



 Tavan

# WERT®

JANUARY 2024

Protecting your crop during leaf fall.

Fungi and bacteria control strategy.



## -WHY IS IT RECOMMENDED TO USE WERT WHEN THE LEAF FALLS ?



When autumn arrives in deciduous trees, the senescence process begins, which consists of the natural fall of the leaves, all of which cause a multitude of small wounds that become entry points for certain phytopathogens that affect crops, such as fungi or bacteria. This process is usually accompanied by stable weather conditions that favour the progression and colonisation of these in the plantation, which is why TAVAN's technical department considers this to be a key moment to protect the crop for the next season.

### ¿AGAINST WHICH PLANT PATHOGENS DO WE PROTECT THE CROP?

**Fungi and bacteria** cause almost every disease we know of in agriculture

The main infectious inoculum of fungi is usually the spores (which can also be hyphae or mycelium), which attach themselves to the plant and can be introduced through the abscission zone of the leaf stalk after leaf fall.

On the other hand, phytopathogenic bacteria are causing great losses in agriculture as their mode of action can affect a multitude of plants or crops without distinction. In the R+D+i department of TAVAN it has been proven that certain bacteria such as the genus *Pseudomonas* can reproduce and multiply exponentially in the course of 24 hours under ideal conditions, also being seen in the laboratory that they withstand more extreme temperatures in relation to other pathogens, so that although it is not in ideal conditions it continues to reproduce although more slowly during the Winter, these data being very important to take into account to foresee the severity against what a plantation can face.



# WERT® IN THE PKANT



- WERT® has a biotechnological load that has been developed from own strains of different microorganisms registered by Tecnologías Avanzadas Agrícolas S.L., which provide metabolites (toxins) creating a reaction in the metabolism and protection of the plant that have a harmful effect on various genera of fungi and bacteria.
- The product acts by eliminating the bacterial load in the case of bacteria, mycelia and fungal reproductive structures, preventing them from adhering and subsequently germinating in the wounds caused in order to avoid possible colonisation due to its penetrating power, so that not only do we protect these wounds, but if the pathogen has already penetrated, the product acts directly on it.

Another function that is achieved with the application of WERT® not only acts as a protector against pathogens, but also helps to accumulate reserves in the plant, as a very synchronised and concentrated defoliation is obtained in a natural way, so that the photosynthates in the leaf are transferred to the plant's reserves and other structures.



Image taken by a walnut tree advisor in a farm where Wert® was applied, showing the synchronisation of leaf fall.