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Optimising pheromone lures and trapping methodology for *Prostephanus truncatus* (Horn) (Coleoptera: Bostrichidae)

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Abstract

Male *Prostephanus truncatus* release an aggregation pheromone, attractive to both sexes, consisting of two components, Trunc-call 1 (T1) and Trunc-call 2 (T2). Synthetic T1 and T2 are used as the lure in flight traps to catch the beetle; the standard commercial lure is a polythene capsule loaded with 2 mg of 1:1 mixture of the compounds. However, laboratory comparison of 1:1 and 2:1 loadings showed that capsules with the higher T1 ratio release a blend that is closer to the mean natural ratio. Field testing of alternative weights and ratios of pheromone components demonstrated that capsules with the 2:1 mixture lured more beetles, improving catch by 17–29%. This improvement is probably not great enough to justify a change in practice for routine monitoring in situations where the presence of the pest is already well known. But there may be potential for adopting the new ratio in situations where higher trap sensitivity is required.

The lures were supplied in sealed foil sachets and when they were first exposed a very high 'flash-off' of pheromone was observed. The flash-off was largely completed within 4 h of exposure and by 24 h pheromone output was more or less steady. For experimental studies comparing different treatments over short periods of time, it may be important to avoid testing during this flash-off period. In these circumstances, pheromone capsules should be aired for at least 1 day before being placed in traps.

Keywords: *Prostephanus truncatus*; Pheromone; Flight trapping

1. Introduction

Prostephanus truncatus (Horn) is an important pest of farm stored maize and dried cassava in Africa and Central America (Hodges, 1986; Markham et al., 1991). Once a male has reached a

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