

## Design, develop and testing of six –row manually operated virendra paddy drum seeder in partially reclaimed soil of district Unnao, Uttar Pradesh

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■ **ABSTRACT** : A six row paddy drum seeder was designed developed and tested at the farm of Krishivigyan Kendra, Dhaura, Hasanganj, unnao and at farmer's field under on farm trials (OFT) during the year 2009-2010 and 2010-2011. The aims of designing this machine were to solve the shortage of labour during peak period of transplanting and the proliferation of farm mechanization in partially reclaimed soil. During testing, three trials T<sub>1</sub>(Transplanting of 25 days nursery in puddle field)T<sub>2</sub>(Broadcasting of germinated paddy in puddle field)and T<sub>3</sub> (Line sowing of germinated paddy by paddy drum seeder in puddle field) were conducted. The machine was operated by single man in puddle field with 1-2cm of standing water for making line clearly. During trial the machine was found to be easy in operation and sharp turning. After testing the machine was found to be success in solving labour shortage during peak period of transplanting. It saved 62 per cent and 61 per cent labour in comparison to transplanting and broadcasting respectively. The net income of line sowing was found to be 16.04 per cent and 19.22 per cent more in comparison to transplanting and broadcasting methods, respectively. The cost of cultivation of line sowing was found to be 32.12 per cent and 33.44 per cent less in comparison to transplanting and broadcasting methods, respectively. Thus, in all respect this technology was found to be best.

■ **KEY WORDS** : Virendra paddy drum seeder, Reclaimed soil

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**D**istrict Unnao comes under waterlogged areas. Due to late transplanting the excess rain water damaged lot of crops every year. Due to late transplanting, crop ripens later and also affect the timely sowing of the wheat crop. Due to late sowing of wheat not only reduction in production but also the farmers become unable to take third crop (*Zaid* crop).

Human power is an important source for operating small implements and tools. An average man can develop maximum power of about 75 watts which is equivalent to about 0.1 horse power. Its availability is easy but costliest power compared to all other forms of power. Now days the Mahatma Gandhi National Rural Employment Guaranteed (MNREGA) scheme make the labour scarcity and costliest source of power in agriculture. Seeing the problem of labour scarcity, one has to adopt the paddy drum seeder for timely completion of the paddy crop sowing. A six row paddy drum seeder has been developed by krishi Vigyan Kendra, Dhaura, Hasanganj, Unnao, Uttar Pradesh for the purpose of solving labour problem among farmers (Fig.A and B).

This machine was designed with material easy availability in local markets near Krishi Vigyan Kendra named Mohan.

There are many advantages in use of seeders. Reduce the application of chemical herbicides by protecting environment and increased yield from 10-15 per cent are some of the benefits of seeder weeder combination (Bhandara)

The labour scarcity for transplanting led to use of drum seeders for direct sown paddy in Trichy district. The farmers shown greater interest in adopting direct paddy seeding technology due to shortage of labours during peak season. The 8 row paddy seeder developed by TNAU was demonstrated in E. vellanur of Lalguditaluk for direct sowing paddy in 25 acres in *Kharif* season of 2006-07. Based upon their experiences, the farmers have themselves fabricated 5 numbers of paddy drum seeder replica of TNAU model in local workshop for their own use.

Seeing all above advantages idea came in mind to design, develop a six row paddy drum seeder for direct seeding of germinated paddy.