

Surround® WP

Crop Protectant



Applying Surround® with Du-Wett® — Perfect Partners to Maximise Protection Against Sunburn and Heat Stress

Surround has been proven to reduce sunburn and heat stress in a wide range of crops in many parts of the world. Du-Wett is a unique adjuvant specifically designed to improve spray coverage in horticultural crops.

In line with a growing trend to use low volume orchard sprayers such as the Quantum Mist* or standard air blast sprayers that have nozzle modifications, this AgNote highlights application strategies to maximise protection and minimise application costs.

Any Surround program needs to be well planned to give the best value to the grower.

The End Result

The aim of any Surround program should be to have the exposed leaves and/or fruit covered evenly with two or more sprays before the first heat event occurs.



Figure 1. An apple showing satisfactory coverage of Surround on half the apple.

In cooler districts, the first heat event may occur in early December, while in hotter areas of Australia, this is likely to be in early to mid-October.

Application

Surround application strategies vary between growers and depend on their individual situation and application equipment.

One of the key benefits of Surround is its high visibility allowing growers to check on the quality of their application easily and make adjustments to improve their calibration.

Just like spray painting, many light coats are better than one heavy coat. If high concentrations are applied with large spray droplets, application can be blotchy and spray solution can run off the surface. In apples, for example, spray solution can pool at the stem end or calyx, leading to removal problems on the packing line. In grapes or citrus, large droplets tend to run off the surface of the fruit and pool at the lowest point; a light coat applied in conjunction with Du-Wett will eliminate this issue.

The sprayer should be adjusted to apply a fine coat to exposed leaves and fruit. For sun protection, it is not necessary to blast Surround through the canopy if it is applied without other plant protection products in the mix. Some growers achieve this spray pattern by switching off the fan and blocking the bottom nozzles on air blast sprayers.

Alternating the direction of travel down the rows with subsequent applications will assist in achieving even coverage.

Sprayer Set Up

Sunburn occurs mainly from the top. Using a sunburn product like Surround, it makes sense to deposit the product on the top of the fruit. This can be optimised if the spray is directed from the top, e.g. Croplands' Quantum Mist Tower sprayer. Conventional air blast machines, blasting from the bottom, struggle to achieve an even coverage on top. However, some product will always find its way on top of the fruit.

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DuWett®
SUPER-SPREADER

Water Volumes and Du-Wett

Du-Wett is the perfect partner for Surround. Du-Wett increases the spread area of droplets on the plant leaf surface by up to eight times compared with the area covered by conventional non-ionic surfactants.



Figure 2. Initial spray with Surround at 1000 L per hectare of water.



Figure 3. Surround sprayed with Du-Wett in 400 L per hectare of water.

When Du-Wett is added to the spray mix, distribution is more even, like a film (see Figure 3), so large water volumes are not required. For products like Surround, the result is significantly improved coverage. As Du-Wett enhances spread, the plant surface cannot hold dilute water rates: the volume (and Surround) would simply run off. When using Du-Wett, it is essential to use at least three times the concentrate. Concentrated



Figure 4. Quantum Mist Tower sprayer.

spraying means that each spray tank can be applied over a greater area than a dilute spray. Time is saved in travel to and from the spray shed and the time taken filling up spray tanks.

The concentrate mixing rate can be calculated from your current dilute spray volume.

EXAMPLE ONLY

1. Current dilute spray volume: For example 1500 L/ha
2. Your chosen concentrate spray volume:
For example 500 L/ha
3. The concentration factor in this example is:
 $3X$ (i.e. $1500\text{ L} \div 500\text{ L} = 3$)
4. If the dilute label rate is 2.5 kg Surround/100 L, then the concentrate rate becomes 3×2.5 , that is 7.5 kg Surround/100 L of concentrate spray
5. The Du-Wett label lists rates as concentrated (i.e. per hectare, not per 100 L), therefore, the Du-Wett label rate does not require concentrating. Select the highest labelled rate for Du-Wett for your crop.

Always add Surround first to the tank and mix in completely before adding Du-Wett.

Always refer to the Du-Wett label for updated directions for use.

For best results, maintain Surround coverage throughout the sunburn season.

Information and data referred to herein were generated using products and rates that were registered at the time, may include extracts from the product label and does not constitute the complete directions for use. Always read and follow product labels.

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