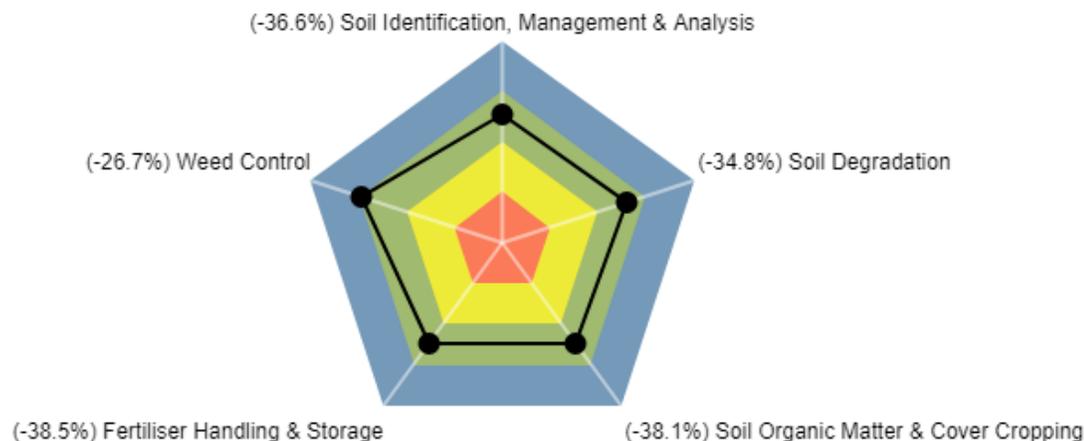


CHAPTER RESULTS

SOIL HEALTH, NUTRITION AND FERTILISER MANAGEMENT

Soil Health, Nutrition and Fertiliser Management is weighted 12.6% for the overall workbook. Five sub-topics make up the chapter: Soil Identification, Management & Analysis and Soil Degradation contribute 31% each. Fertiliser Handling & Storing is weighted at 23% whilst Soil Organic Matter & Cover Cropping and Weed Control both contribute 8% to the chapter.

The spider graph below shows each sub-topic and the percentage gap to reach the 'perfect score.'



Weed Control was closest to the best practice with a 26.7% gap followed closely behind by Soil Degradation at 34.8% away from best practice. Fertiliser Handling & Storage continues to require the most improvement with a 38.5% gap to best practice.

McLaren Vale as a region scored **green** in this chapter, with a 35.9% gap to reach best practice.



UNSUSTAINABLE PRACTICES LIKE EXCESSIVE CULTIVATION, DRIVING TRACTORS ON WATERLOGGED SOILS AND EXCESSIVE USE OF HERBICIDES AND SYNTHETIC FERTILISERS CAN DEGRADE OUR SOILS. THE PRACTICES WE EMPLOY IN OUR VINEYARDS CAN SIGNIFICANTLY AFFECT THE LONG TERM HEALTH OF OUR SOILS.

70% of SAW members reduced their reliance on herbicides by integrating cultural weed control practices.

100% of SAW members who handle solid fertilisers have a designated handling area.

99% of SAW members made site-specific nutrient applications.

Effective and appropriate applications of nutrients can reduce costs and improve vine health and soil microbial activity

68% of SAW members use plant tissue analysis results to guide nutrient applications.

Best practice, when using rural chemicals, is necessary to protect the environment and human health. See the PIRSA chemical use best practice guide for more information

http://www.pir.sa.gov.au/biosecurity/rural_chemicals/chemical_use_best_practice

Poorly managed heavy vehicle operations can lead to soil compaction. Soil compaction can have an impact on vine performance by limiting root growth, nutrient uptake and water infiltration.

100% of SAW members monitor heavy vehicle operations and take measures to limit heavy vehicle operations in areas at risk of compaction when conditions are wet.

10.5 is the average number of heavy vehicle operations per SAW member this year compared to 10.6 last year.

92% of SAW members monitor soil organic carbon levels and have put measures in place to prevent the loss of organic matter in areas with declining organic matter levels.

Soil organic matter, measured as organic carbon, increases the cation exchange capacity (CEC) and water-holding capacity of soil. It improves soil structure and nutrient availability and buffers soil from changes in pH.

96% of SAW members have a good understanding of the different soil types on their property and have identified degraded, eroded and/or contaminated areas.



‘SOIL PLAYS A VITAL ROLE IN THE EARTH’S ECOSYSTEM. WITHOUT SOIL HUMAN LIFE WOULD BE VERY DIFFICULT. SOIL PROVIDES PLANTS WITH FOOTHOLD FOR THEIR ROOTS AND HOLDS THE NECESSARY NUTRIENTS FOR PLANTS TO GROW; IT FILTERS THE RAINWATER AND REGULATES THE DISCHARGE OF EXCESS RAINWATER, PREVENTING FLOODING; IT IS CAPABLE OF STORING LARGE AMOUNTS OF ORGANIC CARBON; IT BUFFERS AGAINST POLLUTANTS, THUS PROTECTING GROUNDWATER QUALITY.’¹

¹ https://www.isric.online/discover/about_soils/why-are-soils-important



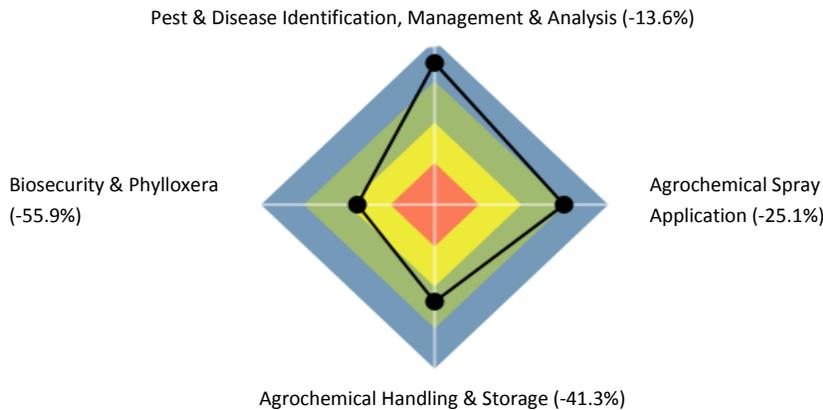
PEST & DISEASE MANAGEMENT

Pest & Disease Management contributes a weighting of 20.3% towards the overall workbook.

Four sub-topics make up the chapter: Pest & Disease Identification, Management & Analysis contributes 24% of the weighting of the chapter, while Agrochemical Spray Application contributes 14%, Agrochemical Handling & Storage 19%, and Biosecurity, Phylloxera and Grapevine Trunk Diseases contributes 43% of the chapter's weighting.

Pest & Disease Identification, Management & Analysis produced the best results in the chapter with a 13.6% gap to reach best practice. Biosecurity & Phylloxera had the weakest result with 55.9% to reach the best practice. Agrochemical Spray Application was 25.1% from best practice.

The region scored **green** for Pest & Disease Management, with a 38.7% gap to reach best practice for the chapter.



'INTEGRATED PEST MANAGEMENT (IPM) IS AN ENVIRONMENTALLY SENSITIVE WAY OF MANAGING PESTS. IT USES A COMBINATION OF PRACTICES AND CONTROL METHODS TO PREVENT PROBLEMS FROM OCCURRING RATHER THAN DEALING WITH THEM AFTER THEY HAVE HAPPENED. IPM PRACTICES INCLUDE FORWARD PLANNING, REGULAR MONITORING AND TIMELY DECISION-MAKING.'¹

¹<http://www.epa.nsw.gov.au/pesticides/integratedpestmgmt.htm>

Effective control of grapevine pests and diseases requires correct identification of the target, the right choice of agrochemical, and the right dose of agrochemical. It also requires equipment that is matched to the target, is well set up and calibrated to ensure good coverage.

For more information, read the GWRDC Spray Application: Grapevines factsheet that can be found on the Wine Australia website.

https://www.wineaustralia.com/getmedia/96f4961d-6bf7-4e05-9612-0f1a18d1c731/201312_Spray-Application-grapevines

57% of SAW members employ contractors to spray their vineyards.

64% of SAW members who spray their own vineyard assess spray coverage during critical times of the season.

100% of SAW members monitor their vineyards for pests and diseases during the season

Timely vineyard monitoring for pests and diseases along with an understanding of pest and disease lifecycles and the influence of weather on pest and disease development is critical for good pest and disease control.



CropWatch



Contact MVGWTA to sign up to regular CropWatch reports and updates and keep abreast of up-to-date pest and disease information for the McLaren Vale region.

Although South Australia is Phylloxera free, Phylloxera still poses a significant threat to our region. Phylloxera can easily be spread to our region by grapevine materials (rootlings, cutting, leaves and stems), soil from a vineyard, movement of machinery, equipment or vehicles, whole grapes, grape products (must and wine) and people and clothing. Preventing the spread of Phylloxera to our region is critical to our region's sustainability.

Best practice farm-gate hygiene can stop the spread of pests and diseases, including phylloxera and declared weeds to keep your own vines, as well as our industry, safe. For best practice farm-gate hygiene guidelines please visit the Vinehealth Australia website

<http://vinehealth.com.au/industry/resources/farm-gate-hygiene/>

67% of SAW members have an entrance sign that advises entrance conditions and restrictions

35% of SAW members do not practice any farm-gate hygiene

A Phylloxera sign at the entrance of your vineyard increases awareness of the risk of Phylloxera. The more awareness there is around Phylloxera, the stronger the fight to prevent it becomes.

SAW members can purchase a phylloxera sign at a discounted price by contacting MVGWTA.

Email grower@mclarenavale.info



CHAPTER RESULTS

BIODIVERSITY MANAGEMENT

Biodiversity Management has a weighting of 13.5% for the SAW workbook. There are three sub-topics within the chapter; Biodiversity Management with a 71% weighting, Biodiversity Survey with a 14% weighting, and Bushfire Management with a 14% weighting.

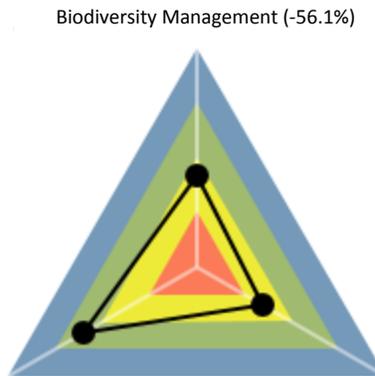
Biodiversity Management continues to be a challenge for SAW members in our region. The region scored **yellow**

for Biodiversity Management with a gap of 55.5% to achieve to reach the 'perfect score'.

At 38.8%, Bushfire Management was the closest to reaching best practice within the chapter. The region was 56.1% away from best practice in the Biodiversity Management section and 69.0% away in the Biodiversity Survey section.



'BIODIVERSITY PROVIDES A RANGE OF 'ECOSYSTEM SERVICES' WHICH HAVE THE POTENTIAL TO IMPROVE VINEYARD HEALTH AND AESTHETICS.'¹



92% OF SAW MEMBERS HAVE STARTED CONSERVING AND ENHANCING THE BIODIVERSITY OF THEIR PROPERTY

Bushfire Management (-38.8%)

Biodiversity Survey (-69.0%)

Biodiversity is the variety of all life forms on earth – the different plants, animals and microorganisms, their genes and the ecosystems of which they are a part. Australia is home to between 600,000 and 700,000 species, many of which are found nowhere else in the world. Changes to the landscape and native habitat because of human activity have put many of these unique species at risk.²

¹ <http://www.environment.gov.au/biodiversity/conservation>

² <https://www.wineaustralia.com/growing-making/vineyard-management/biodiversity>

97% of SAW members have a preference toward using agrochemicals which are less hazardous to beneficial organisms.

92% of SAW members have started conserving the biodiversity of the non-producing areas on their property by starting to eliminate woody and declared weeds.

The McLaren Vale ID Booklets (available in printed or PDF format upon request at MVGWTA) highlight native and/or pest trees, weeds and birds. These booklets can be used to assess your own property or the wider region to take appropriate action eradicating pests, or planting certain grasses or trees to encourage beneficial insects, birds and other wildlife.

Improvement in the biodiversity management requires hands-on effort, financial investment and planning guidance. The McLaren Vale Biodiversity Project is endorsed by MVGWTA, and is a joint venture between McLaren Vale Wine Industry, local community, NRM and the Onkaparinga Council, which provides support and assistance to local landowners to improve biodiversity management on their property. You can get involved with the McLaren Vale Biodiversity Project by contacting the group via their Facebook page

<https://www.facebook.com/pages/Biodiversity-McLaren-Vale-Tree-Planting/681026865318172>

CHAPTER RESULTS

WATER MANAGEMENT

Within the Sustainable Australia Winegrowing workbook, Water Management accounts for 13.5%. The three sub-topics that form the chapter are Water Source & Quality with a 21% weighting, Irrigation Management with a 50% weighting, and Irrigation System & Maintenance with a 29% weighting.

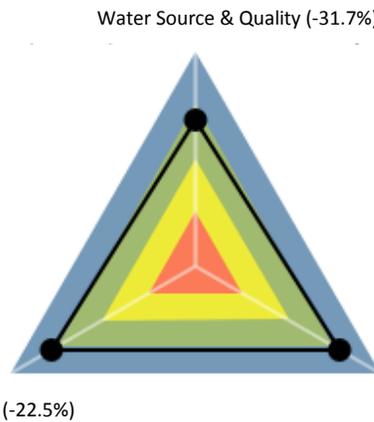
Irrigation Management was the strongest sub-topic, with a 22.3% gap to best practice. Irrigation System &

Maintenance scored similarly at 22.5% from best practice. Water Source & Quality has the most to improve, with 31.7% to best practice.

The region scored **blue** for Water Management with a gap of 24.4% to achieve best practice.



SAW MEMBERS UNDERSTAND THE IMPORTANCE OF WELL-MANAGED IRRIGATION ON VINE HEALTH AND WINE QUALITY.



98% OF SAW MEMBERS HAVE A WATER MANAGEMENT STRATEGY TO ACHIEVE THEIR GRAPE GROWING GOALS

Reclaimed water is wastewater which is captured, treated and reused instead of flowing out to sea. In areas where it is available, reclaimed water is considered the most sustainable water source in McLaren Vale for vineyards where ground water volume or quality is limited.

50% of the vineyard irrigation used in McLaren Vale is from reclaimed water, while 40% is from ground water/bore water and 4.5% is from surface catchment/dam water. This year, 1.3% of the water used to irrigate vineyards in McLaren Vale is SA mains water.

98% of the SAW members who irrigate, review and adjust the volume and frequency of irrigation applications at least three times a week during the growing season based on soil moisture data, local weather forecasts and water availability, cost and quality

98% of SAW members who irrigate, clean their irrigation filters and flush their irrigation lines at the beginning of each season.

76% of SAW members who irrigate, check the distribution uniformity of their irrigation system at the beginning of the growing season by performing dripper output tests and make any necessary adjustments.

The distribution uniformity of an irrigation system can have a big impact on vine health and yield. Checking the distribution uniformity of your irrigation system at the start of each growing season is important to ensure that every vine within your vineyard is receiving the correct amount of irrigation.

CHAPTER RESULTS

WASTE MANAGEMENT

Within the Sustainable Australia Winegrowing workbook, Waste Management has a weighting of 13%. The four sub-topics that form the chapter are Waste Management with a 15% weighting, Waste Management Training with a 7 % weighting, Waste Collection & Recycling with a 52% weighting, and Disposal of Chemicals and Containers with a 26 % weighting.

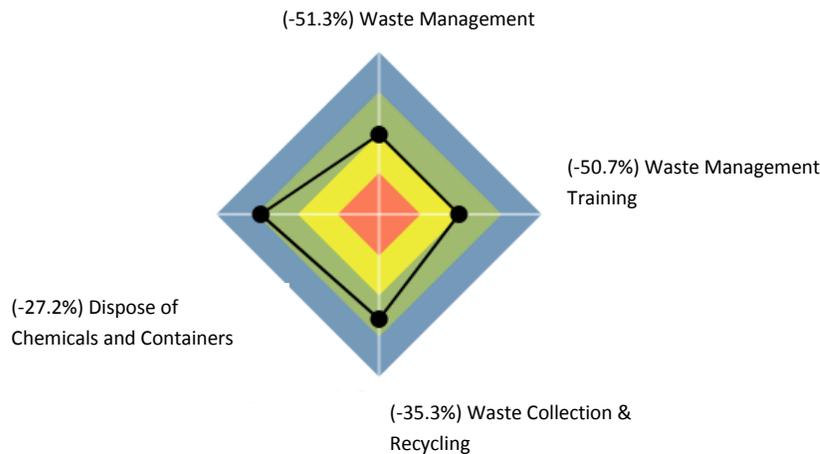
Disposal of Chemicals and Containers was the strongest sub-topic, with a 27.2% gap to best practice. Waste



Management requires the most improvement with a 51.3 % gap to best practice. Waste Collection & Recycling Waste Management scored green at 35.3% away from best practice, and Waste Management Training also scored green at 50.7% away from best practice.

The region scored **green** for Waste Management with a 36.7% gap to best practice.

‘CLOSE TO 1 MILLION TONNES OF WASTE IS STILL DEPOSITED TO LANDFILL FROM METROPOLITAN ADELAIDE EACH YEAR. WASTEFUL CONSUMPTION AND DISPOSAL HABITS ARE NOT SUSTAINABLE BECAUSE THE EARTH’S NATURAL RESOURCES ARE LIMITED.’¹



100% OF SAW MEMBERS TAKE ACTION TO DIVERT WASTE AWAY FROM LANDFILL

The appropriate collection and disposal of unwanted chemicals and empty chemical containers minimises their impact on the environment.

The ChemClear Program is a national chemical collection and disposal service for unwanted agrichemicals. Chemicals are registered for collection on the ChemClear website.

<http://chemclear.com.au/register-your-chemical/>

53% of SAW members store unusable chemicals appropriately for disposal and keep an inventory of all unwanted chemicals.

¹ http://www.epa.sa.gov.au/environmental_info/waste_management

DrumMUSTER is a national program for the collection and recycling of eligible, cleaned chemical containers.

<http://www.drummuster.org.au/>

94% of SAW members who handle chemicals delivered their empty, triple rinsed chemical containers to the nearest drumMUSTER/local council collection centre.

60% of SAW members who generated waste dripline recycled the dripline through the Sustaining Endeavour Recycle Scheme.

For information on the polypipe recycling service that has started in McLaren Vale, visit the Sustaining Endeavour webpage

<http://sustainingendeavour.com.au>

'Each year over half of our household garbage is made up of food and garden waste. Most of this organic waste can be recycled by composting it.'¹

Composting food and garden waste has many benefits. Compost is a rich source of nutrients and organic matter for soil, improving nutrient availability, water holding capacity, water infiltration rate, buffering capacity and reducing water runoff, protecting waterways from erosion and pollution. Composting reduces the amount of organic

waste going to landfill, therefore, reducing greenhouse gas emissions and leachate, which can pollute land, groundwater and waterways.

43% of SAW members who crush grapes on their property, compost the grape marc for use on their property.

¹ <http://www.compostweek.com.au/core/about-composting/>



'COMPOST REQUIRES FAR LESS ENERGY TO PRODUCE 1KG OF NITROGEN COMPARED TO SYNTHETIC NITROGEN.' GLENN MCGOURTY, UNIVERSITY OF CALIFORNIA WINEGROWING AND PLANT SCIENCE ADVISOR



Photo courtesy of Richard Wellmore, Wirra Wirra Vineyards

CHAPTER RESULTS

SOCIAL RELATIONS

The Social Relations chapter has a weighting of 13.5%. There are three sub-topics within the chapter which are weighted as follows: Employees & Contractor Relations at 57%, Community Relations at 14%, and Winery Relations at 29% of the chapter.

Winery Relations was the strongest section with a 22.9%

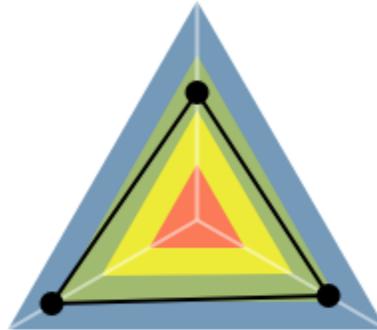
gap to best practice while Employees & Contractor Relations requires the most improvement at 41.7% away from best practice. The region is 31% away from best practice in the Community Relations section.

The region scored **green** for Social Relations with a gap of 34.8% to achieve best practice.



SUSTAINABILITY DOES NOT WORK IN ISOLATION. IT RELIES NOT ONLY ON AN INDIVIDUAL EFFORT BUT A COMMUNITY, REGIONAL AND THE NATIONWIDE EFFORT

(-41.7%) Employees & Contractor Relations



(-22.9%) Winery Relations

(-31.0%) Community Relations

93% OF SAW

MEMBERS CONSIDER ENERGY, MATERIALS AND WATER USAGE AS WELL AS WASTE GENERATION WHEN COMPARING NEW EQUIPMENT.

98% of SAW members currently support one or more community/wine industry initiatives that fosters good relations between growers and community and communicate with their neighbours regularly.

Look out for local seminars and workshops related to viticulture that are advertised in the MVGWTA Weekly Bulletin and the McLaren Vale CropWatch or in the McLaren Vale Grower Development and Engagement Calendar of Events.

While you are taking action by participating in SAW, it is equally important to talk to other growers about the program and the benefits of sustainable farming.

Work health and safety (WHS) is a key management responsibility for every business. A business owner is responsible for making their business safe and ensuring WHS is part of their business planning. Better WHS outcomes also improve the bottom line and help make the business more profitable.

91% of SAW members with employees have Work Health and Safety policy while only **26%** of SAW members without employees have a Work Health and Safety policy

CHAPTER RESULTS

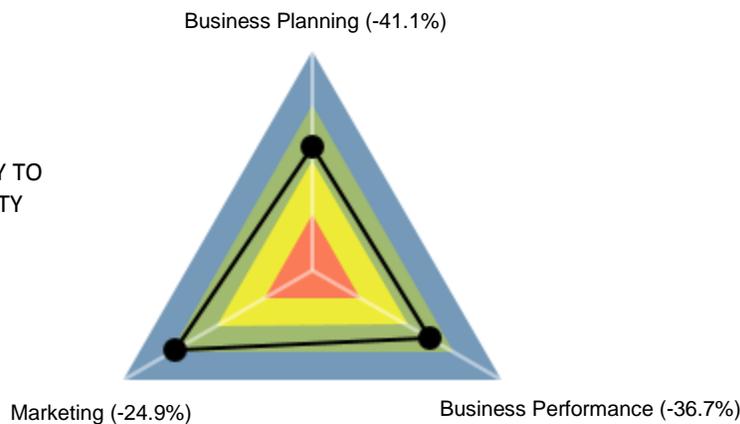
ECONOMIC SUSTAINABILITY

During 2017, the Economic Sustainability chapter was peer reviewed by a group of industry representatives and then reviewed by three independent subject matter experts. As a result, the weighting of this chapter was increased from 1% to 13.5%.

Within the Economic Sustainability chapter there are three sub-topics. These sub-topics and their weightings are Business Planning (36%), Business Performance (43%), and Marketing (21%).

The region performed strongest in the Marketing section with an average score of 24.9% away from best practice. Business Planning requires the most improvement at 41.1% away from best practice while Business Performance was 36.7% away from best practice.

Overall, Economic Sustainability was categorised as **green** with a 35.7% gap to achieve best practice.



92% OF SAW MEMBERS WHO RESPONDED HAVE CONSIDERED BUSINESS CONTINUITY AND HAVE COMMUNICATED PLANS AND KEY INFORMATION WITH KEY STAFF

Fulfilling and maintaining legal responsibilities is crucial when operating a business.

100% of SAW members with employees understand and comply with all legal obligations regarding employees including employment terms and conditions, data privacy, employee safety and migration law.

Risk factors such as drought, bushfire, loss of water entitlements, equipment breakdowns and loss of skilled staff or contractors can impact on business continuity and should be considered, understood and planned for.

98% of SAW members have insurance for issues that they consider a potential risk to the continuity of their business.

71% of SAW members used block performance and profitability information to make vineyard management and capital investment decisions.

SPRAY DIARY RESULTS

The 2017/18 season started with above average rainfall for winter followed by below average rainfall for the remainder of the season in the McLaren Vale region.

Fungal disease pressure (Powdery Mildew and Botrytis) for spring was higher than normal due to “hangover” infections triggered by our spring rain. With dryer summer conditions, the disease level reduced while pest levels remained low to moderate. This trend continued into autumn where disease pressure remained very low and pest levels where low to moderate. (*James Hook, McLaren Vale CropWatch Vintage 2018*).

The table below lists the spray targets, area (ha) sprayed, the percentage area for each spray target, and the average number of spray applications for the season.

Powdery Mildew continues to be the main target for the region, with 93% of the SAW vineyard area being

sprayed.

Downy Mildew is the next most common target, with 83% of the SAW vineyard area being sprayed.

Bunch Rot sprays were applied to 19% of SAW vineyards this season compared to 28% of the vineyard area last season.

The area of vineyard sprayed for Light Brown Apple Moth remained consistent at 9% and the area of vineyard receiving a bud mite spray decreased from 15% to 5%.

The vineyard area sprayed for garden weevil increased from 0.3% last season to 1% this season. The area sprayed for snails stayed relatively consistent at 1% and the area sprayed for scale also remained consistent at 7%.

Spray Target	Area (Ha) 2018	% Area of Members 2018	Average Times
Botrytis bunch rot	702.6	19%	1.5
Bud mite	199.9	5%	1.2
Bunch mite	9.7	0%	1
Downy mildew	3065.4	83%	3.9
Eutypa Dieback	102.8	3%	1.8
Garden weevil	42.4	1%	1
Grapeleaf rust mite	54.7	1%	1
Grapevine scale	272.8	7%	1.6
Herbicide	1081.4	29%	3
Herbicide Spot Spraying	6.4	0%	2.4
Light brown apple moth	344.7	9%	1.1
Mealybug	5.3	0%	1
Nutrition	1744.7	47%	4.6
Phomopsis cane and leaf spot	14.6	0%	1
Plant growth regulators	4.9	0%	1
Powdery mildew	3443.8	93%	6.7
Rust Mite	163.9	4%	1.6
Snail	49.3	1%	1
Wetting/Adjuvant Agent	1127.4	31%	
(Not matched)	935.1	25%	3.5
(Unspecified)	44.6	1%	2.6

Important Notes

* Because the data is captured retrospectively after vintage each year, many growers did not include all herbicide sprays in the SAW spray diary module.

* *The system only allows the capture of nutrition through foliar sprays. Some growers might have used composts or liquid fertilisers through drip lines (fertigation).

*** In most situations, targets were placed automatically into the unmatched or unspecified categories because of misspellings in the importing process from other spray diaries maintained by growers, either certified or un-certified.

ACHIEVEMENTS

SUSTAINABLE AUSTRALIA WINEGROWING ACHIEVEMENTS FOR 2017-18

INCREASED AREA UNDER VINE

The membership in McLaren Vale remained similar from 130 to 129 this year (- 1%), however the vineyard area under vine represented in SAW increased from 3,227 hectares to 3,670 hectares which is a 14% increase. This increase can largely be attributed to the inclusion of Tinlins McLaren Vale Vineyards in the program.

INCREASED CRUSH

The SAW program now contributes 72% of McLaren Vales total crush. This represents a significant proportion of winegrapes in the region that are grown in vineyards that use the program to assess and improve practices.

ENTWINE ACCREDITATION

We are pleased to announce that Sustainable Australia Winegrowing continues to be an approved 'pathway' program to Entwine membership.

INCREASED MARKETNG COLLATERAL

Vineyard signs, consumer flyers and participation certificates are now available to program members to acknowledge their support of the program and promote awareness in the region. These are available in hard copy form to all program members as well as being available for download by signing in to the industry portal of the MVGWTA webpage

<https://mclarenvale.info/members-portal>

GOALS

SUSTAINABLE AUSTRALIA WINEGROWING GOALS FOR 2018-19

INCREASE MEMBERSHIP

Sustainable Australia Winegrowing will continue to engage with growers in McLaren Vale and other regions in Australia to increase the support and uptake of the program at a regional, state and national level.

SINGLE NATIONAL SUATAINABILITY PROGRAM

The McLaren Vale Grape Wine and Tourism Association will continue to work with industry bodies and key stakeholders to develop a single national sustainability program. Please refer to following update from MVGWTA General Manager, Jennifer Lynch.

DEVELOPMENT OF A SINGLE NATIONAL SUSTAINABILITY PROGRAM

GENERAL UPDATE

Prepared by: Jennifer Lynch, General Manager MVGWTA

Date: September 2018

Throughout 2017, the Australian Wine Research Institute (AWRI) and the McLaren Vale Grape Wine and Tourism Association (MVGWTA) worked together to develop a single national sustainability program – one that is simple, efficient, inexpensive and can deliver tangible benefits to all Australian vineyards and wineries.

The proposed program strongly considered and sought to address the two major weaknesses of our sector's current sustainability arrangements: the fragmentation of the existing framework and the lack of integration with industry marketing programs.

The proposed solution was presented to Wine Australia (WA), the Winemakers' Federation of Australia (WFA) and Australian Vignerons (AV) in April 2017, and received in-principle support.

Having made this positive progress, all five bodies jointly agreed that conducting a holistic independent review of the current global sustainability landscape would be beneficial to ensure that the proposed solution provides Australian grape and wine producers with the ability to exceed current global sustainability standards and to identify any alternative models worthy of consideration.

The review sought to understand:

- What are the global drivers for sustainability?
- What are the current drivers of international demand for demonstrating sustainability credentials?
- What should an Australian grape and wine sector sustainability program look like?
- What are the barriers to adoption of sustainability systems by either grape growers or wine producers and how can such impediments be overcome?
- How should Australian wine's sustainability credentials be communicated to the market?

Independent review – Report and Recommendations

An independent review of 'Australian wine's place in the global sustainability landscape' was undertaken by Philip Manson between mid-September and mid-December 2017.

The review's methodology was systematic and comprehensive. The research included 65 interviews with a diverse selection of industry personnel– both in Australia and overseas – including independent growers, regional associations, international buying managers (trade customers), national bodies and marketing and finance executives. The final report is highly detailed and includes 31 recommendations for future research, development, member engagement and marketing.

In brief, the report recommends that:

[1] The Australian wine sector should proceed with implementation of a single National Sustainability Program (NSP) based on the existing SAW and Entwine resources, supported by robust verification services.

[2] The NSP should be established under formal joint ownership of all the national industry bodies.

[3] Sustainability should be integrated into all global marketing activity undertaken by the Australian wine sector. In particular, Wine Australia should increase the profile of sustainability in its promotional activities.

All report recommendations have been considered in detail by a steering committee comprised of representatives from the AWRI, AV, MVGWTA, WA and WFA, and agreement on an appropriate governance and administration structure for the NSP was reached during discussions over the past three months.

Proposed Governance and Administration Structure

All of the national bodies will remain actively involved in the governance of the NSP. It is currently proposed that leadership in governance and strategic oversight of the program will be provided by AV and WFA with support from an industry advisory group. The program will be jointly administered by the AWRI (which will provide administration, technical support and membership services) and WA (which will deliver marketing and market access services).

It is proposed that the structure be trialled for 12 months from when the NSP is implemented and then reviewed after the first year.

Timeframes for Implementation

An implementation date is yet to be identified; however, the steering committee acknowledges that the NSP will ideally be launched within the coming 12 months, and as such participants of existing sustainability programs will need time to transition.

Next Steps

A draft three-year business plan, including governance structures, milestones and outcomes, future funding requirements, marketing and auditing is under development and will be duly considered prior to implementation.

The business plan was provided in late May to the boards of Australian Vignerons and the Winemakers' Federation of Australia for endorsement. Both boards considered the plan at their June meetings (late June) and have requested further detail as well as provided suggestions of additional elements for consideration.

GET INVOLVED

JOIN

Become a Sustainable Australia Winegrowing member and start working towards a more sustainable future.

SHARE

Talk to other growers about the Sustainable Australia Winegrowing program and the benefits of sustainable farming.

VOLUNTEER

Help increase the biodiversity of the McLaren Vale region by joining the McLaren Vale Biodiversity Group and/or other community revegetation groups.

ATTEND

Attend Sustainable Australia Winegrowing events and workshops to keep up-to-date with the latest news and industry best practice developments. SAW events are advertised in the MVGWTA Weekly Bulletin and CropWatch.



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