

Sunflower Insect Pests Management by KEYUN® Biocontrol Products

Henan Jiyuan Baiyun Industry Co., Ltd.
Shengli Kong

Abstract

The sunflower moth, *Homoeosoma electellum* and the cotton bollworm, *Helicoverpa amigera* are two important and destructive pests of the sunflower during its flowering and seeding period. Due to insect pollinator and blossomy flower being very sensitive to conventional chemical insect pesticides, means to control those pests should be biological and pollinator-safe. Biocontrol products manufactured by Henan Jiyuan Baiyun Industry Co., Ltd., such as *Helicoverpa amigera* nucleopolyhedrovirus (HaNPV), trichogramma and insect pheromone traps, et al., owe to their advantages of safety, high-efficiency and chemical residues free, are competitive measures to manage the insect pests of the sunflower.

(1) HaNPV: KEYUN® HaNPV is a leading biological product to kill the larvae of cotton bollworm infesting in the sunflower. When the viral particles of HaNPV sprayed onto surface of the sunflower are eaten by the cotton bollworm, they will replicate inside the body of the pest and spread out all parts of the body rapidly, which lead to the death of the pest and a fatal plague epidemic of the next generation of cotton bollworm.

(2) Trichogramma: It is a tiny egg-parasitoid wasp that parasitizes the eggs of the sunflower moth and cotton bollworm and other noctuid pests. Monitoring by KEYUN® insect pheromone traps, the pinnacle oviposition stage of the respective pests are determine, at which stage trichogramma should be released. The wasps are able to actively search, find and subsequently oviposit their own eggs into the pest eggs, which effectively kill the eggs before their hatching.

(3) KEYUN® Insect Pheromone Traps: The field population dynamics of the sunflower moth and cotton bollworm are monitored by KEYUN® insect pheromone traps. The data from the traps will provide most suitable control windows for spraying HaNPV or releasing trichogramma. By this integrated management, efficient and safe control results will be obtained. Also, the traps themselves could be used to attract and kill the moths directly.

科云产品防治向日葵虫害

河南省济源白云实业有限公司

孔胜利

摘要

向日葵螟和棉铃虫是向日葵开花结果期的重要害虫。防治向日葵螟和棉铃虫时应选择对蜜蜂等传粉昆虫无害的低毒生物农药；此外，向日葵开花盛期对药剂非常敏感，应选择合适的药剂以防引起向日葵药害影响产量。河南省济源白云实业有限公司生产的棉铃虫核型多角体病毒、赤眼蜂和昆虫诱捕器属低毒生物农药，具有安全、高效、无残留等优势，是防治向日葵虫害的理想措施。

(1) 棉铃虫核型多角体病毒：科云棉铃虫核型多角体病毒（HaNPV）主要用于防治向日葵上的棉铃虫。产品喷施到向日葵上被棉铃虫取食后，病毒在虫体内大量复制增殖，迅速扩散到害虫全身各个部位，使其害虫染病而死，并在害虫中形成瘟疫。

(2) 赤眼蜂：是一类微小的卵寄生蜂，能寄生向日葵螟、棉铃虫等鳞翅目害虫的卵。通过科云昆虫诱捕器监测，在害虫卵高峰期时释放赤眼蜂，可主动搜索到害虫卵并在其中产卵、繁殖，起到持续控制和消灭害虫的作用。

(3) 科云昆虫诱捕器：科云昆虫诱捕器配合昆虫性诱剂用于监测向日葵葵螟和棉铃虫田间发生动态，根据诱捕到的葵螟和棉铃虫蛾高峰期来指导大田精准用药，确保棉铃虫病毒、赤眼蜂等的防治效果；也可通过大量诱捕成虫，有效降低虫口基数，辅助向日葵害虫田间防治。