

FUTURE ORCHARDS ` BUSINESS DEVELOPMENT PROGRAM

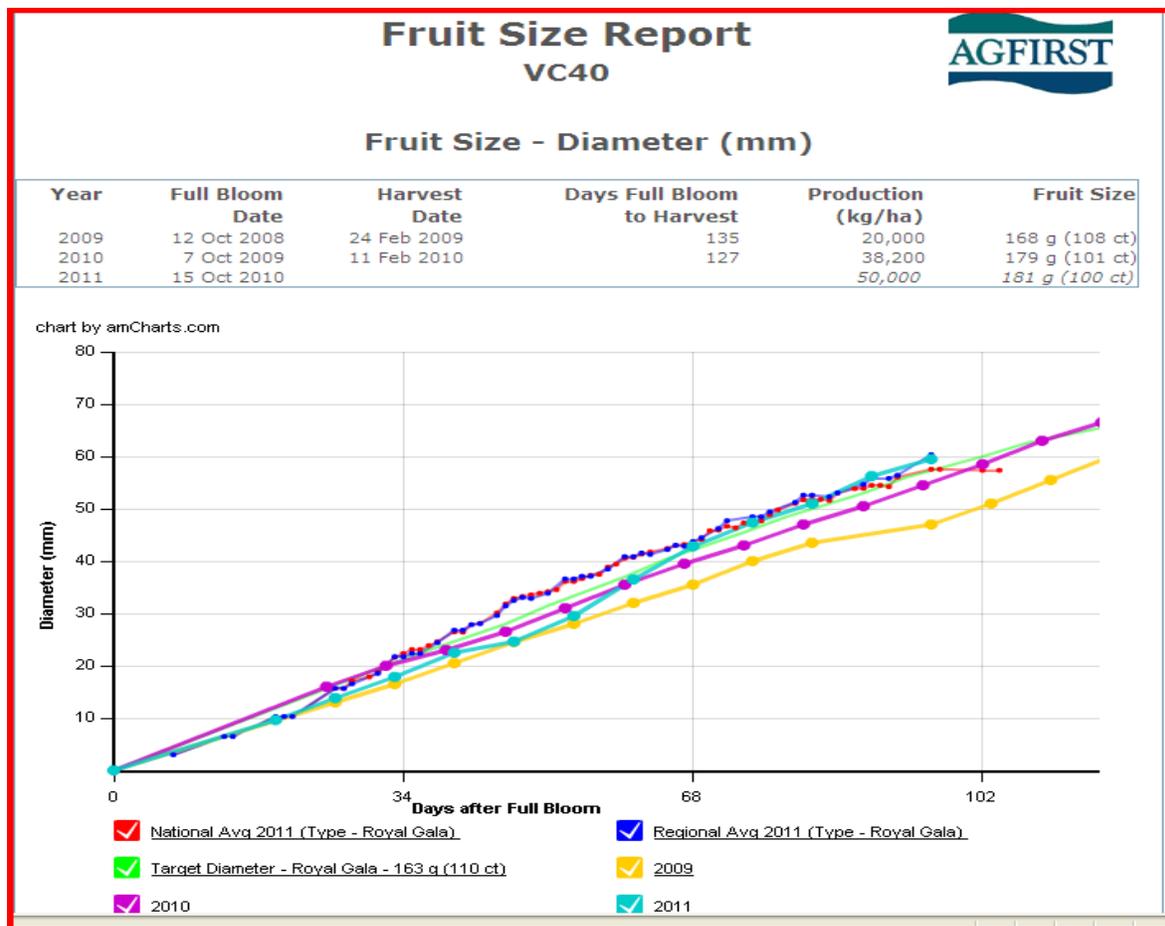
Fruit Size Progress Report – Mid January 2011

90 days after full bloom (AFB) is around about now for many Australian orchards, because of the later than normal blossom timing this year.

The 90 day AFB stage is when trees that are over cropped are likely to see fruit sizing stall, so careful fruit size monitoring over the next couple of weeks will indicate if crop loads are on the heavy side.

Gala Group

To date, average Gala group fruit sizing is very good with fruit still growing at around 4mm a week and some orchards still showing 5mm a week, which we consider exceptional, as the graphs below for VC40 indicate. (For those with eager eyes you might notice that the national average has flattened off recently. This is an anomaly due to the fact that some of the very early districts have smaller fruit size).



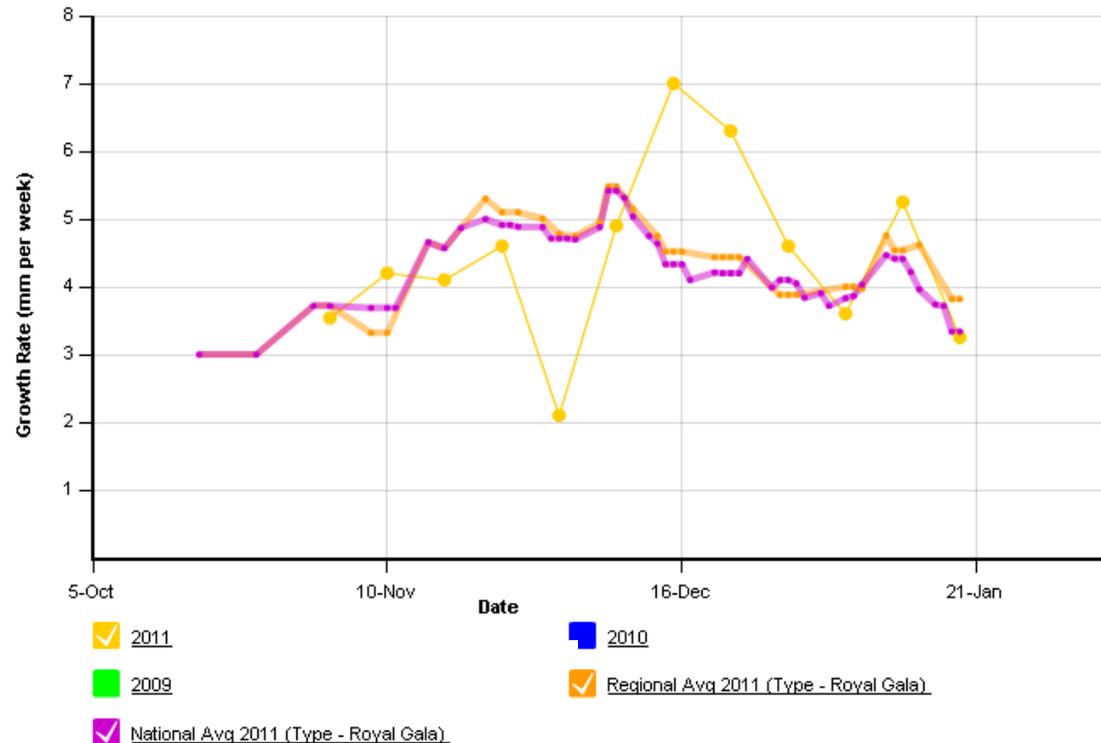
Fruit Size Report

VC40



Fruit Growth Rate - mm per Week

chart by amCharts.com



VC40 is on target to give large fruit size, as can be seen from the 180g growth curve and its size relative to the national average. This assumes that harvest will be around 130 days from full bloom. Should the period from full bloom to harvest be less than this, the fruit size will be smaller.

Going forward we should expect the weekly growth rate, measured as diameter, to fall back probably to about 3mm/week. Remember that this does not mean total fruit growth rate is slowing. As fruit size increases you need less mm diameter increase in a week to achieve the same volume or weight increase. Apples without stress increase their weight almost on a straight line basis.

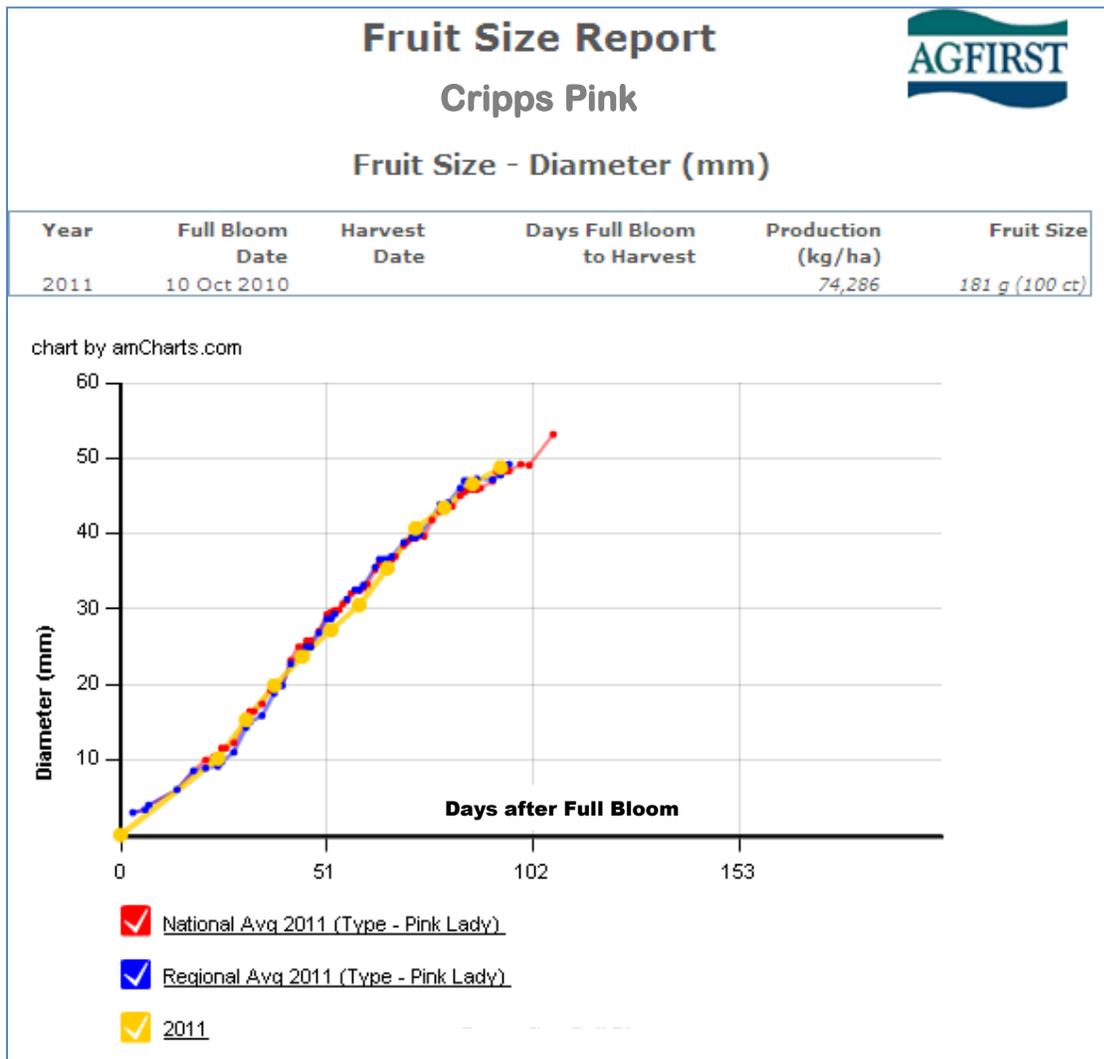
Where crop loads are heavy and fruit is beginning to stall, thinning off the small fruit will improve average fruit size and get fruit growth back on track. Where fruit is being thinned to size, the OrchardNet® Fruit Size reports can be used to monitor size response, as well as to adjust the fruit size specifications for the thinners to work to.



Cripps Pink

National fruit sizing averages show that Cripps Pink has an initial surge in growth coinciding somewhere about the end of cell division, then as the last report showed, where historical sizing data was given, a steady decline in rate of sizing and is now just under 3mm/week. Growth rate can be expected to continue falling, eventually down to between 1 – 2mm/week near harvest. (see comments above re fruit weight)

The Rosy Glow reports, shown below, are from a block with a history of oversize fruit problems and because of several weeks of high fruit growth rate in December, fruit size at the moment is sitting about 8mm above its size at the same time as last year.



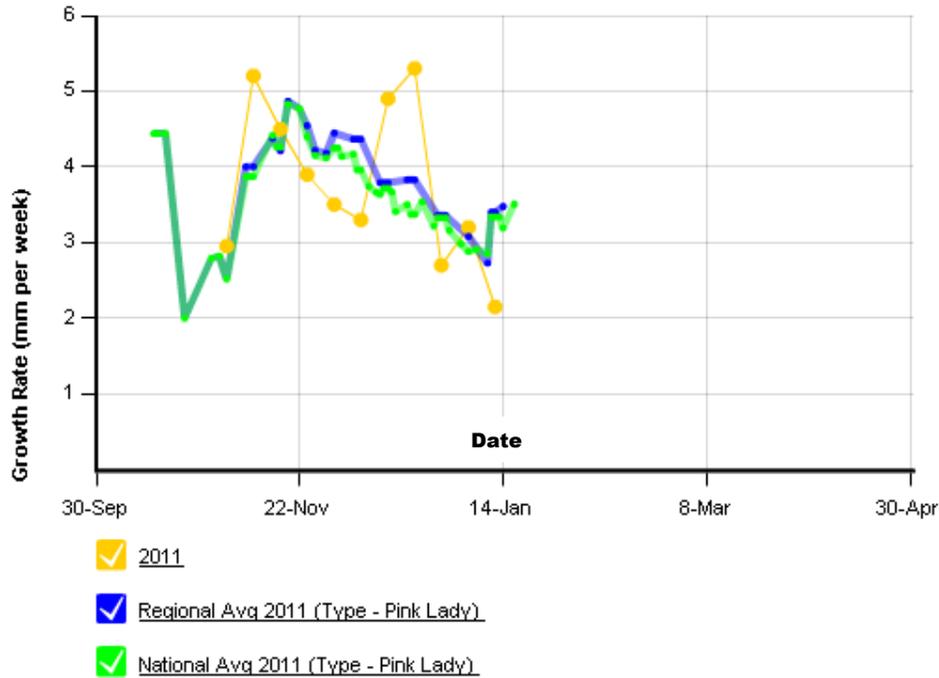
Fruit Size Report

Cripps Pink



Fruit Growth Rate - mm per Week

chart by amCharts.com

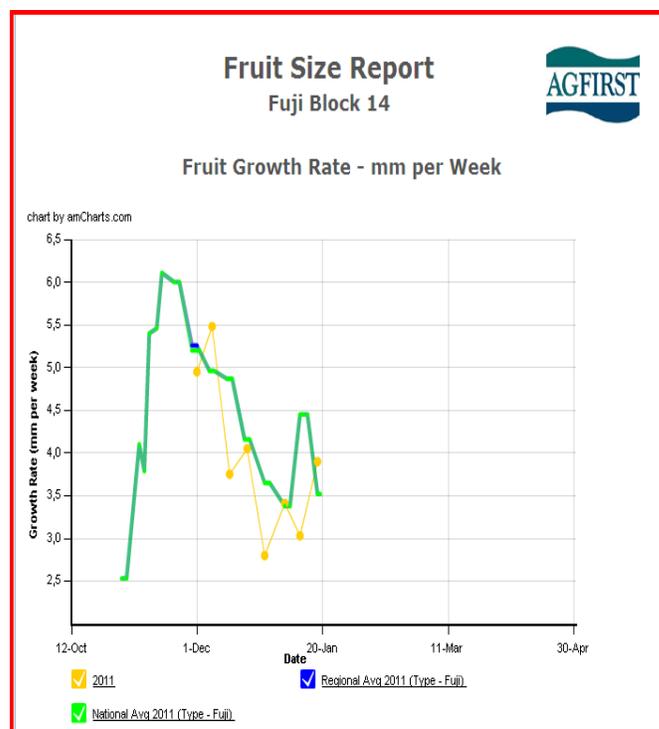
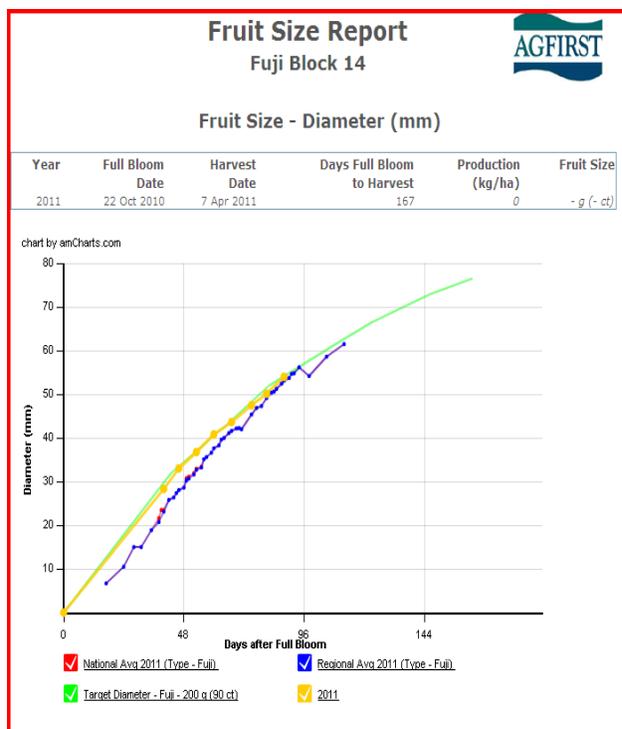


These graphs show how the block compares with National and Regional Cripps Pink crops. Fruit size at this stage is right on the National trend line and its current fruit growth rate is now below the average for this variety. If this slower growth rate can be maintained and the fruit colour development brought forward to similar harvest dates as the normal Cripps Pink harvest period, the risk of oversize fruit problems should be reduced.



Other Varieties

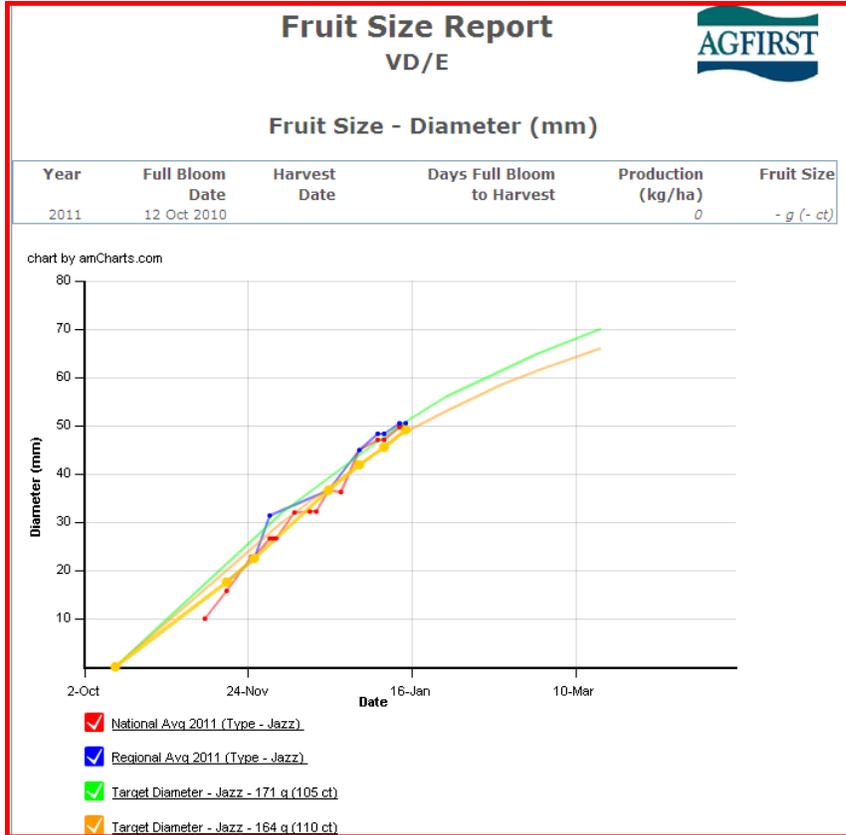
Below are Fruit Size & Growth Rate Reports for Fuji



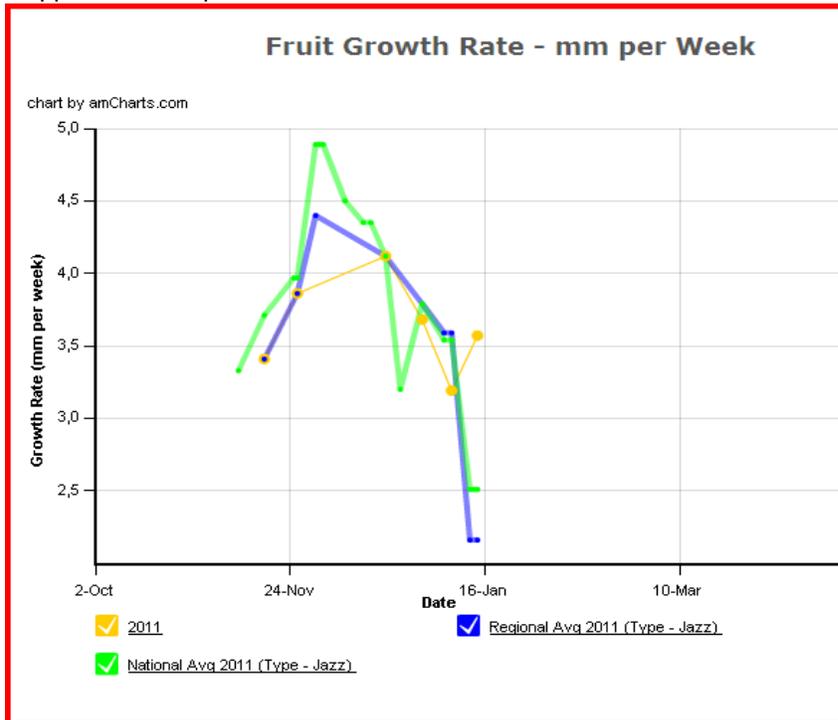
Note the feature of peak growth rates occurring in late November which probably coincides with the tail end of the cell division period overlapping with commencement of growth through cell expansion.

Average Fuji peak growth rate was around 6mm/week, with the block shown here ranging between 4mm and 5 mm, before growth rate established the typical decline post this period. Fuji is naturally a large sized apple, so it can be expected to grow at a faster rate than smaller fruited varieties. Growth rates are now around 3.5 - 4mm/week on average.





National average appears to be on track for a 105 count average (171gms) with the block in the graph more likely to be a 110. Growth rate on VD/E is maintaining at 3.5 mm /week whereas the regional average has dropped to 2 mm per week. Someone out there needs to take a look at their block.



Average Jazz™ peak growth rates are lower at just below 5mm/week and have now fallen to 3.5mm/week, which incidentally is above the present New Zealand growth rate of 3mm/week, although fruit size at the moment is similar because of New Zealand's earlier flowering.

General

Regular fruit size monitoring using the OrchardNet Tool, clearly helps understand fruit behaviour on a real time basis. As crop load effects and environmental stress factors may not show their full effect on fruit sizing until well into the growing season, it is important for the fruit size monitoring to continue to the commencement of harvest.

With better knowledge of fruit growth behaviour in the later part of the growing season, husbandry decisions such as further hand thinning, irrigation management, harvest delay with Retain®, or advancement of harvest strategies can be made on a sounder basis because you have better data on what is happening to fruit size.

OrchardNet

The reports you see within this report are all generated from the OrchardNet online database. We now have over 150 Australian blocks entering data either themselves or through a consultant or third party. APAL have funded 200 blocks this year so we still have some capacity. If you know of someone interested in participating please contact deanna.corbett@agfirst.co.nz or Richard Hawkes at tm@apal.org.au