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Abstract

Seasonal fluctuations of diamondback moth and its hymenopteran parasitoids were recorded weekly from April 1997 to November 1999 at four cabbage sites in the Grahamstown area of the Eastern Cape, South Africa. Two sites were commercial farms with active spraying programmes; the others were unsprayed. Infestation levels were highest during spring (September to November) and autumn (March to May), where 100% infestation of plants was reached at times. The highest infestation was found during the spring months, where 12 larvae/plant were found at the unsprayed sites and between 6 and 10 larvae at the sprayed sites. At the unsprayed sites abundance of diamondback moth larvae and parasitoids was high during 1997, but much lower during 1998 and 1999, indicating possible control by the parasitoids. Nine species of parasitoid were recorded from diamondback moth during this period and four (*Cotesia plutellae* (Kurdjumov) (Hymenoptera: Braconidae), *Diadegma mollipla* (Holmgren) (Hymenoptera: Ichneumonidae), *Diadromus collaris* Gravenhorst (Hymenoptera: Ichneumonidae) and *Oomyzus sokolowskii* (Kurdjumov) (Hymenoptera: Eulophidae)) showed potential as biological control agents. The highest rate of parasitism was found from mid-autumn to the beginning of winter (April to June) and from mid-spring to the beginning of summer (October to December). Percent parasitism varied throughout the year, ranging between 10% and 80%. Parasitism of 100% was observed when moth numbers were low. Different species of parasitoids were found to be dominant at different times of the year.