Green defense against thrips: Exploring natural products for early management of western flower thrips

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Stellingen behorende bij het proefschrift

Green Defense Against Thrips
Exploring natural products for early management of western flower thrips

1 The use of elicitors to induce host plant resistance to arthropod herbivores is a promising, yet underutilized approach in integrated pest management programs (Stout et al., Arch Insect Biochem Physiol 51, 2002; Vallad and Goodman, Crop Sci 44, 2004).

2 In tomato, seed coat permeability determines whether defenses against western flower thrips during early life stages can be elicited by seed treatment with jasmonic acid (this thesis).

3 Pre-treatment of tomato seeds with sulfuric acid augments jasmonic acid seed receptivity of non-responsive cultivars thus, creating commercial opportunities for seed companies and breeders alike to improve permeability characteristics (this thesis).

4 Inclusion of multiple cultivars as a biological research system is necessary to reduce false-negative findings and avoid incorrect classification of potential agrochemical lead candidates (Lorsbach et al., Pest Manag Sci 2019).

5 Water dipping of commercial auxin-coated chrysanthemum cuttings repeatedly reduced herbivore damage by both thrips and leaf miner but, the mechanisms underlying these defense mediated responses remain yet to be elucidated to exploit the full potential of hormone rooting powders (this thesis).

6 When commercially propagated chrysanthemums are to be used for research purposes, phenotypical variations in mother plants and cuttings, arising from environmental perturbations, should be taken into account as they may significantly complicate the process of repeatability and thus, to deduce conclusive statements (this thesis).

7 Breeding to realize complex IPM solutions, often involving combinations of several plant resistance traits, will be almost impossible using only classical breeding techniques. Thus, parts of the IPM community may need to adjust their ideology to achieve functional and sustainable holistic solutions (Stenberg et al., Trends Plant Sci 22, 2017).

8 High-throughput metabolomic profiling offers a huge potential to facilitate footprints of a variety of metabolites corresponding with plant resilience strategies in support of robust biomarkers development (Kumat et al., Front Plant Sci 8, 2017)

9 Science and journalism share an area of communicative commonalities but, often differ inherently in reporting their main message. Positive results are proportionally overrepresented in scientific research whereas, negative news often dominates the headlines in media. Both contribute to misinterpretation and distortion.

10 Consistent inconsistency is a form of consistency.