

Parasol – Protecting Fruit And Vegetables From The Fierce Australian Sun

April 2008

SINCE its introduction to the Australian market in November 2007, Parasol - the USA-developed liquid sun protection for fruit, vegetables and seedlings – has proved its worth through a very hot, unforgiving Australian summer.

Growers of apples, cherries, other stonefruit, winegrapes, olives, almonds, citrus, capsicums, melons, tomatoes, onions, lettuce, pineapples, mangoes, avocados, cocoa seedlings and vegetable seedlings - from north Queensland, Northern Territory, Western Australia to Victoria, and South Australia - have successfully used Parasol this summer to prevent sunburn damage to their produce, and to protect seedlings from wilting and death.

20 to 40% of Australia's orchard and field fruit and vegetables are damaged by sunburn, and the problem is increasing as weather patterns change.

Retailers and wholesalers are also demanding a more perfect skin finish – rejecting produce that is bleached or discoloured by the sun. So there is increasing incentive for growers to include sun-protection as part of their management practices.

Shielding plants and produce from the sun and heat also decreases water loss and improves the efficiency of water use – a significant bonus for growers facing dwindling water supplies and lower rainfall.

Parasol has provided growers with a practical, timely answer.

The liquid thin-film sunshield - made from food-grade calcium carbonate crystals – filters out the damaging part of the sunlight spectrum, while allowing beneficial rays to ripen and colour the fruit. Parasol is easy to apply, provides the highest SPF (sun protection factor), and is easy to remove from produce.

The liquid can be sprayed directly onto produce and plants throughout the growing season to build a fine, even, sun-protection coating, which is rainfast in up to 40mm of rain. Removal after harvest has proven easy.

Its suitability for the Australian produce market has been checked in replicated field trials and tested in demonstrations in many regions this summer. These demonstrations have been overseen by staff from Crop Care Australia and the retailer network.

In the field

Trials this summer have confirmed Parasol's ease of use and its ability to protect produce from both UV and radiant heat - while allowing photosynthesis and fruit colouring to continue for normal fruit development, with no adverse effect on quality.

With its small particle size, Parasol is easy to mix and spray. It doesn't settle in the containers or in the spray tank. It is not abrasive to equipment when spraying - or when being removed on the packing line.

Complete results for Parasol use on all types of produce have not been finally collated, but the early trends have been very consistent and promising in Australian trials.

- **Apple** growers in Victoria estimate that they lose 30 to 60% of their crop due to sun damage if no sunburn treatment is used. Parasol can prevent a large proportion of that loss, and increase fruit quality to obtain a higher-grade price. One grower has estimated the economic improvement from Parasol protection to be \$33,000 per Ha at current early season prices. Data from the US has shown that sun protection can also improve water utilisation – by an estimated 80%.
- **Winegrape** growers have found that reducing fruit sunburn with the liquid sunshield reduces shrivelling of berries and the subsequent impact on wine quality. The cooled canopy is less stressed, reducing the Crop Water Stress Index and improving water utilisation.

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- **Mangoes** at Kununurra showed less than 15% sunburnt fruit on Parasol-treated trees, compared with more than 30% on untreated trees in a replicated field trial conducted by Phytech Development Pty Ltd.
- **Capsicum** growers in central Queensland have used Parasol to boost the yield of saleable produce by nearly 8% and to protect young seedlings. Pickers commented on the improved quality of treated fruit, and packers had no problem processing the treated fruit in the packing shed.
- Marketable **Tomato** yield at Mildura was increased by 4 Kg of fruit/bush when a Parasol treated row was compared with the adjacent untreated row. Treated bushes yielded 7Kg of marketable fruit and only 1 Kg of unmarketable fruit; untreated bushes only yielded 3Kg of marketable fruit out of a total of 8Kg of fruit per bush.

In the packing shed

Growers have had no problems removing Parasol from their produce when packing line equipment has been correctly set up, and have also commented on the excellent fruit finish resulting from Parasol use.

Australian apple growers have reported an enhanced shine on fruit treated with Parasol - thought to be associated with a polishing effect on the natural plant wax during removal.

At the market

A recent shipment of Parasol-treated apples from Shepparton was described by a major supermarket as the best Granny Smith apples they had ever seen.



PARASOL-treated quality Granny Smith apples from Priest Orchards, Upper Pakenham, Victoria after grading and packing.



PARASOL-treated apple at Priest Orchards, Upper Pakenham, Victoria. The sunscreen has been easily wiped off a portion of the apple.

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