

## **SEASONAL REMINDERS**

### **LATE WINTER/EARLY SPRING 2015**

With the end of winter near, pistachio growers should have completed their winter tasks such as pruning, irrigation maintenance and weed control and now their thoughts turn to the upcoming growing season and orchard activities including dormant oil applications, fertilisers, foliar nutrient sprays and disease management.

#### **CHILLING 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](mailto:sahort@bigpond.com)

As highlighted in the PGA Chill Newsletters for 2015/2016, this has been one of the best chill years for many seasons. In fact, some areas have received the most winter chill since PGA monitoring commenced in 1999!

So, given the 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 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. 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 and therefore, if you still plan to apply winter oil this season, do it immediately. 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.

#### **FERTILISER PROGRAM**

2015/2016 will be an 'off-crop' season. However, many growers have observed good retention of flower buds and so the 'off-crop' may not be that low. Interestingly, a similar effect was observed in the last 'off' crop season (2013/2014) with many growers achieving very good yields. I suspect this is related to improvements in management including nutrition and irrigation management.

Growers have a number of tools available to help them decide on a fertiliser program for the upcoming season. These include nutrient budgets (based on target yields), leaf and soil analyses and visual observations. To optimise fertiliser management, it is important to remember the 'Four R's' – apply the **R**ight rate (match demand with supply) at the **R**ight time (apply fertiliser when trees are actively using nutrient) in the **R**ight place (ensure delivery to the roots) and use the **R**ight source (some fertilisers can be lost via leaching)

In recent seasons, I have helped many growers use nutrient budgets to good effect. These budgets estimate the amount of nutrient required for a given target crop as well as vegetative growth based on nutrient analysis of fruit and fertiliser efficiencies. The program is then adjusted according to actual crop load and vigour.

In young pistachio orchards, it is necessary to apply small and regular amounts of nitrogen fertiliser to promote good establishment and strong growth. Young trees also require regular foliar nutrient sprays (see below).

## **FOLIAR NUTRIENT SPRAYS**

Foliar nutrient sprays are an important tool available to pistachio growers. They enable micronutrients to be applied at specific growth stages. For pistachios in the late winter / early spring stage, the key considerations are boron, zinc and copper foliar nutrient sprays.

Best uptake of nutrient from foliar nutrient sprays occurs when the spray droplets remain on the leaves for a long period without evaporating. Therefore, avoid applying foliar nutrient sprays on hot/windy days.

The following information is intended as a guide only. Always apply products at label rates and directions and check compatibility if mixing products. For specific advice, contact Ben Thomas on 0417 143 797.

### ***Boron***

Boron is important in pistachio flowering, pollen viability and fruit set. Research in California has shown that applying a late dormant boron foliar nutrient spray just before bud break has a positive effect on pollination and fruit set. Boron foliar nutrient sprays should not be applied later than 20% bud break as there could be damage to flowers.

### ***Zinc***

Pistachios are prone to zinc deficiency and benefit from dilute zinc foliar nutrient sprays applied after flowering and before the leaves harden up. Once the leaves harden, the zinc is bound in the cuticular waxes of the leaves and not absorbed into the leaves.

Young trees are particularly susceptible to zinc deficiency especially as zinc is immobile in plants. In young trees, growers should apply regular zinc foliar nutrient sprays so that new growth receives a zinc foliar nutrient spray.

### ***Copper***

In recent seasons, I have observed copper deficiency in young pistachio trees (Photo 1). Symptoms include leaf scorching and S-shaped shoots. With severe copper deficiency there can be collapse of rapidly growing shoot tips.



**Photo 1**

To treat copper deficiency, apply a copper chelate foliar nutrient spray targeted when new growth is still expanding. Apply at label rates and directions.

### **DISEASE MANAGEMENT**

At the recent pistachio grower meetings held in Renmark and Euston, Barbara Hall (SARDI) and Dr. Prue McMichael (Scholefield Robinson Horticultural Services Pty Ltd) presented the latest information on disease management and fungicide options for pistachios in Australia. For a copy of the presentations, please contact Trevor Ranford on 0417 809 172 or [sahort@bigpond.com](mailto:sahort@bigpond.com)

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.) and anthracnose (caused by *Colletotrichum acutatum*) occurring in their orchard at harvest. For more details contact SARDI Diagnostic Services on (08) 8303 9585.

### **IRRIGATION**

Good irrigation management is critical to the success of a pistachio crop. Water stress from either too little or too much irrigation can have a significant impact on yields. Irrigation also plays a key role in nutrition as water is required to enable uptake of nutrients from the soil.

Growers should aim to establish a full profile of available soil moisture in their orchard prior to bud burst. This profile is then maintained during the growing season with irrigation.

### **2015 PISTACHIO SPRING SYMPOSIUM**

The 2015 Pistachio Spring Symposium will be held at the Robinvale Golf Club on 16<sup>th</sup> September 2015. The theme of the symposium is 'Establishing New Orchards' and will feature presentations on nutrition, compost use, irrigation and an in-field inspection of new pistachio plantings. The symposium also includes updates on the PGAI research program and the PGAI AGM. RSVP by 11<sup>th</sup> September 2015.

**For more details or to discuss any of the issues raised in this seasonal reminder, contact Ben Thomas on 0417 143 797 or [benthomasconsulting@bigpond.com](mailto:benthomasconsulting@bigpond.com)**