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# *Mini Tractor - Multiple Roles in Sugarcane Farming*

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## **ABSTRACT**

Hand weeding, earthing up, detrashing and propping are the special field operations required for sugarcane production hence its cultivation is a labour consuming and expensive. Mini tractor attached with rotoweeder is highly efficient in removing weeds. Besides weeding mini tractor can also do Earthing up which is very much important field operation indirectly manage the weeds and insects and strength the plant form from lodging during its maturity phase. By using mini tractor on field operations like weeding and earthing up totally we can reduce the cost to Rs. 30,200/ha. Besides this mini tractor attached with rotovator can also shred the sugarcane trashes after harvest for ratooning, instead the farmers practice of burning.

Sugarcane is one of the most important commercial crop of sugarcane cultivated for sugar in an area of 0.35 mha and a production of 35 mt with a productivity of 100t/ha in Tamil Nadu. Sugarcane is one of the crops which needs more care and inturn require more field operations for its growth and development. More labours are required for its cultivation during its crop growth period. Hand weeding, earthing up, detrashing and propping are the special field operations required for sugarcane production. Earthing up is the important field operation done for reducing lodging and pest like borers and white grubs in sugarcane. During the crop growth period to reduce the weed pressure 4 weedings has to be done at 30 days interval up to 120 DAP, which is the critical crop weed competition period for sugarcane. Atrazine was sprayed at 1k/ha on 3 DAP and which will be active for

**21 days in reducing the weed emergence. Either a POE or hand weeding has to be done to arrest the weed growth. The choice of POE is narrow only limited selective herbicides are available to kill emerging weeds.**

**WEEDING**

Mini tractor attached with roto weeder is highly efficient in removing weeds. Wider row spacing and slow initial growth invites more weed growth and the crop can able to suppress the weeds only after 120 DAP. Hence the mini tractor weeding combine with interplant hand weeding (Line weeding) can easily be done and the economics is given below.

**COST ON WEEDING USING DIFFERENT METHODS**

<b>Mini tractor weeding</b>	<b>No of labourers</b>	<b>/ one time</b>	<b>/4 weedings</b>
		Rs.	Rs.
Line weeding in between plants @Rs 440/labour	10	4400	17600
Mini tractor weeding		3000	12000
		<b>Total</b>	<b>Rs. 29600/-</b>
Hand weeding	30	13200	52,800
		<b>Total</b>	<b>Rs. 52,800/-</b>
		<b>Saving</b>	<b>Rs. 23,200/-</b>

Line weeding is necessary for controlling weeds effectively and with efficiency of 90-95%.

**EARTHING UP**

Besides weeding mini tractor can also do earthing up which is very much important field operation indirectly manage the weeds and insects and strength the plant form from lodging during its later growth period.



**COST ON EARTHING UP USING DIFFERENT METHODS**

<b>Mini tractor – Earthing up</b>	<b>No of labourers</b>	<b>Rs.</b>
Mini tractor Earthing up	-	3000
	Total	Rs. 3000/-
Manual Earthing up @500/labour	20	10,000
	Total	Rs. 10,000/-
	Saving	Rs. 7000/-

**TOTAL SAVINGS DUE TO MINI TRACTOR IN SUGARCANE**

<b>Operations</b>	<b>No of labourers saved</b>	<b>Saving in Rs.</b>
Mini tractor – weeding	80	23200
Mini tractor Earthing up	20	7000
Total savings (Rs. )	100	30,200

By using mini tractor on field operations like weeding and earthing up totally we can reduce the cost to Rs. 30,200/ha.

**CONCLUSION**

Hand weeding and Earthing up are the operations done by mini tractor in sugarcane which reduced the labour use of nearly 100 numbers per ha. By using mini tractor on field operations like weeding and earthing up totally we can reduce the cost to Rs. 30,200/ha. Besides this mini tractor attached with rotovator can also shred the sugarcane trashes after harvest for ratooning, where the farmers practice is burning.