

Pest Management of Insect Pests in Cultivated Sunflower

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Abstract

Sunflower, *Helianthus annuus* L., is attacked by a diversity of insect species worldwide. Because sunflower is native to North America, a large pest complex has evolved on wild sunflower and has moved from wild ancestors to commercial cultivars of both oilseed and confection sunflower. In other countries and to a lesser extent in North America, some insects have adapted to utilize sunflower as an alternative host. Insect pest status often varies from year to year, but a number of species may cause economic damage annually. These include species attacking the sunflower stem, leaves, roots, head and seeds. The successful management of insect pests depends on correctly identifying the pest, understanding the pest's biology, field sampling of pest densities, and selection of the most appropriate control methods. The use of integrated pest management assures that control decisions will be based on economics and achieved with minimal disruption to the environment, including nontarget organisms and pollinators. This strategy assures that the most effective control approaches based on past and current research investigations utilize techniques that combine resistant cultivars, cultural control, biological control, and the application of insecticides only when pest populations have reached economic injury levels.

Key words: *Helianthus*, insects, pest management, resistance, biology

栽培向日葵虫害的防治

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摘要

向日葵在世界范围内受多种昆虫的危害。因为向日葵起源于北美，大多害虫已在野生向日葵上演化，并从野生向日葵转移到油用和食用向日葵的商业栽培种中。在其它国家和较小程度上北美的国家，一些昆虫已经适应于把向日葵作为替代寄主。害虫的状况通常每年都有所不同，但是有一些种类每年都会造成经济损失。包括危害向日葵茎秆、叶片、根系、花盘和种子的种类。害虫的成功防治取决于正确的识别害虫，了解其生物学特性，害虫在田间分布的密度并且能够选择最合适的控制方法。使用综合的害虫防治方法取决于经济状况以及对环境的影响，包括非目标的物种和传粉物种。这一策略确保基于过去和目前的研究调查制定的最有效的控制方法并结合抗性品种、栽培防治、生物防治和当害虫群体达到经济损失时才应用杀虫剂。

关键词：向日葵、昆虫、害虫管理、抗性、生物学