



AUSTRALIAN OLIVE
ASSOCIATION LTD



AOA ‘healthy soils’ field day at aFthonia Farms, Hampton QLD.

An small but enthusiastic gathering of 8 olive producers representing 4 QLD and 1 NSW olive groves attended a very successful field day hosted by EVOO and table olive producer Vanessa Dart at aFthonia Farms situated at Hampton, 25 km north of Toowoomba.

aFthonia Farms comprises 20 acres of rich fertile red volcanic soil surrounded by an olive grove of 1,000 mature (20 year old) olive trees; 10 Kalamata, 500 Manzanillo and 500 Frantoio suitable for table and oil. The farm is in conversion to organic.



Field day participants enjoying a refreshment break at AFthonia Farms, Hampton QLD

aFthonia Farms field day participants were treated to a grove walk that covered important grove productivity topics including practical demonstrations addressing a range of critical grove management issues. AOA has received very positive feedback from field day participants, and is now interesting to hear what participants have been inspired to do with their field day learnings, and to track these outcomes over coming years.

AOA's grove productivity program:

The Australian Olive Association (AOA) is convening a series of field days across Australia with a refreshing 'in the field' demonstration approach. The field day series emphasises the important role of healthy soils in producing healthy trees and lifting grove productivity.

Noting a 2019 AOA grower survey that revealed that Australian grove productivity ranges from zero to 15 tonne / ha, with median production <1.0 tonne / ha, and average production of 3.3 tonne / ha, clearly demonstrating the low productivity of many groves in Australia, reflecting the need to address critical grove management issues.

AOA is also emphasising the value of benchmarking grove performance - setting Key Performance Indicators (KPIs) for improved grove productivity and profitability, including:

- Grove productivity KPIs: kg / tree, tonnes / ha ;
- Cost of production - cost \$/tonne;
- Gross margin - \$/ha

The value of participating in AOA's *OliveCare*® Best Practice Program was also covered, including the use of best practice management checklists, and having access to technical time critical management information.

- Download AOA's talking points on the *OliveCare*® best practice program [here](#).
- *OliveCare*® members are able to log in to access best practice checklists [here](#).

Canopy Management:

The key canopy management point is that because olive trees fruit on one year old wood, the tree canopy needs to be rejuvenated over a 6-8 year cycle to maximise the volume of young fruiting wood that is exposed to sunlight. This practice also enables the height of the trees to be lowered making groves more manageable for pest and disease control and harvest.



Grove specialist Andrew Taylor demonstrated renovation pruning on mature olive trees at Nangkita Grove SA.



A pruned olive tree at Wollundry Grove near Wagga Wagga showing 6 months regrowth, which will eventually develop into new leaders

With renovation pruning between 25-30% of the canopy can be removed with a single cut between shoulder and waste height on the North facing side of the tree in the first year. This will serve to reduce the height of the tree and stimulate regrowth around the cut that over time will produce new leaders. By removing this limb light will also better penetrate the remainder of the canopy and increase the growth of fruiting wood, and improve fruit set on the remainder of the tree, meaning overall crop yield should increase - not reduce over time.

The following pruning objectives and methods were explained and demonstrated:

- Pruning for sunlight/shade pattern
 - Pruning for tree row volume
 - Pruning for harvest method
 - Pruning for leaf/wood ratio
 - Pruning as cultural practise for disease control
 - Pruning for renewal
 - Pruning for frost reduction
 - Pruning for consistent production
- View Andrew Taylor's video on olive tree pruning and disease management [Video](#) (7.5 mins).
 - Read about the Wollundry Grove canopy renovation program in the *Australian & New Zealand Olivegrower and processor: June 2020 edition* – pp14-17. Also available on-line to subscribers at: <https://olivebiz.com.au/magazines/olivegrower/back-issues/>

Soil health and leaf and soil nutrition monitoring



John Barton from (Charton & Bang, Research & Development) explaining soil and leaf testing at Lentara Grove TAS

A major point made by John was that it is essential for growers to undertake both soil and leaf analysis, and pH to enable a more accurate diagnosis of actual nutrient deficiency, and in designing a grove nutrition program. Sample the same soil sites and trees at least annually to enable comparable data and to read trends.

John explained:

- How do you maintain productive groves while streamlining nutrient requirements?
 - How do you manage applications of fertilisers to optimise plant uptake and minimise losses to run-off, leaching or gas emissions?
 - When should I take soil and leaf tests?
 - Why is soil pH important?
 - What fertiliser methods should I use?
 - How do I improve soil biology and carbon in my soils?
 - Building soil nitrogen and nitrogen fixation
 - The use of soil amendments to correct sodic and acidic soils
- Download Peter Briscoe's talking points on soil health and grove nutrition [here](#).
 - Download Peter Briscoe's notes on taking soil samples [here](#) & taking leaf samples for analysis [here](#).
 - Download Biopliv report on Longridge Olives (SA) Bactivate Program from 2015 - 2020 [here](#).

Note: The Bactivate Program is designed to add specific microbes required for nutrition conversion, plant immune health and growth by adding in key Bacillus bacteria in an antagonistic form while feeding those microbes, initiating soil structure improvements and driving increased cropping outcomes for a long-term sustainable solution. This report looks at soil and leaf analysis results over a 5 year treatment period.

Click on the above link and read on.

The MicroBIOMETER®



Research shows that microbial biomass (fungi and bacteria) is the leading indicator of soil health. Living soil fixes nutrients, improves plant immunity, stores water more efficiently and builds soil structure, therefore, a healthy level of microbes increases productivity while reducing inputs.

The microBIOMETER® measures the microbial biomass of soil, compost, and compost teas and extracts. It also calculates the fungal to bacterial ratio for soil and compost. This data allows you to track the health of your soil over time. Microbial biomass is calculated and displayed in micrograms of microbial-carbon per gram of soil ($\mu\text{g/g}$) and fungal to bacterial ratio is calculated and displayed as F:B, F% and B%.

Note: Iron rich soil can have iron nanoparticles. These are red particles in the same size range as microbes, which have buoyant densities that prevent their being precipitated during settling time, and which may affect the test readings. Work is being undertaken to include a magnetic settling step in the instructions for use. Further details and instructions for use of the microBIOMETER® is available at: <https://microbiometer.com/>

Also available from The Meter Man (David von Pein) in Toowoomba, QLD (cost approx. \$300 including 20 tests): <https://www.themeterman.com.au/microbial-biomass-tester-kit.php>

Making and using compost:



John Barton from (Charton & Bang, Research & Development) explaining the finer points of making and using high quality compost at aFthonia Farms, Hampton QLD

John Barton grew up on a rice farm near Griffith, NSW and worked in agriculture across a range of crop types. After sustaining a back injury John retrained in horticultural science, specialising in soil function and farm ecosystems. He has worked for 10 years in commercial composting at every level and in the production of 1 million cubic metres of compost, and in the commissioning and staff training of 5 new composting sites around Australia. John is passionate about creating sustainable farms and soils that can produce food forever with degrading. John explained and demonstrated:

- Composting
 - Compost recipe
 - Compost application rates
- Soil water
 - Collecting more water
 - Holding more water
 - Giving back more water
- Soil carbon
 - Living carbon
 - Simple carbon
 - Complex carbon
 - How we lose soil carbon
 - How we can build soil carbon
 - How to keep soil carbon
 - Measuring soil carbon
- Download John Barton's (Charton & Bang, Research & Development) talking points on composting and soil carbon [here](#).
- Download Compost for Soils trial at Regans Ford olive grove WA [here](#), and Guide your Compost Application [here](#).
- For more information on compost and composting click [here](#)