



Protecting our crops – sustainable approaches for the control of plant-parasitic nematodes

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Plant-parasitic nematodes (PPN) are a threat to global agriculture with losses estimated at 100 billion USD per year (Savary et al., 2019). Ranking 3rd as the most serious PPNs in agriculture, root-lesion nematodes (RLNs), *Pratylenchus* spp., are known by their worldwide distribution and broad host range (Jones et al., 2013). *Pratylenchus penetrans* is one of the most damaging RLN with over 400 hosts affecting economically important agronomic and horticultural crops (Castillo and Volvas, 2017). In Europe, *P. penetrans* has been detected in potato cultures and ornamental plants in Portugal and in association olive trees in Spain, Italy, and Turkey. This RLN is classified as an A1 quarantine pest in South America, while in EU, is a regulated A2 non-quarantine pest. Effective control measurements for RLN, and specifically for *P. penetrans*, are limited due to the lack of natural resistant varieties. The impact of *P. penetrans* alone and in interaction with other plant pathogens (e.g., bacteria and fungi) in such cultures emphasises an urgent demand for the development of new and sustainable control approaches as alternative to common agriculture chemicals. In this sense, the molecular mechanisms of *P. penetrans* parasitism are being investigated for the development of alternative and more specific control strategies (Vieira et al., 2019; Vicente et al., 2019).

References

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