

Suitability of hemp seed for reproduction of stored-product insects

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Extended Abstract

1. Introduction

Hemp, or industrial hemp, is a high value alternative crop that has seen major increases in acreage in Canada since commercial production was legalized in 1998. The term industrial hemp applies to non-psychoactive varieties of *Cannabis sativa* L. There have been reports of insect infestations on stored hemp seed in Manitoba. The moths *Plodia interpunctella* (Hübner) Indianmeal moth, and *Ephestia kuehniella* (Zeller) Mediterranean flour moth feed on hemp seed (Hagstrum and Subramanyam, 2009). Our objectives were to determine which stored-product beetles can reproduce on hemp and the effect of dockage and seed moisture content.

2. Materials and Methods

Twenty adult insects were placed on 15 g of hemp seed at two different moisture contents (~8% or ~15%) and two different dockage levels (~0% or ~15%) and held at 30°C and 60-70% relative humidity. The number of live and dead insects were counted at 3, 5, 7 and 9 weeks. Only live adults were returned to vials.

3. Results and Discussion

These insect populations increased over the 9 weeks; red flour beetle [*Tribolium castaneum* (Herbst)], drugstore beetle [*Lasioderma serricorne* (F.)] saw-toothed grain beetle [*Oryzaephilus surinamensis* (L.)], warehouse beetle (*Trogoderma variabile* Ballion). These insect populations did not increase: rusty grain beetle [*Cryptolestes ferrugineus* (Stephens)], lesser grain borer [*Rhyzopertha dominica* (F.)], rice weevil [*Sitophilus oryzae* (L.)], flour mill beetle (*Cryptolestes turcicus* (Grouvelle), confused flour beetle (*Tribolium confusum* Jacquelin du Val), cigarette beetle [*Stegobium paniceum* (L.)]. In general, higher dockage led to higher populations. The effect of moisture content was variable.

Keywords: *Cannabis sativa*, reproduction, dockage, moisture

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References

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The use of long-lasting insecticide netting to prevent dispersal of stored product insects

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