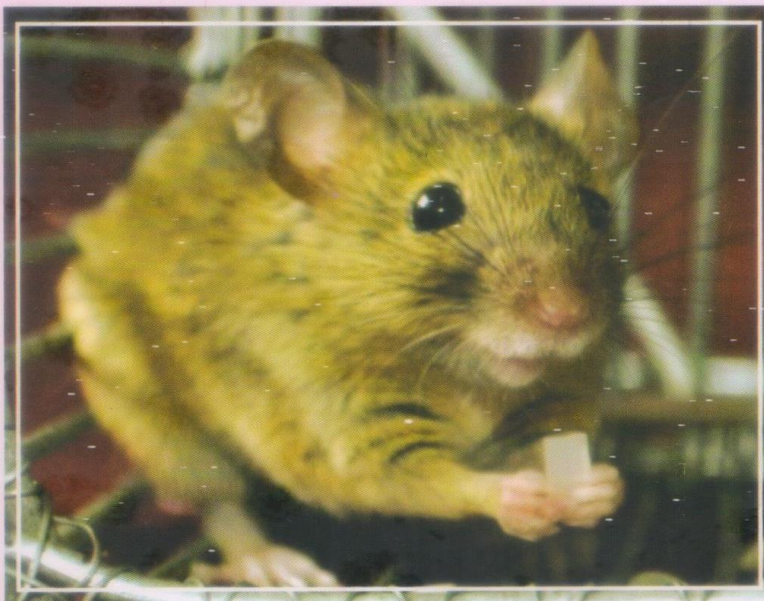


TSP - Biocontrol - Extension Folder - 03

Rodent Management in paddy fields and storage



*K. Sakthivel,
Ajanta Birah.
A.K. Tripathi,
R.K. Gautam,
P.K. Singh,
S.K. Zamir Ahmed,
and S. Dam Roy*

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ICAR—Central Inland Agricultural Research Institute

Post Box No. 181, Port Blair - 744101

Andaman and Nicobar Islands



Rodents belong to a very diverse group under the Class Mammalia which includes rats, gerbils, squirrels, porcupines, mice and mole rats. About 2000 species of rodents are known out of which only a limited number is regarded as pests in agricultural fields and storage worldwide. A total of 19 species of rodents were reported in Andaman and Nicobar Islands and in which only three species (*Rattus palmarum*, *R. stoicus* and *R. burrus*) are endemic. The impact of rodents is significant in terms of agriculture through crop and commodity loss and in public health.



Rodent infestation - Different symptoms in paddy field

Rice is the second most cultivable crop in Andaman and Nicobar Islands next to the plantation crops and occupies about 8100 ha of area. Rice is grown during Kharif season from the month of July to October. In last few years rodents were emerging as serious threat to rice cultivation and grain storage especially in North Andaman regions. An exotic species, lesser bandicoot rat or Indian mole rat (*Bandicota bengalensis*) was identified as major culprit in damaging rice fields and storage. The extent of damage ranges from 3.66% to 25% and in few cases more severe than common pest and disease problems.

How to identify rodent damage in paddy fields?

- Rodent damages rice crop in all the stages of crop growth.
- Severe infestation will be observed during milking and grain filling stage in paddy fields.
- Clear diagonal cut (45° angle) to the tillers about 5-10 cm above soil level are observed
- Live burrows can be seen in paddy fields along the bunds.



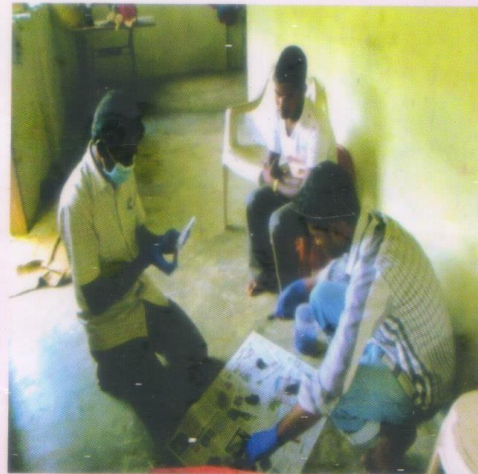
Rodent damage in paddy grain storage

Cultural management of Rodents in paddy fields

- Deep ploughing should be done at the time of land preparation to destroy hidden burrows.
- Bund size should be reduced at minimum possible level to avoid new burrow formations.
- Weed free cultivation can reduce the rodent infestations to certain level.
- Periodical trapping and killing of rodents in paddy fields using mechanical traps also avoid rodent menace.

Chemical management of Rodents in Paddy fields

- More useful in case of high rodent infestations.
- Bromodiolone cake 0.005% which is commonly available as Rat Kill can be placed in live burrows. In case of absence of live burrows, empty modified hollow cylindrical plastic water bottle (shown in figure) which resemble rodent burrows can be used.
- In severe infestations zinc phosphide method should be used with safety precautions. It involves two steps i.e., pre-baiting and poison baiting.



Safe preparation of poison bait

Pre-baiting:

- Baiting should be done 2-3 times without any poison to attract rodents and habituate the rodents towards bait.
- Here one kg of broken rice is mixed uniformly with 20 g of vegetable oil and packed in to small packets in newspaper and keep in live burrows.
- This step is to be repeated twice or thrice.

Poison baiting:

- This should be practiced after 2-3 times of pre baiting.
- Uniform mixing of 20g of zinc phosphide + 20 g vegetable oil + 960g of broken rice is used as poison bait.

Rodent management in storage:

- Maintenance of storage area clean and hygiene.
- Use of modern storage structures with cemented or metal base.
- During infestations, use of Bromodiolone cake 0.005% as mentioned earlier.

Precautions:

- Rodenticides are extremely toxic for humans and animals.
- Use separate containers for preparation of poison baits. Don't use household utensils.
- Keep poison away from the reach of children and domestic animals.
- Smoking, eating and drinking should be totally avoided while handling the rodenticides.
- Containers of the rodenticides should be opened in a well ventilated room. Unused baits, containers and dead rodents should be buried deep.
- Avoid washing poison contaminated hands in nearby farm ponds and water bodies.



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For more information, please contact:

The Director

ICAR–Central Island Agricultural Research Institute
Post Box No. 181, Port Blair – 744103
Andaman and Nicobar Islands
mail: directorcaripb@gmail.com

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