

Thermal imaging for pests detecting-a review

ABSTRACT

Thermal remote sensing technology (thermography) is a non-destructive technique used to determine thermal properties of any objects of interest. The principle of thermal remote sensing is the invisible radiation patterns of objects converted into visible images and these images are called thermal images. These images can be acquired using portable, handheld or thermal sensors that are coupled with optical systems mounted on an airplane or satellite. This technology has grown into an important technology that is applied directly or indirectly in many applications such as civil engineering and industrial maintenance, etc. The potential use of thermal remote sensing in agriculture includes nursery and greenhouse monitoring, irrigation scheduling, plant disease detection, estimating fruit yield, evaluating the maturity of fruits and bruise detection in fruits and vegetables. However, in recent years, the usage of thermal imaging is gaining popularity in pest detection due to the reductions in the cost of the equipment and simple operating procedure. The purpose of this paper is two parts, the first part discusses about thermal remote sensing system while the second part epitomize various studies conducted on the potential application of thermal imaging system in pest detection.

Keyword: Thermal remote sensing; Thermal imaging; Pest detection