

July 2017

Season Update

In this issue:

Western Australia.....	3
Queensland	6
Riverland, Murray Valley and Riverina.....	7
Contributors	9



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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.

Although the information in Season Update is designed to provide the latest seasonal information for growers, Citrus Australia strongly recommends growers seek professional advice before acting on any of the information.

Western Australia

Climate

WA had a very dry June with many areas in the south west recording the lowest rainfall on record and more northern areas also received below average rainfall. Temperatures for June were above average for the south west.

The first week in July saw some areas in the south west receive heavy rainfall with Wokalup recording 65mm and West Gingin 57mm, however the climate outlook for the south west of WA is for drier than average conditions and above average temperatures.

Evaporation and irrigation

Because of the prediction for lower than average rainfall it is important that growers continue to monitor soil moisture and apply irrigation where appropriate.

Average daily evaporation rates since 2000 for July are: Harvey 1.8mm, West Gingin 2.4mm, Moora 2.5mm and Carnarvon 4.1 mm. A large citrus tree (14 metre square canopy area) will need an average of 17 to 24.5 litres of water each day during July in the south-west and 40 litres in Carnarvon.

Phenology



The floral induction stage is coming to an end or has passed for most varieties and buds will soon be starting to swell as we near bud break for the coming season. The maximum number of flowers your trees can produce was determined during the floral initiation stage with the proportion of different types of flowers being strongly influenced by crop load in the previous season.

During the second week of July Afourer were close to full colour while the colour of Hickson and Mystique was continuing to develop. Mid-season navels such as Washington and Cara Cara have reached full colour however the colour of late season varieties such as Chislett is continuing to develop.

If you would like a chart of the key phenological stages for citrus, please contact Bronwyn at industrymanager@wacitrus.com.au.

Internal maturity

Monitor fruit maturation rates closely to ensure fruit meets Australian Citrus Quality Standards before harvest. Citrus fee-for-service payers can have the internal quality of fruit independently tested without charge (two samples per variety per grower). Just drop your

samples to any agent at Market City, from Monday to Friday (up to 12pm) to ensure timely testing.

Management

The long-term management goal during the **floral induction stage** is to achieve consistent levels of flowering with a high proportion of leafy inflorescences carried on strong bearing shoots.

Light crop loads (for oranges < 3.5 to 4.0 fruit per 0.5 m quadrat); drought or water stress and good vegetative growth in the previous season can all result in excessive flowering. To achieve balanced flower numbers and good fruit size next season it's important to act now by applying winter Gibberellic Acid (GA) and ensuring a well-pruned canopy. Good management and keeping trees stress-free can also help reduce granulation.

Flower manipulation (Winter GA): Application of GA in the form of Ralex during floral initiation will reduce the number of leafless inflorescences (white blossom) and increase the proportion of leafy inflorescences. Leafy inflorescences set more fruit and have a higher initial growth rate, resulting in larger fruit at harvest.

The first opportunity to apply Ralex was in mid-June however growers will still see an effect if applied up to bud break. The timing of bud burst varies depending on variety and location, occurring between early August and mid-September for different varieties in WA. Apply Ralex in sunny conditions in the middle of the day, allowing trees to dry before nightfall to avoid the risk of marking fruit.

Pruning: A well-pruned canopy with a good distribution of strong bearing shoots close to main scaffold branches promotes leafy inflorescences. Pruning after harvest therefore assists in balancing crop load if heavy flowering is expected. Information on pruning is available from the DAFWA website, [Citrus pruning](#).

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 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.

WA Harvest: Harvest of early season navels has finished in most areas and midseason varieties are starting. The Imperial harvest is continuing with the start delayed because colour development was a week to two later than usual in most areas. Some watermark damage has been noted on Imperial Mandarins harvested after the early July rainfall.

Preparation for flowering: After harvest consider foliar applications of urea and micro nutrients to promote flowering for the next season particularly if you suspect a light flowering year. Do not apply urea if you expect a heavy flowering. Management of nutrition, irrigation and pruning now may prevent granulation issues next season.

Pests & diseases: Continue monitoring and bait spray programs for fruit fly until after harvest. Keep an eye out for pests such as scale and mealy bug in the orchard whilst harvesting and record observations. This will help you take the correct action when determining control programs for the spring and summer period when juveniles of these pests are active.

Although not seen in commercial orchards yet keep an eye out for galls of the citrus gall wasp.

Queensland

Climatic conditions

Dry and mild conditions have prevailed during June in all growing areas of Queensland. Temperatures have been generally in line with 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	5.6	35.2	24.0	22.6	8.2	8.9
Mundubbera Post Office	14.2	34.9	N/A	N/A	N/A	N/A
Emerald Airport	1.8	34.9	25.0	23.3	9.8	10.3
Gin Gin Post Office	2.2	55.2	N/A	N/A	N/A	N/A

Phenology

Pruning of early season varieties has started in earnest with this likely to continue over the next few months.

Bud swell has become evident in Imperials and Navels as the warm weather continues. Some cold minimum temperatures will be needed during July to prevent bud burst.

Pests and diseases

Pest and disease pressure remains low in most of the blocks.

Thrips and broad mite have been showing up in some of the early season lemon crops. For those blocks that experienced broad mite pressure during the season, a winter wettable sulphur spray is a good option to provide control of the over wintering population. Growers should also be aware of lemon bud moth populations which lay their eggs in the fully expanded flower. Blocks can withstand quite high numbers of this pest; however growers should still be aware of the presence of this pest in the orchard.

Emporer brown spot levels remain relatively constant with very little new infection over the past month. The reduction in disease pressure is relative to the drier conditions being experienced at present.

Queensland fruit fly levels are low, however growers are advised to continue their baiting program for this pest in late maturing varieties. Murcott mandarins are particularly susceptible to infestation once the weather warms up in spring.

Riverland, Murray Valley and Riverina

Climate & frost damage

Mean daily maximum temperatures were near average however and minimum temperatures were 2°C to 3°C below average for June and the first part of July. A few frost events occurred throughout the regions during late June and early July. In Sunraysia and the Riverland, the frosts only caused a few minor issues to isolated low-lying blocks. The Riverina had a significant frost event at the beginning of July. Temperatures reached frost risk thresholds throughout the region. However, temperatures were variable with some blocks at high-risk thresholds whilst others borderline. Some blocks had extensive damage, whilst others had damage on parts of the block and/or tree. Signs of leaf damage were detected throughout the region and harvest was suspended for at least ten days. Preliminary fruit cutting examinations revealed that external damage is more prevalent than internal damage and parts of the tree were affected (i.e. lower hanging outer fruit). Topography, tree size and soil dampness (i.e. drip vs sprinkler, on-farm water storage) would have affected the susceptibility of blocks to the frost event. Damaged fruit (external and internal) would now be evident and external damaged fruit is being removed from the packing line. More information on the extent of the frost event will be provided in the next report. An NSW DPI handout on how to assess fruit damage is available from Steven Falivene and Andrew Creek (NSW DPI development officers). Rainfall has been well below average in all regions. An extra winter irrigation might be required. The dry landscape also exacerbates frost events.

Phenology



Washington navel fruit is mature and late navels are in the final stages of the maturation phase. Most trees are still in the **floral induction stage**. Floral induction is the transition of vegetative buds to floral buds. Floral induction peaks around mid-June, about six weeks before bud break and a second peak occurs at bud break, around early July.

Low temperatures during winter induce citrus buds to flower. The number of flowers produced and the proportion of different types of flowers is strongly influenced by crop load in the previous season. Most flowers are produced on shoots that grew during the previous year.

Harvest

The dry weather has minimised delays in harvesting. Washington navels are peak maturity with good colour and internal quality; regions are about one-third to half way through the Washington harvest. Fruit have higher acid levels than last year, however are still within the desired range for good internal quality. Symptoms of albedo breakdown have been visible however no more than average. Washington navel cropping levels have been very

good and perhaps higher than expected. There is a wide range of fruit sizes, however there is enough to meet market demand. Market demand continues to be strong; mainly due to successful export programs. Imperial Mandarins have been having another difficult season of high supply placing pressure on markets.

Management

Pruning: A well-pruned canopy with a good distribution of strong bearing shoots close to main scaffold branches promotes leafy inflorescences. Pruning after harvest, therefore, assists in balancing crop load if heavy flowering is expected (in an “on” year). Mature tree pruning should be a quick exercise (within 1-2 min per tree) to minimise cost targeting large branches or limbs. Watch the [NSW DPI pruning video](#) featuring Darren Minter demonstrating the navel chunk pruning technique.

Winter Urea spray: Many blocks have had above average crop loads, and this puts them at a higher risk of having a lower crop load next season. Foliar applications of urea can be used during winter to promote flowering in expected light flowering years.

Pests & diseases: Maintain a good weed control program to reduce the incidence of Fullers Rose Weevil and to help control snail populations. Apply snail baits as required.

Oleocellosis: The harvesting of late navels will commence in late July and this fruit will be highly susceptible to oleocellosis. Oleocellosis is rind injury damage resulting from rough picking and handling of fruit. Damage does not fully appear for up to 4 days after injury and can significantly reduce the value of your fruit. It is most likely to occur when the cells on the surface of the orange are fully swollen due to adequate irrigation or cold weather. It is important to familiarise yourself with optimum harvest practices to reduce the incidence of oleocellosis, taking special care with new pickers. Obtain an electronic PDF copy of the “New 2017 Citrus Harvest Handbook” from the NSW DPI website [here](#) or your packer to help train pickers.



Events calendar

August 1	Spraying workshop, Griffith, NSW
August 2	Netting workshop, Loxton, SA
August 3	Disease workshop, Mildura, Vic
August 5	Black spot workshop, Bundaberg, Qld
August 8	Fruit fly detection, Mildura, Vic
August 10	Spraying workshop, Harvey, WA

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