

Surround®

Crop Protectant

Protect Pistachio Trees From Heat Stress

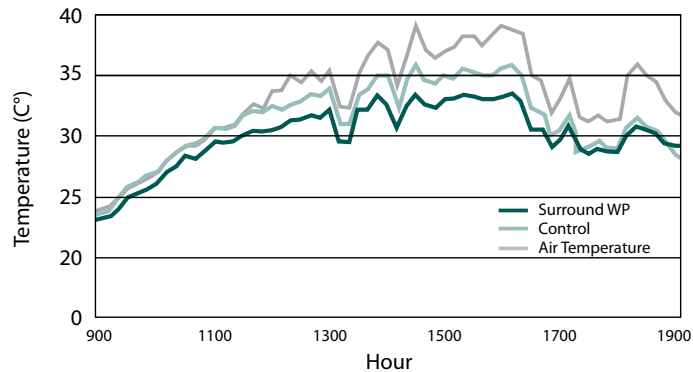
Surround represents a breakthrough opportunity for improving plant health in pistachios. When temperatures exceed normal ranges, plants become heat stressed. This stress can significantly reduce crop quality and yield, and can inflict financial losses that frequently go unseen by growers. Surround is specially formulated to reflect harmful infrared and ultraviolet radiation away from plant surfaces while allowing beneficial Photosynthetically Active Radiation (PAR) into the leaf. Surround-treated trees are typically several degrees cooler than untreated trees, and a cooler tree leads to: 1) reduced heat stress, 2) increased photosynthesis and greater plant vigor, and 3) potentially higher yields. And, Surround does not block leaf stomata so gases (O₂ and CO₂) and water continue to move in and out of the plant, maintaining the plant's natural photosynthetic and cooling processes.



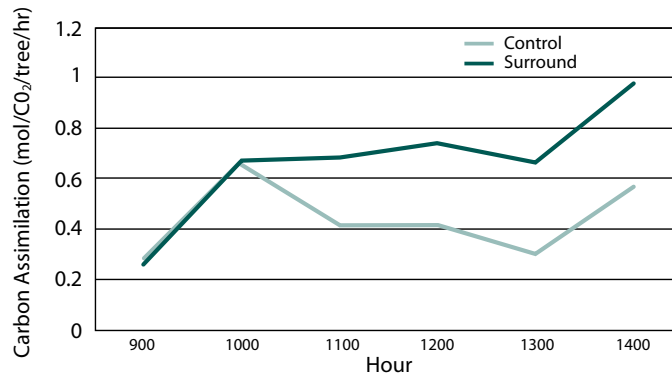
Surround's selective light filtration properties result in cooler plant surfaces and higher rates of photosynthesis (expressed as carbon assimilation)

Glenn, D.M., A. Erez, G.J. Puterka, P. Gundrum. Particle Films Affect Carbon Assimilation and Yield in 'Empire' Apple. J. Amer. Soc. Hort. Sci. 128:356-362. 2003.

Effect of Surround Use on Plant Surface Temperature



Improved Photosynthesis as Measured By Carbon Assimilation



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RECOMMENDATIONS FOR NUT CROPS

Volume: Apply to near-drip, not to excessive run-off. For 20-foot trees, it is best to use 200 gallons per acre. Large trees like walnut and pecan can require up to 300 gallons per acre.

Concentration: Use 25 to 50 lbs Surround WP per 100 gallons of water.

For Tree Nuts, such as almond, beech nut, Brazil nut, butternut, chestnut, cashew, filbert, hickory nut, macadamia nut, pecan, walnut and pistachio.

Problem	Lbs/Acre	Application Instruction
Sunburn and heat stress	50-75	Apply to sunburn-prone trees before conditions leading to sunburn occur. Provide thorough coverage with one to two full-rate applications 7 days apart. Depending upon the length of the high heat period, three to four applications in total often are needed. Good coverage on small to medium size trees is best achieved at rates of 75 lbs in 100 to 200 gallons per acre to achieve near-drip coverage. Make subsequent applications at half to full rates to maintain even coverage throughout the high heat period.

Application Tips

- Avoid foliage run-off. Apply the spray volume that will achieve near-drip.
- Best results usually achieved at 50 lbs per 100 gallons.
- Surfactants may improve spreading.
- Consult the specimen label for instructions on aerial application.
- See Surround spray guide for more information on effective application techniques.

Important: Always read the label before buying and follow label instructions when using this product.

The use of Surround® WP in agricultural crop protection applications is covered by US Patents 6,027,740; 6,069,112; 6,110,867 and 6,156,327.

CONDITIONS OF SALE – LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES

Failure to strictly follow label directions may cause injury to crops, animals, man or the environment. Tessenderlo Kerley, Inc. (TKI) warrants that the product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use when properly applied in normal weather conditions. TKI makes no other warranty or representation of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose. The exclusive remedy against TKI for any cause of action relating to the handling or use of the product is a claim for actual out-of-pocket damages, and in no event shall TKI be liable for special, indirect, incidental or consequential damages or expense of any nature, including, but not limited to, loss of profits or income, whether or not based on the negligence of TKI, breach of warranty, strict liability in tort, or any other cause of action. TKI and the seller offer the product, and the buyer and users accept it, subject to the foregoing conditions of sale and limitations of warranty, liability and remedies.