

# **Pistachio Information and Technology Groups.**

## **WINTER SESSIONS**

### **PISTACHIO MALE TREE DIEBACK, 2023 HARVEST, WINTER PRUNING, CALIFORNIA CONFERENCE, and FIELD WALK**

#### ***June 2023 - Meeting Dates and Venues***

This round of PIT Group meetings is an update on male tree dieback, a report on the 2023 harvest, Dr Maha's report on the Pistachio Conference in California and winter pruning and much more.....

**Lake Powell:**      **Tuesday 20<sup>th</sup> of June, 12 Noon sharp for BBQ**

Address: **Peter Holt's property,**  
76 Zara Lane, Lake Powell, Victoria, 3597

**Renmark:**      **Wednesday 21<sup>st</sup> of June, 12 Noon sharp for BBQ**

Address: **Bob Hodgson's property,**  
315 Renmark Avenue, Renmark. On the main road into Renmark from Berri. There is a service road on the eastern side opposite Olivewood.

#### **TOPICS (for both meetings):**

- Update on Male tree die-back – Dr Len Tesoriero (NSW Pathologist)
- Update from USA Congress and delivered paper – Dr Maha Mahadevan
- Update of 2023 harvest – Chris Joyce
- Winter pruning (Renmark)
- Young tree shoot death
- AF36

The Winter Session PGAI PIT Group meetings were very well attended with 73 growers and Industry personnel attending across both the Victorian and South Australian meetings.

The meetings began, at both venues, with the traditional BBQ and informal chat and catch-up.

After an introduction by PGAI Executive Officer Trevor Ranford, the meeting began with a report from Dr Maha Mahadevan on her journey to the USA for the VIII International Symposium on almonds and pistachios at the University of California, Davis campus.

Maha teamed up with some Spanish Pistachio researchers for a pre-conference tour of properties, nurseries and research facilities in and around Los Angeles and Fresno. Maha delivered a paper at the symposium titled: Dynamics of chill accumulation in Australian pistachio growing regions. The paper was delivered and explained at the PIT Group meeting with detailed analysis a dynamic chill units for the various production regions in Australia.

Chris Joyce spoke about the difficulties of the 2022/23 season and subsequent harvest with total volume of nuts harvested and delivered well below expectations. Harvest 2023 had the worst yields from mature trees in over a decade – the wet/disease year of 2010/11 being the last.

The season started with marginal chill, and had good Dynamic Units, but fewer hours <7 degrees C. There was rain during pollination in October and this probably caused the young trees to only have a good crop rather than a great crop.

Then there was cold, wet weather in October, November and December delaying maturity, with some orchard flooding.

It was the latest start ever to harvest. There was very uneven maturity resulting in very high Adhering Hull and high Dark Stain – this raised grading costs in the processing plant.

Several orchards did not harvest.

Domestic demand for in-shell pistachios is flat following the 2020/21 spike during Covid, this will be reflected in the price paid.

Chris Joyce spoke further on AF36 (Aflatoxin Strain 36).

AF36 is strain of the aspergillus mould that does **NOT** produce aflatoxin. It was the 36th strain tested, hence the name AF36.

The mould builds up in the orchard and becomes the dominant strain of aspergillus in orchard. It “out competes” the toxic strains and is widely used in USA for cotton, corn, pistachios and now almonds. It costs about \$A47/ha, plus application costs, is easily applied using a seed spreader and is applied Nov/Dec before rain. For the best bet on-going protection it should be applied annually to build the protection. New orchards should start the year before first harvest.

Dr Len Tesoriero, a specialist Plant Pathologist from Crop Doc Consulting (previously of NSW DPI/Ag) reported on his investigations into the problem of male pistachio tree dieback.

What do we know so far? The problem has occurred in the previous extremely wet year 2011 although it affected mainly female trees. This current problem has affected mostly older male trees. It is not always associated with poor drainage and it has been noted that male flowers had stayed attached.

Pathologically there is evidence of Anthracnose infection – black necrotic lesions on leaves & petioles and evidence of vascular staining & lenticel rupture on shoots.

There is no clear causal pathogenic organism determined to date – other than *Colletotrichum acutatum* (Anthracnose) + *Botryosphaeria* sp.

Len is currently testing roots for pathogens – particularly *Verticillium* & *Phytophthora* spp. (+ others)

There is possible internal trunk necrosis is associated with anoxic (anaerobic) conditions in root zone – stress – ethylene release – IAA - defoliation

There was a discussion on the problem and the current and future fungicide program following Len’s presentation.

At the Renmark meeting there was a Winter Pruning discussion and field walk with host Bob Hodgson providing various powered shears for a demonstration.





Photo1: Trevor Ranford with the capacity crowd at Renmark



Photo 2: Dr Len Tesoriero (left) viewing the root pit of an effected male tree (dieback)



Photo 3: Bob Hodgson (armed with powered shears) about to demonstrate winter pruning.