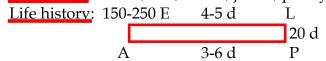
PRIMARY PESTS

1. Rice weevil, *Sitophilus oryzae*, *S. zeamais*, *S. granarius*, Curculionidae, Coleoptera <u>Host range</u>: Wheat, rice, maize, jowar, paddy.



Symptom of damage: Presence of irregular holes of 1.5 m diameter on grains of rice, sorghum, wheat, barley, maize before harvest and in store.

Nature of damage: Both grub and adults cause the damage. Grains are hollowed out; kernels are reduced to mere powder. *S. oryzae* and *S. zeamais* starts its attack in field itself. Adults cut circular holes. Heating takes place during heavy infestation, which is known as 'dry heating'.

Egg: Translucent white, plugs the egg hole with gelatinous secretion, laid singly.

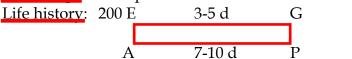
<u>Grub</u>: White with yellowish brown head, apodous, fleshy, curved, remains within the grain

Pupa: Pupates inside the grain.

Adult: Small, reddish brown to chocolate coloured weevils has characteristic snout, elbowed antennae, slightly clubbed. Hindwings present except in *S. granarius*. *S. zeamais* is the largest amongst the three species.

2. Sweet potato weevil, Cylas formicarius, Apionidae, Coleoptera

Host range: Sweet potato.



Total life cycle : 1-1 $\frac{1}{2}$ mon

Symptom of damage: Grubs and adults bore into the tubers and make them unfit for consumption.

Nature of damage: It is an important pest both in the field and in storage. Grubs bore into the tubers and make them unfit for consumption. They also attack the vines. Adult weevils feed on leaves, vines and tubers.

Egg: Eggs are laid singly in small cavities on vines and tubers.

Grub: Whitish grub is apodous and has a brown head.

Pupa: It pupates inside the vine or tuber.

Adult: Slender, ant-like with a long snout, shiny black with reddish brown thorax and legs.

3. Lesser grain borer/Hooded grain borer/paddy borer beetle, *Rhyzopertha dominica*, Bostrychidae, Coleoptera

Host range: Paddy, rice, wheat, maize. It is able to attack paddy more easily than *S. oryzae*.

Life history: 550 E 4-6 d G 4