

COST Action FA 1407:

Empowering NGS technologies for study & diagnostic of plant viruses

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The COST Action: facts



**TIMEFRAME:
2015 - 2019**

- ✓ Networking and exchange tools (meetings, scientific exchanges, training school, dissemination)
- ✓ **31 European countries**
+ Peru, Mexico, Argentina, South Africa, New Zealand (USA, Canada, Australia, Tunisia and China ongoing)
- ✓ **98 participants** active in plant virology



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The COST Action: facts



Applied virologists

Fundamental virologists

Diagnostician

Coordinate and raise the European capacity to apply NGS technologies for the **study and diagnosis of viral diseases** of vegetatively propagated plants, seeds and seedlings.

Industries

NPPO/EPPO

Regulatory authorities

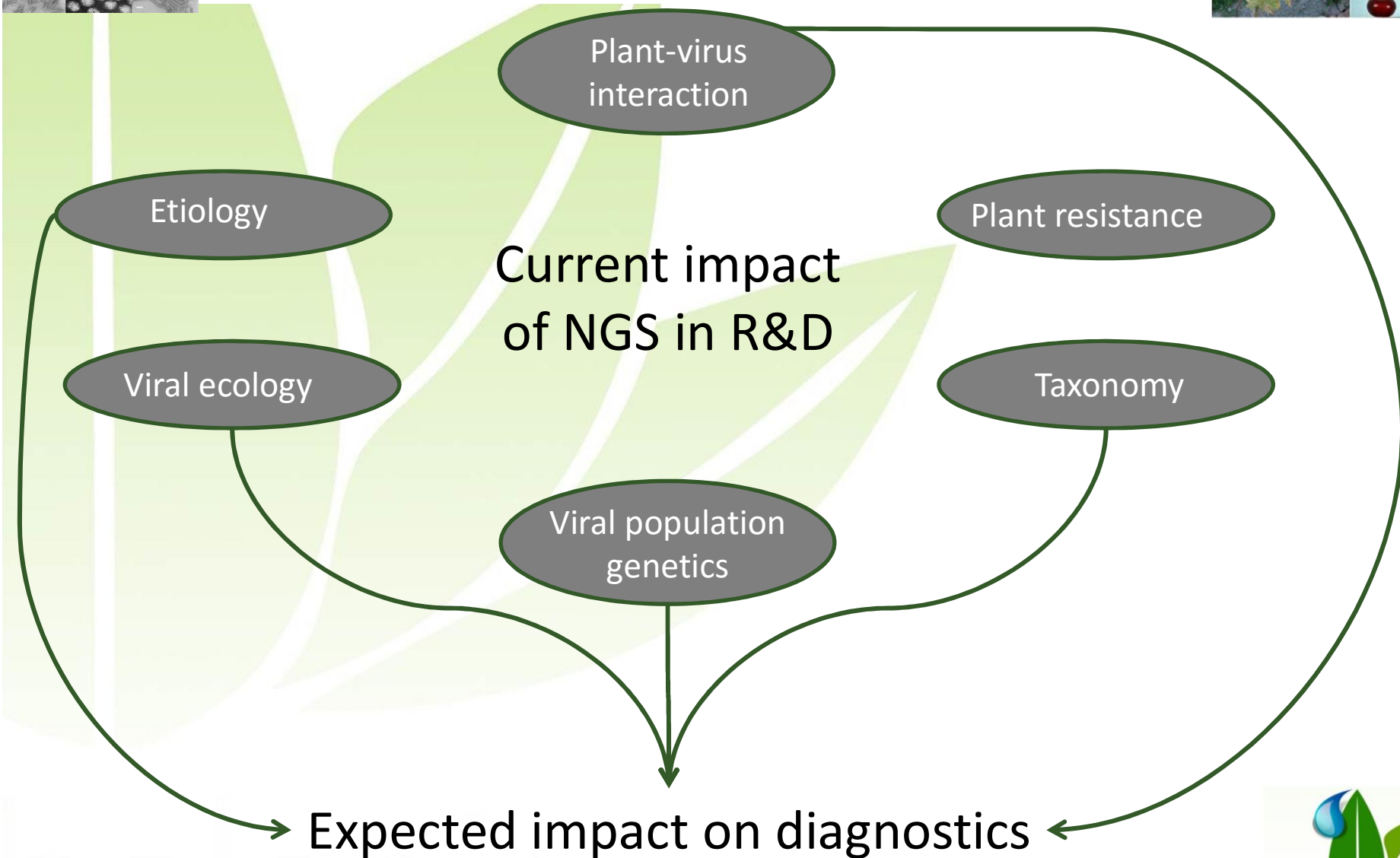


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NGS & Viruses






Objectives of the Action



COST Action for leveraging plant virus control through NGS

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- A large, curved green arrow on the left side of the slide, pointing from the top text down to the first objective.
1. Coordinate and harmonize knowledge base for **technological standards and validation** of reliable NGS diagnostic protocols



Objectives of the Action



COST Action for leveraging plant virus control through NGS

1. NGS technological standards and validation for diagnostic
2. Provide a research framework for **biological characterization** of new viruses discovered by NGS and **their impact on plant health management**



Objectives of the Action



COST Action for leveraging plant virus control through NGS

1. NGS technological standards and validation for diagnostic
2. Research framework for characterization & impact
3. Discuss, agree and disseminate a scientific position and expertise on the **impact of NGS on virus taxonomy and on the plant-virus interactions**



Objectives of the Action



COST Action for leveraging plant virus control through NGS

1. NGS technological standards and validation for diagnostic
2. Research framework for characterization & impact
3. Impact on taxonomy and population genetics
4. Discuss, agree and disseminate **decision schemes on plant virus diagnostic and related impact** for policy makers, NPPOs, EPPO, diagnostic lab

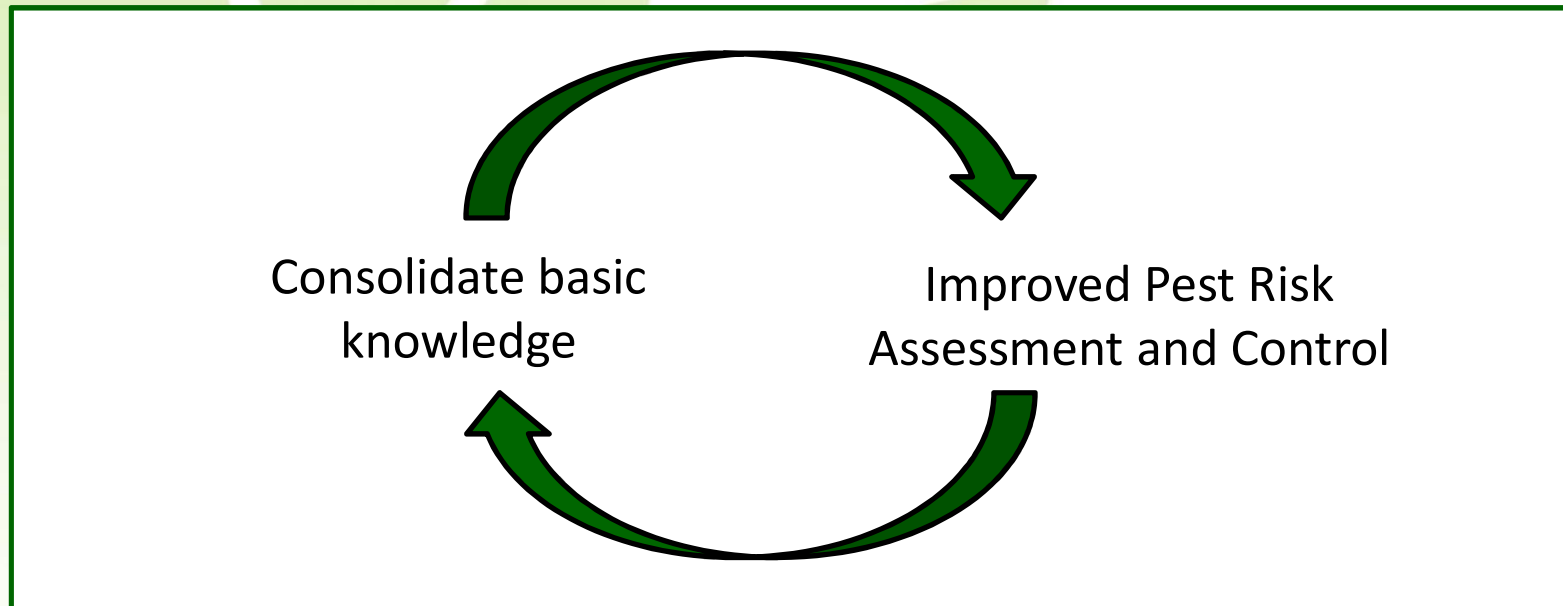




Objectives of the COST Action



COST Action for leveraging plant virus control through NGS



Transversal Action bridging various stakeholders





COST Action FA1407



NGS FOR THE STUDY AND DIAGNOSIS OF PLANT VIRAL DISEASES IN AGRICULTURE



1.

Technological
improvement

2.

New scientific Knowledge

3.

Societal
innovations

Societal
innovations





First outputs



- ✓ Proficiency testing of bioinformatic pipelines on NGS dataset including 21 laboratories
 - > going for standards (& publication in 2016-2017)
- ✓ Framework for the biological characterization of newly discovered viruses and the evaluation of their impact
 - > Publication of an opinion paper (2016)
- ✓ Training school on bioinformatic analyses
- ✓ 25 scientific exchanges throughout Europe
- ✓ Organisation of 4 meetings (40-100 participants)





Future outputs



- ✓ Intensifying contact with stakeholders to raise awareness and to foster debate on diagnostic and risk assessment
- ✓ Opinion paper on taxonomy
- ✓ Joint conference with EPPO
- ✓ Further work on standardisation of NGS protocols for diagnostic



The COST Action: Information



www.cost-divas.eu

Deep
Investigation on
Viral
Associated
Sequences

Chair of the Action : Sébastien Massart – Belgium

Vice-Chair of the Action : Angelantonio Minafra – Italy

WG1 Leader (NGS & diagnostic protocols) : Antonio Olmos – Spain

WG2 Leader (Biological characterization) : Thierry Wetzel – Germany

WG3 Leader (Taxonomical impact) : René van der Plugt – The Netherlands

WG4 Leader (Regulatory impact) : Maja Ravnikar - Slovenia



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