

Bicycle Sprayer

Innovator	Address	Contact Details
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Problem addressed:

Spraying of agrochemicals in the field is a tedious and laborious task. The conventional knapsack sprayers available in the market require manual labor to operate, which is difficult to find due to movement of farm laborers toward cities. The small farmers cannot afford to buy the power operated sprayer or tractor-mounted sprayers available in the market, as these are very costly and are of not much use to small farmers due to small land holdings.

Product:

Mansukhbhai Jagani, a farmer cum artisan with a passion for mechanical innovations developed a bicycle operated sprayer, which is very efficient and affordable by the farmers. There is an attachment, which essentially uses the circular motions of the cycle sprocket to move the piston of the spray pump which generates pressure to spray the pesticides. The front and rear sprockets of a rejected bicycle are interchanged and the small sprocket is connected to the piston pump, so as the circular motion is converted to reciprocating motion of the piston which is used to spray pesticides on the field.



Technical Specifications

- Span of use - approximately 3.5 feet from user (either side)
- Capacity of tank: 25 to 30 liter
- It can cover 4 acres area in 3 hrs

Key Competitive Advantage:

- Instead of manual strokes in case of Knapsack sprayers, one has to drag the bicycle to operate the pump.
- Energy and ergonomically efficient, therefore increases labor productivity.
- It has adjustable height and width of the spraying boom.
- More versatile in terms of maneuverability as compared to power sprayers.
- The sprayer can be disengaged and the cycle can be used for regular transportation by interchanging the sprockets

Time to deliver:

20 days



Price :	Total Rs.6000/- (cost of attachment) + actual cost of packaging and transportation.
Achievements:	Innovator has been awarded by National Innovation Foundation and also supported under MVIF scheme of NIF.
IPR Status:	Indian patent granted (No: 198540)
BD website link:	http://nif.org.in/innovation/bicycle_sprayer/599
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