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Solar Power Light Trap

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Abstract
This research to showing the performance of an eco-friendly solar light trap to reduce the insect population as well as to minimize the use of harmful chemical pesticides and showing the benefits of solar powered trap. Solar powered trap is eco friendly, low cost, easy and self term of solar energy

Keywords: Solar radiation, insects, eco-friendly, solar light trap.

Introduction
The alternative power source (eg.solar) need to introduce the field of crops which is renewable and obtained from nature with no cost to utilize the energy for control the population of insect without using any pesticides and insecticides. The solar light trap didn't depends on any other power source which is makes the light trap more acceptable than others types light trap the use of chemical pesticides need to stop. To introduce that could helps farmer to reduce the use of chemicals.

Assumptions
Light trapping projects assume that the target night flying insect species are trappable(many night flying insects do not comes to any sort of lights)

Performance of solar panel
The variation of solar intensity with power current voltage corresponding to the time was recorded in 10 consecutive days from April to May 2017at FMPHT division shows the monthly average frequency of solar radiation and power with increasing the radiation. Solar powered light trap used in many crop field and dominant insects pest such as yellow stem borer(YSB), green leafhopper (GLH), white leaf hopper (WLH), leaf folder (LF) etc. Which were found in light trap according to research the findings largest number of pest and insects we're trapped in the month of May solar light will be a promising technology in crop field in term of pest control management.

Advantages
(1) components of solar light traps are easily obtained.
(2) it is best method to study insects and helps in IPM.
(3) helps to produce healthy food
(4) portable in nature.
(5) no electricity and man power required to run the device.
(6) easily repeatable.

(7) portability of light traps.
(8) cost effective in term of labour and skills required.

Disadvantages

(1) required in higher numbers of solar light trap for a field.
(2) not cent percent effective.
(3) requires a bit of investment once for marginal farmer.

Components of solar insect trap

- Photovoltaic panel (solar panel)
- Sealed lead acid battery /lithium ion battery
  (A) lead acid battery.
  (B) lithium ion battery.
- Relay circuit.
- LED ultraviolet light.
- Charge controller.
- Switch on/of
- Bulb holding funnel.
- Insect collecting container.
- Battery box.
- Three leg support frame.

Conclusion

Insect trap with solar power is a very important device for insect management in a crop field. Apart from saving costs of farmer for insect and pest management this method pest control it required less maintenance without any depended source like electricity. We can also separately kill harmful insects and save beneficial insects with various techniques. Government must support small and marginal farmers either economically with the product itself showing its advantages and disadvantages.

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