

A THREAT TO VINEYARDS – PHYTOPLASMA FLAVESCENCE DORÉE (GOLDEN YELLOWING)



WHAT IS FLAVESCENCE DORÉE (FD)?

FD is a serious, rapidly spreading grapevine disease.

Cause: Phytoplasma (a bacterial pathogen)

Symptoms: Metallic sheen on leaves, turning yellow/purple depending on the variety, leaves curling downwards.

Impact on the vine: Gradual decline in vigour and yield, blockage of vascular bundles and eventual cane death.

Solution: Direct: Insecticides against the vector (leafhopper).

Indirect: Systemic Acquired Resistance (SAR) and Induced Systemic Resistance (ISR) as prevention.

SYSTEMIC ACQUIRED & INDUCED RESISTANCE FOR YOUR VINES WITH EKOFERTILE®

The reduction of phytoplasma damage has been scientifically and practically confirmed through the application of phytohormones (**phenols, salicylic acid (SA), jasmonic, phenylacetic, indole-3-butyric and indole-3-acetic acids**) – of microbial origin in *ekofertile*® – with positive experiences in many vineyards. At the same time, the microbiologically soluble **silicic minerals (monosilicic acid)** in *ekofertile*® activate the plant's defence mechanisms against phytoplasmas by strengthening biochemical and molecular resilience. *ekofertile*® reinforces the plant's physical barrier and triggers the expression of defence genes, leading to the production of antimicrobial proteins and peptides in the vine to build pathogen resistance. SAR is a broad-spectrum immune response of the entire plant, triggered by the application of phytohormones, which protects against future pathogen attacks for weeks. The antimicrobial compounds in the plant ensure non-specific immunity against bacterial and fungal diseases such as phytoplasma.

Why *ekofertile*® is the best choice:

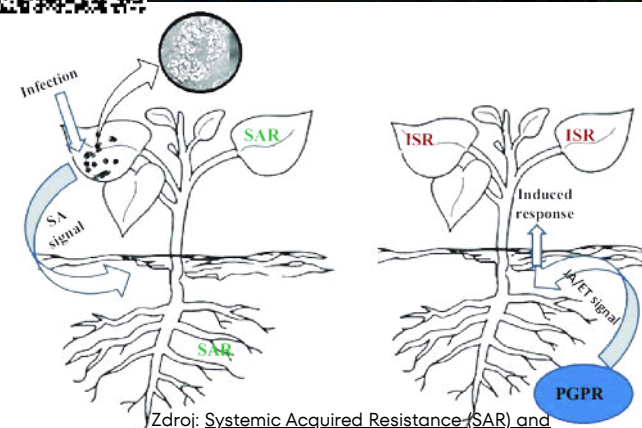
- **Activates natural defence:** Multiple key defence pathways of the vine (SAR & ISR), thereby better preparing it to withstand phytoplasma and other stresses.
- **Boosts vigour:** Added value of essential micronutrients for stronger cells.
- **Builds resilience:** A vigorous and well-nourished vine can better cope with disease pressure.

HOW DOES THE VINE DEFEND ITSELF?

Phytohormones such as salicylic acid (SA) trigger the production of signals that activate the plant's defences.

These signals travel through the plant's vascular system to healthy, distant tissues.

In the tissues, these signals activate the SAR and ISR defence pathways. Key regulators, such as the NPR1 protein, activate pathogenesis-related genes, thereby producing antimicrobial peptides and proteins (such as chitinases) that fight pathogens within the plant.



Zdroj: Systemic Acquired Resistance (SAR) and Induced Systemic Resistance (ISR): Role and Mechanism of Action Against Phytopathogens



STREKOV, FLAVESCENCE DORÉE IN A NEIGHBOURING VINEYARD WITHOUT *EKOFERTILE*[®]



**STRENGTHEN THE DEFENCE, STRENGTH
AND VIGOUR OF YOUR VINEYARDS**

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**STREKOV, VISIT TO A VINEYARD USING *EKOFERTILE*[®]
4X 20L/HA – SOME VARIETIES FREE FROM PHYTOPLASMA, SOME
VARIETIES ONLY MINIMALLY AFFECTED. THE VIGNERON
ATTRIBUTES THE MINIMISATION OF DAMAGE TO *EKOFERTILE*[®].**

VIDEO LINKS:

[HTTPS://YOUTU.BE/CNH5JO7BWLS](https://youtu.be/cnh5jo7bwls)

[HTTPS://YOUTU.BE/HZ7S3FLVUIY/](https://youtu.be/hz7s3flvuiy/)

