EUCLID

Europe China Lever for IPM Demonstration

Introduction and overview of the successful technologies tested in EUCLID

Philippe DELVAL – WP4 (ACTA)

acta
LES INSTITUTS TECHNIQUES AGRICOLES

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999

WP4: Objectives

➢ General objectives of the WP

- To **demonstrate** IPM packages developed in the project with Euclid innovations in field networks in Europe and China

- To **train** through technical fields-visits, meetings, and e-learning material the main project stakeholders in both Europe and China

- To **analyse** fruits and vegetables grown in the demonstration sites for their pesticide residues

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999

Field demonstrations network

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999

WP 4 – Field demonstration results

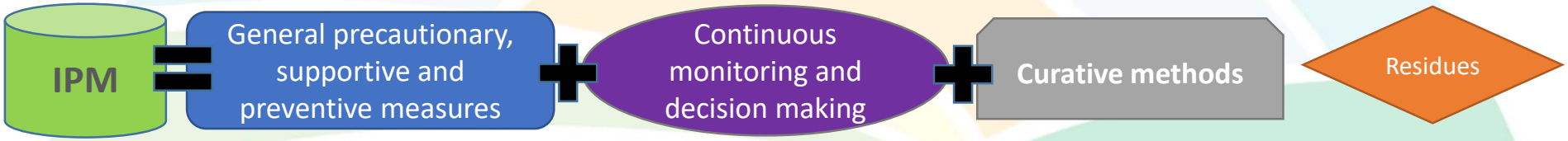
EUCLID
Europe China Lever for IPM Demonstration

➢ In four countries on three crops




G

➢ Innovations included in IPM packages



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999

WP4 – Demonstration trials

EUCLID
Europe China Lever for IPM Demonstration

BINAB PGS
ANT -Compost
In nursery or pre-plantation

on soil & aerial pathogens (fusarium, sclerotinia, botrytis)

on powdery mildew
BINAB Air
ANT –Ca
Dicyphus
on tuta

1 Botanical pesticides as alternative to chemicals in tomato greenhouses (B. Gard).

2 Management of whiteflies using natural enemies in China (E. Thomine).

3 ANT novel products against multiple pathogens in tomato, salad and grape (M. Pugliese and M. Bardin).

5 *Dicyphus* spp.: new predators for sustainable management of *Tuta absoluta* in tomato greenhouses (E. Vila) .

6 Microbial Biocontrol Agents (BINAB) efficacy to control pathogens on lettuce and tomatoes (T. Ricard and M. Bardin)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999

WP4 – Demonstration trials

EUCLID
Europe China Lever for IPM Demonstration

IPM = General precautionary, supportive and preventive measures + Continuous monitoring and decision making + Curative methods → Residues

Resistant var. recomm/*fusarium wilt*

BINAB PGS
ANT -Compost
In nursery or pre-plantation

on soil & aerial pathogens (fusarium, sclerotinia, botrytis)

Mach 1
ANT - Ca

3

ANT novel products against multiple pathogens in tomato, salad and grape (M. Pugliese and M. Bardin).

6

Microbial Biocontrol Agents (BINAB) efficacy to control pathogens on lettuce and tomatoes (T. Ricard and M. Bardin)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999

WP4 – Demonstration trials

EUCLID
Europe China Lever for IPM Demonstration

IPM = General precautionary, supportive and preventive measures + Continuous monitoring and decision making + Curative methods → Residues

Dosa-3D
on mites & mildews

ANT –Ca
on Powdery mildew
In association on Downy mildew

Mach 1
on Grey mould

4 The DOSA3D tool enables reducing pesticide inputs in grape (S. Planas).

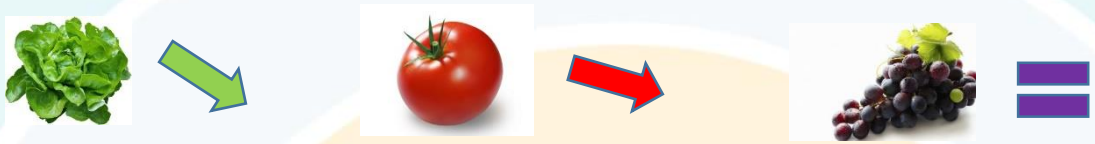
3 ANT novel products against multiple pathogens in tomato, salad and grape (M. Pugliese and M. Bardin).

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999

WP4 – Residues

- Decrease principally when you substitute curative methods (close to harvest) with biocontrol products or alternative methods

- Based on 2018 trials



- 2019 trials are under analyses

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999

WP4 – Transfer

BROCHURE TO FARMERS AND ADVISORS
ON IPM GUIDELINES,
BEST TECHNOLOGIES AND USE

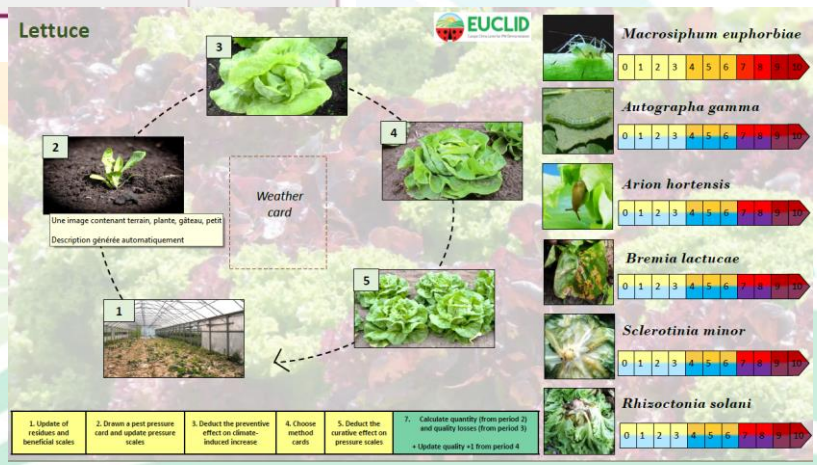
EUCLID

Positive Results from testing and demo trials

CROP: GRAPEVINE DEMO COUNTRY: ITALY, FRANCE, SPAIN

TARGET PEST/DISEASE	EFFECTIVE EUCLID PEST MANAGEMENT APPROACHES/PACKAGE	SUGGESTIONS	RESIDUES' ANALYSES
Downy mildew	ANT-Cu	It is possible to control the disease in case of low pressure. In case of high pressure of downy mildew, it is recommended to associate the EUCLID innovation with other specific fungicides.	Regarding residues, many were detected in the grapevine trials in IPM programs as conventional ones. This is undoubtedly due to problems of drift on the trials. Thus, the results on vines are less significant than on vegetables. In particular, the benefits of the DOSA 3D system in reducing residues cannot be concluded because of reducing only early applications and not the latest.
Powdery mildew	ANT-Cu	The results showed a disease reduction comparable to conventional treatments on leaves and on berries.	
Yellow mites, downy mildew, powdery mildew	A decision support tool developed by the University of Lleida, based on pesticide rate reduction regarding the foliar area of the grapevine, has also been tested on Spanish grapevines to improve applications of fungicides and acaricides. Advisers and growers identified several difficulties to establish the correct doses for chemical control of grape pests and diseases including yellow mite (Colomerus vitis), downy mildew (Plasmopara viticola) and powdery mildew (Uncinula necator). This tool allow it, not only on grapevine, but on different fruit trees production (www.dosa3d.com/en).	The system allows setting the optimal spray volume and dose rates, taking into account the following factors: crop dimension, pest to be controlled and spraying efficiency. The adapted dose with the tool shows that the total amount of pesticides in grapes could be reduced.	

CONTACTS: ANT + ACTA - IFV + UDL



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999

WP4 – Promising technologies for reducing pesticides uses

1. Botanical pesticides as alternative to chemicals in tomato greenhouses (B. Gard).
2. Management of whiteflies using natural enemies in China (E. Thomine).
3. ANT novel products against multiple pathogens in tomato, salad and grape (M. Pugliese and M. Bardin).
4. The DOSA3D tool enables reducing pesticide inputs in grape (S. Planas).
5. *Dicyphus* spp.: new predators for sustainable management of *Tuta absoluta* in tomato greenhouses (E. Vila) .
6. Microbial Biocontrol Agents (BINAB) efficacy to control pathogens on lettuce and tomatoes (T. Ricard and M. Bardin)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 6333999