Novasource®
Tessenderlo Group

Walnut

pursh ade®

Reducing Solar Stress on Walnuts

Heat stress and sunburn caused from excessive temperatures and ultraviolet (UV) light can damage a walnut crop; significantly reducing marketable yield and cutting deep into a grower's profit. First, excessive levels of solar radiation can deform nuts during critical development stages. This damage often goes unnoticed until harvest. Secondly, when young and established trees experience extreme heat stress, photosynthetic activity can shut down, limiting overall productivity. Trees under stress do not produce to their maximum potential.

Sun-damaged walnut

Purshade® reduces solar stress in crops by protecting the foliage and fruit from damaging ultraviolet (UV) and infrared (IR) radiation while still allowing photosynthesis to occur. Engineered with advanced reflectance technology and based on calcium carbonate, a highly reflective mineral, Purshade has been shown to reduce sunburn damage and minimize overall heat stress. Purshade effectively reflects harmful UV and IR radiation away from plants.

Benefits

Assists in establishment of young trees

Reduces culls caused by sun damage

Improves overall plant health

Enhances water use efficiency

Features

Reduces damage caused by UV and IR radiation

Easy-to-use, nonabrasive liquid formulation

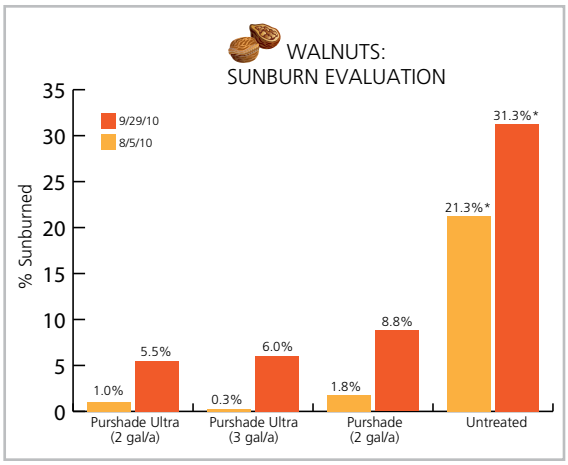
Lowers plant surface temperatures, therefore reduces plant stress and promotes biomass development

Promotes efficient photosynthesis and does not block stomata

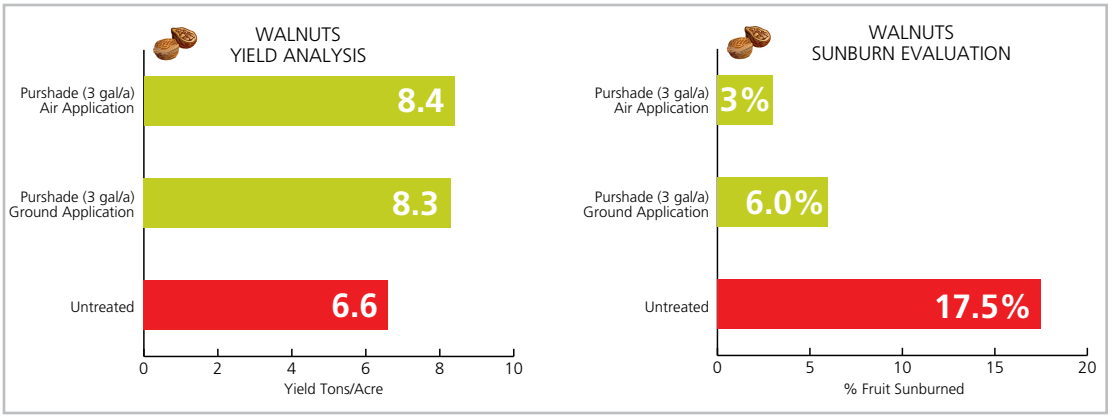
Tank mixes easily, covers evenly, and can be applied with standard sprayer equipment

Washes off during standard post-harvest processing

Designed with the grower in mind, Purshade comes in an easy-to-handle liquid formulation that mixes quickly, applies evenly, is nonabrasive to equipment, and can be removed as required during standard post-harvest processing. The product can be applied with standard spray equipment and in most cases can be incorporated into an existing spray program.* Purshade helps maximize the value of every treated acre by reducing solar-related losses, thus increasing marketable yield, enhancing crop quality, and improving water use efficiency.



*Chandler Walnuts, Corning, CA 2010. Two applications of Purshade @ 100 gpa: 7/20 & 8/16/2010. * Percent (%) sunburn was statistically higher in the untreated walnuts than the Purshade treated walnuts.*



Chandler Walnuts, Chico, CA 2010. Two applications of Purshade: 6/14 & 7/22, 2010. Ground—Air-O-Fan @ 100gpa. Air— 1320 Helicopter @ 40gpa.

* The compatibility of Purshade with all potential tank mix partners is not knowable. Conduct a jar test first to determine compatibility and consult the product labels of the tank mix partners.

Walnut

How Does Purshade Work?

Purshade plant protectant is available in a flowable suspension concentrate that is mixed with water and then sprayed directly on plant surfaces. Once dry, Purshade forms an even film of millions of microscopic "prisms" or mirrors that reflect harmful ultraviolet radiation (UV) and infrared radiation (IR) while not blocking leaf stomata, therefore not impeding photosynthesis. The reflective properties of Purshade protect fruit from direct sunburn damage and help prevent heat stress in the entire crop canopy. Keeping plants cooler, while ambient temperatures are extreme, reduces stress and enables the crop to maintain its normal photosynthetic rate longer. When Purshade is used during periods of high light and temperature extremes, crops have the solar protection needed to better reach their full potential and use available water resources more efficiently.

Application Guidelines and Rates

Purshade's liquid formula is designed to mix easily in the tank. The product can be mixed with crop protection products (jar test recommended) and can be applied with typical ground or aerial sprayers using standard nozzles. Standard post-harvest cleaning and washing processes are generally sufficient to remove the Purshade product from the surfaces of the fruit.

APPLICATION GUIDELINES FOR WALNUTS		
Use	Gallons/Acre	Instructions
The first application of Purshade should occur prior to extreme solar conditions to protect nuts during early stages of formation.	3	Apply before extreme heat conditions occur.
Apply Purshade 2–3 additional times throughout the season, treating the trees approximately every 14–21 days.	2–3	Apply as needed based on growth and weather conditions.
Important: Always read and follow label instructions when using this product.		

Use Tips

Sample of ideal coverage

- Use the amount of water volume per acre needed to achieve uniform spray deposition. Avoid runoff.
- Use fine nozzles and the appropriate tractor speed and pressure to achieve very fine droplets that will not coalesce into larger droplets.
- Apply each application in the opposite direction of the previous application.
- Purshade is physically compatible with most crop protection products. If compatibility is unknown, perform a jar test before mixing. It is not possible to test every product or combination of products used with Purshade. If the effectiveness of a tank mixture is in doubt, apply the materials separately. Do not tank mix with products requiring a neutral or acidic pH, as the alkaline pH of Purshade might speed degradation of the other products.
- Purshade may be applied in a band spray. Use the recommended rate per acre of Purshade in a quantity of water per acre to achieve complete coverage. Adjust the band width and the volume of water based on plant size to achieve uniform coverage.
- Crops that are to be marketed fresh but have a white film of Purshade remaining at harvest may be washed. Purshade is normally removed with common washing techniques. If the crop is field packed and will not be washed, sprays should be reduced or discontinued in ample time before harvest to allow normal attrition of the film from wind, rain, and plant growth. Consult local experts for more information. Note: When Purshade applications are discontinued, the crop will begin to lose its protective coating and sunburn protection will be lost.

NovaSource® Tessenderlo Group

TESSENDERLO KERLEY, INC.
2255 North 44th Street
Suite 300
Phoenix, AZ 85008-3279

Customer Service:
1-800-525-2803
1-602-889-8300

www.novasource.com
www.purshade.com

NS-PIUS-PS-WALNUT-v01-04/12