

## ABOUT VIRTIGATION

VIRTIGATION is a multi-actor project on a mission to protect tomatoes and cucurbits in Northern Europe and the Mediterranean Basin. Together with partners from key EU neighbouring areas – Morocco, Israel and India – the VIRTIGATION project aims to develop a set of bio-based solutions to safeguard tomatoes and cucurbits from emerging viral diseases.

Specifically, VIRTIGATION addresses emerging viral diseases caused by the begomovirus ToLCNDV (Tomato leaf curl New Delhi Virus, transmitted by whiteflies) and the tobamovirus ToBRFV (Tomato brown rugose fruit virus, mechanically transmitted).



## CHALLENGE

Pandemics are not only affecting human health. New aggressive viruses are spreading in greenhouses and fields across the world, threatening tomato and cucurbit crops.

To fight these viruses, producers often use pesticides, thereby exposing growers and consumers to pesticide residues. To date, only limited organic solutions exist on the market to combat these viruses, thereby putting the tomato and cucurbit value chain at risk.

## PARTNERS



## CONTACT



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Emerging viral diseases in  
tomatoes and cucurbits:  
Mitigation strategies for  
durable disease  
management









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# OBJECTIVES

The VIRTIGATION project's strategic objective of developing rapid and long-lasting solutions to combat emerging viral diseases in tomatoes and cucurbits will be implemented through 6 specific objectives:

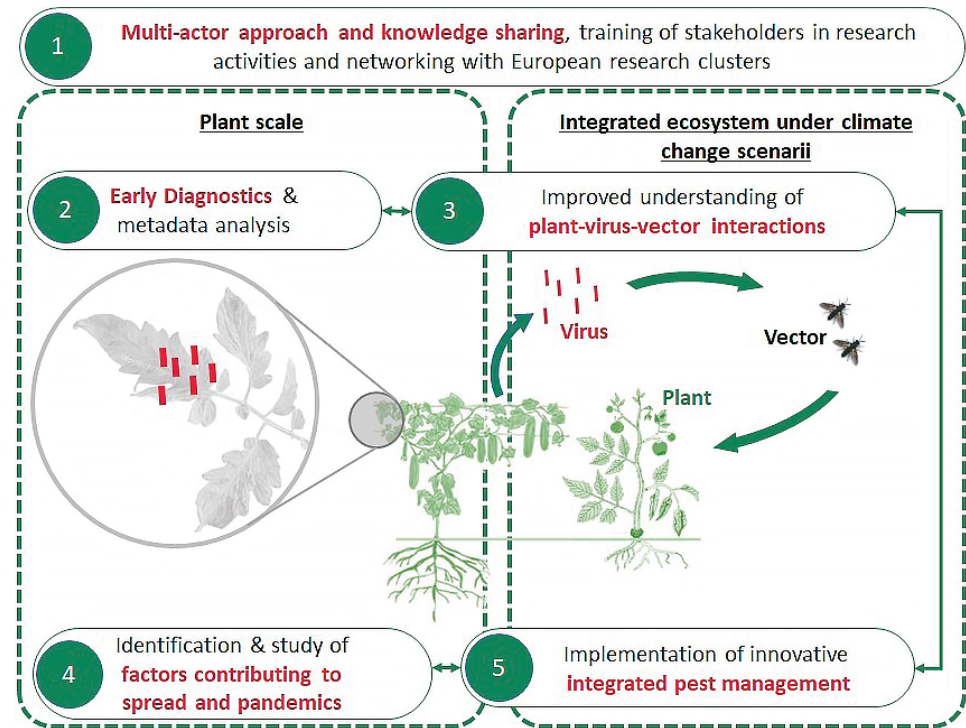
- Knowledge-sharing and engagement of stakeholders in research activities, through the VIRTIGATION network 
- Develop robust diagnostic tests, quarantine measures and identify ecological factors driving disease outbreaks 
- Understand plant-virus-vector interactions 
- Develop integrated pest management solutions 
- Identify and pyramid natural resistance to viral diseases and vectors 
- To train the tomato and cucurbit value chain 

# RESEARCH PLAN

Deep understanding, diagnostics & identification of factors conducive to pandemics (hypervirulence, host change)



Adapted & integrated solutions



# EXPECTED IMPACTS



VIRTIGATION seeks to reduce tomato and cucurbit crop losses stemming from viral diseases by up to 80%, with possibly even eradicating crop losses in Europe and Israel.

Moreover, the VIRTIGATION project aims to cut in half, or even totally eliminate in some circumstances, the use of pesticides as a mitigation measure to control viruses and their vectors.

# SOLUTION

VIRTIGATION aims to propose and demonstrate several innovative solutions, including vaccines for the plants, biopesticides against virus vectors, as well as integrated pest management strategies.

VIRTIGATION will further develop novel methods to contain viruses and their vectors, including biological treatments to limit transmission, cross-protection strategies as well as natural resistances.

# VIRTIGATION FACTS

- EU contribution: € 6,998,668.34
- Overall budget: € 7,358,170.15
- Duration: 48 months
- Start date: 1 June 2021
- End date: 31 May 2025
- International consortium of 25 partners
- Funding program: Horizon 2020
- Research & Innovation Action

