

## Focus Orchard and Trial Update 2019

April 2019

### Future Orchard trials prove value

Prepared by Steve Spark (Agfirst)

Every two years orchard walks are planned around the mid-harvest window and although this isn't always easy for all growers or key staff to get away from a busy harvest, it is a great time to see different orchards and the results of the Future Orchards trials with fruit on the trees. This gives a better understanding of the potential benefits these trials might have on your decisions for the future. Craig Hornblow stated "seeing is believing" in a recent update and I couldn't agree more.

#### South Australia Trials

In South Australia the main trial this season is on main leader height management. Paul James (FLA) is conducting this trial on the Mason orchard. The aim being to determine optimal pruning techniques and times to maintain tree height in a mature high-density Rosy Glow planting. This orchard has been yielding very well at around 100 t/hectare, however controlling tree height on 4 metre trees isn't always effective. The initial 4 treatments include:-

1. Winter "click" pruning where the leader is routinely cut back to a weaker branch each year at the desired height.
2. Summer pruning the leader back to a weaker horizontal branch around the summer solstice (4<sup>th</sup> Week December).
3. Winter pruning the leader back to a smaller horizontal fruiting branch.
4. Growers Own Practice – which is currently to prune the leader back to 3-4 buds above the base of the current season's growth.
5. Cuts painted with NAA and pruning paint (this treatment was recently added this year).



*Photos 1 & 2: Different treatments to control tree top vigour in SA.*

Although it is too early to accurately determine which treatment is working best, it was good to walk down the rows and look at the trees without knowing the treatment and trying to determine which was giving the better results at this stage. Paul and his team will no doubt go back into the block after harvest and take some more measurements and photos to get a better understanding of which treatment is working the best. Once this trial is completed, a report will be available on the APAL website. What was interesting was this trial had given Noel, Graham and Steven Mason a better understanding of how to tackle vigour in the tops of their trees and this should lead to extending the learnings from this trial out across their whole orchard in future.

## Western Australia Trials

A similar trial is underway in Western Australia with Susie Murphy White FLA at Matt Foxes orchard. Again, it was a little too early to determine which treatment was working the best but still good to see the trees prior to harvest.



*Photos 3 & 4: Different treatments to control tree top vigour in WA.*

It is interesting that growers in both regions see controlling tree height vigour as a major obstacle to maintaining future production under netted high-density orchards. The more growers try different treatments, the better local growers can learn from these and implement on their own orchard.

I was also keen to see past Future Orchard trials as this would highlight whether these trials were of any value to growers or not.

### Snap Trees

Evaluating the value of SNAP trees was a trial undertaken by Susie Murphy White in WA (also at Jo and Lucy Fontanini's orchard) who were the past Focus Orchard. This trial took existing Cordon style trees of Fuji and Rosy Glow and applied simple single line pruning rules to reduce tree vigour and improve fruit production. This has been reported on in 2018, however I was interested to see how the trees looked after the trial had been concluded. I was very impressed knowing where the trees had come from to how they looked pre harvest 2019. Simple pruning rules well executed are still delivering significant rewards even on older trees that might be deemed out of control. Good things often take time but armed with the right skills, most things are possible.



*Photos 5 & 6: Trees at start of SNAP pruning trial 2016 and current day.*

As more and more intensive orchard systems are planted, it is reassuring to see that even strong vigorous plantings can be kept reasonably under control and yield more fruit than previously. Well done Jo and Lucy.

## Soil fumigation

The other past trial that had been also on Jo and Lucy’s orchard was comparing Biofumigants (Mustard, Rocket, and Ethiopian cabbage), beneficial bacteria, and chloropicrin against standard practice treatment of Metham. Initially the early Chloropicrin treatment was significantly ahead of the other treatments. I wanted to see if any of the other treatments had improved as this trial was still young as it was set up in early 2016. Hopefully Susie will be able to take some more measurements this winter to confirm whether any of the other treatments have caught up with the Chloropicrin. As my next photos show, the Chloropicrin is still impressively ahead but I also notice another treatment might also have pulled ahead of the others.

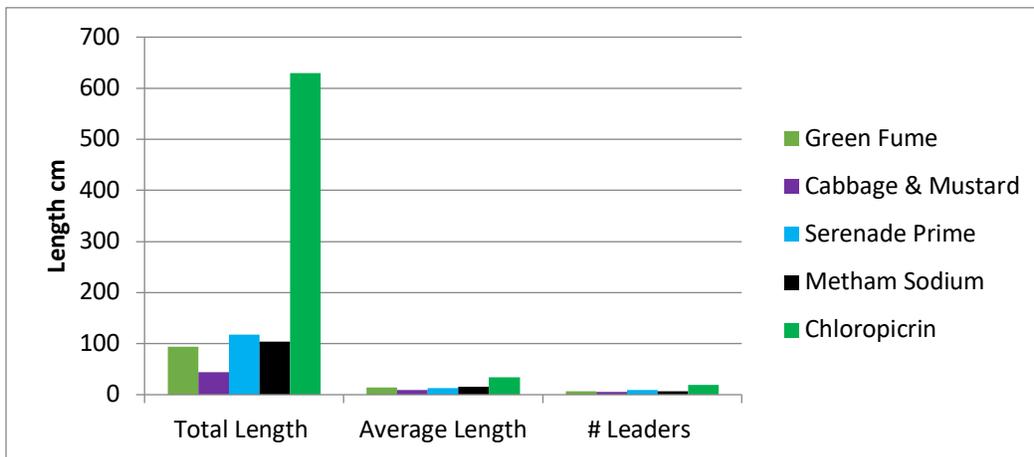


Figure 1: Tree Stem elongation of each treatment showing the total length of leaders, average length of leaders and the numbers leaders measured. Source Susie Murphy White, FLA.



*Photo 8: Chloropicrin treatment making impressive growth near the end of its second season.*



*Photo 9: shows another treatment (first 3 trees on right) also punching reasonable shoot growth compared to another treatment (trees on the left by the post).*

One of the main reasons these trials are beneficial is there ability for growers to see locally what can be achieved by trying new things, afterall “seeing is believing”. I was very pleased to see first hand that many



growers whom had seen these soil fumigant treatments where now adopting Chloropicrin as a standard soil fumigant in WA before planting in replant soil.

Special thanks must go to the FLA'S Susie Murphy White, Paul James, the growers whom kindly allowed these trials: TL & C Fontanini, RJ & J Fox & Son, and AG & HC Mason & Sons and the local WA and SA Community Groups that supported this work.