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P 139. Control of the pinewood nematode *Bursaphelenchus xylophilus* by essential oils and extracts obtained from plants: a review.

Barbosa P¹, Vieira P¹; Dias LS²; Pedro LG³; Barroso JG³; Figueiredo AC³; Mota M¹

¹NemaLab-ICAAM & Departamento de Biologia, Universidade de Évora, 7002-554 Évora, Portugal;

²Departamento de Biologia, Universidade de Évora, 7002-554 Évora, Portugal.;

³Universidade de Lisboa, Faculdade de Ciências de Lisboa, Departamento de Biologia Vegetal, Instituto de Biotecnologia e Bioengenharia, Centro de Biotecnologia Vegetal, C2, Piso 1, Campo Grande, 1749-016 Lisboa, Portugal

pmbarbosa@yahoo.com

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The pinewood nematode (PWN), *Bursaphelenchus xylophilus*, is a serious threat to forest ecosystems at a global scale. The nematode has become a major quarantine problem due to its capability to completely destroy *Pinus* spp. trees, with great damage to the wood industry. Controlling the nematode inside a living tree is quite difficult, the techniques used being often ineffective and quite expensive. In the coming years, most chemicals used to control nematodes will be banned and replaced by safer and environmentally friendly products. As so, chemicals naturally produced by plants will play an important role in controlling diseases such as pine wilt. Plants, particularly aromatic ones, are commonly used due to the chemical properties of their secondary metabolites. Among these, essential oils and/or extracts are highly employed and are being tested as possible control of some organisms, like nematodes. Recent publications have evaluated essential oils derived from different plant species as natural nematocides [1; 2], anti-bacterial [3], anti-fungal [4] as well as insecticidal [5]. Concerning control of the PWN, a significant amount of information on plants tested, results obtained and employed techniques, is available. Our revision has extensively gathered this information, making it easier to search, read and use. It may become useful information for future studies on the subject, since it will be possible to check the plants already tested. Although numbers aren't definitive, so far, tested plants are distributed amongst 148 families. The extracts or essential oils of plants belonging to the Asteraceae, Lamiaceae and Euphorbiaceae families show promising results on controlling the pinewood nematode.

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