

March 2016

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***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.*

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Western Australia

Heading into March rainfall normally increases by a small amount (1 to 3mm) north of Perth, and a little more south of Perth (3 to 9mm). In the north of the state, rainfall normally drops by 3mm in Carnarvon and 50mm in Kununurra. March temperatures generally drop by 1–2°C for most of the State. Carnarvon and Kununurra see relatively similar temperatures to February.

Seasonal outlook – March to May

From March to May there is roughly an equal chance of a wetter or drier season over most of WA. In Kununurra there is a low chance of above median rainfall for the period. The outlook for daytime and nighttime temperatures for March to May is 60–80% chance of warmer days and nights, except for Carnarvon, which will not get warmer nights.

Information on wind forecasts for those timing spraying can be found on the Bureau of Meteorology website: <http://www.bom.gov.au/australia/meteye/>



Phenology

All varieties are in the cell expansion stage of fruit growth. Keep an eye out for colour break and record when this occurs. Colour break is when the rind changes from dark to light green. This occurs as early as mid-March for some varieties.

The key management goal during the cell expansion stage is to maximize fruit size. Moderate temperatures (20 – 30°C) during January and February, optimum fruit loads and correct irrigation scheduling favors good fruit growth during this stage.

Irrigation

Late summer and autumn is the best window for reducing water applications if water resources are running low. Minor water stress at this time can be tolerated without a major effect on fruit size. Prolonged water stress will however reduce fruit size, and is more pronounced when the crop load is heavy. Prolonged water stress can also influence internal fruit quality characteristics, increasing the acidity and Total Soluble Solids (TSS) of fruit, while slightly decreasing percent juice. Mid-summer and autumn leaf flush will be suppressed, which can affect next seasons flowering sites.

Nutrition



Now is the time to **leaf test**. Collect the smaller narrow leaves that formed in the cool conditions last spring. You can see these amongst the foliage if you stand back from the tree and look. Collect leaves from spring flushes that have not gone on to produce further leaf flushes or fruit. It's best to sample at the same time each year, sampling healthy trees of the same type. Take 3–4 leaves from each tree, sampling from all sides of the tree.

Fertiliser applications should taper right off towards the end of March. Excess applications of nitrogen and potassium after this time can cause delays in maturity and colouration and produce coarser rinds.

Rind quality

Apply GA to navels at colour break for maximum delay of rind aging and extension of harvest. 10 ppm GA may delay colour development by 20–30 days. Note: Late navel colour development is more sensitive to GA.

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. As only minor fruit growth occurs after March, an early autumn application of copper provides reasonable protection until harvest. Note: Copper can darken blemishes like wind rub.

Pests

- Monitor for **leaf miner** and spray young growth with white oil when detected, particularly on young trees. Oil sprays reduce leaf miner numbers by reducing egg laying and should be applied before too many eggs have been laid. New growth should be protected as soon as it is formed.
- Monitor **scale crawlers** and apply oil spray to heavily infested areas when crawlers are active. Consider a second release of Aphytis for red scale control if levels of parasitism are below 20%.
- Ensure you have your **ants** under control as they exacerbate scale problems.
- Consider releasing Green lacewings if **Mealybug** is a problem.
- Continue to monitor **fruit fly** levels particularly as we head towards colour break.
- Monitor for **Kelly's Citrus Thrips** weekly until calyx closure (around March) and **Greenhouse thrips** weekly on fruit to be harvested late (January – March). Take action if 5% or more fruit is infested with Kelly's Citrus Thrips, 10% or more for Greenhouse thrips.

Queensland

Hot and humid conditions have been experienced throughout all growing districts during February, with extended periods of widespread storm activity. With these storms, all districts received excellent rainfall with Emerald receiving twice their historical average. Temperatures remained roughly in line with average however these were coupled with high humidity, making it appear quite a bit warmer than it was.

Climatic conditions

Location	Monthly Rainfall mm	Historical Avg Rainfall	AvgMax Temp °c	Historical Avg Max Temp	Avg Min Temp °c	Historical Avg Min Temp
Gayndah Airport	108.3	93.8	32.7	32.4	20.2	20.6
Mundubbera Post Office	147.5	93.1	N/A	N/A	N/A	N/A
Emerald Airport	189.8	91.3	34.6	33.3	22.4	21.9
Gin Gin Post Office	154.8	156.3	N/A	N/A	N/A	N/A

Phenology

Cell expansion is still underway and most of the fruit appears to be sizing quite well with most growers happy with the size profile of the fruit at this stage of the year. The rainfall experienced during February will aid the sizing process immensely.

There does appear to be quite a heavy crop of fruit across most varieties. This also includes Murcott mandarins, which is at complete odds with how the crop looked during the flowering process. For the most part, blocks flowered sporadically and a little late compared to normal (related to their crop load and harvest program during 2015) however there now appears to be more than adequate fruit for this variety. Imperial mandarins have again set a heavy crop and growers are now finishing their thinning program for this variety and those others that require crop load manipulation.

Pests and diseases

Pest and disease pressure appears to be reasonably low for this time of year.

Lemons and limes that are producing an out of season crop are showing some signs of susceptibility to thrips and broad mite. Emperor brown spot infection levels remain quite low, which is somewhat of a surprise given the weather conditions experienced recently. Although the trees were wet every night which would normally be the most favourable conditions for the development of this disease, it can only be thought that the hot temperatures experienced during the day prevented the onset of this disease.

Black spot has started expressing in some blocks of Lemons, Navels and Imperials. It can only be hoped that this latent disease does not start vigorously expressing in these varieties as it did a few years ago.

There does not appear to be a lot of pressure from jassids in early season varieties at this stage. Following the rain, there is now a very large flush on the trees from which the jassids may multiply their numbers. Growers need to be aware that this may occur and treat accordingly to prevent these jassids moving from the flush to ripening fruit. Queensland fruit fly is starting to cause some damage in early maturing Imperial mandarin blocks. Growers should be baiting all of their early season varieties once per week and considering increasing the frequency to twice per week if the fruit fly pressure increases.



Queensland fruit fly damage in Imperials

Riverland, Murray Valley and Riverina

Climate

Mean daily maximum temperatures were about two degrees above average and the maximum temperature was one degree above average. No significant rainfall occurred in February.

Phenology

Fruit are in the cell expansion stage.

Management

Fruit size & crop load: Fruit size is good for navels again this season as in the previous few seasons. Navel crops are around average and slightly better than last year. Imperial mandarin crops are generally better than last season, however there is a high level of variability with some blocks with very little and some with a good crop load.

GA for rind development delay: It is possible that the warmer than average autumn may facilitate maturity and the aging of rinds. This could affect ability of rind integrity for long shipments. Growers need to consider targeted sprays on selected late harvesting blocks from colour break (April) to delay rind development. Check with your packer on rates.

Nutrition: There is a high risk that trees bearing low crops may have been fertilised with too much nitrogen and/or potassium. Excessive and or late application of N and K can cause fruit quality problems (rough skins) and delay colour development. Conventional application of nitrogen and potassium should cease by the end of February. Phosphorous can assist in counteracting some of the negative effects (rough texture & delay in colour development) of high nitrogen or potassium. Foliar applications of MAP can help reduce rind coarseness in situations where phosphorous levels are low.

Leaf Analysis: Early March is the time to check the nutritional status of your orchard with a leaf analysis. Ensure you pick 4–7 month old spring flush leaves for sampling. Leaf analysis should not be the sole indicator to determine next season's nutrient status. You need to take notice of the trees health, vigour and leaf colour. Also note the fruit yield and rind texture at harvest.

Foliar Sprays: Calcium nitrate sprays may assist in rind quality and phosphorous sprays (MAP) may assist to build up P levels (if required). Apply a micronutrient spray on new autumn leaf flushes.

Pests & Diseases & Issues

Riverina

Red Scale: Generally scale is at average levels. Some parasitism is occurring but not in all places. This is a critical time to monitor for red scale, high populations need to be managed now.

Mealybug: Populations have decreased over the past month and this is probably due to heat and natural enemies. This is an important time because mealybug should be prevented from entering the navel on export fruit.

Soft scales: Soft scales are generally low and probably suppressed from the heat.

Thrip: Generally at low levels.

SCB: Spined citrus bugs are present in some lemon orchards and controls have been applied.

FRW: Fullers rose weevils are emerging and egg masses can be seen in the calyx in non-trunk banded blocks.

Riverland

Red scale: Above average intensities are being observed and this is a significant threat. It is possible that the heat is affecting parasite numbers. Blocks should be carefully monitored and oil sprays applied as soon as possible. Oil can delay colour development in early navels when sprayed after February. Aphytis releases can occur after the current heat wave passes.

Soft scale: Soft scale populations are mostly low to moderate. Only problems have been observed in young tree blocks and where trunk band spraying has occurred. Ants can exacerbate the problem.

SCB: Bugs have been observed in lemon and mandarin blocks. Some controls have already been applied on selected blocks. Look for insects and damage to the developing fruits (premature colouring, drop and internal staining) and for adults on the sunny side of trees in the morning.

FRW: Adult Fullers Rose weevils have started to move into the canopy of trees. Growers intending to export to China, Korea and Thailand are reminded to maintain tree skirts and manage weed growth under canopies.

Sunraysia

Red Scale: Red Scale is still a problem in many areas and oils need to be applied as soon as possible if above threshold levels are observed. Anecdotal evidence suggests that paraffinic oil has less effect on delaying rind colour than mineral based oils.

Soft Scale: Soft Scale is generally well under control and the heat may have suppressed populations.

Two spotted mite: Some trunk banded sprayed blocks have had high populations of two spotted mite and appropriate controls have been applied. This is generally only a problem in blocks with significant chemical insecticide application.

Leaf Miner: Small numbers of Leaf Miner have been detected and have probably been suppressed with the recent heat waves.

Kelly's Thrip: Thrips have not been detected however lemons and grapefruit need careful monitoring.

Fuller Rose weevil: Fuller rose weevil have been emerging in significant numbers. All China export blocks should have been skirted, all weeds removed and at least three trunk sprays applied. This is the official inspection period. You must pass this month's inspection to be able to export to China.

Spined Citrus bug: Some blocks have had problems and have required chemical intervention.

Whitefly: Some blocks have had problems and have required chemical intervention.

Processing Report

The Australian industry is currently mid-way through the 2015/16 Valencia crop. Juice yields continue to register above 500+ litres per tonne of juice. One of the larger processors said their average yields so far this season were 501 litres per tonne. The previous (2014/15) Valencia crop was good, but the latest indications on the size of the crop from industry sources suggest that output is higher this season. As a result, there is an oversupply of fruit at the moment which is putting downward pressure on raw material pricing.

Spot prices for industrial fruit in February were at AUD\$180-\$200/tonne. This is significantly lower than the contract prices of AUD\$270-\$300/tonne fixed before the season began.

Processors say they are still taking on contracted fruit and that trade activity on the spot market is limited. The glut of Valencia fruit is also leading to lower volumes of Navel fruit being run through the processors.

Growing conditions are similar to last month; warm and dry. Analysts suggest that production from 2016/17 Valencia crop will be lower than the current season, but point out that it varies from grower to grower.

Australia - orange juice concentrate imports 2011-2015

(tonnes) (commodity code 200911)	2011	2012	2013	2014	2015
Brazil	27,513	17,956	17,421	22,055	15,943
United States of America	2,930	1,892	1,891	1,804	1,347
Netherlands	778	692	992	760	730
China	0	0	0	111	679
Israel	645	500	572	568	564
Mexico	496	148	163	213	272
Italy	230	172	261	348	175
Costa Rica	554	335	245	290	149
South Africa	8	1	4	1	144
Others	1,133	1,272	694	67	3
Total	34,287	22,968	22,243	26,217	20,006

Source: www.juicemarket.info analysis of ITC Data

Overseas

The USDA forecast for Florida's 2015/16 orange crop is 69 million boxes, unchanged from the previous report, but 29% lower than last season. This is one of the lowest crops in 50 years. The poor output is attributed to greening disease which causes widespread fruit droppage. The industry there is trying to combat this symptom by harvesting the Valencia fruit earlier than they usually would.

The frozen concentrated orange juice futures market has been fairly range bound over that past month trading predominately between USD\$1.30–\$1.35/lb solid – mainly due to a lack of news. However, prices recently dropped down to USD\$1.18/lb on the back of speculative selling.

In Brazil, there are concerns over stock levels going into the next crop, which will begin in July. Recent reports from the main citrus industry body, CitrusBR, suggests that inventory could be lower than 300,000 tonnes at the end of June. This is considered to be a critically low level and could put upward pressure on pricing for concentrate.

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