CMR College of Engineering & Technology

(UGC Autonomous)

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Centre for Engineering Education Research (CEER)

ULTRASONIC WAVE REPELLENT USING NANOMATERIALS

1. Need Statement

Even though there are existing solutions to kill rodents either by mechanical, chemical and biological controls Still the problem of rodents and insects exists and it is because the existing solutions after a certain period of time get habituated to the rodents as in the case of pesticides and insecticides. So as to advance in eradicating the rodents, Our Innovation is on ultrasonic wave repellent using nanomaterials.

2. Root Cause of the Problem

The root cause of the problem is that the nature, behavior and ecological adaptation of rodents became major factors for their wide distribution and enormous population. Rodents can survive without water for 3 days and can feed over the crops for several days absorbing the water from the soil and making the yielding to decrease by 31%.

3. Existing Solutions

Mechanical controls like Snap traps, Electric traps

Chemical controls like zinc phosphide, barium carbonate

Biological controls like owls,foxes and wild cat

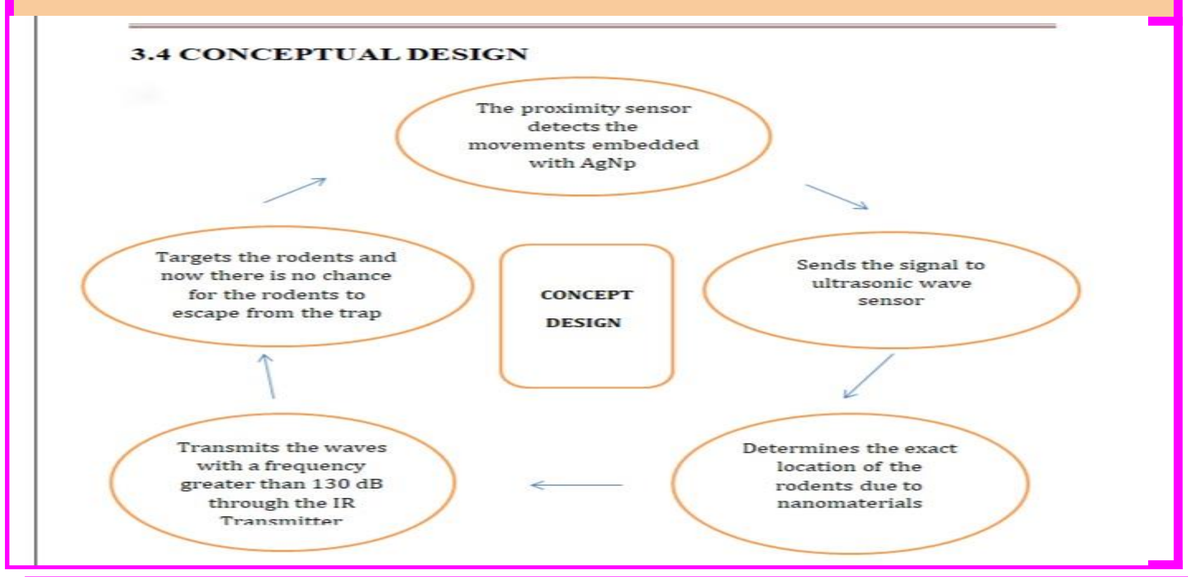
4. Gaps in the Existing Solutions

1. The existing solutions cannot be placed in agricultural lands as it will also affect the productivity of crops

5. Proposed Soluation

- Using proximity sensor enabled with AgNp makes the sensor detect the rodents with precise location and thereby sending a signal to ultrasonic waves sensor which further exhibits the waves through IR transmitter and the rodents have no chance to escape and bound to fall into the trap

6. Concept Design



7. Pictures with Stakeholders

Team Details

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