



Small Tractor Operated EPN Applicator for Sugarcane White Grub Management

Utility

Majority of the farmers do the spot application of entomopathogenic nematodes (EPN) to control white grub, manually. Manual application method of EPN application involve more drudgery and results in non-uniform application of EPN solution in sugarcane root zone. The developed small tractor operated EPN



applicator consists of main frame, tank holding assembly, agitator, water pump, furrow opener and standard three-point hitch. A 150-liter tank is placed to carry the EPN solution. The tank consists of agitator and two EPN solution outlet flexible tubes. The agitator shaft is operated by 12 V high torque DC motor. The speed of the agitator shaft and discharge rate can be adjusted by using control units. The agitator provides continuous agitation of EPN solution and avoid suspension of particles so that it results in uniform delivery of the EPN. Pumping of EPN solution is done by two numbers of 4.0 LPM / 12v DC water sprayer motor diaphragm pump and it is powered by 12 V Battery.

Specifications & Performance results		
Power source, kW Small tractor	:	13.42 – 17.89
No. of row	:	2
Row to row spacing adjustment, m	:	1.07 – 1.37
Pump type	:	Diaphragm pump
Furrow opener	:	2 no
Water tank capacity, lit	:	150
Field capacity, ha/h	:	0.18
Cost of operation, Rs/ha	:	2,550/-

Benefits over conventional/traditional practices

- Eliminates drudgery in EPN spot application operation
- Higher capacity compared to manual method

Design: ICAR-CIAE, RC and ICAR-SBI, Coimbatore

Commercialization Status: Ready for commercialization

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