



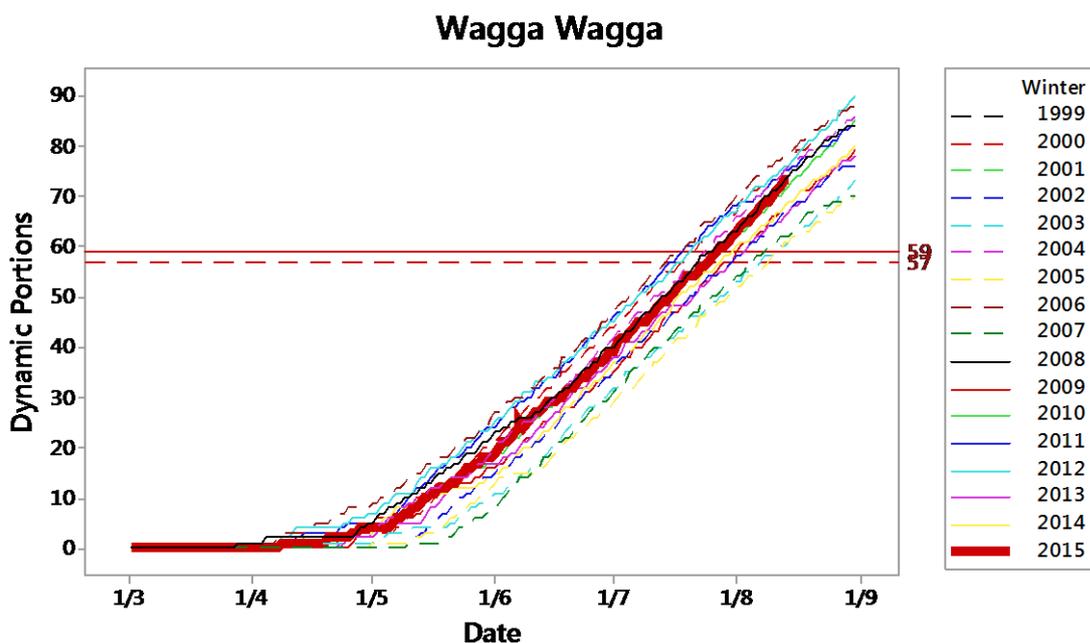
## PGA Chill Newsletter Number 3 - 2015-16 Season

14<sup>th</sup> August 2015

### Winter Chill 2015

The Charts below show that this is one of the best chill years in many seasons. All areas have, as at the 14<sup>th</sup> August, already reached the 59 Dynamic Chill Portions considered to be required as satisfactory chill for Sirora before the end of August.

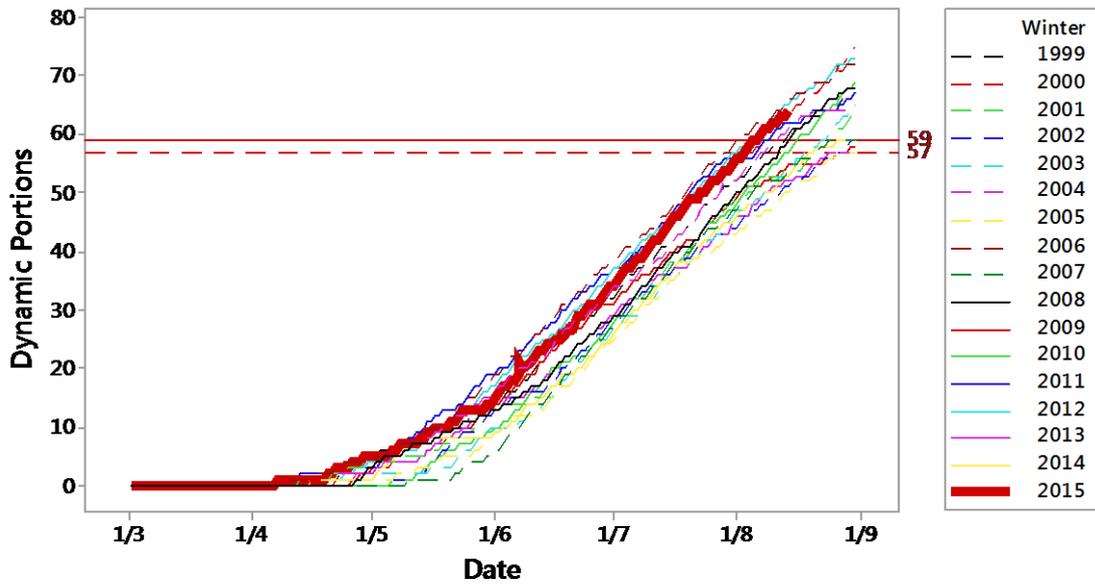
For some areas, this has been the best chill season since the PGA commenced monitoring it in 1999.



PGA research shows that 59 Dynamic Portions between 1st March and 31st August is sufficient chill.  
 57 Dynamic Portions to 15th August will in 95% of years produce 59 Portions by 31st August.

Wagga Wagga: 73 portions at 9 am on 14<sup>th</sup> August.

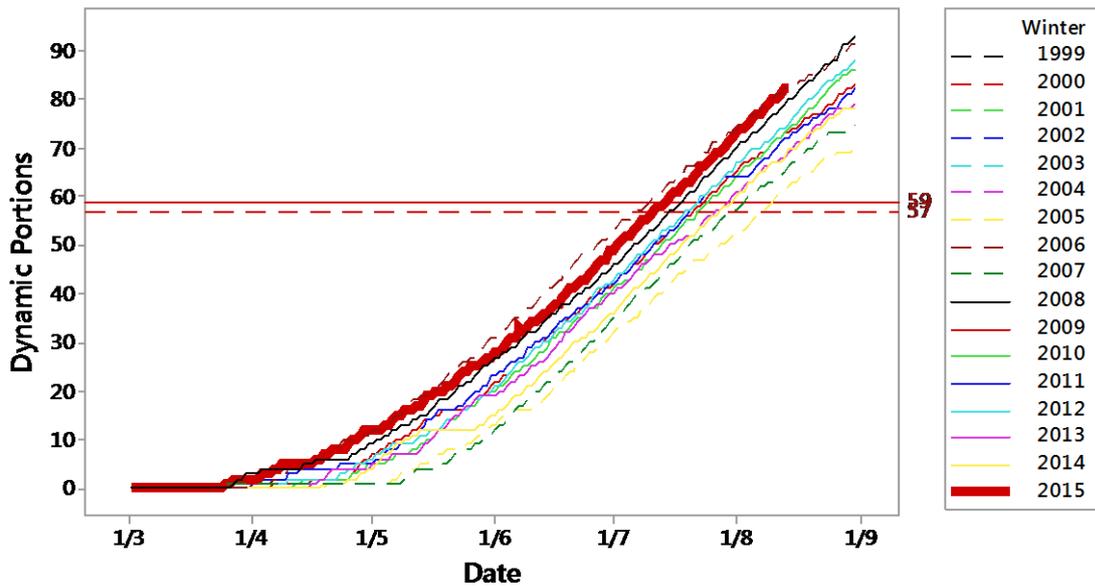
### Mildura



PGA research shows that 59 Dynamic Portions between 1st March and 31st August is sufficient chill.  
 57 Dynamic Portions to 15th August will in 95% of years produce 59 Portions by 31st August.

Swan Hill/Mildura: 64 portions at 9 am on 14<sup>th</sup> August

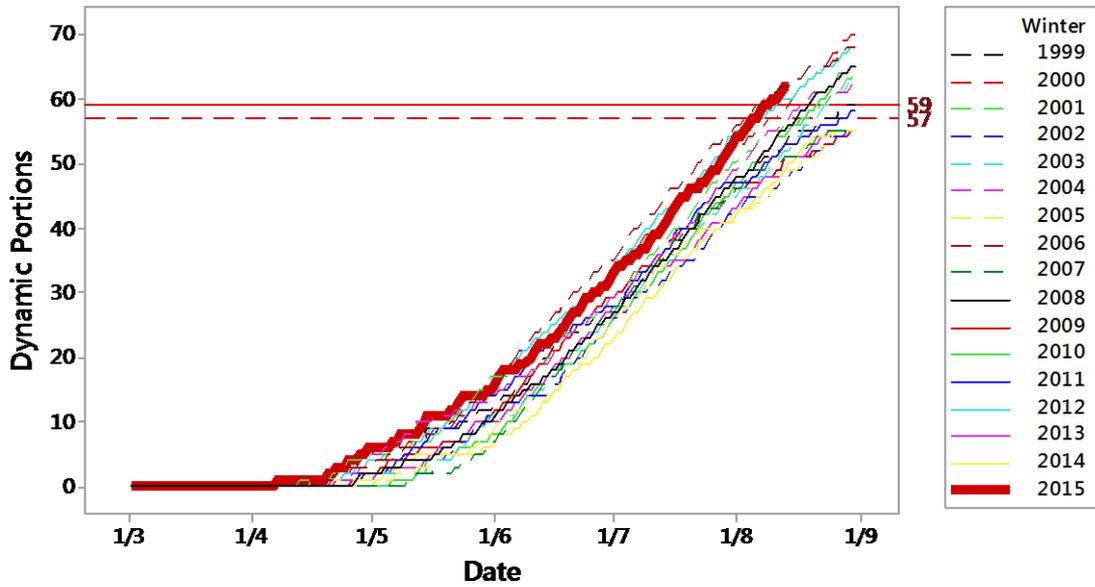
### Nhill



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 57 Dynamic Portions to 15th August will in 95% of years produce 59 Portions by 31st August.

Nhill: 82 portions at 9 am on 14<sup>th</sup> August

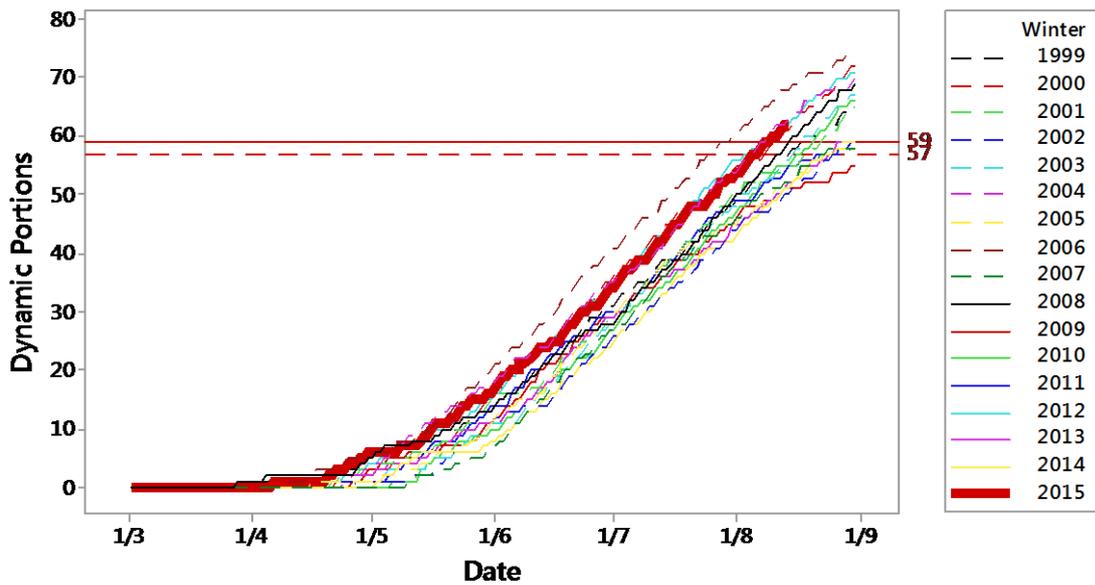
### Renmark



PGA research shows that 59 Dynamic Portions between 1st March and 31st August is sufficient chill.  
 57 Dynamic Portions to 15th August will in 95% of years produce 59 Portions by 31st August.

Renmark: 62 portions at 9 am on 14<sup>th</sup> August

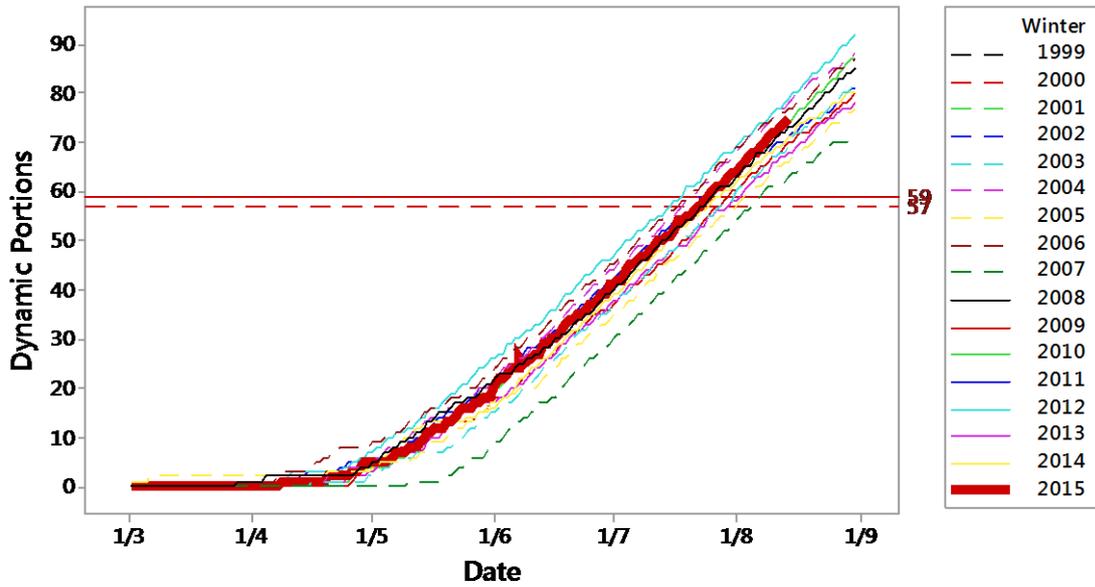
### Loxton



PGA research shows that 59 Dynamic Portions between 1st March and 31st August is sufficient chill.  
 57 Dynamic Portions to 15th August will in 95% of years produce 59 Portions by 31st August.

Loxton: 62 portions at 9 am on 14<sup>th</sup> August

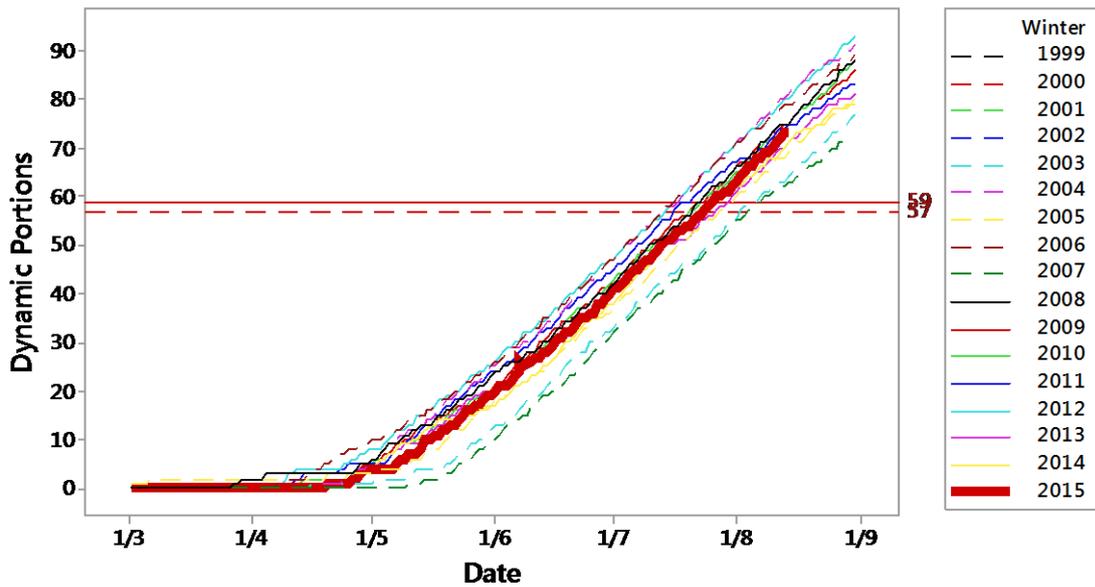
## Yarrowonga



PGA research shows that 59 Dynamic Portions between 1st March and 31st August is sufficient chill.  
 57 Dynamic Portions to 15th August will in 95% of years produce 59 Portions by 31st August.

Yarrowonga: 75 portions at 9 am on 14<sup>th</sup> August

## Albury



PGA research shows that 59 Dynamic Portions between 1st March and 31st August is sufficient chill.  
 57 Dynamic Portions to 15th August will in 95% of years produce 59 Portions by 31st August.

Albury: 73 portions at 9 am on 14<sup>th</sup> August

## Chill Background Information

Pistachios are extremely sensitive to lack of winter chill.

Lack of chill will result in very uneven opening of flowering and vegetative buds; some will not open until November or December, many buds will not open at all. Harvest will be very uneven.

PGA research, supported by the Australian government through Horticulture Innovation Australia Ltd, has shown the Dynamic Chill model to be the most appropriate method to measure the chill requirement of pistachios. The research has shown that *Sirora* pistachios require 59 Dynamic Chill Portions between 1<sup>st</sup> March and 31<sup>st</sup> August. The research also shows that 57 Dynamic Chill Portions to the 15<sup>th</sup> August will, in 95% of years, accumulate to the required 59 Portions by 31<sup>st</sup> August. Unless the required Chill Portions are received, growers should take mitigating action.

This season the PGA charts above suggest that pistachios have received sufficient chill. Some orchards may elect to skip the oil spray this season.

Some orchards will spray oil at the lower concentration of 3%. Californian research in the 1990s showed that there is usually an increase of yield with oil sprays. Oil sprays ensure that scale is kept under control.

If any oil spray is applied, it is essential that it be applied very evenly. Oil irritates the individual bud. If the oil is applied unevenly, the oiled buds will open a week before the unoiled buds.

Oil application may bring the trees into flower up to a week earlier. The increased risk of frost damage should be considered by growers before applying winter oil in August.

Trials over seven years in California showed limited adverse affects from annual oil application. In the single season where lower yields were recorded from the oil treated trees, the week during the flowering of the treated trees was very wet, affecting pollination. A week of rain during pollination will affect crop load.

Winter oil is registered in NSW and SA only for the treatment of scale. Growers can only apply oil for the registered purpose.

Application time: Ideally the third week of August.

Oil to use: Refined, heavy, emulsifiable horticultural spray oil. Typically about 860 g/litre petroleum oil. One brand that is used is: " Vicol Winter Oil" – Winter Dormant Miscible Oil – Insecticide

Concentration: 3% to 6 %, i.e. 3 to 6 litres per 100 litres of applied spray volume. PGA research has shown that in low-chill years, the higher concentration shows better yields. In high chill years such as 2015, the lower rate could be used. Care must be taken not to over spray – excessively high rates of oil will burn trees and perhaps kill them.

Application rate: Spray volume is dependent on tree size, but must be applied to the point of runoff. It is critical that all bud scales are thoroughly wetted. On average size trees, the application rate is up to 1,800 litres/ha.

A critical issue for the application is the tractor speed. Californian research shows that tractor speeds of 2mph, 3.2kph, produce significantly better results for any spray application than faster speeds.

Current PGA research is focused on the effect of spray concentration (litres/ha) on bud opening and hence yield. Results are expected in a few years.

Some growers always apply oil unless the chill is well above the required Chill Portions. They say they do this to ensure scale control and also to be conservative. In such cases, to reduce cost, they use a 3% oil spray rather than 6%.

The raw data is collected from the Bureau of Meteorology sites. The data for each orchard may be different. This data and information is provided as a guide to growing pistachios in Australia. Each grower should ensure that actions taken on their orchard is appropriate for their orchard. The PGA Inc and its office bearers will not accept responsibility for the actions of individual growers on their orchard.

Chris Joyce

Chair, Research Committee  
Pistachio Growers' Association

14<sup>th</sup> August 2015