

## Overhead Sprays Dramatically Minimise Sunburn

In the first real test of new overhead crop cooling sprinklers, Goulburn Valley apple growers have dramatically reduced sunburn on fruit during the recent successive heatwaves.

The overhead sprinklers were installed as part of Round 2 of the Commonwealth Government's On-Farm Irrigation Efficiency Program. Fruit growers were able to transfer part of the water, saved through on-farm irrigation upgrades, in exchange for the Commonwealth funding part or all of their projects.

The saved water that was transferred to the Commonwealth Government is now being used for environmental flows

Irrigation efficiency projects funded under this scheme include; conversion of existing orchard irrigation systems to highly efficient drip or micro-sprays, soil moisture monitoring, automation of irrigation systems, as well as, the installation of overhead sprays in apples for frost and sunburn protection.

When put to the test during the prolonged blisteringly high 40 degree heat waves in January and February this year the overhead systems effectively cooled the from and prevented significant crop loss though heat stress and sunburn.

Previously, much more water had to be applied under the trees' canopies for uptake though the trees' root systems with orchardists relying on evapotranspiration through the trees leaves to achieve cooling. Water was wasted through leaching and there was always a significant time lag, each of which wasted water.

Merrigum orchardists, Joe Sciacca and son Angelo, have now been through two seasons where the overhead sprays have considerably reduced the amount of sunburn on their apples. In the recent heatwave their Royal Gala apples only had a small percentage of sunburn. They considered this to be an excellent outcome this year because of the intense heat and because the heatwave came when the fruit had higher sugar levels close to harvest.

The overhead irrigation system saved them thousands of dollars in lost production.

"We only had a small percentage of sunburn in the Galas but the pack-out was still excellent. These overhead sprays really work – better and more efficient than tree sprays or trying to keep the soil wet with the under-tree irrigation system," Joe Sciacca said.

In the Ardmona district, orchardist Andrew Plunkett also used his new overhead spray system on apples with excellent results.

"The system works really well, especially when coupled to the automation of being able to switch sprinklers on for a 15 or 25 minute cycle between blocks," Andrew Plunkett said.

"This has been a particularly difficult and prolonged hot season and we had the 'overheads' running for so long we actually reduced the amount off irrigation applied to the soil. Plus, the heatwave

happened just as the Gala crop was ripening and the extra sugar in the fruit usually makes them more susceptible to sunburn. However the very hot conditions – particularly the very warm nights – washed out some of the red colour in the fruit despite the crop cooling effect of the overhead sprays”.

“For me, it’s a proven result for a very small investment in excellent packouts,” Andrew Plunkett added.

Growers Victoria partners with Commonwealth Department of Environment Water Sustainability Population and Communities to manage water saving projects under the Commonwealth Government’s ‘On-Farm Irrigation Efficiency Program’.

Fruit Growers Victoria Limited’s General Manager, John Wilson, said, “It is clear that the On-Farm Irrigation Efficiency Program is producing excellent results for both industry and the environment. We can make real water savings and grow more with less water.”

For further information on future ‘On-Farm Irrigation Efficiency Program’, contact Fruit Growers Victoria on 03 5825 3700.

Overhead Sprays in position in Joe Sciacca’s Merrigum orchard.



Automatic water control valves - one for irrigation and the other for the overhead sprays – makes the best use of irrigation technology for irrigation and in particular, the frequent cycling of the overhead sprays for sunburn control.



Devastating sunburn on Granny Smith apples from heat waves during the current fruit growing season.

