Within-plant distribution and seasonal population dynamics of flower thrips (Thysanoptera: Thripidae) infesting French beans (Phaseolus vulgaris L.) in Kenya

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Abstract

The aim of this research was to study spatial distribution of flower thrips on French beans (Phaseolus vulgaris L.) in Kenya. Their build up and seasonal population dynamics was monitored using sticky blue colour traps and sampling of leaves and flowers in two seasons in 2002. Thrips infested French beans from the second week after crop emergence. Their population peaked at peak flowering. The sticky trap catches were linearly related to the actual presence of thrips on the crop and could estimate population build up of adult thrips on leaves and flowers. On the plants, most adults were on flowers. Larvae mainly inhabited leaves, buds and pods. The two thrips species, Frankliniella occidentalis (Pergande) and Megalurothrips sjostedti Trybom were spatially separated. The former colonized lower-canopy leaves and early flowers while the latter inhabited middle-canopy leaves and mature flowers. Overall, M. sjostedti was less than 5% of the total thrips population, implying that F. occidentalis was the main thrips pest of French beans. This study suggests that French bean growers should monitor thrips population before initiating any control measure. In addition, they should commence thrips control early, at pre-flowering, using larvicides to reduce the thrips pool and their migration to flowers. A combination of monitoring with sticky traps and proper sampling would contribute to sustainable thrips management.