A simple technique of rearing brinjal shoot and fruit borer, *Leucinodes orbonalis*

Leucinodes orbonalis

Technology Description

A simple process of rearing *L. orbonalis* on potato tubers has been standardised. To initiate settling and sustained feeding, the tubers are being pre-treated with a combination of phagostimulants. The growth and development for all the stages of the insect was found better as compared to rearing on the brinjal fruits. Due to fruit rotting and frequent transfer of larvae to fresh brinjal fruits, the larval mortality and successful pupation rate were severely affected when reared on brinjal. It is considered as an enabling technology with minimum facility and high recovery of healthy larvae.

Background

Brinjal fruit and shoot borer, *Leucinodes orbonalis* Guenee is the key pest of brinjal in India and many other south East Asian Countries, inflicting sizeable damage. As a result of its feeding inside fruit, the fruits become unmarketable and yield losses up to 90 percent in case of unprotected cultivation. Rearing of *L. orbonalis* on brinjal fruits is tedious and fruit rotting is the major problem. The present invention simplified the rearing.

Benefits / Utility

Large scale screening brinjal germpalsm and toxicity screening of insecticidal molecules require large number of laboratory reared *L. orbonalis* larvae. The present technology offers the solution for large scale rearing of *L. orbonalis* larvae in a simplified manner. This technology already commercialized to one firm.

Scalability

With one kg of pre treated potato tubers up to 246 healthy larvae could be obtained.

Business and commercial potential

Large scale rearing of *L. orbonalis* larvae could be undertaken by private companies / Scientists / students working on germplasm screening and testing of insecticide molecules

Potato used for rearing
L. orbonalis

BSFB damaged brinjal

Economic analysis

Parameters	Potato tuber (One change)	Brinjal fruit (4-5 changes)
Total number of neonate larvae released per big sized potato tuber / brinjal with tender shoot	50	50
Number of late second instar larvae recovered from a batch	34 - 41	11 - 17
Number of larvae entering pupation in a batch	31 - 39	7 - 16

Possible recovery of second instar larvae from a kilogram of potato tubers	**204 - 246**
Rate per kg potato	**Rs 25/-**

Target Market / Customer

- Private companies / Scientists / students

Social impact of the technology

- Easy rearing of *L. orbonalis* larvae for large scale screening purpose.