Host plant resistance of tomato plants to western flower thrips

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STELLINGEN

behorende bij het proefschrift van Mohammad Mirnezhad

HOST PLANT RESISTANCE OF TOMATO PLANTS TO WESTERN FLOWER THRIPS

1. Secondary metabolites, like chlorogenic acid, that render some plant species resistant to thrips, not necessarily have the same effect in other plant species (this thesis).
2. Introgression lines (ILs), represent an excellent platform to explore the genetics of multiple biological and chemical traits of thrips resistance (this thesis).
3. Regardless overwhelming evidence of defensive functions of phenolics, they were found irrelevant in the tomato pest resistance mechanisms (this thesis).
   - Smith CM (2005) Plant resistance to arthropods: molecular and conventional approaches. Springer, Dordrecht, the Netherlands.
   - Freeman B.C., Beattie G.A., (2008) http://www.apsnet.org/edcenter/intropp/topics/Pages/OverviewofPlantDiseases.aspx
4. Mix cropping of tomato cultivars in greenhouses may prevent the evolution of new aggressive thrips biotypes and result in more stable host resistance.
5. As prevention is better than cure, spraying plants with low concentrations of sugars is a preferable method of plant protection over spraying with high concentrations.
   - Sheen, J., Zhou, L., & Jang, J.-C. (1999) *Current Opinion in Plant Biology*, **2**, 410-418.
   - Birch, A.N.E., Robertson, W.M., & Fellows, L.E. (1993) *Pesticide Science*, **39**, 141-145.
   - Derridj, S., Wu, B.R., Stammitti, L., Garrec, J.P., & Derrien, A. (1996) *Entomologia Experimentalis et Applicata*, **80**, 197-201.
6. Regardless of the environmental friendly issues of biological weed control, this method may affect consumer's health by increasing toxic compounds in the target plants.
   - Zangerl A.R. & Berenbaum M.R. (2005) Proceedings of the National Academy of Sciences of the United States of America 102: 15529-15532.
7. Although extremely effective chemical host plant resistance to pest insects exist in tomato, such as acyl sugars, they can be conflicting with modern mechanized production technology.
8. Germination experiments under sterile conditions provide limited information about optimal germination conditions.
9. Protection of plant species is extremely important for mankind since some of these species will have to replace our food crops in the future after pests have destroyed them.
10. The natural environment of tulips consists of extensive mountain plains. Tulips grown in Dutch gardens provide a colourful but extremely simplified copy of nature.
11. Ecotourism industry is crucial for the protection of natural resources.

155 x 230 mm