Future Orchards - Key points that have ‘caught on’

Notes by Steven Spark

July 2015

Since Future Orchards started in 2006 there have been many key points/fundamentals presented to Australian apple and pear growers from Agfirst, international and local experts. For many growers, these key points have turned on a ‘lightbulb’ that now has them up and running, pursuing new and exciting ways to increase both quantity and quality of fruit from their orchards. Literally they have ‘caught on’ to what has been presented and in a nut shell they are changing the way they manage their orchards and for many the payback is life changing.

The March Southern Loop (TAS, VIC, ADL, WA) Orchard Walks were very inspiring for me to witness first-hand the growth, transition, development, enthusiasm, innovation and passion all of the growers we visited were exhibiting. I truly came away with the impression that the Australian pipfruit growers are well on the way to achieving ‘world class status’ if they can stay on the course. Now the challenge is to get more growers into this space.

This presentation is about some of the key points or ‘lightbulb moments’ that have ‘caught on’ and ignited this new wave of passion, enthusiasm and excitement.

Maximising young tree growth

When I reflect on the early years of Future Orchards, one of Agfirst biggest challenges was to get growers to put more energy and investment into making newly planted trees grow better. There were lots of reasons we were told as to why young trees would never grow like they do in other countries. Our focus was to make the best of what the Australian growers were presented with and
push them as hard as we could through diligent use of water, nutrients and minimal competition from weeds, pests and diseases. In other words, treat young trees as an investment that must be recouped as quickly as possible, or certainly a lot quicker than was current industry practise at the time. Many growers had the philosophy of saving money and not on maximising the return on their investment. The other comment that was continually made was that Australian growers will never get trees to grow like they do in your country because our environment is different. Well, perseverance, great execution and some TLC has shown growers in all districts that anything is possible if you try hard enough and get your timing right.

**Put away the ‘snips’**

Another key point to maximising young tree growth was to put away the ‘snips’. I remember many growers wanting me to prune their young trees only for me to put the snips away and say do nothing. They were horrified. They informed me of the 1/3 rule (e.g., cut out any branch thicker than 1/3 diameter of the trunk). I INFORMED THEM OF AN EVEN GREATER RULE, ONLY FRUIT WILL PAY THE BILLS and the sooner the better.

Young tree growth suffered more from overzealous interpretation of this rule than leaving a slightly larger branch in the tree. By studying young trees more and cutting less, growers could see the tree grew bigger and better than before. This rule was often over used and over stated and it led to growers pruning too aggressively and never letting the tree build up sufficient carbohydrate reserves and energy to grow faster. Trees need leaves and plenty of them to grow quickly. The more leaf removed, the slower the tree grows. Our observations were that growers over employed this 1/3 rule at the expense of young tree development.

**Myth that M9 won’t grow well in Australia**

Another belief held dear by many locals was that M9 wouldn’t grow satisfactorily in Australia. Well gladly that myth has been proven well and truly wrong in almost every state. It was encouraging in March to see Paul James of Lenswood working on a trial that showed an excellent example of how to get young trees growing fast. He’s not the only one. The same lessons apply for M9 as the previous comments mentioned above on ‘how to maximise young tree growth’ and ‘put away the snips’.
**Nutrition and water**

Although we have seen significant inroads in these two areas, there is still room for improvement for many growers. Water is a scarce resource most years and I was impressed with the work coming from Rohan Prince, DPIWA. He showed that double drip line under shade net (hail cloth) only used 52% of the water inputs of under tree sprinklers outside of the net. Pre harvest monitoring indicated only one millimetre reduction in fruit size from the double drip. What impressed me most was the significant reduction in tree vigour which to my eye was worth its weight in gold. Well done Rohan and his team in WA. Hopefully his full report will be presented at a FO walk soon.

Nutrition has been discussed many times at FO, but the most common change I have seen is increased fertiliser applications to young trees. What’s missing is the getting the balance right in the older cropping trees to sustain higher yields, improve colour development where necessary and encourage return bloom. Ross is presenting on the Northern loop about how balancing key nutritional inputs and getting the ratios of nutrients into a better balance can have a major impact on enhancing colour development and fruit storage life.

**Tree training**

This will roll some growers eyes who are reading these notes. The key message was branches grow vigorously and fruit less when pointing to the sky and tend to be more fruitful and calmer when pointing horizontal or below. For many years we crusaded to get branches pointing down towards the ground. The argument given to us was the branches will eventually point down so why use string when nature will do it for us. Our argument was you can’t afford to wait. The sooner branches are pointing at the ground; the sooner more fruit will be produced. Eventually growers relented and started to see that although using string was costly, it actually worked and encouraged higher cropping sooner. String was just one tool but it works the fastest in most situations. Some newer varieties require very little if any training with string. As always it was about understanding your trees and what you were wanting to achieve (as quickly as possible).
Tree height
Often increased yield was never cheaper to achieve than simply growing trees taller. Now this concept doesn’t suit everyone especially if you are growing a pedestrian orchard. That’s fine. Work with your orchard to meet your needs. However in many older orchards that wanted to increase yield quickly, going up (especially when rows were 4 meters apart) was the cheapest and easiest option that worked. A simple post extension and few extra wires was all that was needed.

OBA
Orchard Business Analysis is one of the tools we used to collect financial and physical information from a range of orchards around Australia on a regular basis. From the data collected, there have been several spin-offs. Firstly the industry has up to date reliable information that it can take to government and policy makers and show the effects any law or climatic change has on the industry
and use this to fight for more funding. Secondly it is used to create an industry model which all growers can benchmark against. Thirdly those growers that participate in the survey now better understand their business and are able to make changes based on very good information. One example is a grower that was in the lower quartile and not making a profit back in 2008. From the OBA survey, they have changed the way they manage their orcharding business to now be a business that is very profitable and focussed more than ever on the bottom line. The OBA gave them the information to accurately assess their orcharding operation and make changes. This has been another very pleasing aspect of FO to us at AgFirst. Like growers we celebrate our clients/growers successes.

**Simple pruning**

Who would have thought pruning could be simple. Well that’s what FO has shown. The trial with the Batlow community orchard group and Kevin Dodds, DPI NSW, highlighted significant gains in quality and grade one fruit could be achieve by adopting simple pruning rules.

Class 1 packout increased by 20%, at $24/case the result would be an extra $96/bin Gross ($70/bin net of packing charges) per bin return – not insignificant.

These rules were...

1. Identify where the best quality buds are growing.
2. Remove **6 & 12 o’clock** shoots (avoid total removal of buds from limb - check by counting).
3. Remove **most ‘Coral Wood’** (weak spurs) from main trunk.
4. Avoid large cuts this season, as this may remove too many buds. Count.
5. Long prune laterals to simplify structure and encourage weak pendant growth.
6. Simplify tops and select new single main leader.

Now most growers freely communicate simple pruning rules to staff that are better able to implement these.

**Newer growing systems well executed**

More and more growers are trying new growing systems that suit their needs and they are to be commended. There is no need for one size to fit everybody. The key point is that execution must be very good for these investments to fully reach their potential. Newer growing systems I saw in March had been done very well.
Excellent examples or growers having a go and executing the system they are most comfortable with. The interesting point is that many of these systems are not new. They have been around for ages. What has changed is a better understanding of how to make them work and better execution is happening. More innovation is on the way in this area and growers will need to understand that whatever growing system is chosen, excellent execution and investment are required to make them work.

**Focus Orchards wanted**

Hopefully the next FO can continue and new growers accept the challenge of participating as a Focus Orchard. It’s a commitment but well worth the time. Past FO growers surveyed answered “yes” that participating in “Focus Orchards” program was a rewarding one. They also all stated that their business had improved as a result of their involvement in this program. So if you’re up for the challenge and feel it’s your turn to step up, please let Angus, your FLA or the AgFirst consultant know and we will put your name forward. Participants will be required in each region.