

2021 Grove Census Harvest Data

Introduction

As always, Olives New Zealand is most appreciative of members who took the time to complete and return their 2021 Grove Census forms, even when this was to report “No Harvest”. The data contained in the following report is made available to national and international organisations and researchers. It is therefore very important that the information is as complete as is possible. The benefits to the individual groves in relation to monitoring their own performance and being able to benchmark regionally and nationally is also very important.

The 2021 harvest year was a good year for the majority of groves, with harvest tonnage up on the previous two years. Some groves harvested wonderful crops, 30-40kgs from Picual and 25-28kg from Koroneiki.

There was also a new record set for Certifications, with 218 oils submitted.

Several groves expressed frustration that their harvest potential was not realised. The most common complaint being harvesting/harvester issues. This included being forced to harvest earlier than desired, which impacts on the volume harvested, because unripe fruit won't shake off, and also on oil yield, which is lower than for ripe fruit. Conversely other groves reported that fruit dropped off their trees while they waited for a commercial harvester to be available. There were also the usual issues of birds and frost, with Central Otago reporting approximately 2/3 of the region's crop was frosted.

Some 17% of groves reported “No Harvest” and it is assumed that a number of those who did not respond also had no harvest.

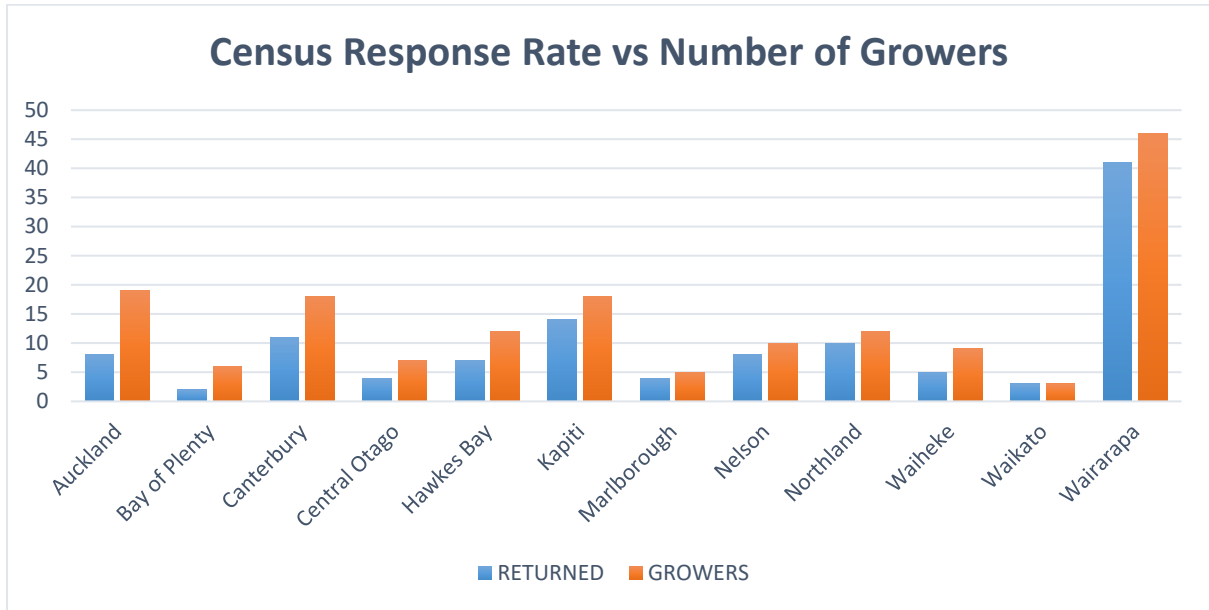
The overall quality of EVOO produced continues to be excellent with 98% of oils submitted for Certification being classified as Extra Virgin. The quality of the 2021 harvest was further recognised in the New Zealand Extra Virgin Olive Oil Awards, where almost half of all entries achieved Gold medals.

For the first time since harvest data records have been produced, almost half of the groves that had a harvest, harvested more than 10kg per tree on average across their grove. Folk, we are going in the right direction!

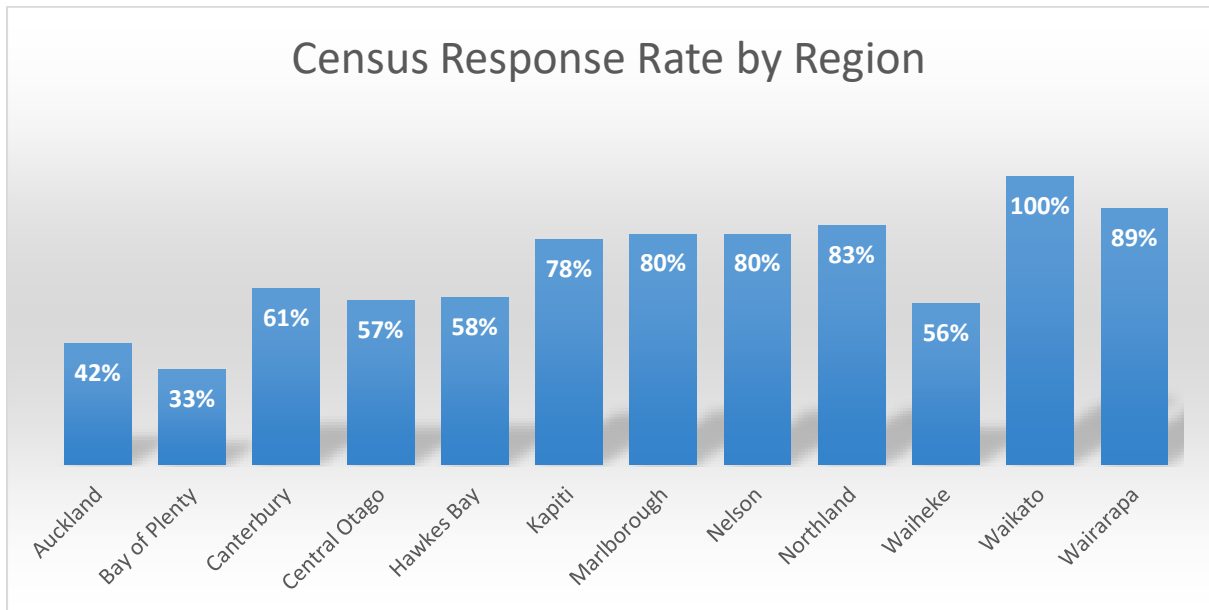
Responses by Region

The 2021 harvest census had a response rate of 62% (101 out of 163 groves) similar to 2020. None of the super groves responded. The super groves range from 9,000 to 40,000 trees and total approximately 94,000 trees. Collectively the super groves represent almost 30% of the trees in the database and therefore could impact significantly on the reports produced. However on a positive note, this report represents the majority of Olives New Zealand members.

The response rate vs number of growers is shown on the following chart.

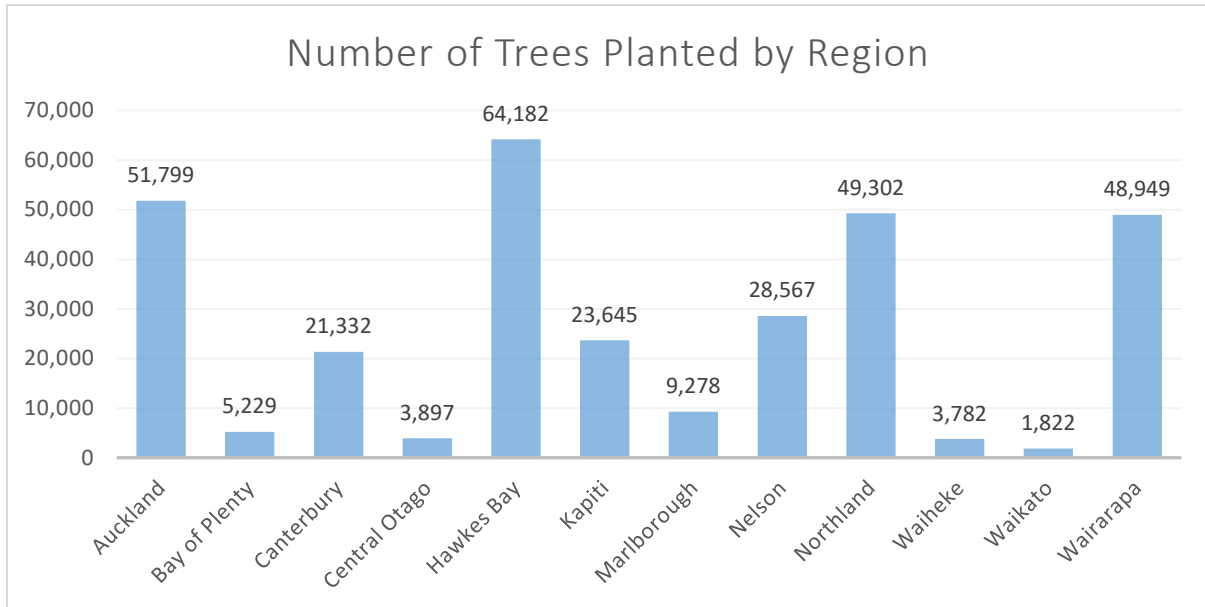


The response rate by region is shown on the following chart.



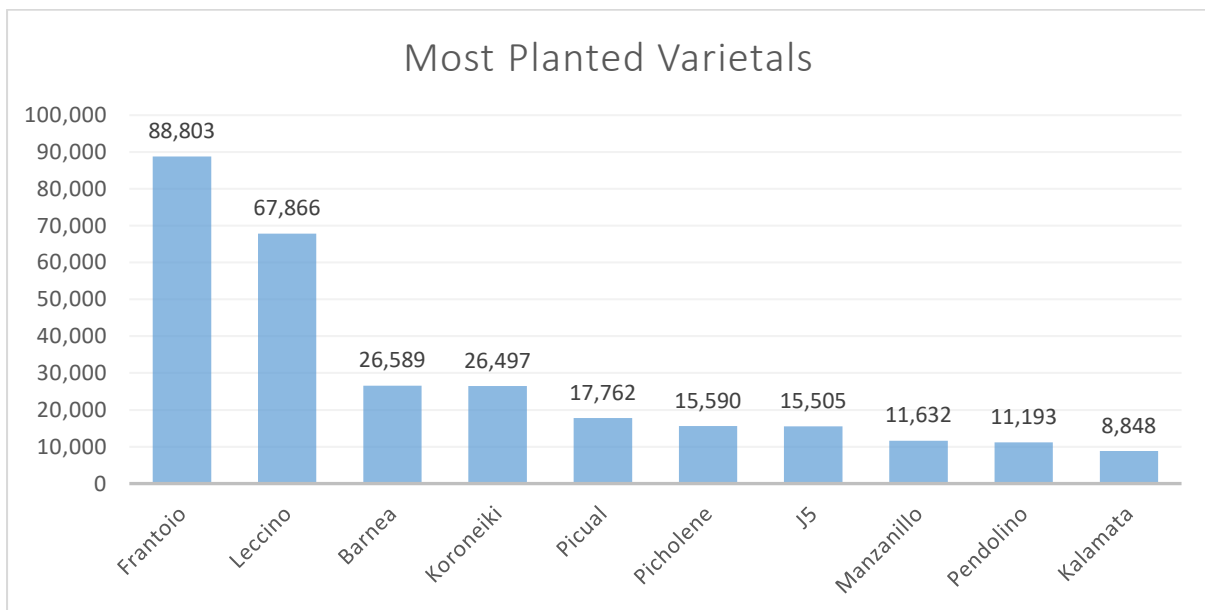
Trees Planted by Region

There is a total of approximately 312,000 trees recorded in the database. Hawke's Bay is the region with the largest number of trees, followed by Auckland, Northland and Wairarapa. There is now a much more even spread across these four regions. The following chart shows total trees recorded by region.



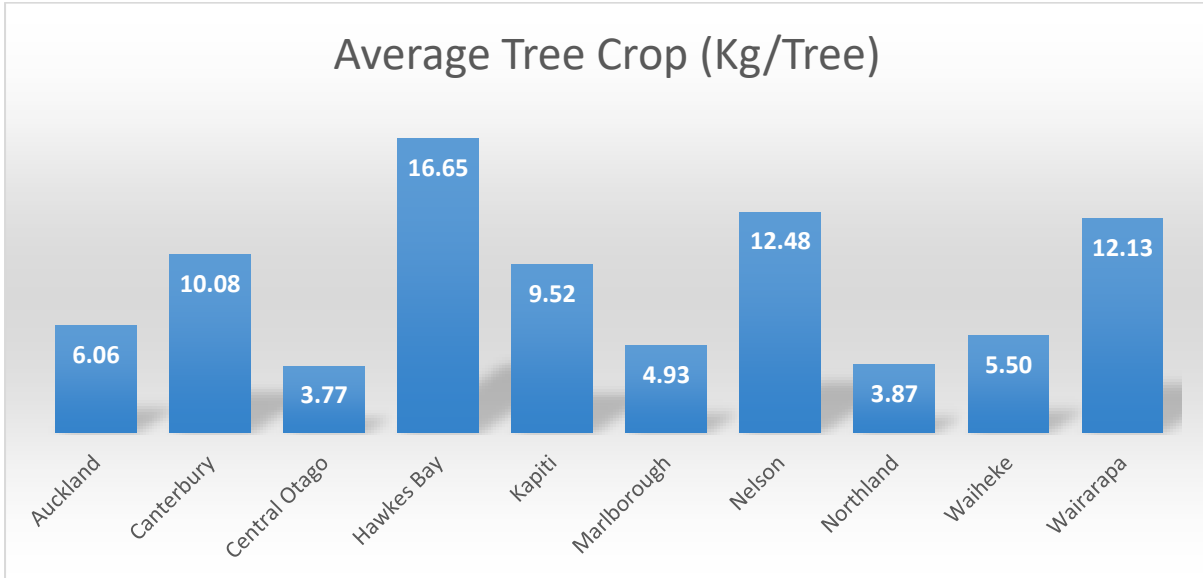
Most Planted Varietals

Frantoio is the most planted varietal across the country, followed by Leccino. The following chart shows the ten most planted varietals.



Crop by Region

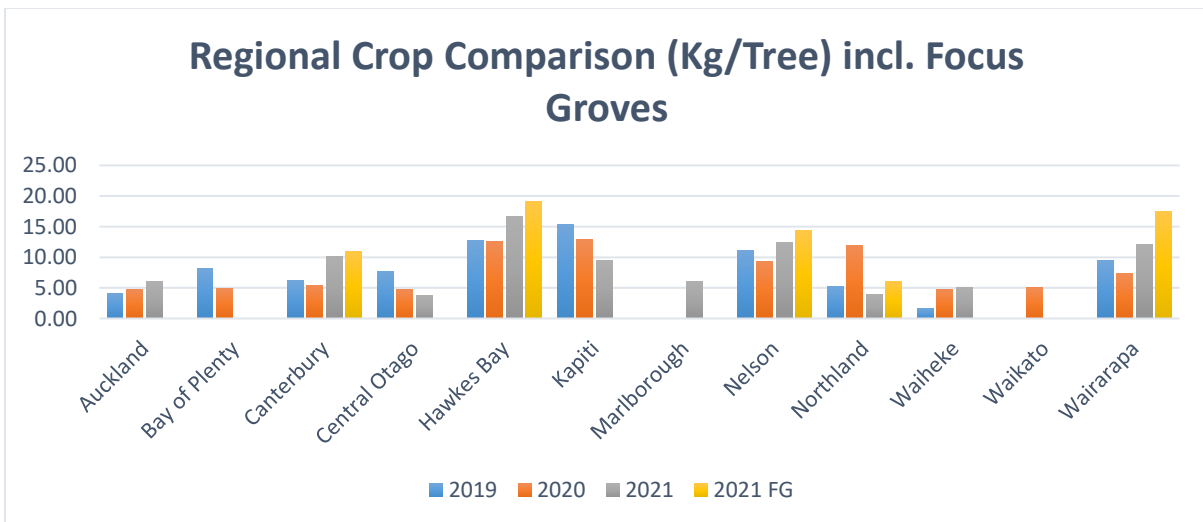
There was significant variation in the crops harvested in 2021 across the growing regions. The three top performing regions all include groves following the Focus Grove recommendations. Hawke’s Bay shows a very good average crop, followed by Nelson and Wairarapa. The national average has increased to 10.93kg per tree, up from less than 10kg in the past.



In 2021 four regions have produced an average greater than 10kg per tree – Hawke’s Bay, Nelson, Wairarapa and Canterbury.

Average Crop 2017 - 2021

The average crop harvested compared to previous years was up in most regions, except Central Otago (frost), Kapiti and Northland. The Focus Grove blocks have out-performed within their regions, despite some challenges.



Top Individual Crop by Region

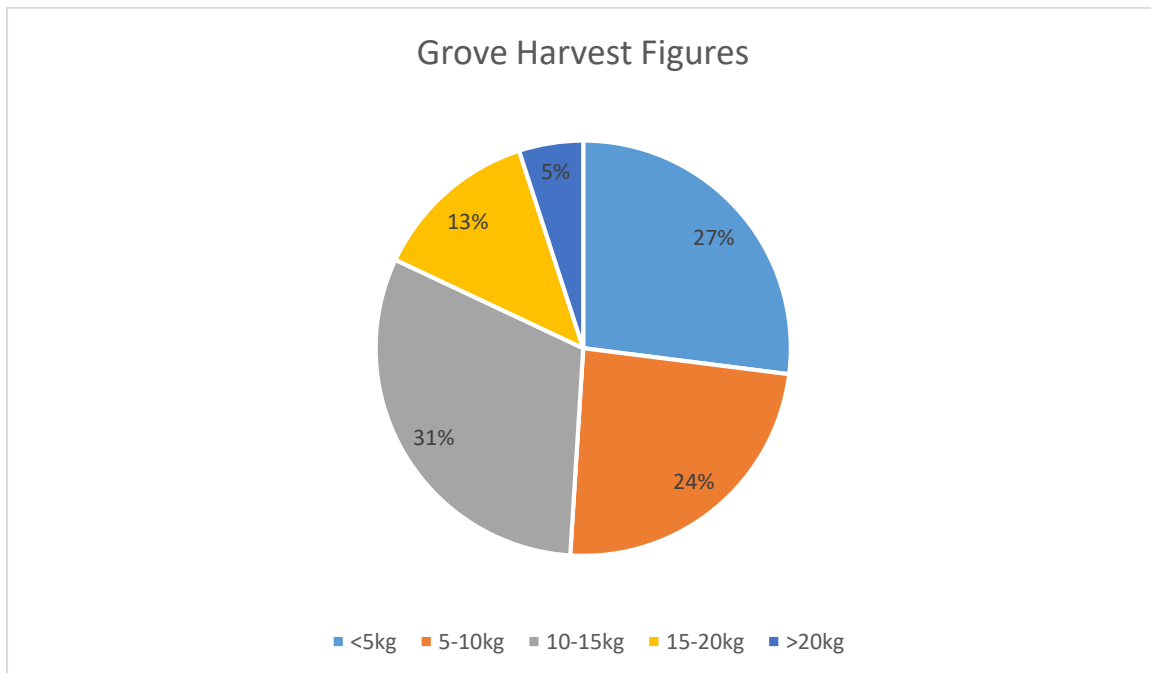
Best cropping variety across regions in 2021 has not been as varied as in the past. There were impressive crops from Picual in particular.

Region	2018		2019		2020		2021	
	Kgs	Variety	Kgs	Variety	Kgs	Variety	Kgs	Variety
Auckland	29.69	Nocellara	9.16	Leccino	6.17	J5	12.35	J5
BoP			20.20	Leccino	12.12	Leccino	n/a	
Canterbury	29.75	Leccino	21.59	Picual	25.18	Picholene	26.83	Picual
Central Otago	10.63	Leccino	10.57	Leccino	8.00	Leccino	6	Leccino
Hawkes Bay	37.54	Picual	32.46	Picual	29.33	Picual	35.56	Picual
Kapiti	50.50	Frantoio	38.15	Frantoio	26.08	Picholene	27.85	Picual
Nelson	48.28	Verdale	26.86	Picual	17.74	Minerva	35.23	Picual
Northland	38.31	J5	19.03	Frantoio	23.25	J5	9.17	Koroneiki
Waiheke	13.89	Manzanillo	5.46	Pendolino	18.82	J5	14.93	Koroneiki
Waikato	23.87	Picual			7.90	Frantoio	n/a	
Wairarapa	31.82	Picholene	25.23	Picual	34.44	Koroneiki	39.15	Picual

Where no individual varietal figure is available this is shown as blank. This is typically because smaller groves tend to harvest all varieties together.

Crop by Grove

For the first time since harvest data records have been produced, almost half of the groves that had a harvest, harvested more than 10kg per tree on average across their grove. Some 17 groves reported No Harvest. The 2021 grove harvest figures are shown below.



Organic Groves

There are only four groves known to be formally registered as organic or similar; two in Wairarapa, one each in Kapiti and Marlborough. Another in Kapiti is close to completing registration. As these groves are typically still working on their regimes, it is not appropriate for their data to be included separately in this report.

Spray Programmes

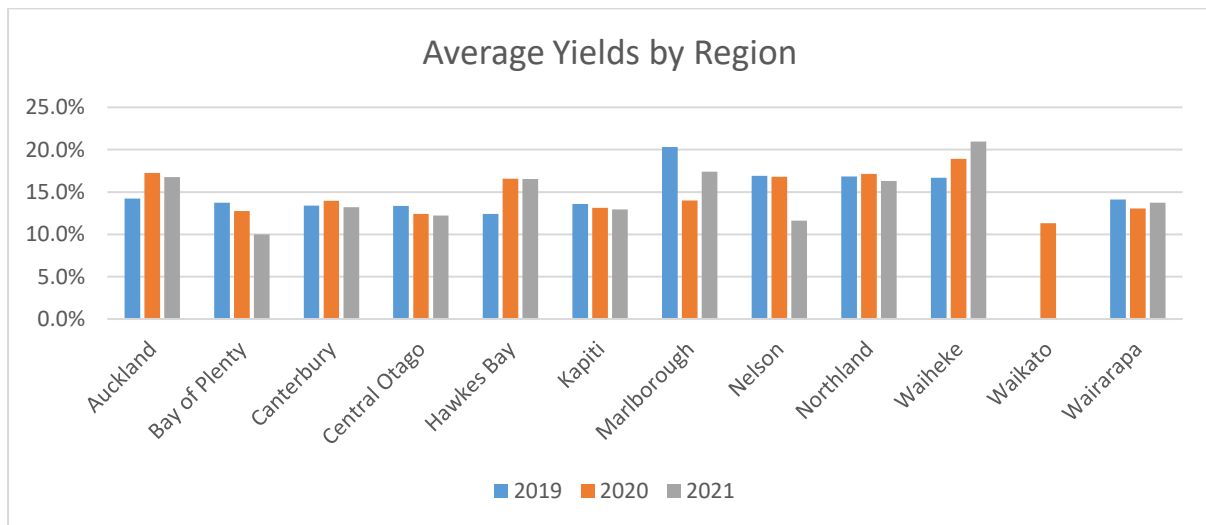
Approximately 41 or 41% of groves now have a spray programme. The main diseases that are sprayed for are Peacock Spot and Anthracnose; 38 groves spray to control Peacock Spot and 28 groves spray to control Anthracnose. As per the Focus Grove Project recommendations, Manzate is the most widely used spray, used by 33 groves, and Protek is also used by 18 groves. A number of groves are still using Difference which is no longer recommended as it did not appear to be effective in controlling Anthracnose.

Table Olive Production

There were 3.7 tonnes of table olives produced in 2021, less than half that produced in 2020. The largest production was from Wairarapa. The only regions that produce reasonable quantities of table olives are Canterbury, Hawke’s Bay and Wairarapa.

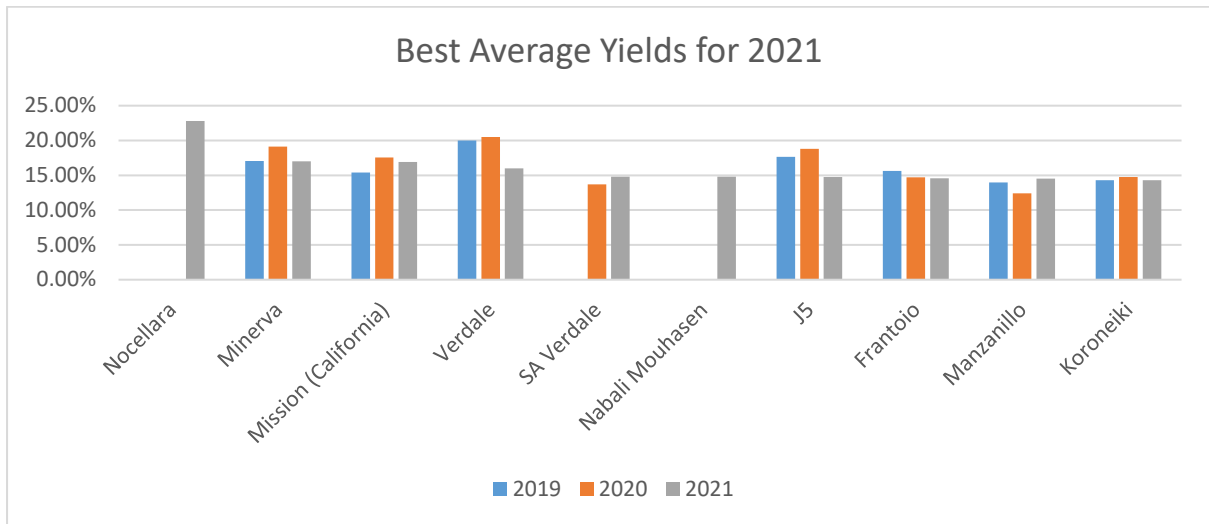
Average Oil Yield by Region

Oil yield percentage in 2021 was fairly similar in most regions to 2020, except for Marlborough and Waiheke Island which were up. The national average was 13.84% compared with 14.43% in 2020.



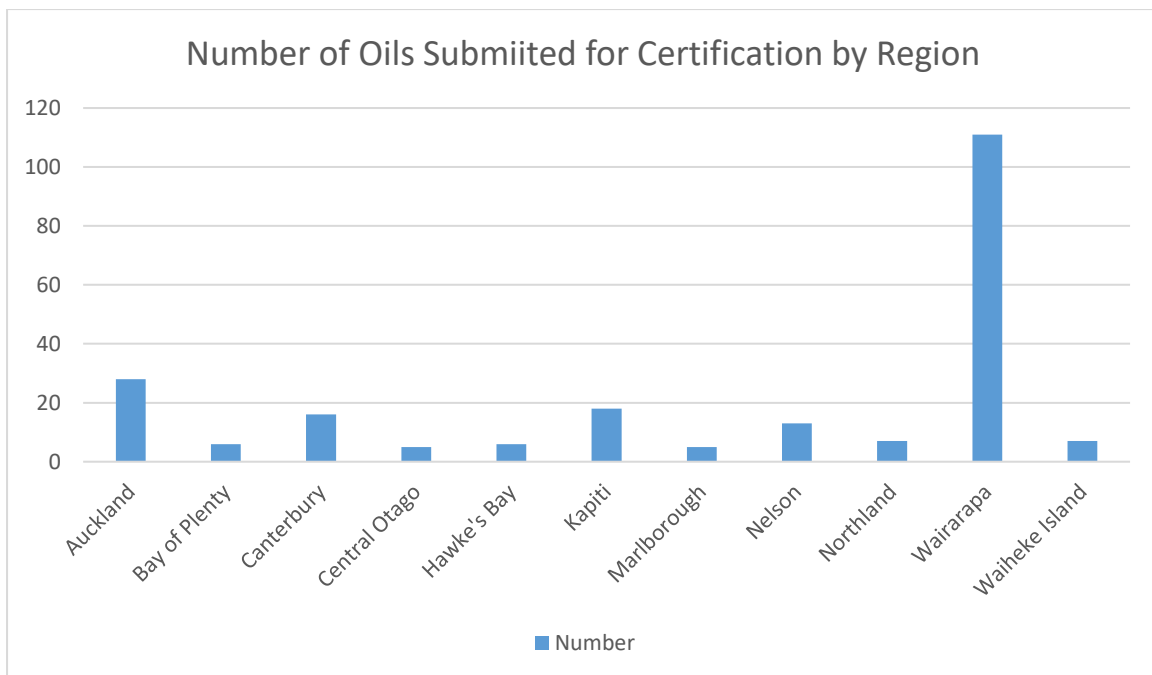
Best Average Yield by Variety

The average oil yields in 2021 were typically a little down on 2020. The highest average yield was Nocellara at 22.8% followed by Minerva at 17% and Mission (California) at 16.9%.



Certification Summary Data

Some 218 oils were submitted for certification in 2020 with only 4 not meeting Certification standard. Failing to meet the full chemical parameters, rather than having defects. The following chart shows the number of oils submitted for certification by region.



The overall range and average for all certification measures in 2021 were as follows.

2021 EVOO CERTIFICATION DATA SUMMARY

CHEMICAL ASSESSMENT	Lowest	Highest	Median	Average
Free Fatty Acid	0.02	0.56	0.17	0.19
Peroxide Value	3.90	12.40	7.40	7.49
Polyphenol Content	111	342	267	268
UV Absorption				
Delta K	< 0.01	< 0.01	< 0.01	< 0.01
232 Nm	1.25	7.73	1.72	1.76
268 Nm	0.06	0.15	0.11	0.11
SENSORY/ORGANOLEPTIC				
Fruity	3.30	6.50	5.05	5.27
Bitter	2.00	4.50	3.00	3.15
Pungent	2.00	5.00	3.00	3.25

The intensity spread based on Polyphenols (PPs) for 2021 was only one oil as Mild, 86% Medium and 13% Intense. In 2020 this was less than 5% Mild, 41% Medium and 54% Intense. So 2021 was quite a different year from 2020. There is a school of thought that PPs will vary according to crop load. That is a heavy crop load will result in lower PPs than a lighter crop load. There is data to support this line of thought in the Olives NZ Grove Census Reports. However, this is an area where more information is required as an increasing number of growers focus on higher Polyphenols. No doubt driven by consumer awareness that higher Polyphenol oil is purported to have higher health benefits.

Summary

It is rewarding to see that average grove production has increased from substantially less than 10kg per tree to almost half of groves reporting greater than 10kg average.

The Focus Groves continue to lead the way with grove management practices, as do other groves that are following the same practices. These groves typically report improved harvests year on year, despite the (weather) events out of their control.

The improvement in quality of NZ EVOO is rewarding and supports the value of the Focus Grove Field Days and the Processing Practices Workshops, in particular.

Olives New Zealand thanks the growers who returned their 2021 harvest data.