



A WSN-Based Insect Monitoring and Pest Control System Through Behavior Analysis Using Artificial Neural Network

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Abstract

Insect Monitoring includes collecting information about insect activity with the help of using traps and lures. Many different types of traps are used and they can be divided into the following types - Light traps, Sticky Traps and Pheromone Traps. After trapping the insect, the next step involves monitoring tools to monitor the further behavior of insects. Monitoring includes checking of crop fields for early detection of pests and identification of pests. Identification helps in finding which are the best naturally occurring control agents and assessing the efficiency of pest control actions that already have been taken. The main purpose of this paper is to design the insect monitoring system is to assess insect activity and gain population estimates so we can deploy a solution that will be most effective at protecting our crops. This system involves the use of traps and lures to get information on insect activity. Traps are strategically placed throughout the crop and include natural semi-chemical attractants to draw insects into the traps.


Article Preview

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Introduction

WSN has been proved worth in almost every sector of work, such as health monitoring, environment sensing, traffic controlling, agricultural sectors, etc. In health monitoring, it is used for examining patients remotely. In the environment, sensors have been used for collecting data about air pollution, water pollution, water level, air humidity, etc. (Rashid & Chawla, 2015). It has been used for measuring various parameters in the greenhouse, such as light, humidity, temperature, soil moisture, insect monitoring, etc.

Figure 1. Sensor Nodes for Multi-Hop

 [IJSESD.290310.f01\(https://igiprodst.blob.core.windows.net:443/source-content/9781683181989_278089/IJSESD.290310.f01.png?sv=2015-12-11&sr=c&sig=OsiHLeYtO84iLtELvOyx4jeo2qmAfAyxq8NKwSoQ4DY%3D&se=2021-11-30T11%3A28%3A30Z&sp=r\)](https://igiprodst.blob.core.windows.net:443/source-content/9781683181989_278089/IJSESD.290310.f01.png?sv=2015-12-11&sr=c&sig=OsiHLeYtO84iLtELvOyx4jeo2qmAfAyxq8NKwSoQ4DY%3D&se=2021-11-30T11%3A28%3A30Z&sp=r)