TomRes
Project ID: 727929
Funded under:
H2020-EU.3.2.1.1. - Increasing production efficiency and coping with climate change, while ensuring sustainability and resilience

A NOVEL AND INTEGRATED APPROACH TO INCREASE MULTIPLE AND COMBINED STRESS TOLERANCE IN PLANTS USING TOMATO AS A MODEL

From 2017-06-01 to 2020-11-30, ongoing project

Project details

<table>
<thead>
<tr>
<th>Total cost:</th>
<th>Topic(s):</th>
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<tr>
<td>EUR 5 996 175</td>
<td>SFS-01-2016 - Solutions to multiple and combined stresses in crop production</td>
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<th>EU contribution:</th>
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<td>EUR 5 996 175</td>
<td>H2020-SFS-2016-2 See other projects for this call</td>
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<th>Coordinated in:</th>
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<td>Italy</td>
<td>RIA - Research and Innovation action</td>
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Objective

Tomato is a main EU agricultural commodity, cultivated all over Europe in open and protected field and in glasshouses, representing a biological and agronomical model crop. Combined water and nutrient stress is a major problem for tomato farmers and solutions are needed to safeguard yields, while preserving the environment.

TOMRES will select, among over 10,000 available accessions, rootstocks and scions tolerating combined stress, while retaining fruit quality and yield, taking advantage of innovative screening approaches. Novel traits, in particular belowground, to be exploited in breeding, will be identified. The role of selected hormones (strigolactones and brassinosteroids) will be studied to identify further resilience traits.

TOMRES will test and optimize sustainable crop management strategies such as legume intercropping, precision fertilization and irrigation techniques, manipulation of symbiotic microorganisms, and the use of rootstocks more suited to water and nutrient uptake from the soil.

Novel genotypes X management strategies will be developed with the goal of reducing N and P application by at least 20%, water input by 40%, while granting environmental sustainability and economic viability of the solutions proposed.

Testing will be integrated with analysis of environmental (greenhouse emissions, water quality), and of socio-economic impact. Agronomical, environmental, and economical data will be processed to construction of models and of a Decision Support System.

Demonstration and dissemination activities will follow the whole course of the project, and will transfer the results to different environments and other cropping systems, thus ensuring the widest impact of the gained knowledge on the EU economy.

Trans-disciplinary knowledge transfer among farmers, breeders, industries, associations and scientists will be granted by a solid multi-actor approach since the planning stage.

Related information
Coordinator
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EU contribution: EUR 872 895

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EU contribution: EUR 190 135

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EU contribution: EUR 183 750

TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY  
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EU contribution: EUR 182 543,75

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