

TACKLING SUN DAMAGE TO AUSTRALIA'S NUT HARVEST

13 October 2008

NUT growers in the Bundaberg and Childers area will take part in trials this season to quantify the impact of sun damage on the macadamia harvest, and the potential returns from using a liquid sunscreen to reduce the damage.

The trial work will study the effect of protecting the foliage, bark and nuts from sun damage with a liquid sunscreen - potentially protecting the nut from burning, and improving oil quality and picked yield; protecting the tree from the sun after damage from mechanical pruning; and protecting newly-planted trees to bring them to a harvestable crop earlier.

Overseas trials indicate that sun and heat can burn the nuts on trees, reducing oil quality and nut yield.

In California USA, walnut trees treated with the liquid sunscreen Parasol have yielded 36% more, there was a 25% increase in harvestable nut, and weight of nut was increased by 11%.

In 2007, Californian walnut growers were paid an average 3 cents/pound (approximately half a kilo) more for sunscreen-protected nuts than untreated. For growers producing up to 2000 pounds per acre – equivalent to 2200 kg/ha – such a premium price means a substantial increase in return.

The Queensland trials with Parasol on macadamias will continue through this season.

As well as shielding fruit and leaves from sun damage, it is also believed that the liquid sunscreen keeps the plant cooler, potentially allowing it to use water more efficiently.

This aspect of using available water efficiently is of particular importance to Victorian, NSW and SA almond and walnut growers facing water restrictions.

Trial work is planned for this season on almonds in Victoria and SA, and on walnuts at Griffith, NSW. The trials will also look at the potential to bring young trees into production earlier with the use of Parasol to protect them from moisture stress.

Tree nut crops are already on the Parasol label. The trials are intended to optimise application rates for individual crops, to evaluate the degree of sunburn damage and the quality of oil in treated and untreated trees, and to provide cost/benefit information from using Parasol.

Recent predictions from the Intergovernmental Panel on Climate Change indicate the impact of sun and moisture stress is likely to increase. Their 4th report showed the 1990s were the warmest decade ever recorded, that the last 100 years have been the warmest of the millennium, and that the trend is likely to continue into the future.

Shaun Heidrich is Australia/New Zealand regional manager for agricultural sunscreen products for Crop Care – in conjunction with US manufacturer Purfresh: “Early work with Parasol on many horticultural crops across Australia points to a promising new answer to sun damage.

“Most crops suffer some form of solar stress, and it is timely for growers to consider protecting their crop against substantial losses through solar damage.

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“Australian trials and demonstrations with Parasol have already shown reduced sun damage and moisture stress in a variety of tree crops.”

* The loss of mangoes to sun damage at Kununurra in WA has been reduced by more than 20% in trees treated with Parasol.

* Use of the liquid sunscreen on apples last summer in Victoria improved Granny Smith yields by 20% for a return of \$8000 hectare.

* Trials on Hass avocado trees in a hot Atherton Tableland spring indicate reduced moisture stress in trees coated with a reflective film of Parasol.

* On a lychee farm near Mareeba in north Queensland, lychee trees under moisture stress are showing sunburn damage to 80% of the foliage on the northwest side. On trees that have been sprayed twice with Parasol, there was an estimated 40% improvement in leaf condition between treated and untreated trees.

The thin-film sunshield of fine calcium carbonate particles is sprayed directly on the crop to build a protective coating that blocks harmful UV and IR light, while allowing photosynthesis and fruit colouring. Because sun damage cannot be reversed, the aim is to build a good level of coverage before extreme weather, and to maintain that level through the season.

Applied by ground equipment or through aircraft, Parasol is now available for use in Australia to protect a range of agricultural crops including apples, pears, stone fruit, citrus, tree nuts, olives, grapes, avocados, bananas, mangoes, lychees, guavas, pawpaws, pineapples, vegetables – including capsicums, tomatoes, potatoes, onions, cucurbits, and lettuce, seedlings, ornamental and nursery plants, cotton and peanuts.



WALNUTS sprayed with a fine reflective coating of the sunscreen Parasol.



WALNUTS sprayed with Parasol - which has been hand-wiped from the nut on the left.

For more information:

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