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Identification of plant traits related to the tolerance of WOSR to pollen beetle

ADDRESS

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Pollen beetle is a major pest of WOSR resulting in important floral bud damage and yield losses. Recent works have shown that the setting of new floral buds can compensate damage and totally restore yield even in case of drastic damage and low nitrogen nutrition (Pinet et al., 2015). Yet, little is known about the plant characteristics that favour damage compensation and about the conditions of an efficient compensation.

In order to address this question, we propose to model plant reproductive development with and without damage and analyse the variability of model parameters in relation with damage intensity and yield restoration. Dynamics of floral bud settings, abortion and transformation into pods was assessed for different genotypes and nitrogen fertilisation levels.

Results show the importance of the plasticity of the reproductive development and its effectiveness in restoring yield even when more than 90% of the floral buds have been destroyed. Several plant traits related to plant tolerance to damage have been identified in relation with the potential of reproductive organ production, the timing and rate of the plant response to damage, and the intensity of the response (induced trait). These results are the first steps for the evaluation of the genotypic variability of the tolerance to pollen beetle and open new avenues into varietal selection.

Pinet, A., Mathieu, A., Jullien, A. (2015). Floral bud damage compensation by branching and biomass allocation in genotypes of *Brassica napus* with different architecture and branching potential. *Frontiers in Plant Science*, 6 (February), 1–13. <https://doi.org/10.3389/fpls.2015.00070>

PLENARY TALKS

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