

Storage Pest of Pepper

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Insect infestation in stored pepper is common. Cigarette beetle (*Lasioderma serricorne*) is the most common pest in stored pepper. The beetle locally known as 'bubuk lada' is a cosmopolitan pest and it affects a wide range of commodities such as tobacco, cigarette, cocoa beans, spices, animal feeds, rice noodles, groundnuts and peas.

Biology of cigarette beetle

The adult is a small reddish brown beetle and about 3 mm long. Its head is bent downward so as to give a hump-like appearance. The adult could live for two to four weeks and a female could lay as many as 100 eggs in its life span. The eggs are laid loosely among the corns. The larva is whitish and hairy and is usually covered with pepper powder. Pupation takes place in a silken cocoon in the damaged pepper corn.

Life cycle

The life cycle takes about 53 to 96 days. The egg stage takes about 4 – 9 days, larval stage, 45 – 74 days and pupal stage, 4-13 days.

Damage caused

The larva feeds on the contents of the pepper corns. Once infested, the corns become hollow and powdery resulting in broken, lighter and low quality pepper corns with a more pungent peppery smell. The adult also cause damage by making emergence hole when it bites its way out of the cocoon. White powder, dead beetles and debris could be found on the packaging materials and floor of the stores. Both black and white pepper are affected and the pest infestation is more serious in black pepper.



Adult beetles on the jute bag



Debris and broken corns on floor of affected store



Adult, larva and pupa in damaged corns



Adults and silken cocoons among damaged white pepper corns

Control Measures

Once the stored pepper is infested, it is not easy to eradicate the pest population. It is advisable to make sure that pepper is stored properly. Pepper should be stored in a room strictly for pepper only, and not to be mixed with the other commodities. This is to avoid cross contamination from the other alternate hosts, for example tobacco, cigarette, cocoa beans, spices, animal feeds, rice noodles, ground nuts and peas. Concrete store with proper door and window is recommended. Sanitation in the store is also important. Packaging materials, for example the jute bags should be thoroughly cleaned before use.

In cases of seriously damaged corns, the corns could be washed to remove the debris and insect remnants, and sun-dried and then packed in clean packaging materials, before storing them in a clean store.

An insecticide, Fendona could be used to spray the floor and wall of stores to get rid of unwanted pests. A fumigant, aluminium phosphide (Gastoxin) could also be used to control the pest. It was found to be very effective against the adult and larva stages. However, this method must be handled by trained personnel, and this technique could only be applied in concrete stores, and not wooden stores.

We also observed that the adults are attracted to light. Therefore, in big storage facilities, light trapping could be used for monitoring of the adult population.