

## Tractor Operated Mole Plough for Pipeless Drainage in Vertisols

### Utility

It is used for making pipe less drainage channels in the soil, 500-600 mm below the soil surface, at 6 m lateral distance between the two successive channels. Drainage channels facilitate Improved soil health and provides better environment for the crops to grow and less chances of weed infestation and associated soil degradation problems. Kharifcrop yields increased upto 50% over control. Due to improvement of soil physical properties, the rabi crop yields were also increased by 13-15%.



Specifications & Performance results		
Power source	:	55 kW Tractor
Weight, kg	:	70
Foot diameter, mm	:	75
Expander diameter, mm	:	85
Desired Soil Moisture at moling depth, %	:	26-28% (dwb)
Clay content, %	:	> 40 at moling depth
Cost of equipment, Rs.	:	15,000
Moling depth, mm	:	500-600
Speed of operation, km/h	:	<1
Field capacity, ha/h	:	0.24
Draft, N	:	30000
Cost of operation, Rs./ha	:	3500-4000 (spaced at 4 m)

### Benefits over conventional/traditional practices

- It saves about 90 per cent of time over conventional practices of surface drain construction.
- Saves about 60 per cent of labour cost.
- Life of mole drains is over 5 years, whereas surface drains are to be constructed every season.
- Labour requirement for weeding reduces by over 50 per cent, hence reduced input cost.

**Design:** ICAR-CIAE, Bhopal

**Commercialization Status:** Commercialized

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