



# fyto fend

Pioneering Biological Alternatives



## Plant protection by elicitors

### Research, development and production of biological alternatives

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**FytoFend S.A.** is an innovative spin-off from the Research Unit in Plant Cellular and Molecular Biology (URBV) of the University of Namur.

The company was created in 2009 and is specialized in plant protection by elicitors (natural stimulators of plants defences).

- 10+ Years of experience
- 8+ Export country

### Missions

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The missions of **FytoFend** are the research, development and production of biological alternatives for plant protection.



**FytoFend** develops biological elicitors (natural stimulators of plant defences) against a range of diseases among which:

- **Powdery mildew on grape**  
*Erysiphe necator*
- **Downy mildew on grape**  
*Plasmopara viticola*
- **Powdery mildew on cucurbits**  
*Sphaerotheca fuliginea*
- **Powdery mildew on solanaceae**  
*Leveillula taurica*
- **Powdery mildew on strawberry**  
*Sphaerotheca macularis*
- **Powdery mildew on roses**  
*Sphaerotheca pannosa var. Rosae*
- **Pyricularia on rice (rice blast)**  
*Pyricularia oryzae*
- **Black sigatoka on banana**  
*Mycosphaerella fijiensis*



## Context

World agriculture relies heavily on chemicals for crop growth and protection.

Current problems encountered by conventional pesticides concern on one hand their efficiency, which is regularly broken down by rapidly evolving pathogens. On the other hand, several active substances present up to now in classical pesticides have negative toxicological profiles for both humans and the environment.

Agriculture also faces many challenges. One of them will be to provide food for 9 billion people by 2050, while arable land and the number of farmers are constantly decreasing. In addition, environment protection now appears fundamental. As such, a large number of chemicals will disappear. In other words, it is about producing more and better with less.



## Development of alternatives



With its recognized scientific and technical expertise, **FytoFend** develops solutions for the agriculture of tomorrow.

Its flagship product **FytoSave**<sup>®</sup>, alternative to or complementary to chemical molecules, preventively stimulates the natural defences of plants and makes crops more resistant to pathogen attack. Derived from two natural molecules (pectin and chitosan), widely present in the human diet, the patented active substance consists of an oligosaccharide complex (COS-OGA).

Not only its mode of action (crop protection by stimulation of natural defences) but also its manufacturing process (designed in terms of durability) make **FytoSave**<sup>®</sup> the ideal solution to support ecologically intensive agriculture.

## Research

FytoFend develops its research activities along two parallel axes:

- **Optimization of elicitor production**

In addition to its industrial facilities, **FytoFend** has a pilot unit and a proven expertise in oligosaccharides production. The processes are constantly optimized and quality control relies on up-to-date technologies (NMR, MALDI-ToF, HPLC-PAED, ELISA...).

- **Study of the mode of action of elicitors**

In collaboration with the University of Namur and several other research institutes, **FytoFend** studies the induction of plant defence mechanisms. The goal is to increase the efficiency and the range of use of its elicitors. Techniques include, among others, transcriptomics, proteomics and GC-MS for laboratory bioassays as well as efficacy trials under greenhouse and in field.



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More info on <http://www.fytofend.com/en>