

Protect your crops from heat stress and sunburn

High temperatures and excessive UV and infrared light don't just scorch fruit skins – they cause serious heat stress, disrupting photosynthesis and reducing your marketable yield. Each season, growers see up to 30% of their fruits damaged by sunburn, affecting citrus, avocados, apples, pomegranates, nuts, and olives alike.

From tissue death at extreme temperatures to browning and bleaching caused by intense sunlight, sunburn isn't only a cosmetic issue – it directly impacts crop quality, shelf life, and profitability.

Examples of damaged crops



Sunburn damage in different crops: Orange, Avocado and Apple. Heat stress and excessive sunlight can cause severe quality loss and reduced market value.

Introducing Cropshader Orchard

Imagine giving your crops a protective shield that works naturally. Cropshader Orchard is a starch-based liquid shading coating for orchards. When sprayed onto your crops, it forms a thin layer of fine white droplets, creating a reflective film that protects fruits and leaves against harmful radiation and heat without blocking leaf stomata.



Why choose Cropshader Orchard?

This coating offers you an effective, biodegradable alternative to nets or costly infrastructure. Made with **93% raw materials of natural origin (ISO 16128)**, Cropshader Orchard reflects excessive sunlight and heat, helping crops thrive under stress while maintaining their photosynthetic activity. It is classified as a **PFC 6(B) non-microbial plant biostimulant** and is **readily biodegradable according to OECD 301F Guideline**, ensuring minimal environmental impact. Product suitable for use in Organic Farming in accordance with Regulations **(EU) No 2018/848** and **2021/1165**. Controlled by **ECOCERT SAS**.

This innovative coating lowers crop temperatures, reduces solar stress, and prevents direct sunburn, allowing plants to maintain healthy photosynthesis even during the hottest periods. As a result, growers achieve higher marketable yields and healthier crops for future seasons. When applied in later growth stages, any white traces can generally be removed through standard post-harvest washing lines equipped with brushes.

Simple to apply. Proven protection.

Cropshader Orchard integrates seamlessly into daily orchard operations and is simple to apply. Dilute 1 kg of product in 20 kg of water (1:20) and apply using a backpack sprayer, orchard sprayer, or drone. Two 20 kg buckets typically provide coverage for approximately 1 hectare, depending on crop type and canopy density. Application should begin at fruit set, before sunburn symptoms appear, with a repeat application after 2–3 weeks if required. Once applied, the product forms a durable, fine mist coating that reflects UV and infrared radiation, helping protect crops from heat stress while maintaining normal plant processes. If applied close to harvest, washing the fruits with brushes is recommended to remove any white traces.

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SMART SHADING, STRONGER CROPS

CROPSHADER

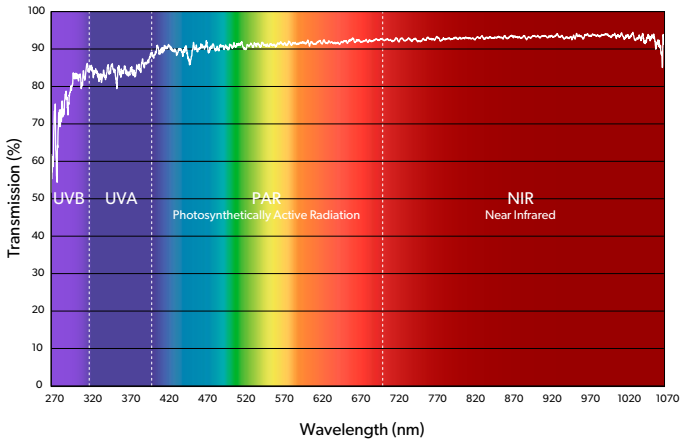


How Cropshader Orchard works

The transmission curve of Cropshader shows a carefully balanced light profile, with high transmission across the PAR and near-infrared regions while still providing a moderate level of shading. This balance allows sufficient photosynthetically active radiation to reach the canopy, helping to maintain and even enhance photosynthetic activity, while simultaneously reducing excess energy that can contribute to leaf and fruit overheating.

In the UV range—particularly UVB—the curve indicates relatively lower transmission, meaning Cropshader Orchard reflects up to 35% of UVB radiation. Overall, the transmission curve illustrates how Cropshader moderates incoming radiation to lower leaf and fruit temperatures, reduce heat stress, and create a more favorable microclimate for orchard productivity.

By reflecting excessive UV-B from the plant surface, Cropshader Orchard alters visual cues used by various harmful insects for host recognition, feeding, and oviposition, potentially contributing to lower insect activity on treated crops.



○ Cropshader Orchard 1:20 dilution

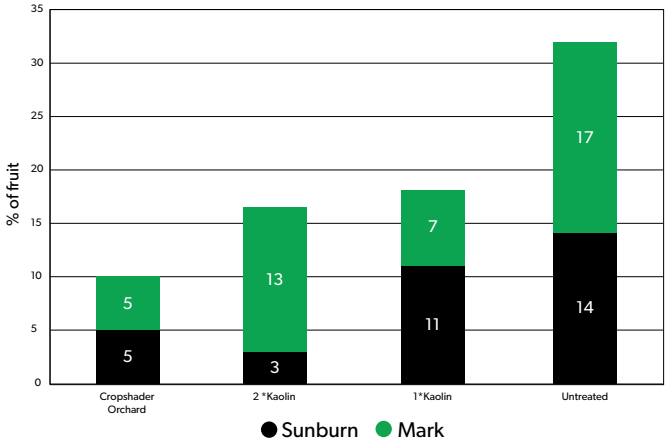
UVB: 280 - 320 nm **UVA**: 320 - 400 nm **PAR**: 400 - 700 nm **NIR**: 700 - 1400 nm

Proven results in orchard trials

Vergers de Poisy, France

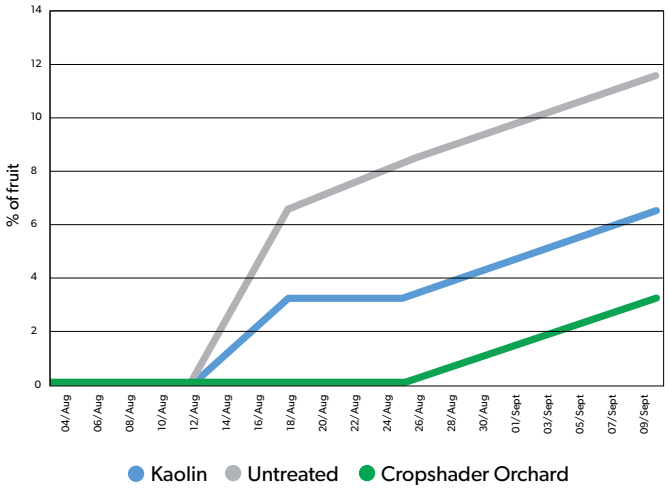
Field trial results from Vergers de Poisy (France) show that Cropshader Orchard significantly reduced sunburn damage in apples compared to kaolin treatments and untreated trees. In the upper part of the tree, Cropshader resulted in the lowest percentage of fruits showing both advanced sunburn damage and early symptoms. The assessment was based on 50–70 fruits per treatment, demonstrating consistent protection under high sun exposure.

Elstar: Sunburn damage - Upper part of tree



Cropshader consistently reduced sunburn damage compared to untreated trees and mineral coatings

Suntan: Sunburn damage



This graph illustrates sunburn development during the summer season. Cropshader Orchard consistently showed the lowest level of sunscald damage compared to kaolin and untreated trees, slowing damage progression under high heat. Assessments were based on 60 fruits per treatment.

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