

October 2016

Season Update

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Season Update is 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

Seasonal outlook

October to December rainfall is likely to be wetter than average, except for southwest where the chances of a wetter or drier average three months are roughly equal. In northern tropics and north of Perth daytime temperatures are likely to be warmer than average, especially in November. Cooler than average temperatures are likely in northern WA.

Evaporation and irrigation

Average daily evaporation rates for the coming month of October are: Harvey 4.4 mm, Gingin 5.2 mm, Carnarvon 8.2 mm and Kimberley Research Station 9.9. A large citrus tree (14 metre square canopy area) will use an average of 43 litres of water each day during October in Harvey and 80 litres in Carnarvon.

Phenology



In October harvesting continues of the late mandarin varieties, Afourer and Mystique, and navel varieties, Lane late and Chislett.

Most varieties will reach full bloom in October. Petal fall is also likely to have started/and or finished before the end of the month. **Record the timing of petal fall** as it is an important stage for wind and thrips blemish. The key management goal for this stage is to ensure the trees are well supplied with all required nutrients leading into fruit set.

Now is a good time to **tag the spring flush** to ensure you collect the correct leaves for nutrient analysis in February/March.

Nutrition

After harvest consider foliar applications of urea and micro nutrients to promote flowering for the coming season, particularly if you suspect a light flowering year. Further foliar micronutrient sprays applied to the new spring flush when it emerges will also boost tree nutrition and help improve fruit set and fruit size. Apply the spring micronutrient spray when leaves of the new spring flush are at least 1.5 cm long – large enough to adsorb a good proportion of the applied nutrients.

Aim to apply 40 to 50% of annual nitrogen requirements in the pre-bloom to flowering period (August to October). Nitrate forms of nitrogen such as calcium nitrate and potassium nitrate are the best forms to use during this stage as they are quickly and easily taken up by the roots. Ammonium and urea forms of nitrogen can be too slow to convert to nitrate in the soil and can therefore be lost before they are taken up by the roots. Apply nitrogen in split applications to avoid loss to leaching.

Phosphorus is also important at this time and should be applied just before and during the bloom period. Apply the bulk of phosphorus now and the remainder at monthly intervals. Apply 30 to 40% of annual potassium during the pre-bloom period.

Irrigation

Your trees need adequate water in their root zone to take up nutrients. Monitor irrigation requirements very closely. Although your soil may appear moist, if you have a dig around, you may be surprised that the soil is not as wet as you think. Small amounts of Rain (5 mm or less) should not be factored into your irrigation schedule.

Pruning

Pruning after harvest encourages new growth that will bear bigger fruit. Good canopy management will also allow for more efficient application of foliar nutrient and GA sprays and assists in reducing crop load in an “on” year. Pruning will also significantly help a tree to cope with water restrictions and depending upon pruning severity, save water. Note, pruning late navel varieties from flowering to fruit set has been known to result in excessive fruit drop.

Crop regulation

In addition to pruning, **chemical thinning in mid-November can be used to thin a heavy crop** in an “on” year. This will assist in maintaining good fruit size.

Mulch and compost

Now is a good time to consider applications of compost and mulch as part of your nutrition, irrigation and pest management strategies. Compost has been shown to be highly effective in the

control of Kelly's citrus thrips and its water conservation properties have been shown to increase fruit size and yields.

Pests and Diseases

Weeds: Maintain a good weed control program to reduce the incidence of Fullers Rose Weevil (problem in export markets) and to help control snail populations.

Citrus gall wasp: Monitor for galls and wasp emergence. Act quickly to manage.
<https://agric.wa.gov.au/n/3398>

Snails: Baby snails are on the move so now is a good time to apply copper sprays to control snail populations. Apply the spray early in the morning on a predicted fine day for best effect. Affected snails will dehydrate in the warm sun before they have a chance to recover from the spray.

Fruit fly: Continue monitoring and bait spray programs for fruit fly until after harvest.
<https://agric.wa.gov.au/n/1608>

Red scale: If red scale is a problem consider the release of *Aphytis melinus* as a biological control. Plan for the release of *Aphytis* now and order early for the first release in October/November. Keep an eye out for scale crawlers (the juveniles) and apply oil sprays only when crawlers are active.

Thrips: Monitor for thrips. <https://agric.wa.gov.au/n/1122>

Further information

- Poster of Key crop manipulation practices – [contact Bronwyn Walsh for copy](#).
- Poster of Key phenological stages for citrus – [contact Bronwyn Walsh for copy](#).
- Fruit size management guide Part 1 – [click here for copy](#).

Queensland

Climatic conditions

In a month where record September rainfall has fallen in western and southern areas of the state, rainfall figures for the citrus growing areas has been a little above average. Average maximum temperatures have been a little cooler and minimum temperatures a little warmer than long term 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	56.2	33.5	26.6	27.8	13.3	11.3
Mundubbera Post Office	43.1	31.3	N/A	N/A	N/A	N/A
Emerald Airport	39.6	29.4	27.3	29.0	15.1	13.5
Gin Gin Post Office	48.4	40.5	N/A	N/A	N/A	N/A

Phenology

Flowering throughout the district has been very prolonged and there seems to be two distinct flowerings. The cooler minimum temperatures experienced during the latter part of September have contributed to the prolonged flowering and subsequent delayed petal fall.

At this stage it looks as though there is a reasonable flowering across all varieties, although it could be said that some of the Imperial blocks look a little patchy.

Management

Micronutrients such as zinc, magnesium, manganese and boron will have been applied by now. Most growers tend to apply these nutrients prior to their first fungicide, however there are still some that prefer to apply zinc with this spray.

Most of the nitrogen requirement will have been applied for those growers using basal applications. For growers that utilise fertigation these applications will ongoing through October and November. Potassium applications are likely to start towards the end of October.

Pests and diseases

Broad mite is showing up in a number of orchards, particularly in Lemons at this stage. This early season incidence suggests that broad mite pressure will continue for the next few months.

All varieties are susceptible, however those with a rough skin texture seem to show the greatest incidence.

Thrips are also showing up in early lemons and the pressure from thrips is likely to be consistent with previous years.

Alternaria brown spot pressure is quite low although there has some incidence on the flush of Minneola tangelo. Fungicide protection of the flush is very important in years where there has been spring rain as it prevents the build-up of inoculum for the coming season.

Fungicide programs for the control of Alternaria brown spot and black spot are now starting. Given the pressure from black spot last season, growers should be looking to reduce their fungicide intervals to provide optimum fruit protection. Data from Dr. Andrew Miles indicates that 70% of the fungicide has disappeared in the first 14 days after application. It should also be considered that the rate of fruit expansion is at its greatest during the early stages of the season.

Phytophthora root rot continues to be present around the district. This disease is certainly more prevalent now than previously. Phosphorous acid applications should be made when there is a root flush and metalaxyl may be applied to affected trees.

Riverland, Murray Valley and Riverina

Climate

Mean daily minimum were near average and maximum temperatures were about 1 to 2° below average for September. Above average rainfall occurred throughout the southern regions causing temporary delays in harvest. Griffith received five times the average monthly rainfall. Renmark and Mildura received three times the average monthly rainfall.

Phenology

The trees are at mid bloom for Sunraysia and Riverland and starting bloom for the Riverina. Bloom is about average based on longterm data, but slightly later than in past several seasons.

Management

Crop & crop regulation: Flower observations throughout the Southern Australian regions indicate a mixed but acceptable level of flowering for oranges and mandarins. The main fruit drop will occur during late October and the initial stages of fruit set will be known by mid-November. Growers should assess their crop load in mid-November and take action if a high crop load is present.

Nutrition: Soil temperatures are sufficient for root activity. Adequate levels of nitrogen should now be present in the rootzone. As soil temperatures increase the application of nitrogen should also increase accordingly. Apply nitrogen if not applied already. The expanding foliage now has a considerable demand for Zinc (Zn) and Manganese (Mn) and Iron (Fe). Apply micronutrient foliar sprays during leaf expansion. At least one spray at two thirds leaf expansion is advised (next few weeks), however an early spray on early leaf growth (pre-flowering) can assist to boost micronutrient levels. The best availability of iron in alkaline soils is in the EDDHA chelated form. A moderate level of potassium and phosphorous is required for growing fruit. Soil N and other nutrient levels can be monitored by soil solution extraction.

Pruning: Lightly hedging trees can assist to thin out flowers and reduce crop load on mid-season navels that have flowered heavily. Pruning will encourage new growth that bears bigger fruit. It also assists in reducing crop load in the predicted “on” year. Pruning guide is available from your local citrus organisation. Note, pruning late navel varieties from flowering to fruit set has been known to result in an excessive fruit drop.

Harvest: Majority of late navels have been harvested and most exports will finish by late October. It has been a good season due to good packouts and lower exchange rate. Valencia harvest for fresh market (October early harvest) has commenced and has reasonable demand for god size good quality fruit.

Pests & Diseases & Issues

CRITICAL TIMING: The above average rainfall might cause unusual pest activity (i.e. plagues or decrease). Monitoring your crop this season will be very important. Red scale favour mild spring conditions. From the beginning of November is the critical time to monitor for Katydid, thrips and LBAM is from the, however monitoring from mid-September will provide a good indication of what possibly to expect and time to prepare. Calyx closure (mid-November) is the **KEY** time for these pests (see below for more details). Gall wasp is expected to emerge in October.

Soft scale: Generally in low numbers but are on the rise.

LBAM: LBAM can be visible in flowers. High numbers have been seen in Sunraysia and low numbers in the Riverina and Riverland. Control is not applied until calyx closure because damage now during flowering has minimal effect. Sprays should only be applied on very high levels that can impact on the second generation. Excessive LBAM numbers at flowering that requires action is rare.

Kelly's Citrus Thrip: Thrips are present in some lemon blocks. Monitor these blocks now. Adults are emerging from the soil. Adults do not cause damage, larva that hatch from adults that have laid eggs cause halo damage. Spraying during flowering is not greatly effective because more Thrip will emerge after the spray. Waiting until early calyx closure is the best strategy because most of the Thrip have emerged and both adults and larvae are killed.

Katydid: Juveniles can be seen in the orchard and are on the rise. The best timing for control is soon after the first main drop occurs, which is just before calyx closure. Fruitlets that are damaged before or during the first main drop fall anyway. However, it is important to protect the ones that remain after the first main fruit drop. Katydid are generally worse in blocks that border native bush. Timing of sprays is critical because Katydid can cause significant damage in a short time. An early spray might be required in high pressure situations.

Gall wasp: Wasps are expected to emerge in late October. A HIA project is underway to investigate control measures. Trial data suggests that calcined Kaolin clay (e.g. Surround®) sprayed during wasp emergence disrupts egg laying and this will be investigated in the project along with other promising control measures. Currently systemic insecticides to target egg hatch (December) seems to provide some control. Samurai® is the only chemical (systemic) registered (permit) for control. If gall wasp is at concerning levels in your orchard discuss options with a citrus advisor, consultant or pest scout.

LBAM Pheromone traps: Light brown apple moth can attack flowers. Monitor flowers for signs of activity. Mating disruption pheromone dispensers (LBAM Plus®) can be placed in the orchard to reduce the probability of female moths producing viable eggs. LBAM reduction will assist in reducing the probability of detection occurring at export markets.



Events calendar

October 19 Citrus Nutrition Master Class, Mildura
Contact Steven Falivene on 0427 208 611

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