

VIRTIGATION - Press Release



EU-funded VIRTIGATION combats viral crop destruction in tomato and cucurbit

15 September 2021 – Every year, viral diseases wreak havoc on tomato and cucurbit crops worldwide, amounting to EUR 3,5 billion in harvest losses in Europe alone. The EU-funded VIRTIGATION project has been launched to combat emerging viral diseases in tomatoes, cucumber, melon, pumpkin and zucchini.

Pandemics are not only affecting mankind. New aggressive plant viruses are spreading in greenhouses and fields across the world, threatening the multi-billion industry of tomato and cucurbit production. From Europe, Morocco, Israel to India, huge yield losses are occurring, ranging from 15% to up to 100%, coinciding with entire crop destruction. The emergence of new, devastating plant viruses is fueled by climate change, rising global trade and more interconnected agricultural sectors.

Bio-based solutions to safeguard tomato and cucurbit

To date, few viable remedies are available to tackle the crop destruction caused by these plant viruses. Unless effective and environmentally friendly solutions are found to protect tomatoes and cucurbits against damage from viral diseases, the supply of staple foods for billions of people will be in jeopardy.

In response to this global threat, the EU-funded VIRTIGATION project aims to cut tomato and cucurbit crop losses stemming from viral diseases by up to 80%. Moreover, VIRTIGATION seeks to cut in half, or even eliminate the use of pesticides to control emerging viral diseases. VIRTIGATION will demonstrate several innovative bio-based solutions to safeguard tomato and cucurbit plants from viral diseases. This will include natural plant resistance, plant vaccines, biopesticides and combinations thereof in an integrated pest management approach. The VIRTIGATION project will also implement new methods for early detection, prevention and control of these plant viruses. It will further develop innovative diagnostic tools and online monitoring platforms to identify possible outbreaks to ‘test, track and trace’ the spread of viruses. With this toolbox, VIRTIGATION aims to assist the entire value chain — from plant health services, policymakers, to industry and farmers — in protecting tomatoes and cucurbits from viral diseases.

International collaboration led by the world-renowned Katholieke Universiteit Leuven – KU Leuven

As global threats require global solutions, VIRTIGATION brings together some of the most renowned universities, industries, research & technology organizations, agricultural extension services and SMEs across the world. VIRTIGATION involves 25 partners from 12 countries: Belgium, Spain, Luxembourg, the United Kingdom, Italy, the Netherlands, France, Germany, Austria, Israel, Morocco and India.

The project is coordinated by the Department of Biosystems at the KU Leuven University in Belgium. Project Coordinator Hervé Vanderschuren, Professor of Tropical Crop Improvement at KU Leuven, outlines the ambition of VIRTIGATION:

“Over the last years, the society has become aware of the importance to develop our capacities to cope with pandemics. Viral diseases not only impact human health directly, they can also undermine the sustainability of our food production systems when they cause important losses to crops. Therefore, there is a pressing need to increase our knowledge and capacities to implement novel and sustainable solutions, such as the deployment of crop varieties resistant to viral diseases, biological control of insect vectors transmitting viral diseases, as well as the development of vaccines to prevent viral diseases to rapidly propagate in susceptible crop varieties. The VIRTIGATION consortium will use a multidisciplinary approach to develop the aforementioned solutions, in order to reduce the impact of emerging viral diseases on tomato and cucurbits.”



The VIRTIGATION project is running for a duration of 4 years (June 2021 – May 2025) and is funded with EUR 7 million by the EU Horizon 2020 programme.

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