



PPP Annual Report 2019

PPP projects which are under supervision of the "Topsectoren" must report annually on the scientific content and financial progress. This form is used to report the progress of the content of the project. PPP projects that finish in 2019 should make use of a different form: "PPP-final report."

The annual report will be published on the TKI / topsector website. Therefore, please ensure that there is no confidential information in the annual report.

The PPP-annual report must be sent, at the latest, by the 1st of March 2020 to the "TKI's": info@tkitu.nl or info@tki-agrifood.nl. For Wageningen Research, the report has to be sent to the "Topsector secretary" of your respective institute.

General information	
PPP-number	TU18043
Title	Resistance mechanisms against thrips in Chrysanthemum and its relatives
Theme	Sustainable Plant-based production
Implementing institute	WUR Plant Breeding
Project leader research (name + e-mail address)	Ben Vosman (ben.vosman@wur.nl)
Coordinator (on behalf of private partners)	Aike Post (ap@deliflor.nl)
Project-website address	https://www.wur.nl/nl/Onderzoek-Resultaten/Onderzoeksprojecten-LNV/Expertisegebieden/kennisonline/Resistance-mechanisms-against-thrips-in-Chrysanthemum-and-its-relatives.htm
Start date	01-02-2019
Final date	30-06-2023

Approval by the coordinator of the consortium

The annual report must be discussed with the coordinator of the consortium. The "TKI's" appreciate additional comments concerning the annual report.

Assessment of the report by the coordinator on behalf of the consortium:	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Not approved
Additional comments concerning the annual report:	

Summary of the project

Problem definition	Thrips cause extensive damage to chrysanthemums, both directly by feeding, and indirectly by the viruses they transmit. Management of thrips is difficult due to their short life cycle, high reproduction rate, and cryptic behaviour. Although biological control is used, the main management tools are insecticides of various chemical classes due to the zero tolerance. However, this is not a sustainable solution. Therefore, alternative strategies are urgently needed of which host plant resistance is a very promising one. For implementation in chrysanthemum significant scientific breakthroughs in understanding the inheritance and mechanism of host plant resistance are extremely important.
Project goals	The goals of this project are to characterize the thrips resistance present in cultivated and wild chrysanthemum materials, to identify novel sources of possibly different resistance mechanisms using a genetic approach with segregating populations, elucidating the

	resistance mechanism and providing the companies with easy to use breeding tools.
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Results	
Planned results 2019	Optimizing the thrips resistance assay for Chrysanthemum. Acquiring plant material of wild relatives of Chrysanthemum
Achieved results 2019	The practical work in the project effectively started after the appointment of the PhD student, which was on September 1, 2019. First experiments in which several evaluation methods have been compared were carried out with a set of 10 commercial varieties. Adaptation/optimization is ongoing. A list of available plant material of wild relatives has been made and from this accessions have been selected for acquisition from the national gene bank of Japan and from the University of Hiroshima. In total 55 accessions of wild relatives will be available for the project and most of the materials are currently with the participating breeding companies for further development. MTA's with both institutes have been signed.
Planned results 2020	<ul style="list-style-type: none"> • Further improvement of evaluation method • Evaluation of cultivated and wild materials for resistance against thrips. • Selection of materials for further study

Deliverables/products in 2019 (provide the titles and /or a brief description of the products/deliverables or a link to a website.)
<u>Scientific articles:</u>
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<u>External reports:</u>
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<u>Articles in professional journals/magazines:</u>
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<u>(Poster) presentations at workshops, seminars, or symposia.</u>
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<u>TV/ radio / social media / newspaper:</u>
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<u>Remaining deliverables (techniques, devices, methods, etc.):</u>
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