

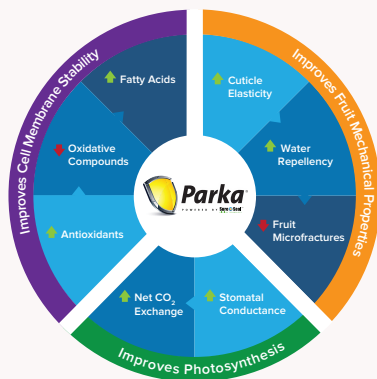
TECHNICAL BULLETIN | APPLES

Parka® Crop Cuticle Supplement

Enhancing Apple Finish and Mitigating Sun Damage Risk

Parka® powered by Sure Seal™ biofilm technology is the only proven plant health solution that enhances the apple 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 while minimizing risks of sun damage and other fruit finish issues.

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



Enhancing Apple Finish and Mitigating Sun Damage Risk

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 stomatal activity and net CO² exchange, allowing for plant use of solar radiation.

Sunburn Protection With Parka

- Sunburn is the primary cause of apples culls, especially in the Pacific Northwest growing regions.
- Apples are very susceptible to burn because of their higher thermal mass.
- Solar damage is irreversible and costs apple growers millions of dollars annually.
- Sunburn intensifies disorders such as lenticel marking, cracking and russetting.

KEY FEATURES AND BENEFITS:

- Enhances the fruit and leaf cuticle with a clear, hydrophobic lipid bilayer that protects against UV radiation.
- Strengthens tolerance to environmental stressors and related cosmetic disorders; proven to minimize sunburn incidence by up to 42%.
- Transparent solution allows for accurate, efficient color and defect detection during harvest before reaching the bin.

Improving Fruit Quality to Pack Out

External Disorders Managed With Parka Include:

- Sunburn
- Cracking
- Micro-fractures
- Lenticel infection
- Russetting
- Fruit staining
- Bleaching

Parka increases fruit quality and finish by addressing additional environmental stressors, such as russetting from humid environments and lenticel infection as a result of extreme weather conditions.

Additional Benefits:

- Leaves no visible residue while exempt from maximum residue levels.
- 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

Reducing Apple Sunburn Damage With Parka

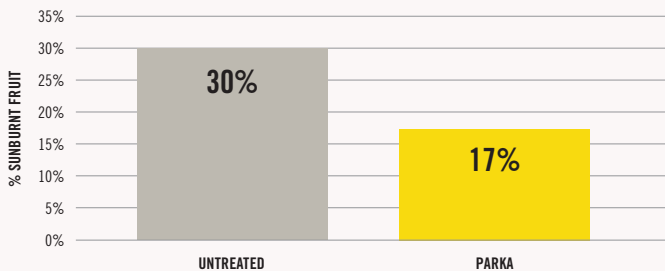
Average for 19 replicated trials.

Variety: Fuji, Pink Lady, Granny Smith, Gala, Smitten, Honeycrisp

Rate: 1 gal./ac

Applications: 3-4

Location: Chile, Argentina, Spain, NY, WA



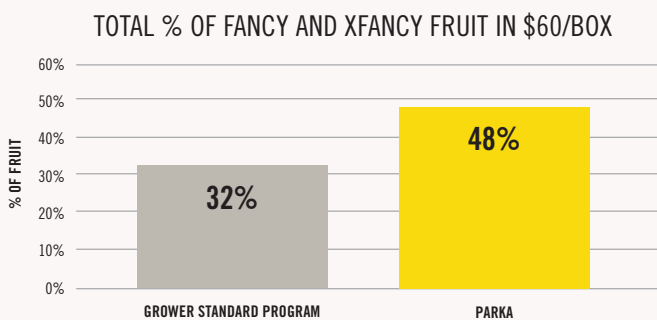
KEY ISSUE: FRUIT FINISH

Securing Excellent Fruit Finish With Parka

Agrassistence, New York, 2015.

Rate: 1 gal./ac

Applications: 3



Sunburn at Harvest on Honeycrisp Apples

Variety: Honeycrisp

Rate: 1 gal./ac

Parka: 1 gal./ac

CaCO3: 3 gal./ac

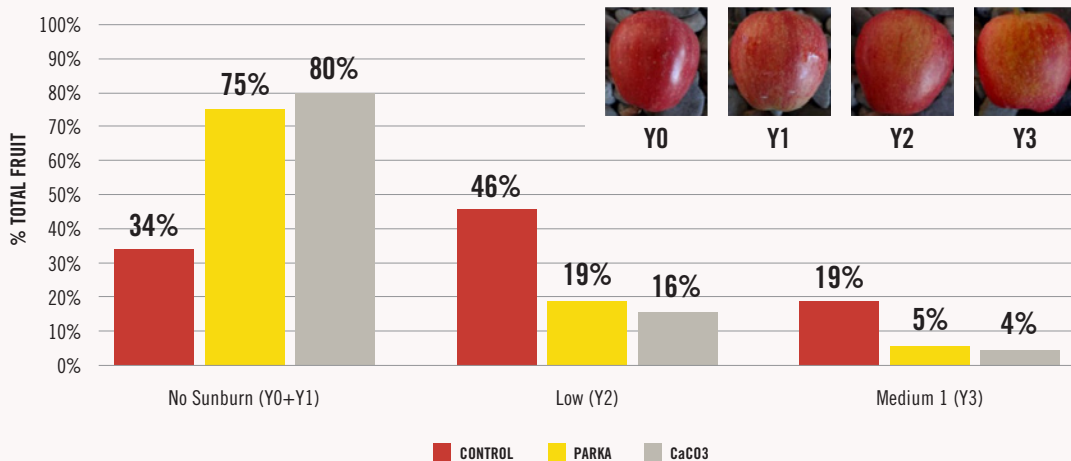
Applications: 4

10-12 mm fruit

Repeating every 20 days

Location: WA

Source: University, 2020



Crop Application Directions

CROP	RATE / AC	USE GUIDELINES/PROGRAM
Apples	1 gal. (9.5 L)	Apply at fruit set. Reapply every 21 days.

Parka is exempt from tolerance. Applications per season not limited. 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.

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.