

## Solar-powered sprayer that solves many problems

*Once charged during the night it can be operated for nearly eight hours*



Viable alternative: David demonstrating to farmers the use of the solar sprayer

One need not be a genius to develop any commonly used devices. Take the case of the humble yet important knapsack manual sprayer (hung on the shoulders).

Though many models are available on the shelves, priced at different rates, most of them last for only a few years.

“Regularly filling them with water, pesticides and fuel (in case of fuel operated ones) makes it difficult to lift and hang them on the shoulder. After an hour of spraying, the weight of the machine creates a backache and shoulder pain for farmers,” says Mr. David Raja Beleau, Assistant Director of Horticulture Kadayam, Tamil Nadu, who developed a solar powered battery operated sprayer for farmers.

### Big effort

In the commonly available ones, the user needs to exert a lot of effort to push the lever up and down to create the pressure to spray.

Sometimes when the pressure becomes uneven, the nozzle gets blocked and the farmer has to spend time to rectify it.

“Being a farmer and working among them for long years, I decided to make some alterations in the existing design and fitted solar panels and a battery unit to it,” says Mr. David.

An electric motor operated by a 12 volt 7 Amp rechargeable battery, powers the sprayer which has a capacity of 16 litres.

Once charged during the night, it can be operated for nearly eight hours and there is no need for petrol or any other fuel to operate the device.

While spraying in the field, the battery can be further charged by switching on the solar power system attached to the sprayer.

The solar panel is attached to a helmet and connected to the battery.

### **Minimizes drudgery**

“The sprayer not only minimizes the drudgery of the work but is also more effective than the conventional ones.

“Since villages still get electricity for a short time, that too during odd hours, this solar sprayer just might be the answer,” explains Mr. David.

The solar power system in the sprayer can also facilitate lighting of ‘wireless light traps’ that control insect pests and reduces the number of insecticide sprays by fifty per cent, cutting the cost of cultivation for the farmer.

This reduces pesticide residue in the products thereby improving the quality of the products. The light traps can also control mosquitoes effectively .

While demonstrating to the farmers in Tirunelveli a farm labourer who gets hired by others for spraying said that it was just the equipment he dreamt of when the cost of fuel was increasing everyday.

A woman farmer who bought the sprayer said 'It is easy for me to carry the load on my back and spray easily on my jasmine crops.

### **Seems like a boon**

Another farmer from Kolli hills who came to see the demonstration of the device remarked that, "in a remote area like ours power failures are common occurrence. This device seems to be a boon for us."

"That the idea of converting existing battery powered knapsack equipment into solar powered one emerged because villages still did not have enough electricity to either run the sprayers or to charge the batteries for any single spraying operation. The solar power system is priced at Rs. 3,500. Farmers can buy it and fit to the existing devices they use," says Mr. David.

Those who are interested can contact Mr.David Assistant Director of Horticulture Kadayam through his mobile number 9486285704 or [microeconomicsdavid@yahoo.co.in](mailto:microeconomicsdavid@yahoo.co.in)

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