

TECHNICAL BULLETIN I CITRUS Parka[®] Crop Cuticle Supplement

PREVENTING SUNBURN AND INCREASING CITRUS QUALITY GRADES WITH PARKA®

Parka[®] powered by Sure Seal[™] biofilm technology is the only proven plant health solution that enhances the citrus and leaf cuticle. Through three modes of action, the residue-free formula strengthens the fruit's first layer of defense against environmental stressors all season long to minimize the opportunity of poor quality grades and yields.

By expanding the plant's antioxidant capacity, anthocyanin concentration and key components of photosynthetically active tissue, the supplemental bilayer enables citrus to use excess light energy for photosynthesis rather than developing sunburn.



MODE 1: Fruit Mechanical Properties

Parka enhances the existing plant cuticle by sealing microfractures and forming a barrier to unwanted moisture and pathogens. MODE 2: Cell Membrane Stability

By minimizing production of negative oxidative compounds, Parka preserves fatty acids resulting in stronger cell membranes.

MODE 3: Energy Conversion

Photosynthetic activity is optimized with heightened leaf stomal activity and net CO₂ exchange, allowing for plant use of solar radiation.

Sunburn Protection With Parka

- Citrus is highly susceptible to irreversible solar damage that has significant economic impact for growers.
- Heat stress intensifies phenomena such as June-drop throughout the growing season.
- Fruit sunburn symptoms can range from light bleaching to dark necrotic spots accompanied by cell death.

KEY FEATURES AND BENEFITS:

- Proven to minimize sunburn damage by up to 48%.
- Enhances the fruit and leaf cuticle with a clear, hydrophobic lipid bilayer that protects against UV radiation.
- Reduces the opportunity for the flattening of fruit or dry, material skin changes.
- Decreases the production of the plant growth regulator (PGR) ethylene responsible for fruit abscission.

Yielding Higher Fruit Grades

The importance of fruit size as a quality parameter has significantly increased in recent years. It has become as crucial as yield in the determination of profitability for growers. High temperatures and drought have severe impact on pack out by limiting plant photosynthesis and CO₂ assimilation.

Parka has shown to increase marketable yield and the percentage of citrus graded in the Sunkist quality category.

ADDITIONAL BENEFITS:

- Leaves no visible residue while exempt from maximum residue levels.
- Allows for subsequent application of insecticides and fungicides.
- Easily tank mixed with foliar nutrients and pesticides to fit into any program.
- Excellent worker safety profile.
- No pre-harvest or worker re-entry intervals.





Key Issue: Sunburn



Parka was applied to Clementines three times during the 2022 summer at 1 gallon per acre. Parka treatment showed a statistically significant reduction in sunburn from 21.0% to 7.0%.

Key Issue: Quality/ Size Distribution



Cara Cara oranges grade categorization after four Parka applications during 2022 summer at 1 gallon per acre. Different letters represent statistical differences (P-value < 0.05) within each grade category.



Parka was applied to Cara Cara oranges four times during the 2022 summer at 1 gallon per acre every 30 days approximately from May to August. Parka treatment showed a statistically significant increase in yield from 12,400 to 15,500 pounds per acre.



Effectiveness of Parka on rind breakdown reduction on Sumo citrus during California 2022 season. Parka Summer consisted of three applications every 21 days (June – July). Parka Fall program included two applications every 30 days (October – November). One of the treatments included three applications of Surround every 21 days (June – July) for summer programs comparison. Parka Fall program has shown to reduce rind rot 43.6% on average.

Applications and Use

Application: For best results, complete coverage on the crop is required. Avoid excessive runoff. Do not apply when temperatures are above 90°F. If temperatures are expected to exceed this threshold, evening applications are recommended.

Compatibility: Parka is compatible with most other crop protection products, provided application coincides with the conditions on each label. Do not tank mix or overlap Parka applications within 10 days of applications of Captan. If using micronized or dusting sulfur, do not apply Parka within 3 days of a sulfur application. If using lime sulfur, wait 7 days before applying Parka. Do not tank mix with EC-based materials. Do not tank mix with any material containing oil. Do not tank mix with surfactants, stickers or pinolene-based materials. Parka should be the last product added to the tank. For best results, finished spray solution pH should be between 5 and 7.

To learn more, visit Cultiva.com, reach out to your local Parka representative or contact a retailer.



Key Issue: Rind Rot Incident Reduction

Key Issue: Overall Yield Increase

Parka is a registered trademark of Cultiva LLC.