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Pistachio Growers' Association

SEASONAL REMINDERS - WINTER 2022

Welcome to the 2022/2023 pistachio season!
In this edition of Seasonal Reminders, we reflect on the 2021/2022 harvest and look at chilling and Winter preparation required for the 2022/2023 season.

The Harvest:

With harvest over, the 2022 crop was a good 'on-crop' of approximately 3,600 tonnes. This is the largest ever Australian crop, comfortably beating the 2018 crop and reflects good yields and increased production areas.
The overall quality was good with most growers achieving slight levels of dark staining. Light staining, however, had increased levels.
Rain caused heavy Light Stain. Over 10% Light Stain within 6 days, some late loads had greater than 50%. Light Stain for 2022 had an average over 15%, whereas this is usually less than 8%
Nut size was larger this season and this highlights that large crops do not produce small nuts. The challenge we have is to maintain this large size.

International prices are down a little due to the expectations of a record Californian crop in September. Consumption in Australia, after the Covid surge in financial year 2021, financial year 2022 consumption has dropped to 2020 levels
For the 2021/2022 harvest, grower returns will be lower. Prices are similar to 2021 but because the quality is down, grading costs are higher resulting in lower net returns. Expanding world production could put further downward pressure on future prices.

Chill and Dormant Oil Applications:

Pistachios have a high winter chill requirement. Insufficient chill can result in uneven opening of vegetative and flower buds, poor pollination and fruit set, uneven harvest and reduced yields.
The PGA monitors accumulated winter chill using the Dynamic Model and each season produces a series of newsletters for growers. These newsletters provide an update on the amount of winter chill in various locations as well as some very useful information on winter chill and use of dormant winter oil sprays. If you have not been receiving these newsletters, please contact Trevor Ranford on 0417 809 172 or sahort@bigpond.com

So, if we have good winter chill numbers, should growers still apply dormant winter oil sprays to assist with bud break? Bob Beede from California who conducted much of the research investigating the effect of dormant winter oil applications on pistachio questions the value of applying dormant winter oil sprays to mature trees in a good chilling year. Work in Australia by Jianlu Zhang and continued in recent years has shown that applying dormant winter oil sprays in good chill years does not result in increased yields. However, in my opinion, dormant

winter oil sprays are still worth considering even in good chill years as they may lead to more even bud break.

Some larger growers use a 3% spray on years where chill accumulation has reached requirement, and 5 or 6% for years when the chill requirement is below threshold.
It has also been suggested that growers avoid winter oil application at temperatures below 5 degrees. As Winter Oil is potentially phytotoxic, caution needs to be taken around tank agitation and application in general, so adding low temperatures to this caution is a wise move.

In any case, dormant winter oil sprays are required for control of scale insects. Bear in mind that for pistachios in Australia, mid-late August is the best time for dormant winter oil application. Research in California has shown that the effect of later winter oil applications on bud break is not as consistent. Finally, dormant winter oil sprays should not be applied if there is any bud swell so check your trees before spraying.

Benchmarking:

Growers supplying their crop to APPC will shortly receive their 2022 benchmarking report. These reports are prepared by PGAI Researcher, Dr Maha Mahadevan utilising the data from APPC.
Growers are encouraged to review their results and look how they might make adjustments over the coming period to improve their overall results.

Disease Management:

Many growers have BUDMON tests conducted on buds by SARDI in late winter to assess the risk of panicle and shoot blight (caused by *Botryosphaeria* sp.), anthracnose (caused by *Colletotrichum acutatum*) [Budmon does not cover Xt]. This provides an insight into to disease load for the coming season. Detailed information on these diseases and management options are available in the members section of the PGA website (www.pgai.com.au). occurring in their orchard at harvest. For more details contact SARDI Diagnostic Services on (08) 8303 9585.

Pruning

Pistachio trees pruned using a modified central-leader training system are performing better than conventionally pruned trees, according to UCCE Integrated Orchard Management Specialist Bruce Lampinen. The goal of the central leader is to promote a dominant upright branch from where the main structural branches form - there is no in-season tipping and much less severe dormant season heading cuts with this approach.
In reporting on research that he and co-principle investigator Fresno County Nut Crops Farm Advisor Mae Culumber are conducting in grower orchards, Lampinen said unpruned pistachio trees and those pruned under a modified central-leader training system are yielding better in the early years than conventionally pruned trees. And what may have longer term ramifications, the research is showing that unpruned trees and those pruned on a modified central-leader training system have better branch angles, stronger connections and are less prone to breakage.

On the PGAI website there is a video series showing techniques for winter pruning of pistachio trees at Kyalite Pistachios. The trees are modified central leader from year 1 through to year 4 with Andrew Bowring sharing his knowledge.
Follow this link to view the videos: https://www.pgai.com.au/pruning

Orchard Sanitation:

Orchard sanitation is an ESSENTIAL part of reducing pest and disease levels.
What should I be doing now to minimise the risk of disease reinfection?
Insect pests and Fungal diseases like *C. acutatum* (Anthracnose) survive over winter in pistachio buds, and in lesions on infected fruit, rachises, leaves and twigs that remain on the tree, or on the orchard floor.

The following SHOULD become standard orchard management sanitation

- ***This is very important, albeit expensive.***
    - Re-shake to remove all infected nuts and rachises.
    - Remove mulch and/or incorporate under-tree debris (so fungus is not splashed from under canopy to lower limbs and leaves in spring).
- ***Don't prune during rain***

It is not yet clear if a forced leaf drop (as with urea or zinc) and fungicide application after rain would deliver economic benefits in affected orchards.

- ***Understand the underlying threat for next season***

Monitor the fungi in dormant buds. (BUDMON tests can detect *Botryosphaeria* and *Colletotrichum* infection in buds. With knowledge of bud infection levels, and the relative susceptibility of pistachio tissue, we could utilise free moisture, humidity, temperature data to predict disease outbreaks. This would assist growers in optimising the timing and placement of fungicide applications. Several contact and systemic fungicides are effective against *Colletotrichum* spp. on other hosts. Some also have reported efficacy against other pistachio fungal pathogens, including *Botryosphaeria sp*. (panicle and shoot blight) and *Alternaria spp*. (Alternaria late blight)

Mulchers such as those in use at CMV Farms are useful in minimising orchard floor contamination sources:

Hort Innovation
Strategic levy investment

PISTACHIO FUND