

#092

Integrated control of establishment pests in canola: an Australian perspective

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Canola crops grown across southern Australia are subject to attack by over forty invertebrate species. This complex of invertebrate pests has changed due to evolving management practices and climate change. A comparison of pest outbreak reports in broad acre crops across south-eastern Australia from the early 1980's to more recent times highlights an increased prominence of resident species such as slugs, snails, earwigs, weevils, aphids and secondary mite species at crop establishment. The adoption of conservation tillage systems; in order to retain soil moisture in marginal Australian farming systems; is associated with changing pest threats. Modern farming practices include the increased use of pesticides, which has accelerated selection pressures for resistance, yet failed to reduce invertebrate threats to production. We argue for a new integrated pest management (IPM) approach; underpinned by host plant resistance, new cultural practices, ecological indicators, reliable predictors and infrequent emergency intervention strategies. We seek a more holistic approach that moves away from heavy reliance on monitoring and economic thresholds traditionally supported by rigid chemical-based management strategies. This approach needs to be based on developing stable crop environments; that can limit fundamental niches available for exploitation by sporadic pest populations; and increasing crop resilience to resident herbivores. Examples will be provided of how canola sowing times have changed in southern Australia so that establishing seedlings avoid key pests, such as slugs, when they are most damaging. Quick crop establishment is now considered a fundamental IPM tool. We will present strategies adopted by Australian growers that improve canola establishment, and results demonstrating the best time to apply molluscicides to control slugs as identified/proven effective? by new monitoring techniques using cameras. IPM solutions presented may be transferable to European farming systems where chemical control options are being withdrawn and establishment pests (e.g. cabbage stem flea beetles) are an increasing problem.

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