



Biopesticidas



Pedro Fevereiro – Diretor Executivo



InnovPlantProtect



- O InPP é uma instituição de hélice quádrupla que visa desenvolver, até TRL 6, soluções inovadoras bioinspiradas e digitais para proteger as culturas.
- Promover uma agricultura mais sustentável e adaptável às mudanças climáticas
- Solidária com o meio ambiente,
- Assumindo as diretivas de transição ambiental, climática e digital da UE





CRIAR VALOR ATRAVÉS DA GESTÃO DE ORGANISMOS VIVOS NO CAMPO

InnovPlantProtect - Objetivos



Novos Biopesticidas



Novas variedades resistentes a pragas e doenças

(Entender e gerir os genomas)



Novos métodos de monitorização e diagnóstico

(Deteção Remota, Digitalização...)



Novos modelos de análise de risco

(Análise de Dados Agrícolas, Inteligência Artificial...)



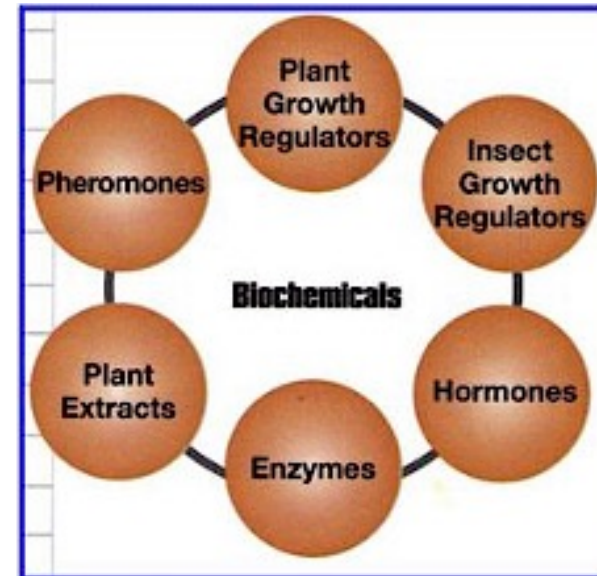
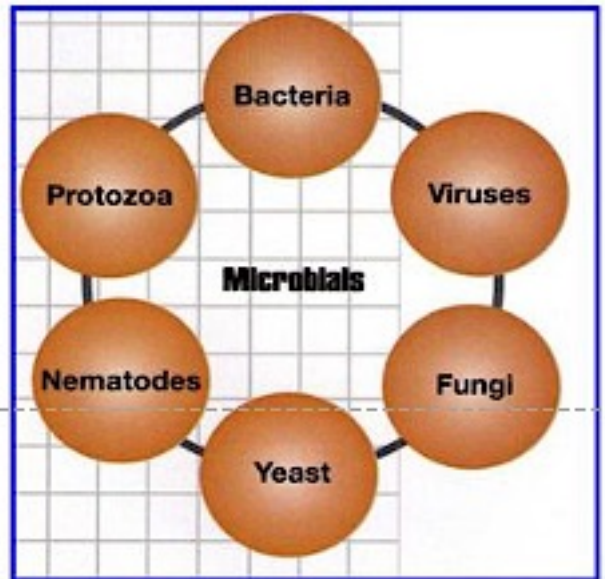
Novas formulações para a agricultura

(Nano/Microtecnologia)

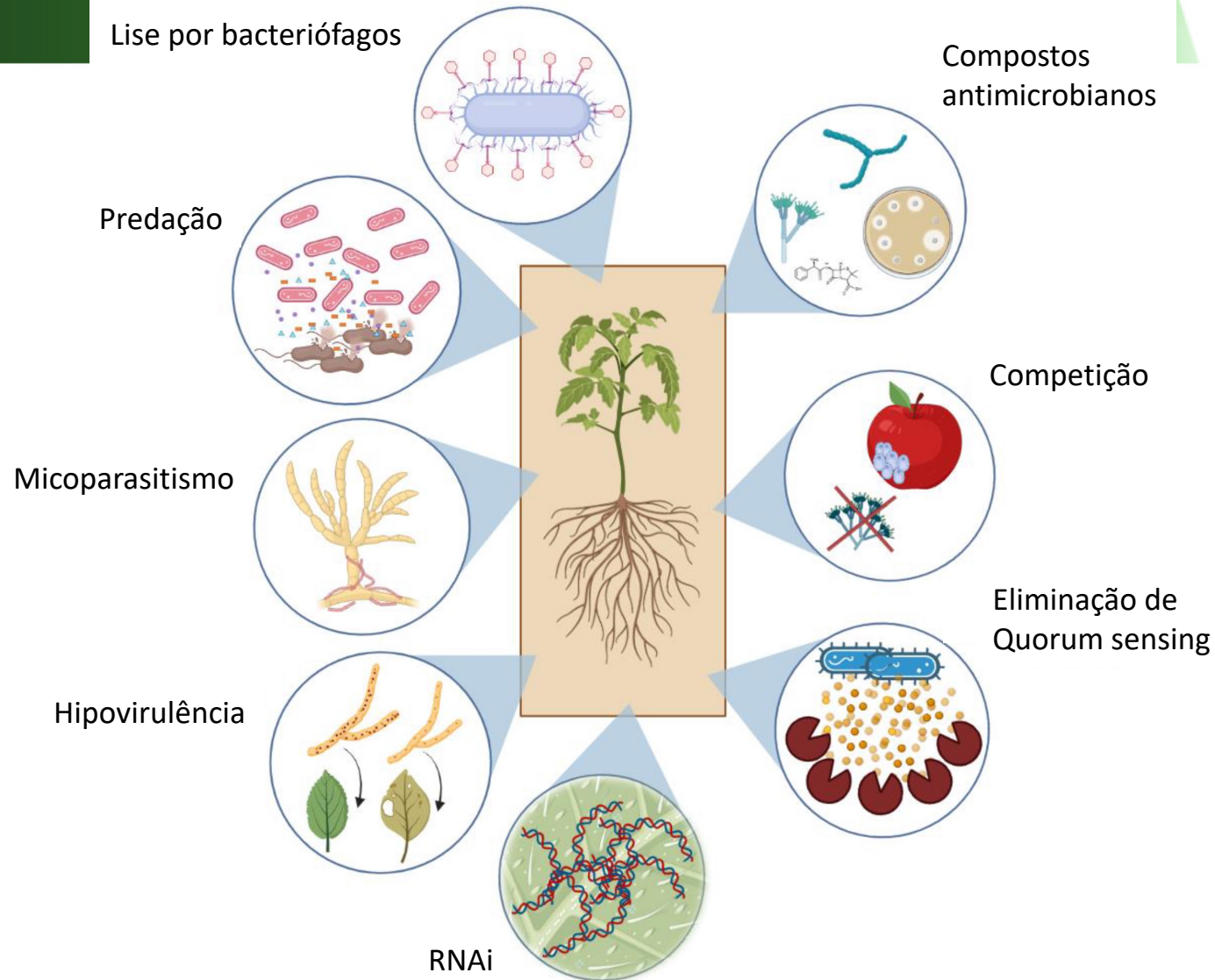
InnovPlantProtect - Definição



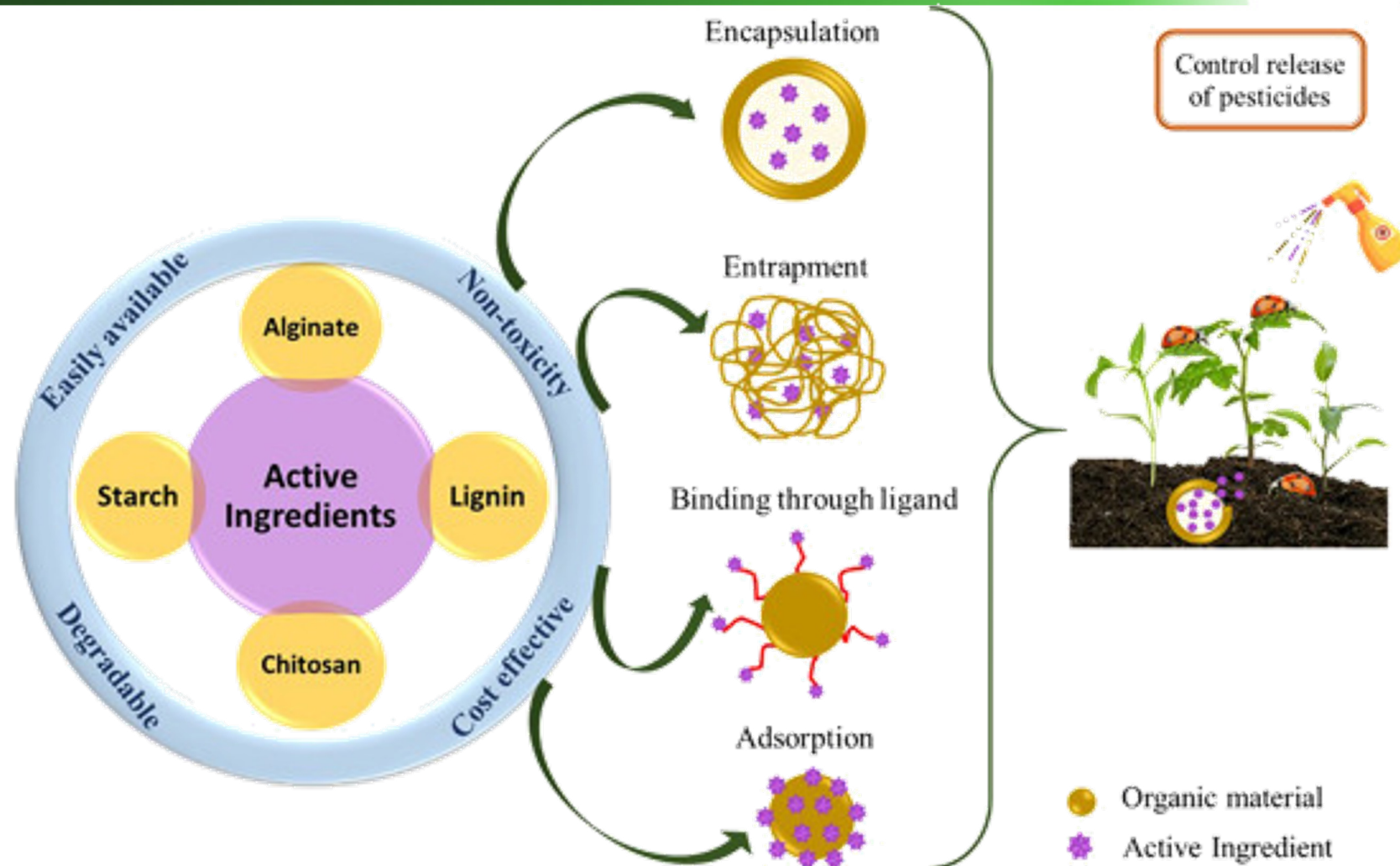
Um Biopesticida ou Agente de Controlo Biológico é um ingrediente ativo ou formulação que é eficaz no controlo de pragas e doenças, ecologicamente amigável, de origem biológica ou natural (minerais, bactérias, fungos, algas, plantas e animais).



InnovPlantProtect – Modos de ação

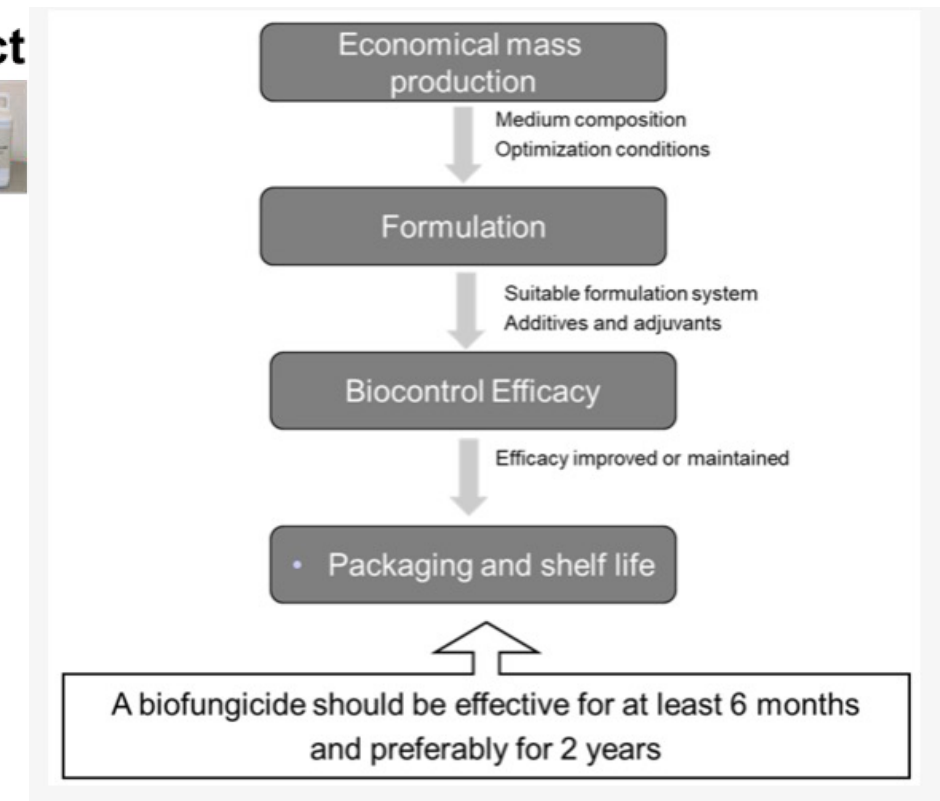


InnovPlantProtect - Formulação



Nanoporous materials for pesticide formulation and delivery in the agricultural sector. <https://doi.org/10.1016/j.jconrel.2022.01.036>

InnovPlantProtect - Produção

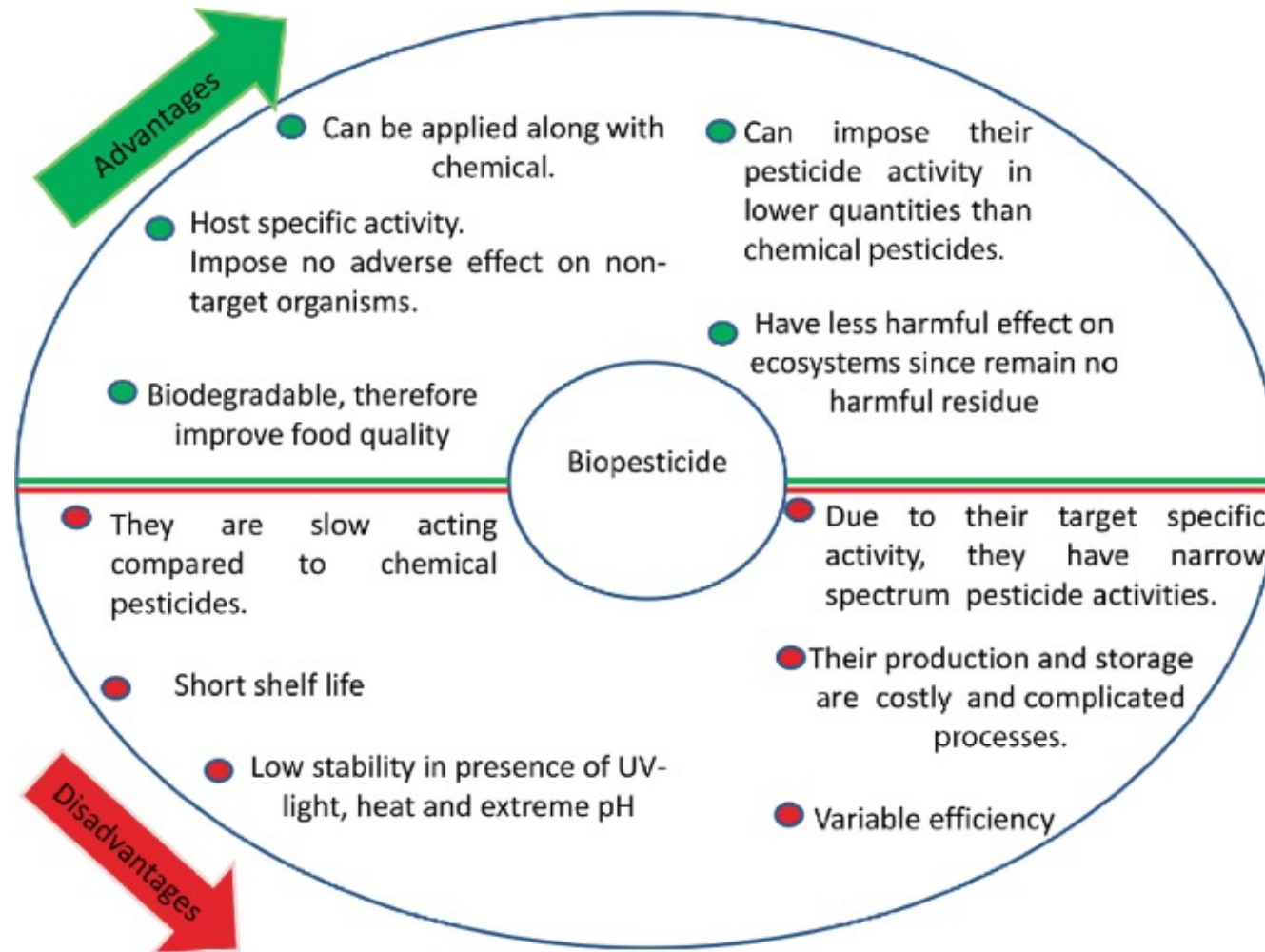


Insight into a Successful Development of Biocontrol Agents: Production, Formulation, Packaging, and Shelf Life as Key Aspects.

<https://doi.org/10.3390/horticulturae8040305>



InnovPlantProtect – Vantagens/Desvantagens



InnovPlantProtect - Perspetivas



“

There are 129 biological control active substances which have new uses planned for submission in the EU from 2023-2028. Fast-track EU authorisation will mean many are available for farmers to use by 2030.

”



IBMA

INTERNATIONAL BIOCONTROL
MANUFACTURERS ASSOCIATION

InnovPlantProtect - Mercado



BIOPESTICIDES MARKET

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Market size value in 2022 **USD 5.56 Billion**
Revenue forecast in 2030 **USD 17.47 Billion**

15.37%

CAGR (2022-2030)



MARKET PLAYERS

- Sumitomo Chemical Co. Ltd.
- BASF SE
- Bayer CropScience LLC
- FMC Corporation
- Syngenta AG
- Marrone Bio Innovations
- Gowan Group
- Novozyme
- Koppert Biological Systems
- SOM Phyto pharma India Ltd.
- Valent Biosciences LLC
- Andermatt Biocontrol AG
- IPL Biological Ltd.
- Bionema
- UPL Limited

BY TYPE

- Biofungicides
- Bioinsecticides
- Bioherbicides
- Others

BY SOURCE

- Microbials
- Biochemicals
- Beneficial Insects

BY FORMULATION

- Liquid Formulation
- Dry Formulation

InnovPlantProtect – Propriedade Intelectual



DESCRIPTION

BIOLOGICAL PLANT PROTECTION AGENT, METHODS AND USES THEREOF TECHNICAL FIELD

[001] The present disclosure relates to the field of biological plant protection agents (henceforth termed BPPAs), more specifically to a strain of *Bacillus velezensis* (henceforth termed *B. velezensis*), its formulations, uses and methods for the control of plant diseases, in particular **fire blight** in fruit plants, pome fruits and ornamental plants, or **rice-blast**.

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(54) Title: BIOLOGICAL PLANT PROTECTION AGENT, METHODS AND USES THEREOF

(57) Abstract: BIOLOGICAL PLANT PROTECTION AGENT, METHODS AND USES THEREOF The present disclosure relates to a *Bacillus velezensis* strain, and a composition for plant protection comprising an effective amount of said *Bacillus velezensis*. The use of the disclosed *Bacillus velezensis* strain or composition as a biological plant protection agent, and a method for protecting or treating plants and/or fruit from fungal or bacterial infections comprising applying an effective amount of the *Bacillus velezensis* strain or the composition, are also disclosed.

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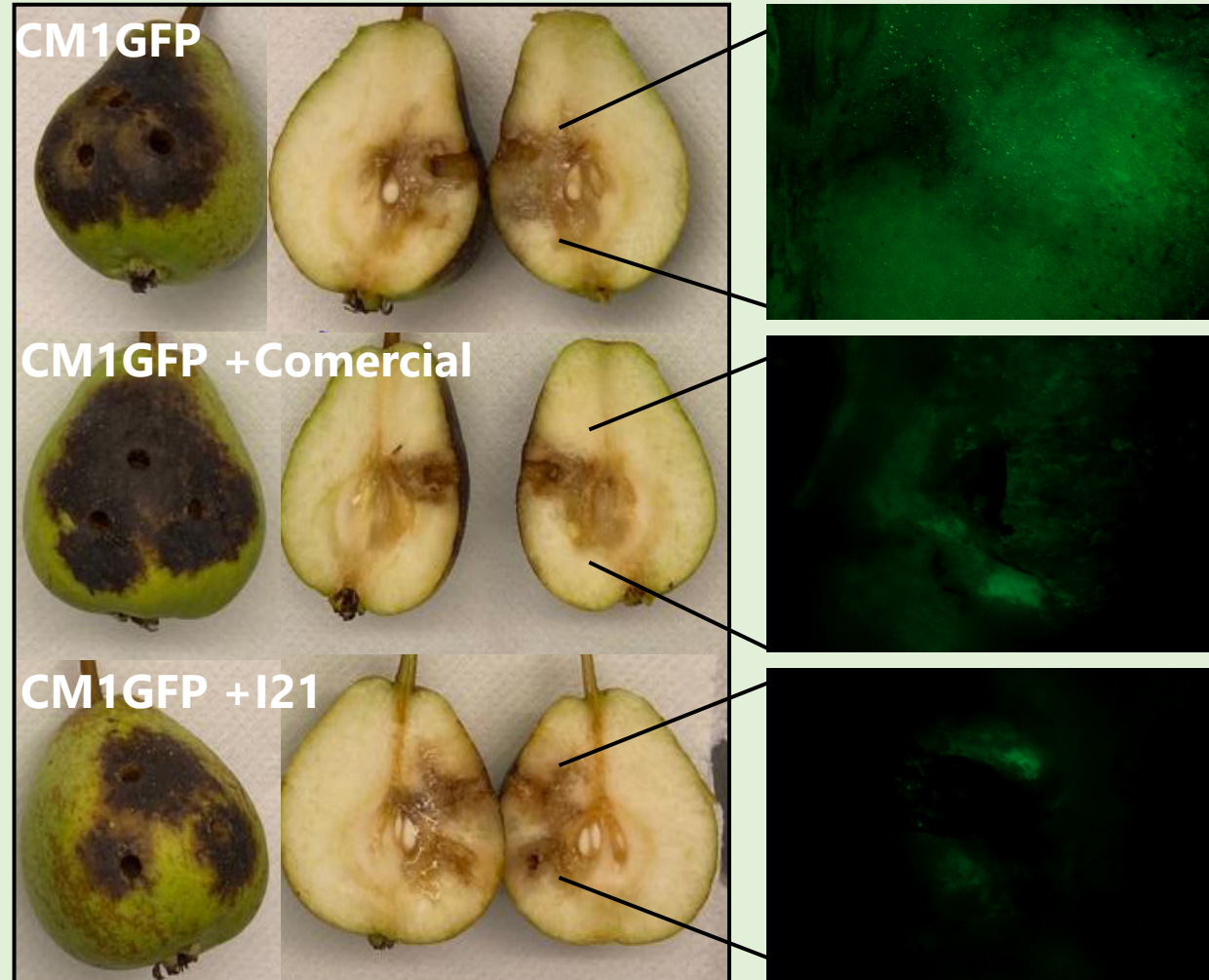
Doença: Fogo Bacteriano
(Fire Blight)

Patogénio: *Erwinia amylovora*

Hospedeiros: Membros da família
Rosaceae (ex: Peras e maçãs)



Inibição do crescimento de *E. amylovora* (CM1) com I21 em pêra Rocha



InnovPlantProtect – Propriedade Intelectual



Doença: Piriculariose do Arroz
(Rice Blast)

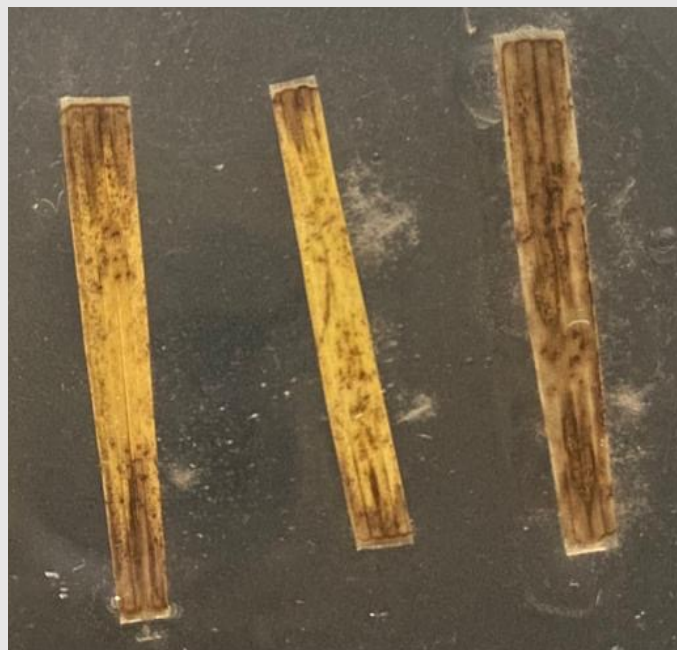
Patogénio: *Magnaporthe oryzae*

Hospedeiro: Arroz

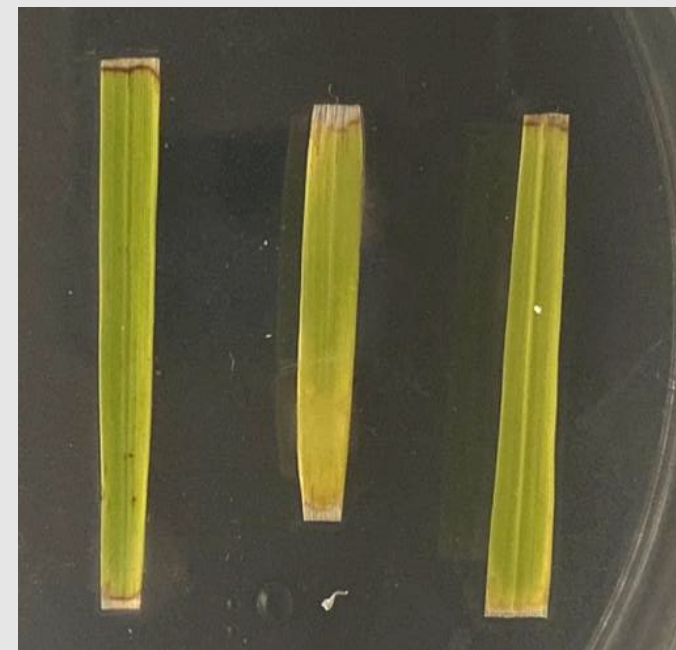


Inibição do crescimento de *M. oryzae* (M22.7) em Arroz (variedade Presto)

**Sem tratamento
e infetada com *M. oryzae***



**Tratada com I21 e infetada
com *M. oryzae***





Obrigado pela Vossa Atenção