Resistance Induction – New Efficient Weapon Against Forest Diseases

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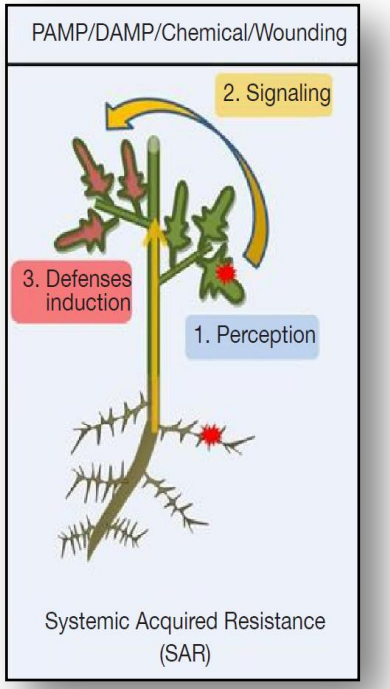
Plants Resistance Induction



Source: Henry et al., 2012

Bacteria

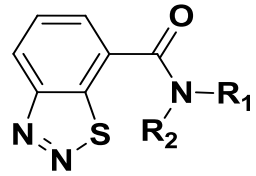
Virus

Fungi

Systemic Acquired Resistance (SAR)

- (SAR) phenomena allows the plant to induce self-resistance against many microorganisms, including viruses
- It involves the stimulation of natural immune responses
- Elicitors stimulate plant's resistance system to act against pathogen

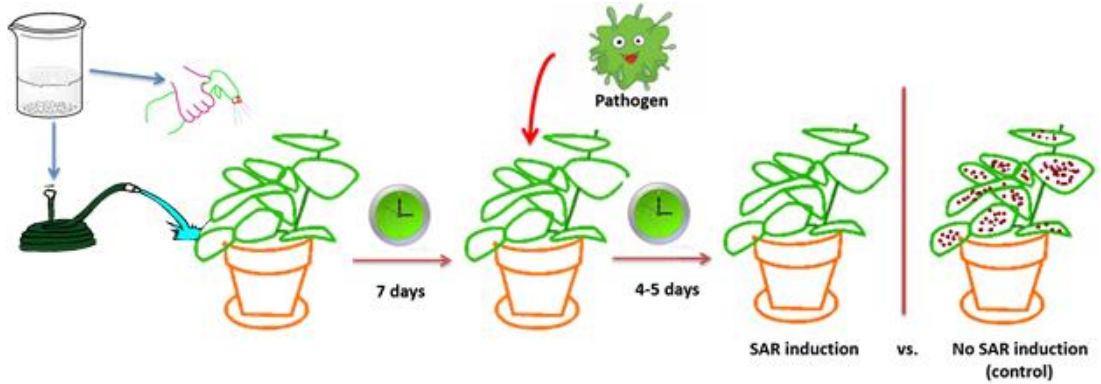
SAR_N - New plant resistance inducer



SAR_N

New derivative of SAR inducer ASM with highly improved efficiency

Systemic Acquired Resistance (SAR) in practice



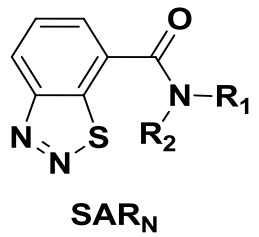
SAR_N in Practice – preliminary results

COMPLETED

- Tested on 5 varieties of plants
- Tested against viral, fungal and bacterial infections
- Tested in greenhouse and field conditions
- Very low dose requirements (8g/ha or 20mg/L)
- Up to 98% of plants resistance induction observed
- Ecotoxicity screening

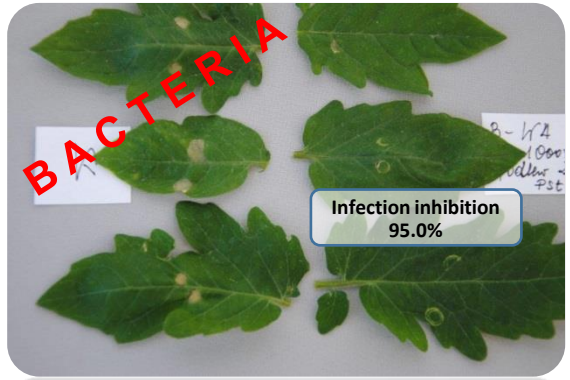
IN PROGRESS

- Testing in combination with decreased dosing compensated by more frequent application
- Toxicology screening
- Testing efficacy and dosing on hydroponic greenhouse systems
- Searching for the new biological models

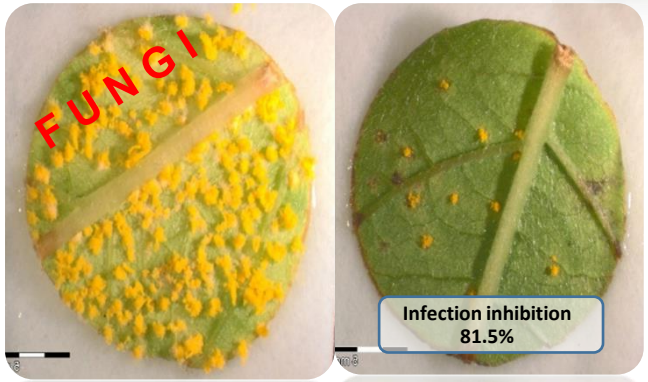


SAR_N

Tomato – Pseudomonas syringae bacteria

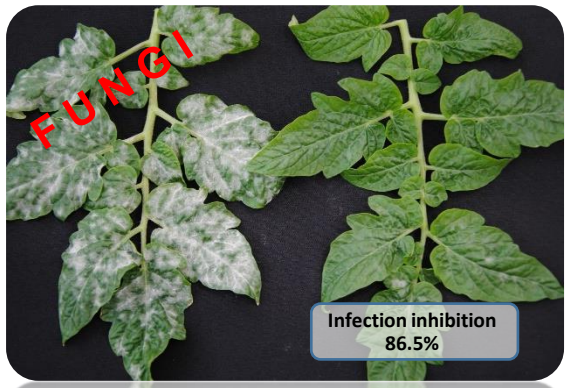


Willow – Rust fungi

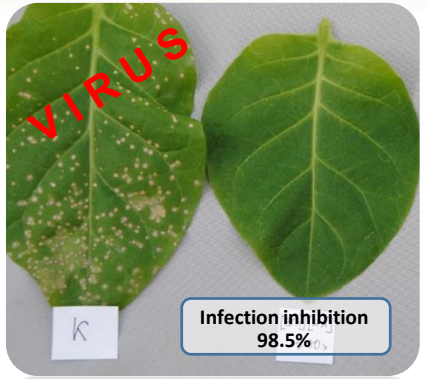


Spring barley – Pyrenophora teres fungi

Tomato – Powdery mildew fungi



Tobacco – TMV virus



Potato – Potato virus Y

Our Team:

Institute of Plant Protection in Poznan

Faculty of Forestry, Poznan University of Life Sciences

POZNAN SCIENCE AND TECHNOLOGY PARK
Adam Mickiewicz University Foundation

Forestry Faculty of the **Swedish** University of Agricultural Sciences

Foreign Forest Institute

Project Goal:

„Investigation of systemic acquired resistance (SAR) induction in trees as a new efficient and safe method of prevention against natural forest diseases”

We are looking for:

- **Univeristy or Institute Department specialized in Forestry**
- **Most preferable from the Mediterranean-type region for the higher differentiation of the studied biological models**
- **With available natural experimental forestry plots**