

TECHNICAL BULLETIN | POST-HARVEST FRUIT TREE PRODUCTIVITY

# Protecting Your Orchards at Every Growth Stage With Parka®

Abiotic stress can affect fruit trees at various stages throughout their production cycle. After harvest, fruit trees engage in key physiological processes, including transpiration and photosynthesis, which are essential for root, shoot and bud development. These processes maintain tree health and build reserves that serve as vital sources of energy to support flowering, fruit set and the early development of shoots and fruit.

However, abiotic stressors like heat and radiation during this critical phase can disrupt these processes, reducing orchard productivity by hindering flower differentiation, reserves accumulation and overall orchard health, which affects yield and growth potential.

## Enhancing Plant Health and Productivity With Parka

By enhancing plant cuticle health through post-harvest applications of Parka, fruit growers can help mitigate abiotic stress while also providing lasting physiological benefits that positively impact plant health in subsequent seasons, maximizing the orchard’s long-term productivity and the growers’ marketable yields.

### KEY FEATURES AND BENEFITS:

- Increased plant tolerance to environmental extremes.
- Enhanced photosynthesis.
- Improved overall tree health.
- Increased yields the following season.
- Sustained orchard productivity over the long term.
- Reduced doubles and spurs.

## Post-Harvest Parka Applications: Key to Stress Mitigation and Enhancing Fruit Quality and Marketable Yields

Historically, pre-harvest applications of Parka have proven to help growers increase their marketable yields by improving fruit cuticle health and reducing culls caused by abiotic stressors. Ongoing studies are exploring the use of Parka throughout the entire production cycle to determine its impact on fruit quality and yields. Recent trials show that post-harvest Parka applications can also enhance cuticle health during extreme stress, further increasing marketable yields.

Variety: Santana Cherry

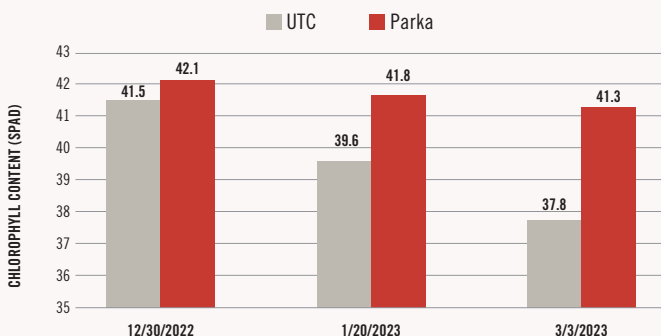
Rate: 0.5 gal./A

Applications: 3

Cooperator: Luis Valenzuela, Innovafrut, Chile

## Increased Chlorophyll Content for Enhanced Photosynthesis

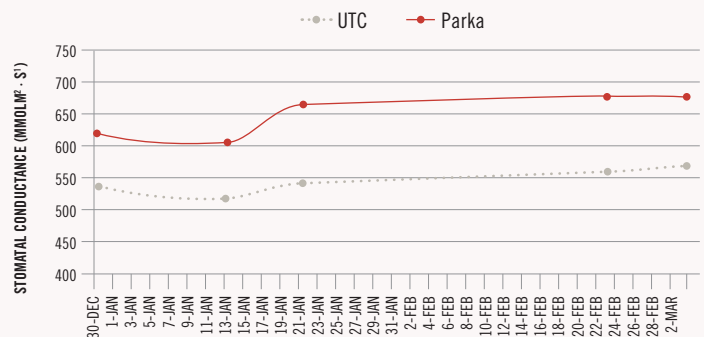
CHLOROPHYLL CONTENT (SPAD) DURING POST-HARVEST IN CHERRY TREES



Chlorophyll content (SPAD) was significantly higher in Santana cherry trees following post-harvest applications of Parka compared to the untreated control (UTC).

## Improved Stomatal Conductance

STOMATAL CONDUCTIVITY DURING POST-HARVEST IN CHERRY TREES



Stomatal conductance in Santana cherry trees was significantly higher following post-harvest applications of Parka compared to untreated trees exposed to temperatures above 100 F.

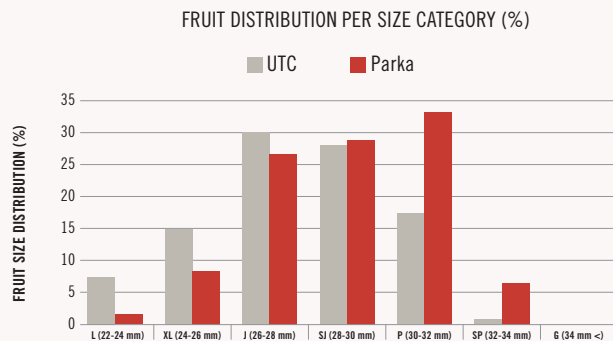
## Optimized Reserve Accumulation

RESERVES, ARGININE AND STARCH CONTENT IN SPURS AND ROOTS OF CHERRY TREES

Treatment	Canopy (spurs)		Roots	
	Arginine (mg/g)	Starch (%)	Arginine (mg/g)	Starch (%)
UTC	2.2	2.3	6.6	6.9
Parka	2.5	2.4	11.2	8.1
Reference	>7.0	>3.3	10-15	>15

Post-harvest applications of Parka improved photosynthesis, leading to higher levels of reserve accumulation in spurs and roots compared to untreated trees.

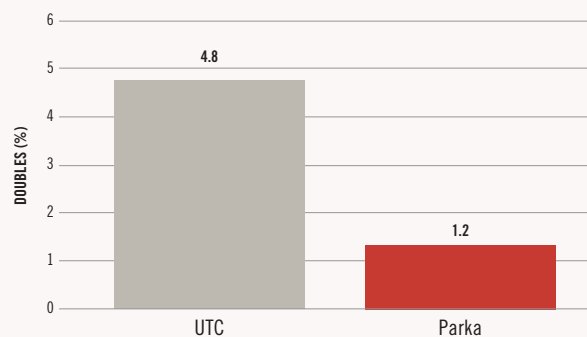
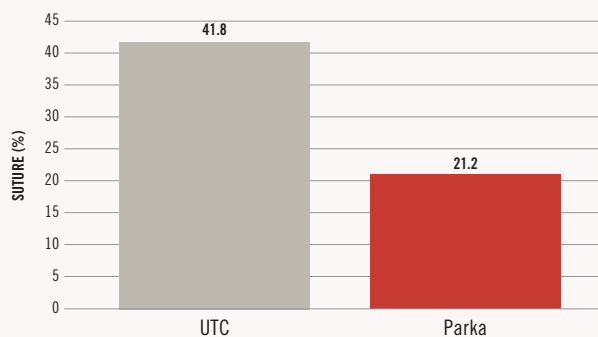
## Enhanced Fruit Size in the Following Season After Parka Applications



Enhanced reserve accumulation in spurs and roots led to improved fruit size distribution in trees treated with Parka during the post-harvest period the previous season, compared to untreated trees.

## Enhanced Fruit Quality

PERCENT INCIDENCE OF CHERRY DOUBLES FOLLOWING POST-HARVEST PARKA APPLICATIONS



Post-harvest applications of Parka helped to mitigate stress and improved the differentiation process of the floral buds, reducing the incidence of cherry doubling the following season.

## Applications and Use

**Application:** For best results, complete coverage of 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.