

Plants use Hydrogen Peroxide as sunscreen

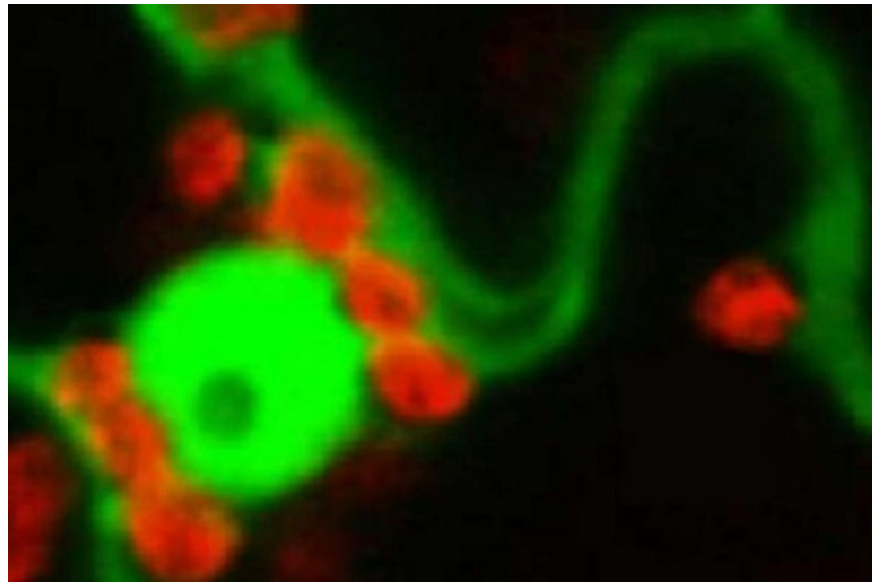
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A new study shows that Hydrogen Peroxide plays an important role in protecting plants from the sun. Hydrogen Peroxide, symbol H_2O_2 , is used as an effective sunscreen.

H_2O_2 is a by-product of photosynthesis. Previously it was considered a chemical reading, acting as a sensation and signaling in plants, but scientists could not determine where and how it manifested in the plant.

The new study, detailed in Nature Communications, says the substances Hydrogen Peroxide moves from plant cells called chloroplasts to the nucleus, altering cell responses to light levels. Different sun light.



Nick Smirnov, a researcher at the University of Exeter, said: *"It is important that the tree can detect the amount of light around it, and how much it absorbs, so the plant can maximize its efficiency from photosynthesis, but plants also have to adjust to protect themselves, because high light levels can damage leaves"*.

The researchers used a fluorescent protein to monitor H_2O_2 's movement and behavior inside plant cells. Biological markers show that Hydrogen Peroxide moves from chloroplasts to the cell nucleus, where the gene is controlled to regulate photosynthesis and ensure leaves are not sunburned.

Some chloroplasts that are directly connected to plant nuclei also allow H_2O_2 to move easily.

Marino Exposito-Rodriguez, a researcher at Essex University, said: *"This breakthrough experiment can be done with the development of fluorescent protein sensors Hydrogen Peroxide, allowing us to observe the movement of H2O2 in plant cells in real time "*.

Because H2O2 plays a role in regulating photosynthetic rates, this chemical can be designed to increase crop yield.

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