

# Mitigate cherry cracking with Parka®



## Cherry Fruit Cracking

Sweet cherries are susceptible to cracking that occurs when the fruit's surface bursts under pressure. The economic impact of cracking for cherry growers can be severe with 20%–40% of cherries being classified as unmarketable.

There are two main types of cherry cracking:

- *Cuticular cracking* occurs due to surface water transport and absorption through cuticular microfractures. As the fruits expand in size, the stress of such growth allows the development of cuticular microfractures. These microfractures create a site of stress in the epidermal cells facilitating microfracture extension which can cause

cracking, especially in the presence of water. Often, this type of cracking appears on the shoulders of the fruit when water pools in the stem bowl or at the distal end where water droplets can form (Knoche and Winkler, 2017).

- *Vascular cracking* is caused by water that is taken up by the roots and translocated through the vascular system which increases the turgor pressure in the mesocarp cells causing the fruit to crack from within. This type of cracking usually occurs after high volume rain events followed by warm temperatures, and it appears on the lateral portion of the fruit (Measham et al., 2010).

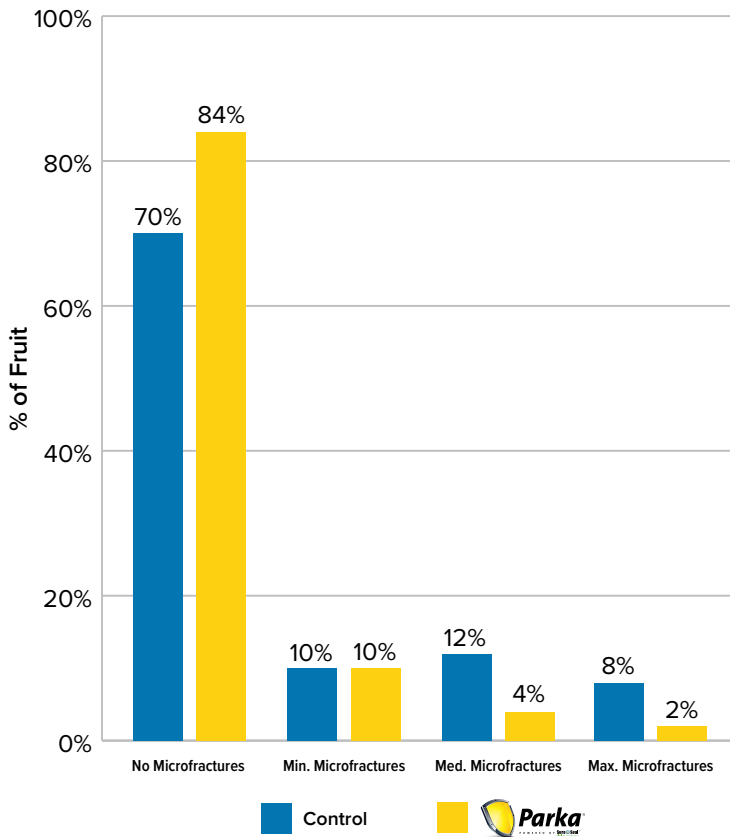




### Parka® for Cracking Prevention

Parka® reduces the incidence of cuticular cracking by supplementing the cuticle of the cherry, coating it with a clear, hydrophobic, and elastic lipid bilayer that expands along with the developing fruit. This added layer not only provides hydrophobicity that repels water from the fruit surface, but it also seals the cuticular microfractures that are the predecessor for fruit cracking, especially in the presence of water. Furthermore, 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 (Figure 1).

**% Fruit with Microfractures on Sweetheart Cherries**

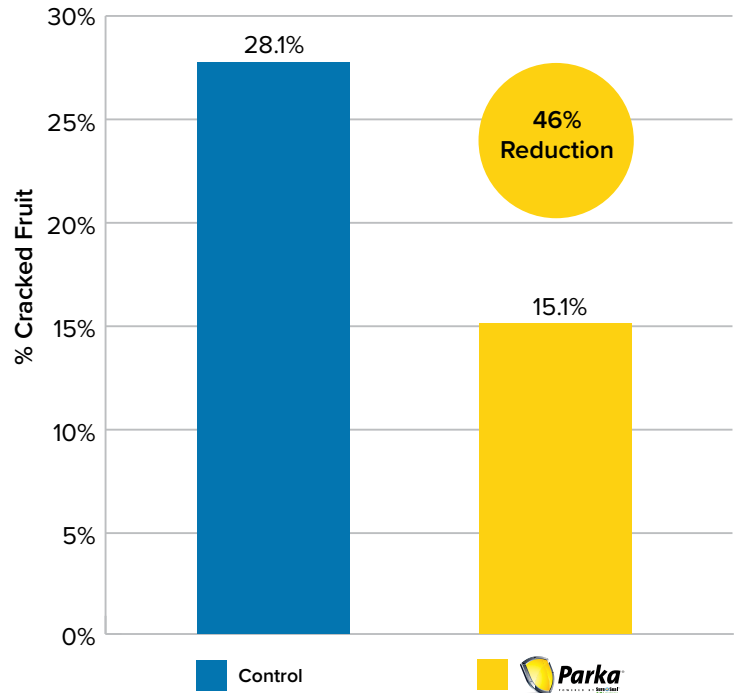


**Figure 1.** Percentage of fruit treated with Parka® compared to an untreated control presenting difference levels of microfractures (Source: University of Concepcion, Chile, 2016).

### Parka® on Cherries

- Proven to reduce fruit cracking 46%, on average, over control (Figure 2).
- Increases fruit quality and storage ability.
- Easily tank mixed with foliar nutrients and pesticides.
- Leaves no visible residue.
- Exempt from maximum residue levels.
- No preharvest interval, No worker reentry interval.

**Average Cracking at Harvest in Cherries – 15 trials**



**Figure 2.** Average results of Parka® to mitigate cracking incidence on cherries. (Source: Data compiled from 15 trials conducted between 2015 and 2020)

### Parka® Program for Cherries

For the preventive program apply 1 gal of Parka® per acre first at 100% shuck fall and the second application at straw color. If rain events are expected after straw, reapply as needed. For reactionary applications, apply within 48-72 hours before a rain event.

### References

- Knoche and Winkler. 2017. Rain-induced cracking of sweet cherries. In *Cherries: botany, production and uses*.
- Measham et al. 2010. Vascular flow of water induces side cracking in sweet cherry (*Prunus avium L.*). *Advances in Horticultural Science*.



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