ESFENVALERATE PLUS METHOPRENE AEROSOL TO CONTROL THE INDIANMEAL MOTH

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The Indianmeal moth, *Plodia interpunctella*, is a major pest of stored and processed food products, and can also be present in the internal environment of flour mills, rice mills, and food manufacturing facilities. Although in recent years there have been new data on the use of aerosol insecticides to control flour beetles, there is limited information regarding the efficacy of aerosols to control the Indianmeal moth, particularly the egg and wandering-phase larval stages. Applications of aerosol and ultra-low-volume (ULV) insecticides could be reduce reliance on fumigations with methyl bromide and other alternative structural fumigants.

Application of aerosols and ULV treatments as a combination of either a pyrethroid insecticide or synergized pyrethrins with an insect growth regulator (IGR) is a common practice in selected mills and warehouses. Pyrethroids and synergized pyrethrins are contact insecticides that kill adult and immature life stages of stored-product insects, and while IGRs are also contact insecticides, they normally do not affect adults. The IGR methoprene (Diacon II) is labeled as a grain protectant and as a surface treatment, and recent studies show that it gives residual control on stored grains.

Applications of pyrethroids or pyrethrins combined with an IGR can reduce adult emergence of exposed immature stages, and give a greater degree of control than when these insecticides are applied individually. The IGRs are more effective than conventional neurotoxic insecticides on late-instar larvae, but the reverse may be true for the egg stage. The combination products may also provide some level of residual control.