

# **SUCCESS STORIES**

## **Impact of Frontline Demonstrations On Farm Mechanization in Haryana**

Tractor operated Post hole digger



All India Coordinated Research Project on  
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**Central Institute of Agricultural Engineering**  
Nabi Bagh, Berasia Road, Bhopal – 462 038, India

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Investigators : **N K Bansal and S Mukesh**  
Department of Farm Machinery & Power  
Engineering, CCS HAU, Hisar

Compilation and editing : **Dr. Surendra Singh**  
Project Coordinator (FIM)  
CIAE Bhopal

Editorial Assistance	:	Er. YS Bhokardankar Er. G S Chouhan
Word Processing	:	Sh. NG Bhandarkar Sh. R K Hadau
Proof Reading	:	Er. YS Bhokardankar
Reprography	:	Sh. RS Kushwaha

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## 10. Tractor Operated Post hole Digger

Under the liberalized global market regime, the horticultural exports have a good potential in our country. The need of hour is to bring more area under orchards and raise productivity and profitability of horticultural crops. It is quite essential to promote the use of proper horticultural implements like post hole digger (Fig. 10.1)



**Fig. 10.1: A view of post hole digger in operation at farmer's fields.**

The front line demonstrations of tractor operated post hole digger was taken up during the year 2002 and 2003 in Fatehabad and Hisar districts and 1360 and 1383 pits were dug at farmer's fields respectively. There were some operational problems in the machine. Necessary modifications in the cutting portion of the auger were carried out. About 6050 pits of size 90 cm deep and 45 cm wide were dug for planting of Jatropha, Aonla, Jamun and Agro-forestry plants in year 2004 and 6500 pits were dug in year 2005 for planting of Jatropha, Aonla, Jamun and Agro-forestry plants in village Shahbad (Kurukshetra), Agroha (Hisar), Daulatpur (Hisar), Baheri (Hisar) and Dobi (Hisar). During the year 2006-07, 4845 pits were dug at farmer's fields in village Sandol, Kalawash, Dobi, Daulatpur, Dhingtana of district Hisar for horticultural plantation with the post hole digger. During the year 2007-08, the front line demonstrations of tractor operated post hole digger was taken up and 14210 pits were dug at farmer's fields in village Kuleri, Kalawash, Dobi, Aryan agar, Siswala, Kaharia, Dhingtana, Nangthala, Balsmand, Agroha, Mirzapur, Mayar of district Hisar and Khabra of district Fatehabad for horticultural plantation.

There is a big demand of post hole digger and have good scope for its adoption in Haryana on custom hiring. Its field capacity was 0.2 ha/h (225-250 pits per ha). The cost of machine is ₹ 60,000. Its pay back period is one year, if a farmer dug pits in an area of 20 ha. The Machine is simple quite easy to operate and has very high output capacity besides timeliness planting and considerable saving of manual labour, time and money. Its cost of operation was ₹ 1250 per ha. There is net saving of ₹ 2500 per ha and a farmer can save ₹ 50,000 with one machine in one year. The benefit cost ratio is 3 (Table 10.1). The farmers and unemployed youth were motivated to buy post hole digger and 125 post hole digger in year 2006-07 were purchased. There is 50% subsidy on this machine from the Department of Horticulture. The farmers are also using this machine on custom hiring. The rate of custom hiring was ₹ 15 per pit.

**Table 10.1: Performance and Economics of Post hole digger.**

S. No.	Parameters	Values
1.	Field capacity <ul style="list-style-type: none"> <li>• No. of pits of 45-60 cm diameter and 90 cm deep /h</li> <li>• Pits per ha</li> <li>• Area, ha/day</li> </ul>	<ul style="list-style-type: none"> <li>• 40-50</li> <li>• 250</li> <li>• 0.2</li> </ul>
2.	Power source	35 hp tractor
3.	Cost of operation of machine ₹/ h ₹/ ha	250 1250
4.	Cost of operation with manual method, ₹/ ha	3750
5.	Saving in cost of operation over control, ₹/ ha	2500
6.	Custom hiring charges ₹/pit ₹/ha	15 3750
7.	Saving, ₹/ha	2500
8.	Benefit-cost ratio	3
9.	Labour requirements with manual method, man-days/ha	25
10.	Labour requirements with machine, man-days/ha	1.25
11.	Cost of machine, ₹	60,000
12.	Command area of one machine in one year, ha	20
13.	Net benefit ( @ ₹ 2500/ ha) in one year with one machine, ₹	50,000
14.	Pay back period, year	One year

**Feedback from Farmers:**

- Machine is simple quite easy to operate and good output
- Timeliness in planting and saves considerable manual labour, time and money
- In hard soil, water is needed for digging pits
- Frequent replacement of cutting bit of auger is needed after 90-100 holes depending upon soil and other conditions
- Pits should not be dug in dry soil.

**List of post hole manufactures**

Refer Appendix 'A' {S. No. 4, 14, 43, 48, 89, 90}