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225. Smart technologies for plant parasitic nematodes detection

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ABSTRACT:

In the agricultural sector, different technologies can be used as part of crop management strategies, aiming to promote sustainability and increase overall crop productivity. A growing number of devices is emerging for the detection of crop pests and diseases. Thus, advances in sensing technologies are opening new opportunities for precision agriculture. Here, we present a Lab-on-chip approach, based on a magneto resistive biosensor, developed for detection of the pale potato cyst nematode - *Globodera pallida*, and a portable in-field sensor-system, based on gas chromatography (GC), developed for detection of specific Volatile Organic Compounds (VOCs) emitted by plants under stress induced by the pinewood nematode *Bursaphelenchus xylophilus*. This work provides insights for new strategies to develop smart devices for nematode in-field and at the entry ports detection.

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