

April 2016

In this issue:

Western Australia.....	2
Queensland.....	5
Riverland, Murray Valley and Riverina	7
Processing report.....	10
Contributors.....	11

Season Update, facilitated by HIA in partnership with Citrus Australia, is funded by the national citrus research and development (R&D) levy. The Australian Government provides matched funding for all HIA R&D activities. *Season Update* provides a monthly summary on the major citrus growing regions.

This publication is developed with contributions from Mal Wallis, Citri Care, Queensland; Steven Falivene, NSW Department of Primary Industries; Bronwyn Walsh and Kevin Lacey, Department of Agriculture & Food WA; and Stefan Worsley, www.juicemarket.info.

Western Australia

Climate summary

Heading into April there is normally a relatively large fall in temperature across all growing regions. Minimum nighttime temperatures drop by 2°– 3°C in the south west of the State (Badgingarra to Donnybrook) and by about 3°C for Carnarvon and Kununurra. Daytime temperatures decrease by 2.8°–4.3°C in the south west and 0.3°– 2.5°C for Kununurra and Carnarvon respectively.

Rainfall normally increases by 10mm, 19mm, 35mm and 25mm from Badgingarra down to Donnybrook. In Carnarvon and Kununurra rainfall decreases by about 2mm – 124mm respectively based on historic average rainfalls.

Evaporation and irrigation: Average daily evaporation rates for the coming month of April are: Harvey 4.4 mm, Karnet 3 mm, Gingin 4.7 mm and Carnarvon 6.6 mm. A large citrus tree (14 meter square canopy area) will use an average of 29 – 46 litres of water each day during April in the south-west and 65 litres in Carnarvon.

Seasonal outlook

April to June is likely to be 60–65% chance of wetter than normal over most of WA citrus production areas. In the far north however it is likely to be drier than average.

There is an over 60% chance of warmer than normal days and nights for WA, south of Lancelin and north of Carnarvon.



Phenology

Most early season varieties reach 50 to 60% colour in mid to late April. Some mid-season varieties have now reached colour break. Colour break is when the rind changes from dark to light green.

Keep a good record of when colour break occurs in each variety in your orchard. This will help with the accurate timing of GA applications.

GA Applications for rind quality

For maximum delay of rind aging and extension of harvest apply 10 ppm GA at colour break. This may delay colour development by 20 to 30 days. Ten parts per million of GA applied at 10–50% colour may delay colour development by 10–15 days. Note: Late navel colour development is more sensitive to GA than other navels.

Apply GA to Imperial mandarins at three-quarter colour for the management of watermark.

Internal maturation rates

Monitor maturation rates of fruit closely and ensure fruit meet the minimum Australian Citrus Quality Standards before harvest. Fruit that does not meet these standards will result in a poor eating experience by consumers. The resulting consumer backlash has impacts on the entire citrus industry.

Growers in WA can send their fruit for two tests per variety for pre-harvest testing. This is part of a WA program in the industry development project that complements testing from the retail and wholesale market. Imperial and Hickson mandarins in particular should be sent in for pre-harvest testing to get the best time to pick.

Harvest timing

Think carefully about the timing of harvest as this can have a significant impact on the rind quality of the current crop and on flowering and fruit set for the next season. A late harvest for any given variety will reduce flowering the following season, particularly in many mandarin varieties. For mandarins, have an early select pick, taking the largest and most coloured fruit first. This takes the load off the tree and allows the remaining fruit to increase in size.

Copper sprays

Spray copper before autumn rains to protect fruit from fungal infections and disease. Copper works by protecting the fruit surface on which it is applied. It does not kill fungus in already infected fruit. Coverage deteriorates over time as fruit grows and when exposed to wind and rain. Note: Copper can darken blemishes such as wind rub.

Copper foliar sprays can also be used for the management of snail populations, forcing them out of the canopy and onto the ground where baits await. Be careful not to contaminate ground applied snail baits with the copper spray as this will deter the snails from eating them.

Soil management

If your soil requires the addition of gypsum (for soil structure improvement in heavy soil types) or lime (to increase soil pH or make it more alkaline) now is the best time to apply.

Pests

- Copper sprays should be applied before autumn rains to reduce the incidence of Septoria spot, greasy spot, Phytophthora, brown rot and anthracnose.
- Monitor leaf miner and control with oil sprays when activity is detected.
- Monitor scale crawlers and apply oil spray to infested areas when crawlers are active.
- Continue to monitor fruit fly levels and control with bait sprays. Be prepared to increase baiting frequency and density if trap numbers indicate the need.
- Continue to KILL THOSE SNAILS! Snail activity will increase towards the break of season and now is the best time to bait. Autumn baiting will kill adult snails before they have a chance to lay eggs. Snails are also hungry after their summer hibernation.



- Monitor for distinctive woody galls which can grow up to up to 250 mm long and 25 mm thick on citrus twigs. These can contain hundreds of larvae. Early detection of galls in orchards is essential for preventing their spread throughout your property. <https://agric.wa.gov.au/n/3398>

Queensland

Climatic conditions

Consistently hot and relatively dry conditions have prevailed throughout most of the growing districts of Queensland during March. Gin Gin has fared quite a bit better than other areas for rainfall throughout the month. Both of the average minimum and maximum temperatures are 1 –2 °c above historical averages.

Location	Monthly Rainfall mm	Historical Avg Rainfall	AvgMax Temp °c	Historical Avg Max Temp	Avg Min Temp °c	Historical Avg Min Temp
Gayndah Airport	31.4	63.8	32.6	30.9	19.9	18.6
Mundubbera Post Office	4.2	64.6	N/A	N/A	N/A	N/A
Emerald Airport	20.8	57.3	33.3	32.6	22.1	20.2
Gin Gin Post Office	93.3	123.9	N/A	N/A	N/A	N/A

Phenology

Early season Grapefruit, Lemons, Navelinas and Imperials are nearing harvest in selected blocks.

In general the external colour of the fruit looks to be behind due to the above average temperatures received during March (particularly the very warm nights). Internal qualities of the early Imperial blocks are close to the Brim A level of 110. The first samples of Gold Up mandarins that have been tested in the market have exceeded the minimum maturity level which is encouraging.

Fruit size is reasonably good with most growers quite happy with the size profile of their blocks. The majority of the Imperial blocks have an average diameter of 52–59 mm.

Pests and diseases

Queensland fruit fly pressure remains a constant for most growers, particularly aided by the warm and humid conditions of the past month. Baiting should be carried out twice per week in all early season varieties and at least once per week in midseason varieties.

Black spot levels continue to increase in some blocks as the fruit matures. The main varieties affected at this stage are Lemons, Imperials and Navels.



Severe black spot infection in Lemons

Oriental mite incidence has been sporadic and seems to be related to their insecticide usage during the season.

Jassids are causing problems in some Imperial blocks. Some damage is being seen even in blocks that have very low numbers of the insect.

Emperor brown spot levels are very low at present. Pressure from this disease will increase from April onwards as the temperatures decrease and the moisture levels from heavy dew and fog increase.

Riverland, Murray Valley and Riverina

Climate

Mean daily minimum and maximum temperatures were 2–3 degrees above average for March. No rain occurred.

Phenology

The fruit are at colour break and maturing. Early navels have commenced colouring.

Management

Cling Sprays

The warm autumn conditions might hasten the development of fruit. The application of a cling spray is important to reduce premature fruit drop especially on susceptible varieties (Leng) and late hanging fruit.

Early season varieties can be sprayed now (mid–April) whilst mid to late season varieties can be sprayed in early to mid–May.

A second spray before bud burst (early– to mid–July) might be required to hang fruit longer. Sprays applied after bud swell (late–July) might distort new growth.

Fruit sprayed with cling spray have less button tears. Removed buttons are a possible site for disease infection. Refer the label if GA can be mixed with the cling spray.

Spread your harvest – GA

The warm autumn conditions might hasten the development/age of the rind. Late harvested fruit are susceptible to rind aging. Not all fruit can be harvested/shipped/marketed in the early part of the season. The late season marketing of fruit is identified as an opportunity.

If winter rains delay your harvest you could be left with over mature fruit that have a high susceptibility to rind breakdown and are unsuitable for export. The application of GA now can significantly assist in maintaining good rind quality. It can delay rind development up to 2 weeks. It can also help to reduce puffing of mandarins.

GA application will provide benefits if harvest is delayed. Applying GA during the later colour development stage (i.e. half to three quarter colour) is considered to have some benefit, but a lesser effect as compared to the early colour break stages.

Lower GA rates are required for late navel varieties. Discuss GA options with your packer and/or advisor and check with your state authority. Always follow label recommendations.

Fruit development

Fruit size has been good again this year. Wind blemish is average. Crop estimate information will be available from the Citrus Australia website by mid–April.

Disease Management – CRITICAL

It is **critical** to apply Copper sprays (if not already) to protect fruit from fungal infection and reduce the incidence of Septoria spot, Phytophthora brown rot and greasy spot in the orchard. **Copper will NOT protect against sour rot or blue/green mould.**

Do not mix copper with other chemicals and do not acidify the mixture. Anecdotal evidence suggests “red” formulations of copper does not darken wind blemish.

Snails & Fuller Rose Weevil

Autumn rains have begun in early April and now is the time to apply snail baits to control snails before breeding occurs. Baiting is mainly required for fruit destined for USA, so discuss snail baiting requirements with your packer. Spray copper for disease control and to deter snails entering the canopy. **Spray copper before you apply baits.** Ensure tree skirts are maintained and a good weed control program is implemented to reduce FRW risk and soil diseases affecting fruit. Maintain trunk sprays as there is a high incidence of FRW.

Export Protocols

Continue with snail baiting if required and maintain tree skirts to reduce the ability of pests (FRW) to move into trees. Closely monitor fruit destined for Korea for Red Scale

Pests & Diseases & Issues

This is the last pest report for the season

ALERT : Recent extended warm weather can lead to Red scale infestations. Various stages are present and still releasing crawlers. A medium level of scale now can lead to a high infestation prior to harvest. Immediately monitor blocks and assess if action is required.

Riverina

Red Scale: Red scale at all growth stages are seen throughout the district. There is a significant risk that infestations can occur from moderate levels of red scale.

Parasitism has been increasing over the past few weeks however in some situations parasitism will not be enough to manage scale to acceptable levels. Blocks should be carefully monitored now and immediate action taken if exceeding threshold levels.

Soft scales & Mealy Bug: No major issues at this time.

Spined Citrus Bug: Still prevalent in Mandarin and lemon blocks. Occasionally seen in Valencia. Monitor and control accordingly.

Mites: Some isolated cases of Two Spotted mite seen on blocks using trunk band spraying. Generally present in most blocks at lower levels and not requiring action.

White Fly: Occasionally seen in blocks but only a couple of blocks have required control. They generally get controlled by predation.

Sunraysia

Red Scale: All stages of Red Scale are being seen and crawlers are once again settling on fruit. There is a significant risk of red scale increasing in numbers during the extended warm autumn. Action needs to be taken now if red scale are above threshold levels. Paraffinic oil should be used from now on as this has little effect on delaying colour. Petroleum-based some oils have a high risk of delaying colour development.

Light Brown Apple Moth: No issues have been detected.

Mites: Two Spotted mite has been a problem again this year on blocks using trunk band spraying. The issue has been exacerbated with the hot dry summer conditions. Paraffinic oil has provided adequate control in most situations.

Soft Scales: Generally under control.

Spined Citrus Bug: There has been a slight increase in activity and Mandarin and lemon blocks should be monitored and controlled accordingly.

Fullers Rose weevil: Numbers have been increasing over the past few months as expected. If you are intending on exporting your fruit to China, Korea and Thailand, you should have finished your skirting and weed control by now. DAF inspectors are being carried out now; all controls must of been done by now. If blocks are not skirted and weeds not controlled, it's very likely you will be excluded from these countries.

Riverland

Red scale: Another generation could develop over the next month and increase the infestation of Red Scale on fruit. Moderate levels of Red scale should be controlled. Control options need to be carefully considered as the fruit are large and extra volume is required to ensure that sprays can reach around all parts of the fruit. Some parasitism has been seen but may not be enough in some situations.

Mealybug: Numbers have been below average, possibly due to the hot summer conditions increasing mortality. Levels are expected to be low for the rest of the season

Light Brown Apple Moth: Not an issue at the present time.

Two Spotted Mites: Not a major issue however some spikes have been occurring on blocks treated with trunk band sprays.

Other Mites: Levels are generally low.

Soft scale: Isolated infestations have been seen mainly in young trees with ant issues or top worked trees.

SCB: Blocks that were treated in January and February generally have lower pressures, however untreated blocks might have an infestation that requires control. In most situations minor levels should not be threatening as their development cycle will slow down in the cooler autumn and winter months.

FRW: Detection of Adult Fullers Rose weevils have increased over the past couple of months as expected.

Processing Report

The 2015/16 Valencia crop is larger than anticipated and the market is now faced with a slight over supply of fruit.

Price levels for industrial fruit on the spot market have sunk to just AUD180–200/tonne. Contracted supplies were fixed at AUD270–300/tonne before the season began.

The abundance of cheap fruit has reportedly prompted some processors to look at promotion activity in a bid to reduce the glut. Producers say the lower pricing will also mean that they can reduce retail prices allowing them to compete with supermarket giant Aldi, which is now selling cheap imported orange juice in Australia. Juice is a very price sensitive category and is seen as a luxury item by many consumers.

Current yields remain good at 480–490 litres of juice per tonne of fruit. Brix levels are tailing off and juice ratios are up at around 18.

In spite of the measures being taken to reduce the oversupply, industry sources suspect that there will still be 2015/16 Valencia fruit on the trees when they begin harvesting the 2016/17 crop. Picking a ‘double-crop’ typically causes problems with juice ratios due to the difference in acidity and brix between the fruit from each crop. Production from the 2016/17 crop is predicted to be the same or smaller than the current crop. Processors say it is too early to give any indication on pricing.

The long-term outlook for the Valencia crops is for declining production.

Overseas

The USDA has increased the forecast for Florida’s current 2015/16 orange crop by 2 million boxes to 71 million boxes. The adjustment was made in the Valencia forecast which was reduced to 35 million boxes, from 33 million boxes.

Analysts in the US suggest the upward amendment is attributed to a better-than-expected drop rate.

The FCOJ futures market was driven down by speculators in early in March, but has rebounded to trade around USD1.43/lb.

The 2015/16 processing campaign in Brazil ended last month, but the poor crop in the US has meant that Brazilian processors are continuing to run fruit, in spite of the low yields at this time of year.

The second bloom for the forthcoming crop in Brazil failed to set in most areas, but the first bloom was strong. A large single bloom should lead to good juice yields. The industry is now trying to get a handle on fruit sizing. If fruit sizes are okay then producers can expect a larger crop than last season. The current estimation for the 2016/17 crop is around 290 million boxes.

Contributors

Mal Wallis, Citri Care, Queensland

Steven Falivene, NSW Department of Primary Industries

Stefan Worsley, www.juicemarket.info

Bronwyn Walsh and Kevin Lacey, Department of Agriculture & Food WA