Report

Spring Vine Health Field Day
Mudgee Region

Thursday 29th July 2010
Introduction

Report for the Mudgee Spring Vine Health Field Day held in Mudgee on Thursday 29th July 2010.

A pre Field Day Review [Appendix 1] is available online

The Flyer [Appendix 2] is available online

The Presentations [Appendix 3] are available online

This Report includes the Evaluations [Appendix 4] of the Spring Vine Health Field Day and is available online

A budget breakdown [Appendix 5] is available on request via email to svhfd@csu.edu.au

Please Note: This Spring Vine Health Field Day Report, relevant Appendices including Field Day Presentations are available online at www.nwgic.org

Post-Field Day Discussions and Consultations

Collated Evaluations were sent to presenters and the Mudgee Wine Association for an opportunity to comment.

Discussions and Consultations

Melanie Weckert- Industry and Investment NSW
Tony Somers- Industry and Investment NSW
Thea Ridley- Microherders

Acknowledgements

The Mudgee Wine Industry Association particularly President, Paul Baguely, his Viticulture Committee and growers who completed pre field day interviews.

The Hunter Valley Wine Industry Association particularly Ken Bray and Liz Riley from the Viticulture Committee for supporting the mulching trial work.

Growers who completed evaluations on the day.

The NSW Department of Environment and Climate Change (DEEC) for funding of the Mulching Trial. Tony Somers from Industry & Investment NSW for leadership in development of the mulching trial and developing the field day program.

Presenters Darren Fahey from Compost NSW, Tony Somers from Industry and Investment NSW, Melanie Weckert from Industry and Investment NSW, Paul Baguely from Paul Baguely consulting. Lowe family wines and Oatley Family Wines for strong support and donating wine as prizes. Peter Hayes for encouragement and opening doors.
Acknowledgements continued

Suppliers James Gardiner from Organic Crop Protectants, Nathan from Ace Holsen for the Humic Acid Prize and Leon and John from Toro.

A stunning venue, “Clearview Estate” on Sydney Road.

The NSW GWRDC Grassroots Program and the GWRDC for funding the development of this coordinated extension initiative.

Conclusions

Great to work with Paul Baguely and the Mudgee Association to bring this Spring Vine Health Field Day to Mudgee. Mudgee is emerging as a region which takes a leading interest in soil health and understanding how this relates to wine quality.

It was great to be able to work with Damen Fahey and the NSWDECC and to have interest from the Central West Catchment Authority. Thea Ridley has ambitious plans for benchmarking soil health through the Watershed Landcare Group and wine producers.

Trunk disease and botrytis look to be priorities for next year but it would also be good to have some continuity of coordination and understanding of soil health and wine quality, perhaps through Thea’s interest.

As the second 2010 Spring Vine Health Field Day event and being held so early in the season, it was a good opportunity to road test our approaches.

Duncan Farquhar
Appendix 4

Mudgee Spring Vine Health Field Day Evaluations

KNOWLEDGE CHANGE

![Bar chart showing Mulching and Soil Biology Knowledge Levels]

KNOWLEDGE GAPS

1. What other questions do you have about mulching and soil biology in your situation?

- How to viably mulch under vine and move away from glyphosate dependency [viability]
- More information on different nematodes - what is important in management, to vigneron
- Process for in-field mulching/composting
PRESENTER FEEDBACK ON KNOWLEDGE GAPS
(from both Hunter and Mudgee questions)

Tony Somers

Soil health is an important factor for future sustainability in vineyards and in a changing climatic environment. Viticulturists are interested in learning a lot more about their soils.

Thea Ridley

One particular knowledge gap – does improving soil health lead to improved wine quality? There is certainly an assumption that this is the case but people need to go into exploring methods of improving soil health with practicalities/ logistics/ and their wine quality parameters in mind. Conventional vineyards have a system that works and is predictable. Wine grape growers probably need help to explore innovative options carefully I guess... to see what will work for them?! As one respondent put it.. “small steps”.

The general gist coming out of Mudgee Microscope Group is that it’s not a good idea to go ‘biological’ overnight – and that it’s important to ‘wean’ off chemical inputs.

Melanie Weckert and Dr Loothfar Rahman

Two of the grower knowledge gaps are of great interest to NWGC researchers Dr. Loothfar Rahman and Dr. Melanie Weckert who are working on research projects that aim to investigate these and other areas of soil biology relevant to wine grape growing.

More information on the effect of different nematodes - what is important in management, to vigneron?:

Dr. Loothfar Rahman, NWGC nematologist, is willing to contribute to growers’ understanding regarding beneficial nematodes and their impact on the harmful plant parasitic nematodes. Loothfar has revealed the beneficial effects of general increases in vineyard soil organic matter: increased beneficial nematodes and decreased parasitic nematodes within 3 years (Rahman et al., 2009). He has also shown that Brassica crops (particulary Indian Mustard) side thrown under vine decreased root knot nematode (Meloidogyne javanica) considerably (Rahman & Somer, 2005; Rahman et al., 2010).

Does improving soil health lead to improved wine quality?

Melanie has shown that vineyard soil microbial populations increase dramatically with increased organic matter (Whitelaw-Weckert et al., 2007). However, it is one thing to demonstrate increased biology, but the next step: whether improved soil biology means improved grape and wine quality, is still largely unknown. There is a perception that good biological soil associated with organic or biodynamic producers can add to wine quality:

On wine from a french biodynamically managed vineyard, well known wine journalist Max Allen writes:

“You can clearly taste the minerality of the terroir and the purity of the fruit.” (Allen, 2010). This lines up with the increased varietal intensity and regional character comment from Rod Windrum from the Hunter Valley.

but this needs to be backed up with scientific evidence. Melanie looks forward to working with the Mudgee and Hunter growers on exactly how soil characteristics, including organic matter content and biology, might impact on grape and wine quality.
Q. Hot Water vs Cold as a Water Standard

A. Hot Water Extractable Carbon is a measure of the Carbon available for soil microbes. Loothfar and I found it increased significantly within three years of adding permanent sward from bare earth in Tumbarumba and Wagga Wagga. This is a bit beyond your average grower as it requires reagents and a spectrophotometer.

I have never used a cold water extractable carbon method.

Total Carbon is loss on ignition and this Carbon takes years to increase. This the carbon that standard laboratories use.

Duncan’s advice is Petiole analysis at flowering for vintages 4-8 then every three years as the vineyard has settled in. Manage nutrients with the plant condition five years out in mind.

We have limited experience with sap brix.

Q Long term benefit and cost benefit of composting and mulch.

A. Has been shown many times that mulching can be expensive. Local sources and sharing machinery help this equation. Compost quality has an impact. Cost is the big downside the rest is upside (water loss, temperature insulation e.t.c.).

We hear the questions about cost benefit analyses but have not done these.

It would be good to have an agronomist detail cover crop options for the Hunter.

References


2. Please comment on the importance of mulching and soil biology:

- Was low priority but obviously needs to gain more importance
- Need improved WHC, reduce chemical inputs [water holding capacity]
- N/A to me personally however knowledge about these practices and how they relate to land managers is important.
- Should be seen as the future of viticulture
- Extremely important as foundation for growth and production - integrator of much!
- Need to improve soil health in general, as well as benefits of water savings and temperature control
- Sustainability, reduced availability of water for irrigation
SKILL CHANGES

3. What limitations do you have in managing mulching and soil biology?

- Time
- Financial and time
- Tailoring a mulch to the needs of our soils and vines
- Financial constraints, machinery suitability/adaptability
- Money and time
- Time and access to vignerons
- Cultural, knowledge
- Practicabilities of implementing permanent swards undervine on a broadscale vineyard
- Resources, staff/management commitment
- Financial restraints and large area to manage
- Cost of inputs, always more to learn
- Time

PRESENTER FEEDBACK

Melanie Weckert

Capability gaps of; time, equipment, money and local sources of mulch are as expected. It is a challenge to find cost effective methods of increasing soil biological activity. Have noted that case studies with full cost: benefit would be helpful.
ASPIRATIONS

4. What do you intend to do about mulching and soil biology?

- Implement some cost effective measures
- Undecided just at the moment
- Soil pits, continued making and applying compost
- Increase contact with already engaged land holders. Allocate time to do this.
- Ensure all vineyard staff have the knowledge
- Start in a small area and work from there
- Already commenced on implementation
- Small steps - work on priority issues/areas
- Further soil assessments as benchmark, re-do after trials etc
- Advise customers better on machinery and application choices

5. Where to next? Name one topic in vine health you would like to explore next year.

- Scale and trunk disease
- Trunk disease
- Trunk disease management and vineyard hygiene. (thanks for an interesting day)
- Botrytis management
- Trunk disease
- Local case study. How to manage natural resources in conjunction with vine management. The link between production/yield and managing your property for both sustainable/regenerative agriculture.
- Wholistic approach to botrytis management
- Nutrition. PS really interesting work on glyphosate effect on root development.
- Mite management, seasonal/interseasonal framework
- Mites, botrytis

PRESENTER FEEDBACK

Melanie Weckert
Aspirations of this group are inspirational for me. Really pleased with the commitments the group have made to continued learning and pursuing cost effective options to increase biological activity.