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Sprinkling water using Chandrababha rain gun



The system can irrigate an acre in about one and half hours

Novel irrigation: Annasaheb with his rain gun. Photo: Special Arrangement

Unlike the knowledge and awareness of the present day, about 25 years ago farmers never knew the effectiveness of water conservation and the need for preserving groundwater by using tubes and buckets for irrigating their crops.

But in that phase, Annasaheb Udagavi, from Sadala village of Chikkoditaluka in Belgaun district, North Karnataka, developed a sprinkler system that covers as much as 140 feet radius to irrigate sugarcane crops.

“To save my betel-vine orchard from acute scarcity of water, I fitted PVC pipes used in electrical fittings, after making perforations using nails. I spent Rs. 30,000 to cover two acres of betel-vine two decades ago for irrigation,” he says.

Poor prices By irrigating it for an hour every day, he successfully maintained the orchard for seven years.

But poor prices for betel leaf and labour problems made him switch to other crops.

He then started cultivating tobacco for a few years and changed over again to sugarcane for better returns.

“But the irrigation problem continued,” he says. “Salinity and difficulty in irrigating the dense crop made me search for an alternative. And then the sprinkler irrigation system started taking shape.”

According to Mr. Annasahib, washing down aphids and white flies using a high-pressure water spray is the best method to save crops from pests. By studying the conventional sprinkler irrigation system, the farmer designed a new one to suit the sugarcane crop.

Further improvement

After installing it in the field, he further improved the design by providing a groove for nozzles of different sizes to shoot water to different lengths according to the need.

Further, he introduced a locking system to prevent the sprinkler head from throwing water into neighbouring fields and named it Chandraprabha.

“Two ‘Chandraprabha rain gun’ sprinkler heads are enough to irrigate an acre of sugarcane.

“The cost of one sprinkler head is priced at Rs. 3,500 and the per acre installation cost comes to Rs. 15,000 inclusive of the installation of three inch PVC main pipeline and riser pipe,” he explains.

It can irrigate an acre in about one and half hours.

Since the system is made using a three inch pipe and a wide nozzle, even composts such as biogas slurry can be applied to the crop through it. It does not even need additional

pipelines because of its large coverage, according to him.

Three in one

Mr. Annasaheb also designed a machine to plant, apply manure, and stubble shave sugarcane crops.

“Manual methods of operations such as planting, applying manure, and stubble shaving takes about 30-35 man-days/hectare/day for each operation. Tractor drawn rotovators in the market did not give a shaving effect on the ratoon crop and manual cutting failed,” he explains.

The output of the machine is 0.4 hectare/hour and can apply about 105 kg of fertilizer in the same time. The height of the stubble shaving can be adjusted upto two inches from the ground using a nut-bolt arrangement on the side.

Cost

It requires one person to operate it and consumes less diesel, thereby reducing operational costs, emissions, and pollution.

The current model costs Rs 40,000, according to Mr. Annasaheb. The innovator filed a patent for this innovation and is using it for many years.

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