



SOLUTION TO CONTROL INFESTATION FROM STORED GRAINS

100% chemical free solution

Why insects are developing in the stored food grains?

- Eggs are the root cause to damage grains during storage.



IDENTIFICATION OF COMMON PESTS IN STORED GRAIN



Red Flour Beetle



Rice Weevil



Grain Beetle



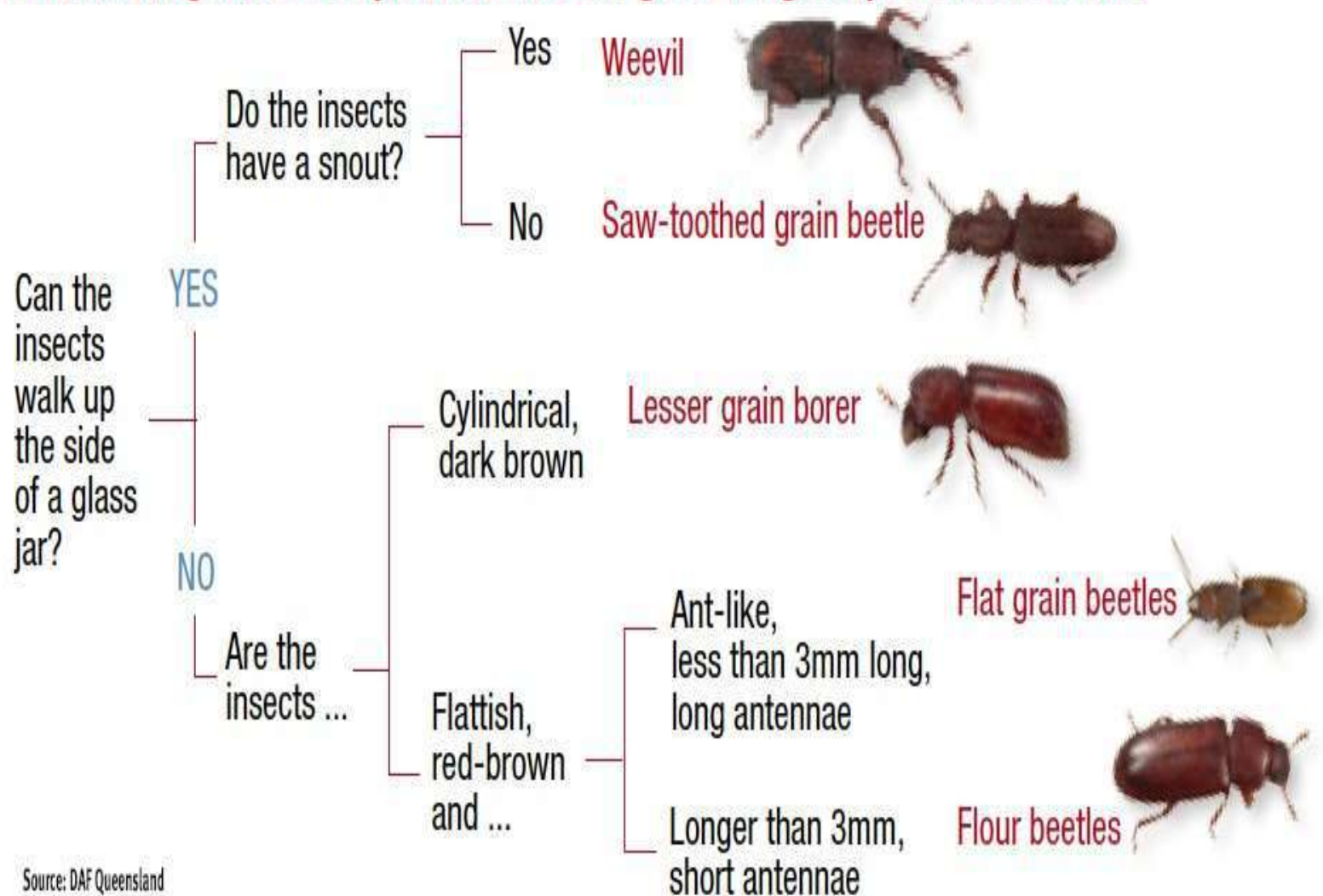
Booklice



Warehouse Moths

IDENTIFICATION OF COMMON PESTS OF STORED GRAIN

The following flow chart provides a useful guide for grain pest identification.



Source: DAF Queensland

Lesser Grain Borer



KEY FEATURES:

- Dark brown cylindrical shaped beetle (up to 3mm long) with club-like antennae
- Adult beetles are strong flyers.

LIFE CYCLE:

- Life cycle completed in four weeks at 35°C and seven weeks at 22°C.
- Breeding stops below 18°C
- Females lay between 200 – 400 eggs on grain surface.
- Adults live for 2 – 3 months.

DETECTION:

- Their habit is to remain hidden in grain.

Rust-Red Flour Beetle

Commonly found in stored cereal grain, processed grain products, oilseeds, nuts and dried fruit.



KEY FEATURES:

- Adult beetles (3 – 4.5mm long) bright reddish-brown in colour when young.
- Three larger segments on end of end of antennae
- Similar species: *Tribolium confusum*

LIFE CYCLE:

- Life cycle completed in 4 weeks at 30°C, 11 weeks at 22°C and reproduction stops below 20°C
- Adults live from 200 days to 2 years and fly in warm conditions.
- Up to 1000 eggs per female, loosely scattered throughout the commodity

DETECTION:

- Beetles move quickly and are strong flyers.
- Preferred habit is around storage areas with poor hygiene, broken grain, grading or bulk cottonseed.

Rice Weevil



Major pest of whole cereal grains.

KEY FEATURES:

- Dark brownish black (2 – 4mm long).
- Rarely flies, but climbs vertical surfaces (e.g. glass jar). Similar species: *Sitophilus zeamais* – maize weevil, & *Sitophilus granarius* – granary weevil.

LIFE CYCLE:

- Adults live 2-3 months
- Adults live 2-3 months – they feed and develop inside single grains
- Life cycle completed in four weeks at 30°C, 15 weeks at 18°C, breeding stops below 15°C

DETECTION:

- Sieving & probe traps recommended to detect low numbers.

Flat Grain Beetle



Infests most stored grain and feeds on damaged grain. Some populations have high levee

KEY FEATURES:

- Smaller than other major stored grain pests (2mm long), very flat, reddish brown colour with long thin antennae
- Fast moving, seeking cover under grain or trash.
- Adults fly readily and can live for several months



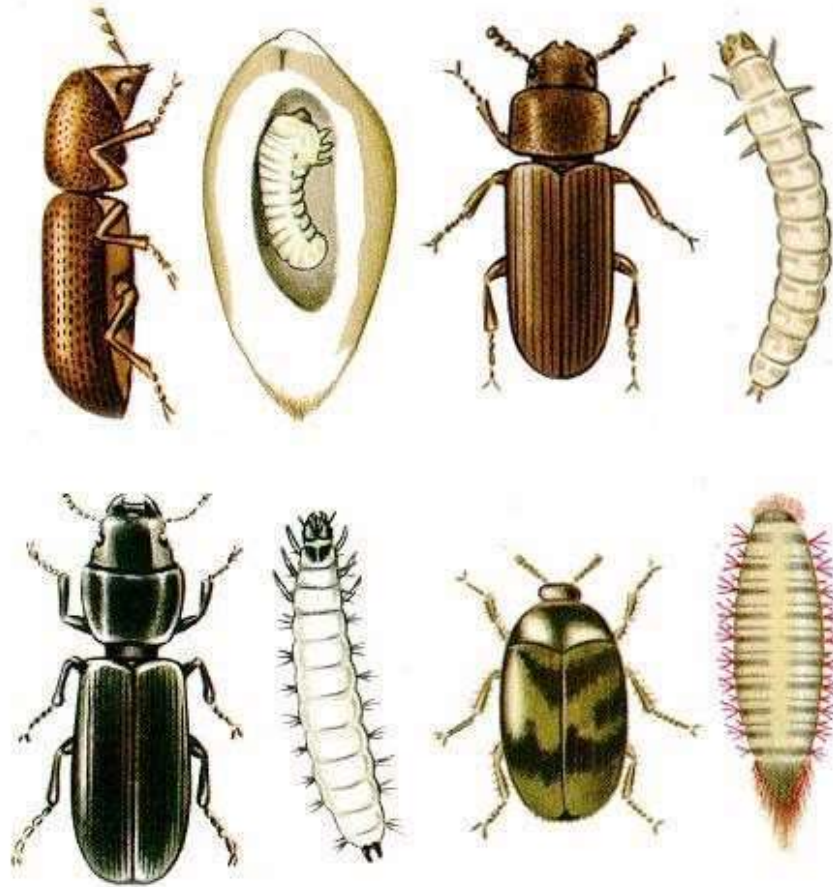
LIFE CYCLE:

- Life cycle completed in 4 weeks at 30 – 35°C with moist conditions.
- Larvae, with characteristic tail and horns, feed and develop externally on damaged grains
- Females lay up to 300 eggs loosely in the grain stack.

DETECTION:

- Sieving and probe traps usually required for detectioners.
- Some populations of flat grain beetles have developed very high levels

Adult Insects Along With Larvae



PREVENTING THIS TYPE OF INSECT THROUGH INSECT EGG REMOVER MACHINE

- A machine to remove insects from stored grain.
- The device is useful in removing adult insects besides eggs, larvae and pupae of free living and dead insects.

- This helps in arresting further build up during storage of grains
- Checked with IIFPT and proved so for the above facts

- No wastage of grains
- Self life of grains increased

STANDARD OF MACHINE

✓
✓

This machine developed and done many R & D in TAMIL NADU AGRICULTURAL UNIVERSITY, COIMBATORE

Power Save Model

Indian Patent:198434

We are TNAU authorised manufacturer and supplier

100/- chemical free technology

1 TON PER HR ADVANCE MODEL

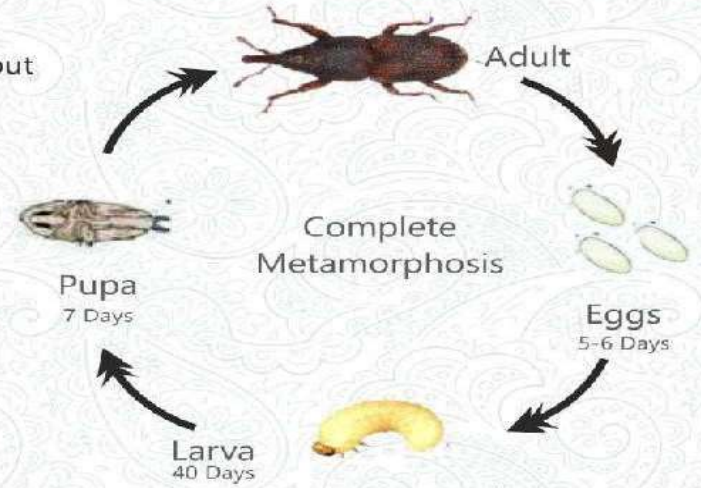


GRAIN INSECT & EGG SHORTING MACHINE



Grain Input

LIFE CYCLE



Before Processing



After Processing



Insect & Egg Collection



Fine Grains Delivery

2 TON PER HR MODEL



CHEMICAL FREE SOLUTION TO CONTROL FLYING INSECT



- **The UV light traps were found to be effective in reducing the insect population inside the sheds**

- **It prevents/reduces cross infestation of from one lot to another lot**

- **It is effective in case of flying insects and moth.**
- **It could be an effective tool in disinfestations operations by way of reduction of insect population**

UV LIGHT TRAP

MASS TRAPPING DEVICE.

CATCHES FLYING INSECTS IN STORED GRAINS
AT WAREHOUSE

CAN CONTROL INSECTS FLYING FROM RAW
MATERIAL WAREHOUSE TO FINISHED PRODUCT.

BY USING THIS TRAP METHOD, NUMBER OF
FUMIGATION CAN BE REDUCED

BEST SOLUTION TO AVOID WEIGHT LOSS IN
STORED GRAINS.

IT CONTROLS ALL GRAIN FLYING INSECTS

UV LED LIGHT TRAP



Catches flying insects that affect stored grains.

UV LIGHT TRAP will be useful for grain storage warehouses as Mass trapping device

Cross contamination of insects in grain stacks by insects can be controlled.

Best for *Rhyzopertha dominica*, *Tribolium sp.* etc

Insects Collection

identification of common pests in stored grains



Weevil



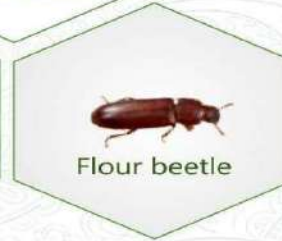
Saw-toothed grain beetle



Lesser grain borer



Flat grain beetles



Flour beetle

PROBE TRAP

INSECTS EARLY DETECTION

**GO GREEN
SAVE GRAIN**
A GRAIN SAVED IS A GRAIN PRODUCED

EFFECTIVE ECO :
FRIENDLY SOLUTION TO
PROTECT STORED GRAINS FROM
INSECTS INCLUDING LIFE STAGES
(EGG LARVA , PUPA AND ADULTS).

PRO TRAP DETECTS

INSECTS IN BAGGED STACKS. IT CAN BE INSERTED IN THE
INTERSPACES BETWEEN BAGS IN DIFFERENT LAYERS OF BAG
STACKS PREFERABLY MIDDLE LAYERS... FOR DETECTION
HELPS IN VALIDATION OF CONTROL OPERATIONS IN BAG STACKS



PROBE TRAP

EARLY DETECTION AND REMOVAL OF INSECTS IN BINS AND SILOS
THUS PREVENTS MULTIPLICATION OF INSECTS DURING STORAGE
AVAILABLE UPTO TO 6 FEET HEIGHT FOR HOUSEHOLD
6 INCHES OR 12 INCHES TRAPS ARE ADVISABLE UNDER HOUSE
HOLDS BEST TO REMOVE INSECTS FROM STORED DRUM/BIN.



LET'S JOIN HANDS AND SAVE FOOD GRAINS FROM INSECTS

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CLEANING COST

		INSECT EGG REMOVER MACHINE	RICE CLEANING MILL
	POWER	1.5 HP	25 HP
1 TON	LOADING	100 RS	100 RS
	UN LOADING	NILL	100 RS
1 TON	TRANSPORT	NILL	1500
IN 1 TON	WASTAGE	1 KG	17 KG
1 TON	CLEANING CHARGE	30 RS	1500 RS
	MIXING	NILL	5%
	TIME	IMMEDIATE	LONG TIME
	MINIMUM CLEANING QTY	YES	NO
RS	TOTAL EXPENSES	150	3200

CORPORATE CLIENT DETAILS



OMAN



CATTLE FEED

suminter

INDIA ORGANICS



MANCHUKONDA
Agrotech Pvt Ltd
HARVESTING HAPPINESS

DUBAI



FRANCE



QATAR

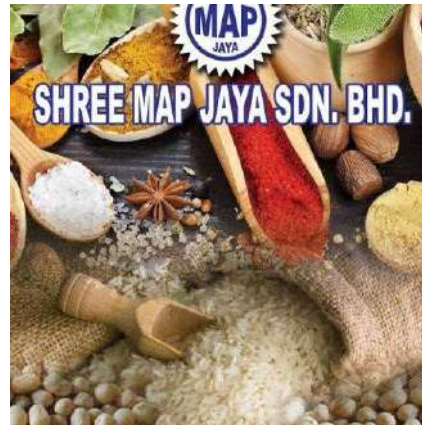


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✓ Developed and upgrade

M .BALAAJI, BBM, MIB

SRI VRINTHA TRADERS



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