

(54) Title of the invention : DESIGN OF NOVEL ELECTROSTATIC SPRAY MACHINE FOR KILLING LOCUST

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(57) Abstract :

ABSTRACT Design of machine for killing locust by spraying pesticide is focused in this invention. Efficiency for large area is increased by applying the theory of electrostatic spray in machine design. Results of spraying are improved by electrostatic inductive sprayer for killing locust. Performance is improved for the inductive based electrostatic sprayer which is evaluated for testing purpose. Results from testing prove that the ratio of charge to mass attains 0.962 mc/Kg at a electrostatic voltage of 20 KV at a working pressure of 0.29-0.39 MPa. Concentration of distribution of particle size is higher for charged droplets compared to that of droplets that are uncharged. Also the charged droplets have fast axial velocity compared to that of uncharged droplets along with improvement in uniformity in distribution of velocity. Deposition rate is 15% greater for charged droplets than uncharged droplets where the deposition of pesticide is obvious behind leaves.

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