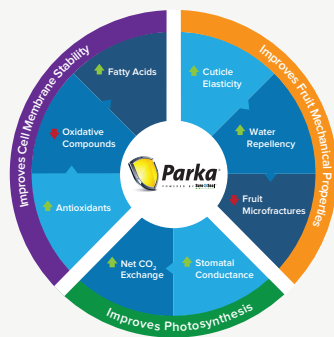


# Parka® Crop Cuticle Supplement

## MITIGATING CHERRY CRACKING AND DOUBLING

Parka® powered by Sure Seal™ biofilm technology is the only proven plant health solution that enhances the cherry 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 prevent significant cherry yield and quality damage from cracking and doubling.



### 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 CO<sub>2</sub> exchange, allowing for plant use of solar radiation.

### Cracking Prevention With Parka

- Cracking can have severe economic impact for growers with 20-40% of sweet cherries being potentially classified as unsellable.
- Cracking occurs due to pressure on or under the fruit surface where water and warm temperatures intensify the stress cherries endure.
- Sweet cherries in the Pacific Northwest, specifically Bing cherries, are highly vulnerable to splitting due to the climate and frequent high-volume rain events.

#### KEY FEATURES AND BENEFITS:

- Minimizes cherry cracking incidence by 46%.
- Enhances the fruit and leaf cuticle with a hydrophobic lipid bilayer that expands as cherries grow, repelling moisture from the fruit's surface that commonly causes cuticular cracking.
- Parka increases cracking resistance by enhancing cell membrane stability as a result of increased antioxidant defense which reduces the presence of oxidative species that degrade lipid membranes.

### Decrease Doubling Occurrence With Parka

- Doubling is a situation where two equally sized cherries are bonded together or one of the two fruits is underdeveloped.
- Doubling occurs when, after harvest, trees endure temperatures above 94F that cause deformations of flower buds producing subsequent fruit doubling the following season.
- On average doubling incidence can range between 5% and 15%, depending on location and cultivar.
- The frequency of doubling occurrence is likely to increase due to climate variation and new cherry orchards being planted in warmer geographical regions.

#### KEY FEATURES AND BENEFITS:

- Enhances tree performance against environmental stressors by increasing the leaves' chlorophyll and pheophytin content, net CO<sub>2</sub> exchange and transpiration rates.
- Allows trees to regularly photosynthesize and develop flowers in warmer temperatures, which has been proven to minimize cherry doubling by up to 64%.
- Shown to be as effective in doubling and spur prevention as overhead cooling.

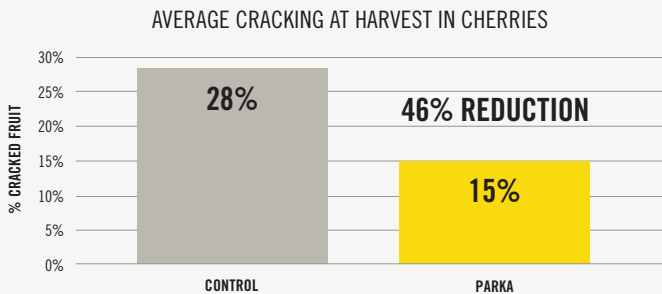
## 46% Less Cracked Cherries at Harvest Treated With Parka vs. Untreated

Across 15 trials.

**Variety:** Coral, Bing, Lapins, Sweetheart, Skeena, Brooks, Zirat and Early Burlat

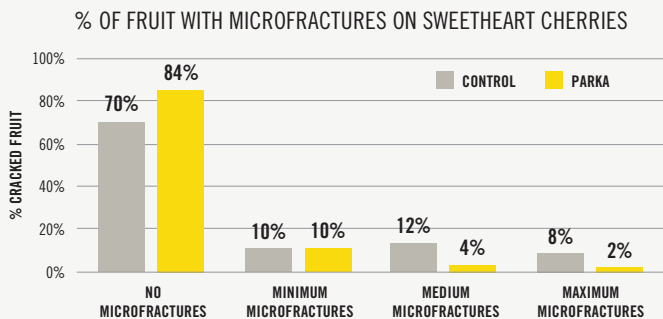
**Rate:** 1 gal./ac

**Location:** Spain, Chile, Australia, New Zealand, Turkey, Washington, Oregon and California



## Less Sweetheart Cherry Microfracture Occurrence When Treated With Parka

University of Concepcion, Chile, 2016.

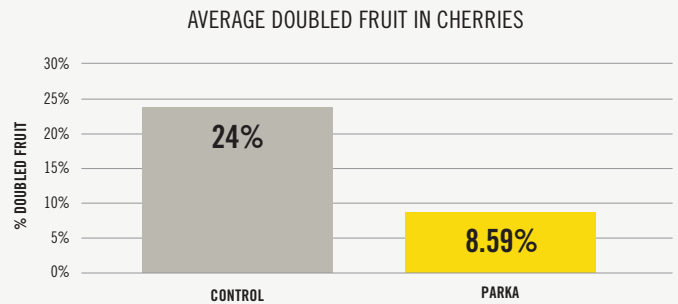


## Crop Application Directions

CROP	RATE / AC	USE GUIDELINES/PROGRAM
Cherry	1 gal. (9.5 L)	To prevent cracking, apply at 100% shuck fall with a second application at straw color. For reactionary applications, apply within 24-48 hours before a rain event.  For doubling prevention, apply 1-2 weeks post-harvest. Reapply as needed every 14-21 days for a minimum of two applications per season.

## 64% Reduction in Cherry Doubling When Parka is Applied Post-Harvest

Across Three Internal Trials from 2017-2020.



## Parka Doubling Prevention Performance Against Competitors

Dr. Hubbard, 2017-2018.

**Variety:** Early Robin

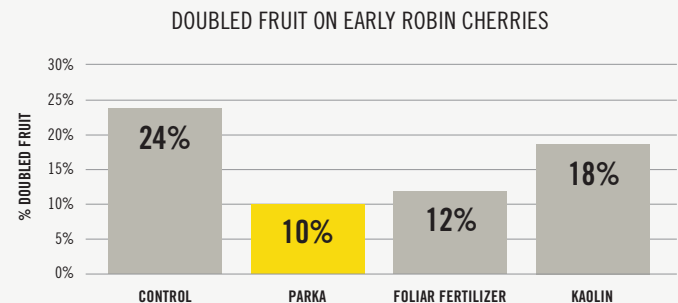
**Fertilizer (K and P):** 2 lbs./acre

**Rate:** 1 gal./ac

**Application:** 2

**Caolin rate:** 50-100 lbs./acre

**Location:** Oregon



## 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](http://Cultiva.com), reach out to your local Parka representative or contact a retailer.