



Surround® WP

Crop Protectant

**Protection you can see.
Performance you can trust.**

Plant Surface Protection in processing tomatoes means higher packouts of quality produce—and a more profitable operation.

Sunburn and heat stress take a major toll on processing tomatoes. As part of a planned treatment program, Surround® can significantly reduce losses from sunburn, bleaching and heat stress, resulting in increased fruit quality, greater plant vigor and higher marketable yields. That can add up to greater profitability.

Surround represents a breakthrough opportunity for Plant Surface Protection in processing tomato crops

When applied before severe summer conditions set in and maintained throughout the hot season, Surround covers plant surfaces with a protective film – a layer of specially engineered kaolin particles that reflect harmful infrared and ultraviolet radiation.

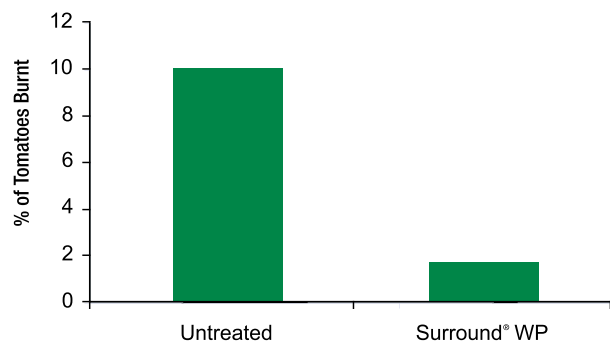
Proven to reduce sunburn damage by as much as 80 percent

When applied according to label directions, Surround has been shown to reduce sunburn in tomatoes by as much as 80 percent, significantly increasing profitable yield. Damage reduction depends on application rate and timing as well as the severity of sunburn damage and stage of canopy collapse.

Sunburn can occur in tomatoes when air temperatures reach 28°C. Some tomato varieties can lose 20 percent of production to sunburn damage, bleaching and heat stress with even greater losses in times of extreme heat. On top of this loss is unmarketable fruit that is left unpicked.

Australian growers have successfully used Surround since 2001 on apples, plums, pineapples and other fruit and vegetables with significant reductions in sunburn, bleaching and heat stress.

Sunburn Control in Tomatoes



By reflecting the damaging heat and radiation of the sun, Surround reduces sunburn significantly, resulting in higher yields of quality tomatoes. This study shows an 80 percent reduction of damage. (Data source: 2002/2003 season – Shepparton, Australia – Cultivar 'Rebel' - 50 + 25 kg/ha)

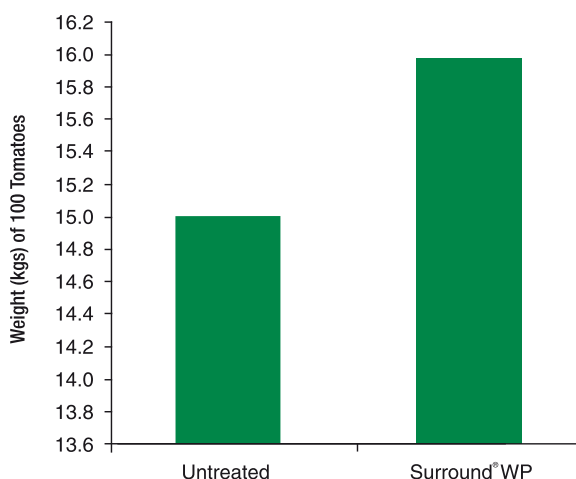
Engineered particles protect against heat stress

Excessive heat can stress the entire tomato plant, causing irreversible damage to plant function and development. Temperatures higher than 32°C can interfere with pollination and fertilisation, contributing to poor fruit set. Higher temperatures significantly affect blossom and fruit drop, fruit shape and fruit colour. High daytime temperatures can increase evaporation, resulting in high transpiration rates and poor water uptake, thereby reducing plant vigour. This can lead to early canopy collapse, ultimately exposing the fruit to more heat and solar radiation and increasing the potential for damage.

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In trials in Victoria, where temperatures regularly exceeded 32°C, Surround reduced the temperature of treated tomato leaves by 4°C to 5°C. The shape and size of Surround particles allows photosynthetic activating radiation to pass through the film. By reducing heat stress, plants are able to photosynthesise longer each day in summer. This has been measured in local and international trials with Surround treatments demonstrating increased tomato weight and yield.

Improved Tomato Weights



When applied to crops before severe sunburn conditions begin, Surround has been shown to significantly increase tomato yield. (Data source: 2002/2003 season – Shepparton, Australia – Cultivar ‘Rebel’ - 50 + 25 kg/ha)

There is nothing like Surround. Surround has superior reflectance of UV and infrared radiation because of its unique formulation. Based on kaolin, a naturally occurring, inert white mineral used in food and toothpaste, Surround particles are engineered to reflect significantly more of the sun’s heat and radiation than any other sunscreen product. The convenient WP formulation provides:

- Easy mixability in water
- Good coverage capacity
- Controlled adhesion to the fruit

Offering all these qualities, Surround represents a real breakthrough in plant surface protection.

Strategic application timing = effective protection

Heat stress reduction can be accomplished at any time during the life of the plant and is particularly beneficial during bloom, fruit set, and early fruit formation.

Apply sunburn reduction sprays during the period from fruit set to harvest. Good coverage of the fruit is particularly important if the foliage is diseased and canopy cover is thereby reduced.

Start applications before heat events occur and build multiple layers with successive applications. A visual inspection of film deposition and coverage is essential to fine-tune spray coverage.

Recommended application rates

- Calibrate sprayer and spray according to plant row volume.
- Spray to ‘near drip’ coverage (before the point of runoff).
- Reapply to maintain coverage after heavy rain, wind erosion or new growth. (See photos below)



Well-coated fruit



Fruit requiring re-treatment

Remove Surround at processing – mandatory directions

Normal tomato processing systems usually remove virtually all Surround film from fruit surfaces. Traces of residue should not affect quality of processed products. Check with the processor before use to ensure that Surround treated produce is acceptable for processing.

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

Always read the product label prior to opening the packaging.

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