

Control of Wild Boar, Porcupine and Rats



Insertion of toxicant paste in culled poultry heads for wild boar control



A carcass of wild boar



Especially designed cartridge is being inserted inside the porcupine den



Fumigated porcupine den

Challenge

- Among vertebrate pests, wild boar, porcupine and rats pose serious threat to agricultural crops.
- Wild boar causes heavy losses to sugarcane, maize, sorghum, wheat and vegetable crops.
- They can even kill or injure humans when frightened.
- Porcupine is serious pest of forest plantations, vegetables, orchards and cause damage to irrigation systems.
- Rats cause 6-10% damage in rice, 20% in groundnut, 4-8% in wheat and 8% in sugarcane.
- Rats also inflict damage to the stored grains not only by directly consuming the grains but also by contaminating with their droppings, urine and hair.
- Main challenge was to develop economical and effective techniques for the control of these vertebrate pests.

Interventions

- Since 1990, PARC has developed **5** techniques for the management of rats, **3** for wild boars and **2** for porcupines.
- The technologies were tested at NARC and demonstrated at farm level.
- Pest control services are being provided to households, institutions, organizations, embassies, hospitals, etc.
- PARC also undertook capacity building by training the scientists, students and end-users.

Outcomes

Management of Wild Boar

- The new bait delivery method, using acute poisons, was found as the most economical and effective technology.
 - Mixing the toxicant (sodium monofluoroacetate, **1080** or sodium fluoroacetamide, **1081**) with animal fat/peanut butter and inserting (2-3 g paste) into the buckle cavity of the culled poultry head.
 - Placing the treated heads (1 or 2) under the soil at equal distances along the wild boar trails to protect non-target animals.
- Technology demonstrated at various sites proved successful for further uses.
- More than 1,000 scientists, students and end-users were trained in bait preparation and its delivery systems.

Management of Porcupine

- The most effective technology comprises of:
 - Filling a cartridge with 65% charcoal and 35% sodium nitrate
 - Affixing it at the end of steel pipe (140 cm in length and 3 cm in diameter), inserting inside the den and closing the den with soil
 - Igniting the fuse (wick) which passes throughout the length of the pipe with one end fixed inside the cartridge and the other end exposed at the upper end of the pipe, to liberate carbon mono oxide gas.



A carcass of porcupine



Newly designed PVC bait station for controlling rats

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- From 85 to 100% control of porcupine was achieved in forest plantations of Changa Manga (Kasur) & Pai (Nawabshah), range lands of Karlo Wala & Dagar Kotli, and vegetable growing areas around Quetta.
- More than 500 end-users were trained in bait preparation and their delivery systems.

Management of Rats

- Bait delivery systems made of 30 cm long, 8 cm diameter PVC pipe. In the middle of the pipe a 13 cm long and 4 cm deep pouch is placed.
 - This pouch is enough to carry 100 g of poison bait (Zinc-phosphide, coumatetralyl or brodifacoum mixed in grains). The rats feel comfortable and protected while consuming bait from the pouch
- From 80 to 90% control can be achieved in field crops, where weeds grow abundantly, making it difficult to locate the rodent burrows, and in buildings.
- More than 1500 end-users were trained in bait preparations and their delivery systems.

Way Forward

- Capacity building of the stake holders for more adoption of improved technologies
- Community based joint efforts to control these pests involving farmer's associations and NGOs