PHEROMONE TRAP

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INTRODUCTION

Chemical pesticides are a key component of agricultural insect pest management. However, there are drawbacks to pesticide use, including resistance building in pests and environmental pollution as well as contamination of produced agricultural yield. Pheromone trapping can offer resources for tracking target insects' movements and activities, providing data that can help with insect pest management. Sex pheromones are chemical signals sent by an organism that cause a member of the same species opposing sex to engage in sexual behaviour. The majority of sex pheromones are made by females and are employed as attractants to signal the presence of possible mates and the state of their reproductive organs. The term "sex pheromones" refers to both courtship pheromones, which cause a variety of close-range responses in the insect partner, and sex attractant pheromones, which cause upwind oriented motions to the conspecific individual.

The sex pheromones of insects are typically mixtures of two or more chemicals, and very rarely is one chemical, usually the major component, effective for luring conspecifics and facilitating mating. One of the most significant elements that endangers the efficiency of the produce in agricultural areas is insects. Because insects reproduce so rapidly, expenditures for biological insecticides account for a sizable amount of overall expenses. Using biotechnological methods, such as pheromone traps, rather than biological ones, more successful and intelligent pest control scenarios can be achieved by keeping track of the insects' reproductive stages. Pheromone traps are used to stop the huge reproduction since the male insects are drawn to them and unable to mate with the females.

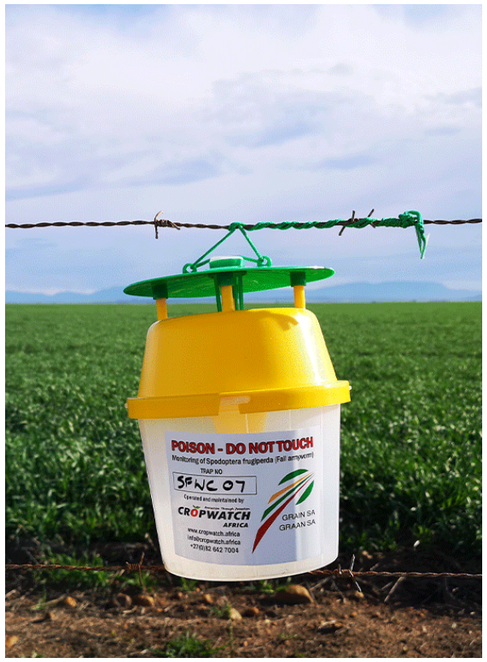
The primary drawback of pheromone traps is the high labour expense required to physically patrol the traps. Expert personnel who can distinguish between different insect species are needed for trap inspection. Along with the high labour expenses, the human element in the entire process causes many other issues, such as mistakes made when counting and recording the acquired data.

PROCEDURE FOR MAKING TRAPS AT HOME:

For preparation of general pheromone trap we need to take plastic bottle of capacity 3.5 litre, knife, detergent, water, glavanized utility wire, cotton thread, bamboo or wooden stake, sex pheromone components.

- Pick a plastic bottle and poke two holes on each side with a hot knife that have an equilateral triangle-shaped measurement to let flies inside. To hang the pheromone bait, insert the wire. The plastic bottle with soapy water to a depth of around 2 inches. A lure should be placed in the pheromone dispenser, or a wire or thread should be used to suspend the pheromone capsule from the lid. Apply the pheromones on cotton or sponge strips.
- Cotton strips are treated in a vacuum chamber then placed in sealed containers for 24 hours to dry.

PLACEMENT OF TRAPS IN FIELD:



Stake the trap with bamboo or wood, or hang it from a branch of a tree. If you are employing multiple pheromones, always identify the trap with the name of the species you are catching, the time the lure was set, and the name of the pheromone.

LIMITATIONS OF PHEROMONE TRAPS:

Although pheromone traps are very useful but there are some limitations associated with them, some of them are discussed below:

- ✓ Actual crop damage is not shown by trap catches. Due to the presence of caterpillars or grubs, traps cannot be used to determine the actual damage to crops. Only real crop reconnaissance can be conducted; traps cannot.
- ✓ Trap usage might call for training. Because there are certain handling and timing requirements for maximum effectiveness of these devices, proper deployment and service of traps may necessitate some training.
- ✓ For some growers, using many traps may be burdensome. It is advised that traps be duplicated throughout wide fields to detect spatial differences for greater accuracy. The direction of the invasion might also be determined by setting up pheromone traps at various points on the farm.

Step: 1 Making of holes in the bottle with the use of a screwdriver.

Step: 2 Cotton swab was sprayed with pheromone to act as a lure for pests.

Step: 3 Pheromone trap hung outside to trap the pests.

CONCLUSION

Pests can be captured in the field using a pheromone trap. Since it contains no chemicals, organic farming can use it without restriction. Any farmer may make it at home, and it is quite affordable. Therefore, this tool might be very useful for individuals who want to properly commit to organic farming and avoid using chemical pesticides to control pests.