Mungbean Insect Pests

Bruchids
(pea and bean weevils)
*Callosobruchus chinensis, C. maculatus, C. analis*

**Damage symptoms**

There are holes bored into bean pods. These symptoms are visible in dry pods at harvest, especially if harvest is delayed. The beans in storage are completely hollow and are unmarketable.

**Insect characteristics**

Chewing mouthparts. Adults are small brown beetles with light bands and markings on their backs. The larvae, which are responsible for the major damage, are small, white, C-shaped worms with darker heads.

**Where to look**

To locate them, split open the dried bean pods. Then, select beans with minute holes that appear drilled to the inside. Cut these open to expose larvae feeding internally. In dried stored beans, large holes through which adult have escaped are easily visible.

**Technical information**

Female beetles lay eggs on the bean pod, or in storage on the seed coat. The hatching larvae immediately bore inside and spend their entire life feeding within the seed. The life cycle can be completed in about 1 month or less and continual generations are possible until the food source is exhausted. The infestation may
Infestation may originate in the field and continue in storage. These insects are considered primarily destructive storage pests.

**Control**

The use of insecticides on small-scale storage is not advisable since the grains are stored for a short duration and often used for family consumption. Clean storage facilities and non-toxic chemical control measures are necessary. These measures include drying of seeds to moisture levels of 7% or lower before storing, and mixing seeds with nontoxic chemicals such as vegetable oils or neem (*Azadirachta indica*) seed extracts.

If chemical control is necessary, relatively safe insecticides should be applied. Fumigation is practical only in large-scale storage facilities. The most effective and convenient fumigant to use is phosphine.

Certain mungbean accessions show high levels of resistance to bruchids, especially *C. chinensis* and *C. maculatus*. These lines are being used at AVRDC to breed bruchid-resistant mungbean. However, further research is needed to identify the factors that confer resistance to bruchids, making sure that these factors will not have adverse effect on human health.

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