

Title of the Innovation: “Chandrprabha” Multipurpose Device

Innovation Ref No: 43KN 04A0155

Innovator Profile:

A	Name	Mr. Annasaheb Bavu Udgavi ¹
B	Postal address	Pattan Modu Thotta, Sadhalga (Post) Chikkodi Taluk, Belgaum District, Karnataka Ph. No: 08338-251676 / 09342212732
C	Profession	Agriculturist
D	Educational Status	Matriculate
E	Gender and Age	Male 65
F	Biography/Background	The innovator has more interested in making new agricultural equipments for own use, which led him to make all his successful innovations in farm equipments. He received the state award for the high yielding (110 ton/acre) of “Gangavathi-6081” sugarcane by University of Agricultural Sciences, Dharwad during the year 2001-20002.

Scout: PRITVI, Bangalore

Summary:

The innovator has found difficulty in getting the farm worker in his area particularly in peak season. The manual methods of operations like planting, applying manure and stubble shaving takes about 30-35 man-days/ha/day for each operations. He found the tractor drawn rotovators available in the market would not give the shaving effect of the sugarcane ratoon and the manual cutting will also not in uniform height. Hence thought of making alternative equipment, which can do all kind of operations especially in sugarcane cultivation. This equipment can perform three operations simultaneously like fertilizer drilling, forming ridges and furrows and stubble shaving. It can cover about 1 acre/ hour and it applies 105 kg of fertilizer per hour. The height stubble shaving can be adjusted up to 2 inches above the ground level by adjusting the bolt nuts provided at the side of shaver. The total cost of the machine is about Rs. 40,000/-

Claims: It does three operations like stubble shaving, fertilizer application and earthing up simultaneously. It can cover 1 acre / hour for all operations.

Photograph:



¹Context:

Mr. Annasaheb Bavu Udgavi was awarded consolation prize for Chandrapraba Water Gun (Rain Gun) during First National Grassroots technological Innovation and Traditional Knowledge Awards - 2001.

Innovation Details

1	Category	Agricultural Machinery
2	Detailed Description	The tractor operated multipurpose device consists roto-slasher size of 5 ½ feet x 5 feet x 9 Inch (L x W x H) and a fertilizer seed drill unit with two numbers of fertilizer boxes of 25 kg capacity each is fitted over the roto-slasher. The fertilizer drill consists of two sets of (3 numbers each) furrow openers with seed tubes. The furrow openers are provided with 2 feet spacing at right side and 2 feet spacing in left side. The middle portion of the drill is provided with 35 cm diameter ground wheel to drive the fluted roller mechanism in the fertilizer drill. The tractor operated ridger plough can also be mounted in the same frame by removing the fertilizer drill. This multipurpose device can be hinged through tractor three-point linkage and the tractor PTO (540 rpm) power is connected to the roto-slasher through bevel gearbox. This equipment can perform three operations namely fertilizer drilling and forming ridges and furrows. The field capacity of equipment is about 1 acre/ hour and it applies 105 kg of fertilizer per hour. The height stubble shaving can be adjusted up to 2 inches above the ground level by replacing the bolt nuts provided at the side of shaver. The total cost of the machine is about Rs. 40,000/
3	Keywords	Tractor drawn multipurpose frame, sugarcane multipurpose equipment, stubble shaving, roto-slasher, stubble cutter

Evaluation of Entry

1	Novelty of the innovation, feature or subsystem	Novelty lies in the arrangement of stubble shaver with fertilizer seed drill and ridger plough to make continues operation of stubble shaving, fertilizer drilling and soil covering mechanized sugarcane farming.
2	Comparison with currently available conventional alternatives – a) In functioning, b) In cost, and c) Elimination/ Minimizing of drudgery	<p>The existing tractor drawn multipurpose devices can perform planting, fertilizer drilling and earthing up for sugarcane cultivation but none of the multipurpose machine has the option of stubble shaving operation.</p> <p>The cost of the proposed innovation is Rs.40, 000/- whereas the other multipurpose devices are about Rs.25, 000/- that doesn't have stubble shaving operations.</p> <p>It helps in complete mechanization of sugarcane cultivation.</p>

3	Encouragement needed: a) Current limitations or demerits b) Areas requiring further developmental Work	Soil aeration and fine tilth cannot be achieved Nil
4	Commercialization – a) Status of Commercialization. (Manufactured/sold/ Used locally?) b) Potential for diffusion	Nil It has potential in marginal and large level sugarcane farmers to save the labour cost and time.
5	Current and future application areas (multiplicity of utility)	It can perform fertilizer drilling, stubble shaving and soil covering.
6	Social /environmental impact	It will more helpful for sugarcane cultivating farmer
7	Significance to women, handicapped and other marginalized sections	Not applicable
8	IPR considerations	
9	Reviewers' comments	