

SFF&F Project 19025 – Meeting the increasing demand for New Zealand Extra Virgin Olive Oil

Milestone MS06 Focus Grove and Field Days Report

March 2022

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Introduction

The purpose of this Sustainable Food and Fibres Futures project is:

To increase the production of established olive groves to meet the increasing demand for New Zealand Extra Virgin Olive Oil. The target is an additional 5kg (20%) per tree.

A second objective is to develop an alternate/more organic approach to improving grove production.

The project used five focus groves in each main growing region that had demonstrated a commitment to best practice principles. These groves had already implemented the recommendations of the previous Sustainable Farming Fund Project and had demonstrated their success. They then implemented and trialed new approaches under the new project, measured outcomes and hosted field days to share their experiences with other growers.

The project intended to include a number of groves who wished to trial an alternative or more organic approach to improving tree health and benefit from increased crop loads. After Olives New Zealand developed the relevant Organic Approach Fact Sheet the groves interested in becoming organic withdrew their commitment. It would appear that some were under the misapprehension that being organic meant less or no work. Fortunately there was one grove in the Wairarapa that was committed to an organic approach and was working their way towards full organic registration. Bella Olea implemented new approaches, measured outcomes and hosted field days to share their experiences with other growers. More latterly one of the original groves, Leafyridge also in the Wairarapa, has converted a block in their grove to the organic approach developed by Olives NZ

The Project used expert tree crops horticultural advice focusing in four key aspects of grove management.

1. Introducing practical, affordable tree pruning regimes that improve light distribution for stimulating flowering and fruit growth, aiding effective spray coverage and inducing adequate annual shoot growth to provide the required bud sites for new flower production – on an annual basis.
2. Introducing an appropriate nutritional programme that will ensure there are sufficient nutrients for plant growth which will impact on yield.
3. Improving tree health by disease control using affordable Protectant spray programmes to manage foliage diseases that defoliate olive trees, a primary cause of low productivity in NZ groves.
4. Developing an alternate/more organic programme methodologies that will improve tree health to manage foliage diseases as above.

This report outlines the progress made by the Focus Groves and is based on the sixth round of Focus Grove visits and Field Days held in March 2022, carried out by the specialist consultant engaged as part of the project; Dr Stuart Tustin ex Plant and Food Research. This was the last round of Focus Grove visits except there will be a subsequent visit to Northland because that region did not have any visits in 2021 due to weather and COVID constraints.

There were some common topics covered off at all Field Days.

1. Go hard approach to pruning and tree regeneration. The conservative approach to pruning holds back a grove and trials have shown that hard pruning brings about quicker results for regeneration and improved crop load.
2. The disease management program of applying Protectant sprays every 20 days or before and after rain, has resulted in wet weather diseases being suppressed.
3. Fertiliser should only be applied on as needed basis, determined by soil and leaf tests.
4. Glyphosate use has been reduced by 50% typically across most olive groves in New Zealand.
5. Some groves who harvested late in 2021 or not at all, reported little flowering this year. Stuart Tustin found an Australian RIRDC report suggesting delayed harvesting can affect the following year's fruit set. This publication shows a direct link between protracting harvest after the optimum time to crop potential loss for the next year. See: <https://www.olivesnz.org.nz/members-news/fact-sheets/guide-to-efficient-olive-harvesting/>
6. While this current project is due to finish in November 2022, there has been consensus feedback that similar types of field days need to continue and using appropriate expertise.
7. There have been a number of future project proposals received by the Olives NZ Executive and these were spoken to at the Annual General Meeting on 20 March. Members of Olives NZ are encouraged to read the briefing papers and provide feedback via their Branch Chair or directly to the Executive or Executive Officer. <https://www.olivesnz.org.nz/members-news/minutes/agm-minutes/2022-agm-agenda-and-project-proposals/>

This potentially last round of Field Days was attended by a number of non-members of Olives New Zealand, in addition to a good spread of members attending local and other regions, as well industry contractors. For example, Neil Smith attended all of the Field Days. Neil provides a valuable service to the industry offering pruning, harvesting and other grove management services. He made a valuable contribution to the Field Days, adding from his own experience and was most willing to share his knowledge. Garry Burlace from Horticulture attended the Wairarapa and Hawke's Bay Field Days and also offered excellent advice based on his strong background in horticulture.

There has been an ongoing and increased interest in sustainable practices. For more information see <https://www.olivesnz.org.nz/about/the-new-zealand-olive-industry-contributing-to-the-environment/>

This report is based on the comments from the Focus Grove visits by the project consultant, Branch Chairs, Focus Grove owners and other Field Day attendees. The assistance of all in compiling this report is much appreciated.

Focus Groves Status

Nelson

The Focus Grove visits and Field Days were held on Monday 14 March. Neil Smith from Northland attended both grove visits.

Previously Neudorf Olives has been part of the Project and following a reduced Manzate spray programme. This grove was sold in 2021 and the new owners had requested that the spray programme be ceased at that point. The Field Day provided an opportunity to return to Neudorf and discuss future options with the new owners.

Details of the two groves visited are below.

Kakariki Olives, Redwood Valley

Ray and Brenda Gregory welcomed 13 people to their grove. Kakariki is one of the original Focus Groves so has benefitted from following the disease management and canopy management programmes for around six years. It is a commercial grove of more than 3,000 trees which is fully integrated. That is, from grove management through harvesting and processing. Kakariki has consistently been a top producing grove as well as producing Gold medal winning oil. Including at the New York International Olive Oil Competition along with the New Zealand Extra Virgin Olive Oil Awards. As well as producing top winning Extra Virgin Olive Oil, Kakariki also produces Gold medal flavoured oils.

Disease Management

Rains following 2021 harvest had impacted on the spray program because it was impossible to get out into the grove. This resulted in some signs of Peacock Spot and Anthracnose being noted at the October Field Day. Stuart had recommended the addition of an eradicant to the next Manzate applications to provide a rapid response to the diseases. Accordingly Ray had applied two rounds of Score with Manzate and that had pretty much addressed the problem. There was very little disease noted on this visit.

At flowering Ray did the recommended three applications of Protek 10 days apart. The first and third applications also had Boron added.

Canopy Management

Post-harvest pruning was a continuation of major limb removal and most trees now have just one original limb left. Currently half way through a second prune removing stump regrowth and thinning new growth where it is needed.

Nutrition

Following last Field Day and soil test, Ray and Brenda applied 80kgs per hectare of Blaukorn Classic. This product is a granulated solid inorganic macronutrient fertilizer for crops with high K demand. It is rich in potassium and offers a moderate proportion of phosphate. Also applied was dolomite to increase magnesium and calcium.

The latest leaf test was done in February and showed a low nitrogen content. Accordingly Ray and Brenda are mixing 4Kgs per hectare of Low Biuret Urea with the Manzate to

improve the nitrogen deficiency. This will continue to be added for 3-4 applications. This should help fruit growth and set up the trees for next year.

Crop Load

Ray and Brenda reported a poor flowering season on 80% of the grove with 20% not producing any flowers at all.

The possible reasons could have been four months with no Protection on trees due to weather, as above, or secondly, perhaps the late harvest (due to COVID delays to mechanical repairs to the harvester) has put trees into a low crop biennial mode. Particularly there was no fruit on five rows of olives which were not harvested until August, or not harvested at all. This was because of harvester issues. Brenda and Ray reported that these trees just failed to flower, against all normal expectations for their condition and growth.

Stuart has found an Australian RIRDC report suggesting delayed harvesting can affect the following year's fruit set. <https://www.olivesnz.org.nz/members-news/fact-sheets/guide-to-efficient-olive-harvesting/>

This publication shows a direct link between protracting or delayed harvest after the optimum time to crop potential loss (reduction in flowering) for the next year. There is a wealth of other knowledge and advice in this publication.

There was a great fruit set on Focus Grove Frantoio block and good extension growth, 15cm from fruit to new growing tip. This block had been harvested efficiently at the optimum time. Comparing the different areas of the grove, our conclusions were that the cause of poor flowering was most likely due to very delayed or no harvest since this correlated with the areas of the grove that expressed low flowering.

Kakariki once again provided a delicious BBQ lunch and members brought along a plate. This lunch is always enjoyed by attendees. Many thanks to Ray and Brenda for arranging these BBQs and also hosting Stuart and Gayle on the visits and being their chauffeur. As one attendee said "It is always enjoyable to catch up informally after the work has been done".



Out in the grove at Kakariki



Stuart showing Ray good extension growth



Stuart discussing reasons for poor flowering



Kakariki owners – Ray and Brenda Gregory



After the mahi – lunch!

Neudorf Olive Grove

New owners Nik and Fiona Elbrecht welcomed 14 people to Neudorf Olives.

Previous owner, Susan Pine summarised grove management prior to handover to the new owners. The grove has 1300 trees comprising 300 Koroneiki, 550 Frantoio and 450 Leccino. Susan has applied foliar fertilizer sprays GrowMore and Finish-it, and up to 12 months ago had used Manzate, but only prior to rain. Susan prunes the skirts and suckers three times per year. She noted that the grove has a better crop this year than usual. Birds can be a problem and take the Frantoio first then the Koroneiki. They dislike the Leccino.

Nick said he wants to continue for a year with Susan's management approach but with a few Wiltshire sheep grazing under canopy. Stuart said that Bella Olea in Wairarapa uses sheep too and you just have to watch them as they can attack the bark and also eat new shoots. It was noted that Neudorf uses ground nets for harvest so should allow 3-4 months, maybe up to 6 months, without sheep prior to harvest to avoid contamination of nets and fruit.

Disease Management

Wind has helped reduce disease.

There were signs of Peacock Spot and Anthracnose and Stuart was concerned these would exacerbate without any disease management. There were also signs of leaf loss developing.

Canopy Management

Susan said her three criteria for pruning are allowing light in, wind through and branches to hook branch shaker onto for hand harvesting. It was noted that there was good extension growth on the Frantoio, some leaf loss but vigorous trees all round. However the Koroneiki has lots of straggly deadwood.

Stuart showed how to remove regrowth from centre of trees to open the centre to light.

Nutrition

Stuart said that applying fertiliser is best done Oct-Nov as any earlier may result in some runoff or loss of soluble fertilizer through the soil profile. Stuart said many of the Focus Grove leaf tests have shown the need for magnesium and nitrogen. Susan said her fertiliser regime has been almost exclusively foliar in the past 15 years

2022 Crop

The grove looks as though it has probably the best crop in the time it has been visited. There is particularly a great crop on the Frantoio but Stuart pointed out more individual fruits than the clusters of fruit seen at Kakariki. Stuart thinks this is caused by some presence of low level Anthracnose disease.

Other

The Neudorf Oliomio press processes 100 kg/hour so it keeps up with the hand harvesters. Machine harvesting would produce too much fruit at one time. Harvest starts mid-June until the first week of July. Susan doesn't wash the fruit, hence the need to ensure no contamination off the ground.

Thank you very much Nik and Fiona for allowing us to visit and good luck with the grove.



In the grove at Neudorf, new owner Nik on the left



Discussing crop load



Nice fruit but sparse



Stuart talking about opening up the tree



Stuart showing how pruning has opened up the tree



Stuart taking about pruning for hand harvesters vs machine harvesters

Canterbury

More than 25 people attended the Canterbury Field Days on Tuesday 15th March. As well as a couple of new members and potential new members, Neil Smith from Northland also joined us.

Branch Chair and Olives NZ Executive member Alan Blakemore welcomed all and said that the programme for the day was first to revisit Two Old Soldiers to see how the grove rejuvenation was coming on, then back to Terrace Edge for lunch before going out into the olive grove and then finally onto Athena Olives, which was now under new ownership.

Two Old Soldiers, Waipara Valley

Two Old Soldiers Grove, across the road from Terrace Edge, is owned by Gordon Legge and Louise Webb. This was to enable a review of the progress on the grove since October. The grove had previously been neglected and a major rejuvenation programme was underway.

Disease Management

Gordon said the current focus is on restructuring the grove so they have not implemented a disease management programme yet. Stuart said Gordon should now start on disease control so as not to lose the progress made with the restructuring underway.

Canopy Management

Neil Smith had been contracted to prune back approximately half of the grove. He explained the pruning program was to regenerate/restructure the trees. Then leaving new growth until it was clear which would be the dominant branches for the future. Neil said the sooner pruning was done in the season then the quicker to regrow for the future. He said that trees can also continue to be pruned to manage crop load.

Neil has done half of the Barnea as per the Focus Grove programme recommendations and Gordon and Malcolm McKenzie have taken a harder approach to the balance. Neil's approach was to continue production and have a replacement process with limb removal. So potentially a 3-5 year process. Neil said he pruned from the north to open tree up. Stuart pointed out the substantial new growth on the trees Neil had pruned because of opening up tree and letting the light in.

Malcolm said pruning should take into account not allowing the tree to become unbalanced because it could be prone to being blown over in the North Canterbury winds.

Neil said it was also important to cut the shoots off trunk for mechanical harvesting, as clean trunks allow the harvester to operate efficiently and maximise the shaking process.

There was a question about lichen on the trunks and Stuart said the best process is to remove affected branches progressively.

Malcolm explained that he and Gordon were undertaking a trial with higher cuts to speed up restructure process and lifting up the height for machine harvesting. He said that maintaining production was not required so they were undertaking a severe coppicing of most branches.

Gordon explained that his father was a nursery person and his philosophy with orchard pruning had been to leave a couple of long branches to help “pull up sap”. Gordon said this was already evidenced by twice the regrowth with the trees pruned in this way. This trial will be interesting to observe over the next few years as it is not the current convention.

Nutrition

Stuart emphasised that fertiliser application input should be directly linked to identified deficiency. This is done through annual soil tests and an initial annual leaf test followed by a second to measure effectiveness and fine tune if required. The key is to measure and monitor. Review what is happening, and history is important.

It was noted that fertigation is expensive and perhaps difficult to justify for olives in New Zealand. This is because of the low return per ha for olives compared with other crops, for example gold Kiwifruit.

Stuart commented that Boron is typically deficient across horticultural land and application takes several years to impact on improving good fruit set and crops.

Crop Load

Crop load appeared light but it was noted that the grove was not harvested in 2021. In October at Field Day several trees were shaken to demonstrate the machine harvester and produced 25kg per tree. However because these trees were harvested late and others left, this probably has negatively impacted on 2022 crop.

Stuart explained that flowering is suppressed if harvest is late or not done at all. Yvonne Mitchell said that was their experience also with some trees not harvested.

Other

It has been an unusual year in Canterbury with good rain and trees and grass growth reflect this. It has been a very good growing season.

In response to a question on grove floor management and weed control, Stuart commented on leaving longer to create a thatch or compost to help the organic process. However bare ground will help minimise frost impact but organic benefit is greater with leaving growth.

Gordon said the grove irrigation system has not functioned for 7 years and he is working on getting it operational for 2023.

It was noted that the cost of keeping the grove floor tidy is not particularly cost effective. If machine harvesting then sheep can be run through the grove to eat and trample grass and weeds and contribute to organic matter.

Stuart noted that the structure of soil is improved by multiple inputs. He added that the trend was now for minimum use of herbicides. This was really only necessary during establishment of a grove and can then be backed off to an annual application, twice yearly at most.



Two Old Soldiers - out in the grove



Stuart points out new growth with tree opened up



Gordon and Malcom explain their pruning trial



The Gordon pruning style



Neil showing substantial new growth on coppiced branches



Neil removes suckers and extra growth to help with mechanical harvesting



Good fruit set on some branches



Lighter on other branches and Peacock Spot apparent

Terrace Edge, Waipara Valley

Bruce Chapman welcomed people back to Terrace Edge, where we all enjoyed a picnic lunch. On driving into Terrace Edge the olive grove looked terrific with healthy trees with a good leafy canopy and a good looking crop.

Terrace Edge is one of the original Focus Groves. It is a commercial grove of almost 2,000 trees but typically does not harvest the full potential of the grove. Terrace Edge Winery is renowned for being organic and Bruce would like to convert the olive grove to organic.

Disease Management

Bruce commented that it has been a bit difficult keeping up the spray regime because of the rain and indeed he was only able to get on two applications of Protek. The grove was showing a little Peacock Spot at this point and the spray programme needed to be continued as soon as possible. The recommendation from Horticulture is to spray before rain and then again afterwards, if it is safe to do so.

Canopy Management

Pruning was completed post 2021 harvest and after three years, renovation is almost complete. Stuart pointed out that the next major cuts were apparent to continue opening up the trees. Now some surplus regrowth could also start to be removed to allow new growth to flourish.

Neil talked about the diminished pulse of the machine harvester with wide branches, which was another reason to keep trees well pruned. Malcolm reminded of the need to keep branches within the harvester umbrella width or fruit would just be lost.

Stuart said it was now a good time to go through the grove and cut out old branches with no or little fruit so minimal impact on this year's production but will encourage new growth and production for next year. This would also make a good start on post-harvest pruning.

Niall Holland said they paint cuts because it prevents rot and speeds up healing process.

Nutrition

Bruce said they now had a four year history of leaf tests. The latest showed slightly low levels of Magnesium and this was included in last foliar spray. Boron was also applied in Spring.

Bruce commented that the large amount of clover growing between the rows of trees was taking care of nitrogen plus was cheaper than applying a fertiliser.

Crop Load

As was apparent from driving into the property, Terrace Edge is looking to have an even bigger crop than 2021. There has been good fruit set across the grove and throughout the canopies.

Other

Bruce said he is now only doing one Roundup spray per year for strip management. He noted this was because of the good clover growth and minimal weed growth.



Terrace Edge – time for lunch



Out in the grove



Stuart showing the new growth post pruning



Always more pruning to be done



Bold cuts are required



Contemplating the cuts on the Leccino



Malcom explains why this tree is perfect for the machine harvester



Nice bunches at Terrace Edge

Athena Olive Grove, Waipara

The Athena Olive Grove at Waipara was one of the first olive groves in Canterbury and established by industry pioneer Helen Clausen. It was intensively planted as a commercial grove of around 3,000 trees and there had been talk of removing every second tree on maturity. As well as producing olive oil, the grove was well known for producing table olives.

Due to the untimely death of then owner Patrick Merry in 2021, the grove was put on the market. New owners Jackie Breen and Nicola Jackson brought the grove two months ago and were interested in advice on where to from here with the grove.

The grove is typical of many across New Zealand, it is in need of renovation and the implementation of a disease management program. Athena Olive Grove is different, however, with the closely planted trees being on a 3 x 3 matrix. This offers alternative approaches, from a major renovation program to reduce the size of the trees as per the Focus Groves, coppicing which had already been started or removal of trees. It was suggested that if the latter was a preferred approach then these trees could be coppiced and replanted in an adjacent field.

In the meantime some of the trees look to have a reasonable crop and Malcolm said he would be able to machine harvest quite a few.

Athena Olive Gove has its own press, an Olimio 250kg press but perhaps in the short term using the local Waipara press would be the better option.

At the end of the Athena grove visit, Alan Blakemore thanked all present for their attendance with a special thanks to Bruce for hosting the Field Day and to Gordon, Jackie and Nicola for allowing us to visit their groves. Alan reminded all that the Olives NZ AGM was coming up with a number of potential new projects to be discussed. He recommended that people look at the project proposals and let him know their preference for the future.



Athena Grove – more rain



Original plan was to remove every second tree



Coppiced tree needing some attention now



Gnarly old trunk showing age of trees



Some nice fruit



SA Verdale has good fruit

Northland

Olives on the Hill

This grove is one of the original Focus Groves and has benefited from continuous improvement to overall grove health and increased grove production. Olives on the Hill has sub-divided off some sections and the olive grove now totals just under 800 trees. While the grove has been reduced in size, it is hoped that the rejuvenation process will produce at least the same volume of oil as in the past. Some trees have been transplanted with great success.

Chris and Linda Smith welcomed 13 people to their grove on Friday 18th March. In addition to our regular attendees, a special welcome was extended to John Pearson, Oliveti Chair, Murray and Alwin Thoms, Blair Hilditch and Michael Chinnery.

Olives on the Hill is looking really good and is now realising the potential initially seen. The good growth and bushy leaves are apparent across the growth.

Background

The grove was purchased in 2012 in a much neglected state. Linda showed a group photo taken in 2019 and said that this was the same row in which the group was now standing. The trees looking totally different. It has been around a six year program to rejuvenate the grove.

Linda commented that some people thought that the trees were too close and needed thinning out. However reduction in tree size has addressed this. Some 600 Leccino trees were coppiced and within 3 years were back in production. The Frantoio has been progressively restructured with big cuts. The trees need to be kept at a maximum of 5-6 metres height because of the spacing. They also introduced the recommended disease management program and fertilizer has been applied based on soil and leaf tests.

Production was 600 litres in their first year and almost 3000 litres in 2020. This has been a combination of increased tonnage and higher oil yields.

Neil commented that pruning now takes 25% of time with the smaller trees and they are predicting a similar crop to previous good years.

Stuart described the trees as having been senile and needed major remediation. Huge trees and substantial disease. The tree size prohibited effective spraying and the trees were overgrown and there was little light penetration. The grove is now a model for others.

Disease Management

There was little disease apparent across the grove. Anthracnose has been brought under control through the spray program around flowering.

Canopy Management

Trees are now a fraction of the size with good leafy canopies. Tree still have more potential. Commented that trees have been pruned for machine harvesting. The trees are full of new growth and fruit.

Neil said that he is now focusing on thinning cuts and renewal cuts of larger limbs. He commented that the trees are now opened up and evidenced with fruit right through the canopy. He said this has been a progressive process with restructuring the trees coupled with the recommended spray program. Around 80% of each tree is now fully restructured. He had been pruning to a three year program which has worked well.

Neil pointed out that new growth is continual in Northland, whereas he has observed trees in other regions have a slow down as harvest approaches.

Stuart showed cleaning out new growth to open up the canopy. He emphasised the need to allow bushy growth and allow tree to self-select stronger new branches.

The grove is now full of new trees essentially, just the base trunk of the original tree with all new branches.

Linda asked about pruning for hand harvest and Stuart said to allow tree to become squatter with more branches and keeping the tree shorter.

Stuart showing on a branch how new flowering can be negatively affected if fruit is harvested late or not at all.

Neil said that olive trees will grow well for up to 11 years and produce well if left, but then the trees will dramatically go backwards if not pruned/sprayed.

Murray asked about taking a max of 1/3 in pruning. Neil agreed this is a good rule of thumb or average across grove. If the intention is to maintain supply and viability.

Stuart added that you need to also get any dead growth out as that harbours Anthracnose.

Crop Load

The crop is looking good across the grove. Some trees are looking to be 25kg. Noted that there are bunches of olives vs single fruit.

Nutrition

The recent leaf tests done in February showed that Nitrogen and Boron were low and this is being addressed.

Other

Linda said being a Focus Grove has kept them on track to do the required work and with results able to be shared with broader industry.

Attendees were invited to share a lunch put on by Linda, which was much appreciated. Many thanks to Chris and Linda for hosting this visit and we look forward to one more visit, probably in August.



Out in the grove in 2019



The same section now



Olives on the Hill – out in the grove



Neil explains the pruning regime to reduce the size of the trees



Jono Smith looking at a rejuvenated tree



Neil and Stuart discussing pruning



Stuart showing next branch to remove



Stuart showing excellent extension growth



Nice fruit



Transplanted tree

Wairarapa

The Focus Grove Visits/Field Days were held at Wairarapa on Monday 21st March.

Leafyridge Olive Grove, Masterton

Craig and Ruth Leaf-Wright hosted more than 50 people to Leafyridge, including members from Nelson, Kapiti, Hawkes Bay, Neil Smith and Garry Burlace from Horticulture. Horticulture is a valued supplier to the industry and also provides consultancy advice.

Leafyridge is one of the original Focus Groves and consistently out-performs other regional groves in relation to production. It is a commercial grove of around 3,800 trees plus they contract several other local groves to add to their own production. Craig is now being assisted in grove work by his son Tim. The grove is looking in excellent condition.

Andrew Priddle, Branch Chair and Olives NZ Executive member, welcomed all.

Disease Management

Despite more rain this year, Craig has been able to keep on top of the recommended spray regime and disease is really only apparent on old branches.

Stuart pointed out that if the use of Manzate becomes reduced internationally that would probably see pricing increased. However the EU review is slow process.

Canopy Management

There was a late start to pruning in January so new growth is only over a couple of months since. But still looking very good.

The structure of the trees is much better for mechanical harvesting and hopefully will see a better recovery. Fruit will shake off and into umbrella. Good vertical growth and Craig has concentrated on removing all dangly branches that won't shake.

Neil said that the pruning process becomes faster year on year with the restructuring process. Trees with younger branches are also easier to harvest.

Stuart commented that across the country we are seeing rejuvenated groves, shorter trees, healthy canopies, branches no more than 5 years old. Time now to accelerate the removal of old branches because there will be higher fruit production with younger wood, more leaf for better new growth and to remove disease pressure. He emphasised the need to push along restructure and get rid of old branches. The more conservative approach has held back some potential.

Stuart recommended one major prune then follow-up for harvesting efficiency, to remove unproductive branches and for more efficient penetration.

Steve Price said there was a need to keep the tree balanced to recover fruit with shaker and to cut above new buds

Crop Load

The crop load across the grove is looking good, certainly average plus. Andrew said there had been a second flowering a couple of weeks after first flowering on some Wairarapa groves. First flowering could have been premature and then has not developed.

Nutrition

Craig is looking at recommendations following on from 2022 leaf tests. Really only nitrogen is low.

Stuart emphasised the need to measure with tests before applying any fertilisers.

The Organic Block

Attendees were most interested to see the Frantoio block that has been converted to the organic disease management regime.

Craig said this has been a top performing block with traditionally 25kg harvested by machine and then another 10-15kg by hand. However he and Tim have made major cuts for restructuring. Craig said they want to be as sustainable as possible and as organic as possible on this block. However not going organic with weed control and fertilizer application.

No Manzate has been applied since April last year. Rather copper was applied after harvest and then continued with the Copper/Sulphur spray program as per the Olives NZ Organic Approach Fact Sheet. For prevention of Anthracnose they had used Serenade, which was very expensive compared to Protek. The trees were healthy previously and have stayed healthy.

Stuart said trees are looking really good but will be a work in progress for a few years yet. So far so good.

Note there are concerns about Copper buildup in soil yet the annual copper sprays are well within the Biogro organic application guidelines and limits.

Craig offered that the Branch could continue to visit post the Focus Grove Project to watch this block in particular.

Other

Stuart pointed out leaving sward higher for contributing to mulch.

Mike Hanson said he has not needed to do a Roundup spray for 4 years. He is doing maybe 15-16 Manzate sprays and gets the first on asap after harvest.

Thank you Craig and Ruth for hosting our visit. Also thanks to Ruth and Andrew Priddle for organizing the Mediterranean inspired lunch at the Greytown Hotel.



Leafyridge Field Day



Laden branch



New buds waiting to burst, therefore need to remove branches suppressing this



Tress pruned in January but already with good regrowth



Stuart shows the next branch to remove for regeneration



Two part tree – left side left for production while the right side has been regenerated



Frantoio tree in the organic block



Great bunches

Bella Olea Olive Grove, Greytown

Chris Penman welcomed people to his grove, including people from Kapiti and others who are specifically interested in an organic approach. The Penman's have achieved certification as an organic grove this year and are to be congratulated on their commitment. They are one of only a handful of olive groves actually registered as organic in New Zealand.

Unfortunately the predicted rain started as we arrived at Bella Olea, however 21 people were in attendance.

Disease Management

Chris said he has increased the spray application water rate per ha recently. This has been achieved by slowing down the application process. Disease pressure still evident across grove and will take a few months to see effectiveness of the new regime.

Andrew Priddle pointed an issue with frequency of rain in the Wairarapa has affected the ability to spray from December onwards.

Chris said he was adding sulphur as protectant over winter.

Canopy Management

Regeneration is still in progress. Stuart suggestion with the low crop Chris could take off some more large branches. Good time to do this now with a good crop predicted for 2023.

Neil commented that Neudorf pruning probably 3 times with saw and secateurs rather than chain saw. This worked well for a grove that is hand harvested.

Nutrition

Leaf tests show Boron and Magnesium needed.
Soil fertiliser again.

Crop Load

Chris said it was a light year with the crop varied across grove.

Stuart pointed out good extension growth on the Barnea. However he said that Bella Olea is in classic biennial mode; growing fruit one year and then new wood the following year.

Other

Last year's processing waste was stored under tarps to be applied around trees. The plan is to add dolomite and perhaps other nutrients.

Andrew Lilley said the waste volume reduces by about half over a year as it dries out.

Thank you Chris for hosting our visit and being so willing to share your views and being open to other suggestions.



Bella Olea – out in the grove



Excellent regrowth provides good future options



Good regrowth from major cuts



Restructuring in progress



Stuart checking out new leaf growth



Stuart comments on good growth extension on the Barnea

Hawke's Bay

Aquiferra

Aquiferra is one of the original Focus Groves but was also an early adopter of the grove management principles. It is regarded as an exemplary grove and has often been the top producing grove in New Zealand. The grove underwent a change of ownership in 2021 and Olives NZ is most appreciative that the new owners, Tim Groves and Jess Arthur, agreed to continue as a Focus Grove; following recommendations and hosting Field Days.

The March Field day was held on Wednesday 23rd March. Despite it being a rainy day there were 14 people in attendance, including members from Wairarapa, Horticulture reps and Neil Smith from Northland.

Geoff Crawford, Hawke's Bay Branch Chair, welcomed all to the Field Day and noted that this was the final visit under the project. On behalf of the Branch Geoff presented Stuart Tustin with a bottle of Mt Difficulty Syrah in appreciation of his work done for Hawke's Bay members. Geoff also expressed a big thanks to Tim and Jess for enabling the continuation of the Focus Grove Project on their property, and being open with discussion on their grove.

With the Focus Grove visits now coming to an end, Geoff said he believed there is value in continuing to meet and share growing knowledge. He said this is something that can continue to be done as a Branch activity.

Geoff also gave an overview of the future project proposals received by the Executive. He noted that the Branch discussions had been solid in this regards, particularly at the Branch AGM, and united for further work to be done in increasing grove productivity. He said that would be the message he would take back to the Olives NZ Executive for further work.

2022 Crop

The trees across the grove are quite laden with fruit through the canopy and the fruit is of good size. Looks to be a good crop, probably better than 2021 and plentiful rain has helped. Flowering had translated well with fruit set.

Nutrition

Aquiferra has previously had low levels of Nitrogen but this area of Hawke's Bay has proven itself as very productive and is a very successful wine growing region.

Tim had been concerned that earlier on this year leaves were yellowing and falling off. Fruit was starting to shrivel. Stuart said normally this is caused by disease but very little disease apparent across the grove. He noted that that period had been quite dry and nitrogen deficiency combination would probably have caused the issue. Garry Burlace added that leaf life is maximum of 5 years so there will always be leaf drop.

Tim had leaf tests done in February and these confirmed that nitrogen was low with a recommendation of 5kg urea per 2000 litre tank to address. It was noted that it was important to feed in an on year in Feb/March to assist oil accumulation and in Sept/Oct for flowering. NPK can be ground applied if a soil test showed this was low.

Garry Burlace said that nitrogen is needed for flowering and suggested adding to the tank for the first spray after harvest.

Stuart said now that many groves around the country are producing regular good size crops, having leaf tests done at least annually and responding to them with nutrients was a requirement to assist in maintaining production

Disease Management

Tim said he has been keeping up the required spray program and had been able to extend the period between sprays with dry weather and paying attention to rain predictions.

Geoff asked if Manzate should be applied when rain was forecast and Garry Burlace said it acts as protectant. So need to apply before rain and then again after rain.

There was minimal sign of the traditional wet weather diseases across the grove but noted a small amount of scale. Garry suggested spraying for this in September.

Post-Harvest Pruning

Pruning was completed in October and regrowth has continued well across the grove. Stuart said the trees were in very good condition and potentially only a minimum secondary pruning was required pre-harvest. Maybe just any droopy branches which won't harvest. Noted that canopy has been lowered and there will be better recovery with machine harvesting.

In response to a question Stuart said the aim was to keep wood young and for a tree size of 6 metres or lower. He said that it is the young branches, when managed to control disease, which crop heavily.

Across the grove pruning is looking good for machine harvesting with also a focus on removing dead wood. Stuart commented that the trees are starting to get tall again and he encouraged big cuts to speed up renovation.

Stuart said to take out the biggest branch or old gnarly branches post-harvest to open up the tree and work on getting the trees to the desired size. He encouraged then coming back through in January after flowering and removing another limb in any unproductive trees or an unproductive limb in cropping trees, to speed up renovation. He said there was nothing to be lost and lots to be gained.

Other Observations

Stuart pointed out there is a lot of clover through the sward and supported the narrow herbicide strip

Stuart advised that late harvest or no harvest and leaving fruit on tree will mean less (or no) flowers, therefore no fruit on tree the next year. Unfortunately this lesson had been learned in Nelson where issues with machine harvester break down during COVID had meant trees could not be harvested at the optimal time.

After harvest the Hawke's Bay Branch is planning a Grove visit to Matapiro, to look at the work they have been doing with pruning, their spray program, coppicing and fertilising. Date to be set sometime August

Geoff thanked all for their attendance and invited everyone to join Tim and Jess for afternoon tea. Thank you to Geoff, Tim and Jess for hosting this Field Day and for arranging the refreshments.



Out in the grove at Aquiferra



Lovely bunches



Tree dripping in fruit, typical across the grove, pruned for machine harvest



Stuart pointing out the big branch to remove next



Stuart showing Tim and Jess new growth for next year's fruit



Selection of new growth on a restructured tree



Another dripping tree at Aquiferra

General Comments

The well maintained groves across the country are now producing bunches of olives vs single fruit.

There has been general agreement that the Field Days have been hugely valuable to growers and other industry stakeholders. Also the ability to include visits to other grove of special interest, including new members. There was a typical feeling that the Field Days need to continue on at least an annual basis.

There has been ongoing international interest in the Project, the most recent this month <https://www.oliveoiltimes.com/production/farmers-in-new-zealand-optimistic-ahead-of-harvest/106938>

The participation of the Focus Groves is much appreciated and has been critical to the success of the project. They have shown an unquestioned willingness to follow recommendations and incur the associated costs. As well as welcoming other members to their groves and providing hospitality. Thank you all.

Summary

All of the original Focus Groves visited as part of the Field Days that have been following the recommended programme for proactive disease management and canopy management have reached an exemplary stage and are exemplars for the wider olive growing industry in New Zealand. For other groves following the recommendations, the results are apparent in their harvest tonnage as well as their observations on overall grove health.

The vastly improved tree health is apparent across all of the 'Manzate' groves visited with very little or no disease and plenty of lush leaf and a promising crop. The tree structure also across these groves has dramatically improved, enabling light and spray penetration and ease of effective harvest.

The organic grove in Wairarapa is also coming along well and will continue to improve production as time goes on. Leafyridge, that has converted a block to the organic disease control recommendations, is a grove to watch. The continued success could provide a further exemplar to the broader olive industry in New Zealand.

Last words are best left to Stuart Tustin.

I think we should feel pretty happy with where we have got to with the SFFF to this stage.

The conversation language has changed somewhat over the time, so that sustainability orientation is quite front-of-mind with most serious grove operators. This is not so much an 'organics' approach but rather the interest to pick up any methods that improve environmental stewardship including organics ideas, aiming for lighter production footprints in any way possible but not sacrificing good grove production management.

Then there is the achievement of the fully-renovated groves showing really worthwhile production potential and the evidence that from that point onwards, grove tree management would be much faster and cheaper to maintain in top condition. These advances also support easier and better spraying and disease and pest control with smaller healthier trees.