Dear Grower or Industry personnel

Welcome to the Nov 2017 edition of the Business Development Group (BDG) newsletter. You are receiving this newsletter as an active contributor to the APAL Future Orchards program.

Growing young trees

The visit by Tom Auvil (USA) during the recent rounds of orchard walks was a very timely reminder of all the management factors we need to consider to maximise the growth of newly planted blocks in their first 1-3 years.

Toms recommendations were as follows:

1. Test the site on a grid pattern for soil structure and soil base fertility. Adjust both while the land is fallow. Interesting that Tiennie Dupreez from SA recommended the same
2. Work the ground up well, creating a fine tilth, giving the new small roots good soil contact
3. Sterlise the soil with a fungicide/nematicide mix
4. Avoid tree dehydration between the nursery and planting
5. 24 – 48 hrs prior to planting, rehydrate the whole tree by soaking it under a sprinkler for 24 hours
6. Have irrigation water available immediately after planting
7. Drip irrigation is far superior to sprinklers, in that it gets the water where its required in a young tree
8. Irrigate little and often, keeping the soil at just below field capacity (micropores full of moisture and macropores full of oxygen). Monitor soil moisture closely
9. Avoid all weed competition
10. Nutrition is critical. Address the blocks main requirement prior to planting. Fertigation in the first 1-2 years is highly effective. The USA predominately uses UAN as its form of fertigant nitrogen.
11. Keep the trees pest and disease free. Many growers underestimate the debilitation caused by powdery mildew. Your leaves should not have crinkled edges, they should be flat and a nice green colour (see Fig 1)
12. Monitor the growing tips on a regular basis. The tips should remain active, have 4 unfurling leaves and measure 6-8 mm in diameter at the first mature leaf (see Fig 1 below).
13. Use the leader extension tool on Orchardnet to track leader growth rate. Growth rates of 15 cm per week and 1.0 m in a season are possible if you can maximise everything. For instructions on

Figure 1 Laurie Dodds (Batlow) with an active shoot and beautiful flat green leaves

**Block Productive Performance**

We encourage all our OrchardNet subscribers to keep their production data up to date and utilise the many tools to farm accurately toward your 2018 target. When entering production data we encourage you to enter the blocks previous 2 years production and then enter an estimate for 2018.

Analysis of the production data within OrchardNet has shown good improvements in Australian productivity over time as shown in Figures 1 and 2 below.
Since 2010, Royal Gala productivity of all blocks that have been monitored, has increased from 24t/ha to be currently averaging 45t/ha for all tree ages. The 2017 harvest is showing a 9.5% increase on 2016 based on the data to date which we find a little hard to believe based on all the stories we’ve heard about last years Gala harvest. Before we can make too many Australian wide assumptions we need to build up the 2017 database as currently there are only 81 blocks (98ha) entered for 2017. By comparison 2016 has 212 blocks and 714 ha captured.

Do you know where your blocks sit in comparison? Jump online, enter your own data and see how your blocks compare.
Figure 3 AU Cripps Pink (and red strains) productivity (gross kg/ha)

![Rosy Glow Production Chart](chart by amcharts.com)

A similar trend is showing with Pink Lady types with production during the period 2011-2014 averaging just under 50 t/ha. The 2017 Australian average is currently sitting at 65.3/ha, 70% Class 1 and 163 gm avg (96 blocks). This is another significant increase. It will be interesting to see if this changes as more and more growers enter their 2017 crop result.

OrchardNet can plot your blocks performance against the regional and national average by year and by tree age. It will also help you define the “sweet spot” where each of your blocks are optimized to make maximum profit.

Once your historical data is entered, then enter your target crop for 2018 including Class 1 packout, fruit size and Pickout. Once that is done, your thinning reports will work and give good guidelines on fruit numbers to thin to per tree.
Fruit sizing

Now is the right time to start fruit sizing if you want to use this really valuable monitoring system. There is no better way to be able to monitor the performance of your trees.

Last year the number of blocks using the fruit sizing component alone reached 400 which meant that district and national averages were very robust and made for good comparisons. This year we want to try and reach 500 blocks so please get on board and use the service.

Fruit Sizing Protocol
The protocol you use will depend on the intended use of the data. If you primarily want to monitor growth rate and an accurate fruit size prediction at harvest is secondary, we suggest monitoring 20 fruit per block weekly.

Go to a representative row in the block and mark 4 average trees with coloured tape. You will probably choose a row that you need to visit regularly for other reasons e.g. pest traps or soil moisture monitoring sites. Close to the tape, mark 5 representative (average) pieces of fruit. You can either write directly on the fruit with a permanent marker or tag the fruit with a numbered breadclip. Both options are shown below. You will therefore mark 20 fruit per block. The same fruit are measured either weekly or fortnightly, we recommend weekly to really get a good idea of growth rate.

To enter your fruit size data into Orchardnet, Go to the fruit size data entry screen by clicking into the block and then click on the Red Apple icon, where it says “View fruit size data and reports”

Enter the date the measurement was made, the average reading and the number of fruit measured. Also make sure your Full Bloom date is entered. Once this is done, you can run a series of management reports that can assist you make better orchard management decisions.

The figure below shows the growth rate of a Gala block VC40 in Southern Victoria. The growth rate in the 2011 season was just over 4mm/week which is better that the corresponding weeks historically and above the national average of 3.75mm/week.
If you require fruit size monitoring to give you good data for crop estimate profiling, we suggest you increase the number of fruit to 100 minimum per block. This is best done using digital computer interfaced calipers.

To be able to participate with any of the projects discussed please either contact our OrchardNet administrator (Adrian.stone@agfirst.co.nz) or contact your local Front Line Advisor (details below)

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