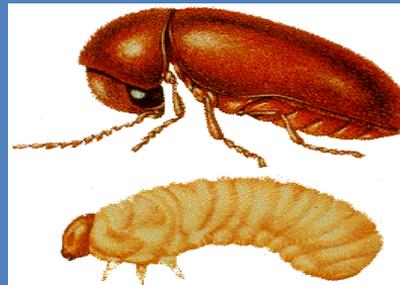
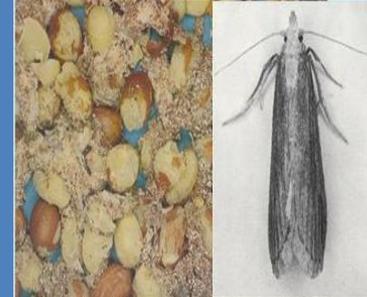


**WELCOME**

# Mass Culturing of Storage Pests



# Rice weevil – *Sitophilus oryzae*, Curculionidae, Coleoptera



To mass culture the rice weevil, 250g milled rice bearing initial moisture of 15-16% should be taken in one liter capacity jar.



Grain should be sterilized by heating the grains at 55 °C for one hour in an incubator.



In the test jar 50 pairs of 48 hours old active adults should be released as initial infesting population.

A lid with 5 cm diameter 60 mesh brass screen should be used to cover the jar.



This should be placed in conditions of 25-29°C temperature and 82% relative humidity.



Shelves used for keeping the jars should be made of either metal or glass or plastic but not of wood; and the jars should be kept by keeping some space in between.

Surface of shelves should be painted with light sheen of mineral oil to avoid attack of mites.



Culture of this weevil is usually spoiled by lesser grain borer and Angoumois grain moth; hence, it should be well protected by these insects.



After 45-50 days, 300-400 adults can be produced.

# Lesser grain borer - *Rhyzopertha dominica*, Bostrychidae, Coleoptera



Sterilised grains of any susceptible variety of rice should be used as rearing media.

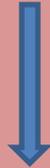


Take 250g milled rice in one kg capacity jar. The grain should be sterilized by heating the grains at 55 °C for one hour in an incubator.

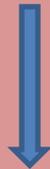


After cooling down to room temperature the grain should be conditioned and re-moisturised by addition of water so that the moisture level of the grain can be restored to 14-15%.

In the grain filled jar 50 pairs of 48 hours old active adults should be released as initial population.



Then , the jar should be covered by double or triple layer of fine muslin cloth. Jar should be placed in conditions of 25-29 °C temperature 80 % relative humidity.



After one week of oviposition , adults should be removed from the grains by sieving the grains. After 54-60 days a culture of 500-600 adults can be obtained.

Red flour beetle – *Tribolium castaneum*,  
Tenebrionidae, Coleoptera.



The optimum conditions for rearing this beetle are 80% relative humidity and 30<sup>0</sup>C temperature.



↓

Fill the glass jar with 50g of sterilized powdered rice or suji and cover with fine muslin cloth.

↓

If 20 pairs of fully fed active adults are released in the jar, it will yield a population of 800-1000 adults in 50-55 days.

# Rice moth - *Corcyra cephalonica*, Galleridae, Lepidoptera



This moth can be reared on milled rice under conditions of 28 °C temperature and 85% relative humidity in cages.



Cage can be made of full size biscuit tins fitting two opposite sides wire mesh (No.10 mesh) and on a side of top joining a metallic tube for moth collection .



One to two kg of sterilized milled rice should be placed at the bottom up to a level of wire mesh using main opening .

Side of the cage and its metallic lid should be closed tightly.



For initial infestation, 20 pairs of healthy and active (12 hours of emergence) moths should be released through collecting tube.



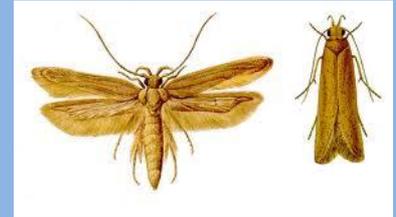
Moths after oviposition (one week after release) can be removed-out of the grain to maintain proper sanitation in the cage.



After 60 days, we can obtain 200-300 adults from this culture.

# Angoumois grain moth - *Sitotroga cerealella*, Gelechiidae, Lepidoptera

Sterilised grains of paddy bearing initial moisture of 15-16% should be taken for mass culturing of this moth.



In a glass jar containing 250g of grains , twenty pairs of newly emerged adults are released and the jar should be covered with fine muslin cloth.

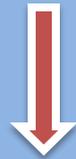


It is conditioned at 28<sup>0</sup>C temperature and 85% relative humidity for 43 days.

After release of adults the jar should be laid on the sides for maximum exposure of grains for oviposition.



Adults should be removed from the grains after a period of one week.



Reproduction potential and egg to adult life cycle of this moth at the maintained rearing conditions is observed to be 400-500 adults/20pairs and 45 days, respectively.

- In the jar, 2-3 times space than the space occupied by the grains should be provided to fly the adults in the container.



- Rearing room should be free from smoke, fumes of insecticides and proper sanitation should be maintained.



- Culture should be protected from mites by painting a thin layer of mineral oil on the surface of the containers and shelves.

Cigarette beetle – *Lasioderma serricorne*,  
Anobiidae, Coleoptera



The cigarette beetles reared at  $27.8 \pm 0.5^{\circ}\text{C}$   
( $82 \pm 2^{\circ}\text{F}$ ),  $70 \pm 5\%$  RH



Fill the glass jar with 100g of sterilized  
powdered Coriander/Chilli/Turmeric and cover  
with fine muslin cloth.

10 pairs of fully grown adults will be released



After 35-40 days, we can obtain 200-300 adults from this culture.

**Thank you**