

## **Cycle weeder-handy for the small farmer**

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### **Introduction**

Weed is the biggest problem in the crop production. In the recent years, based on the data estimated about 30% of the yield loss is due to weeds. These weeds will remove nearly 25% to 60% of nutrients from the soil which is not available to the crop in turn reduces yield and quality of the crop. Weeds not only remove the nutrients and moisture (30 -60%) but also act as host for the pests and pathogens.

Weed management is also a problem because of the lack of the labourer . Therefore in recent years, mechanization is gaining importance in all aspects of the crop production . But the small farmers are facing problem with the mechanization as it is costly to adopt such technologies. Hence, the farmers whose land holding is less than two acres are facing severe problem in the weed management.

### **Problem Definition**

A farmers by name Mr. Renukarya and Mr. Mallikarjuna , from Kalahalli and Belavanur ,village Harapanahalli and davanagere taluk met SMS (Agronomy) and discussed regarding the weed management in his one acre area where vegetables were grown. He expressed that weed menace is severe and yields levels are very low. For growing one acre of different vegetables we require about 20-30 men labourers and cost of the labourers are high. The cost of the production is much more when we use labourers for weeding. He was suggested to attend the training programme on mechanization in agriculture during the technology week in September 2010.

Many farmers from Belavanur and kalahalli visited KVK and attended the training programme on the weed management through the mechanization in field crops for small farmers. In the training we had demonstrated the use of cycle weeder for weeding in the vegetables plots. After the training programme, selected group of the farmers were given the cycle weeder for weeding in their own farmers under our technical guidance. We had conducted an off campus training on utilization of the cycle weeder for weeding in vegetables at Belavanur and kalahalli village.

## KRISHI VIGYANA KENDRA INTERVENTION WITH CYCLE WEEDER

We had conducted an off campus training on utilization of the cycle weeder for weeding in vegetables at Belavanur village. We did suggested to the farmers that it can be used for all the crops like groundnut, sunflower, maize and vegetables with the spacing of 30-40 cm between the lines and 15 -20 cm within the plants. Cycle weeder can penetrate 2-2.5 cm depth in the soil. The efficiency of the cycle weeder is about 1-1.5 acre weeding can be done with a single man. Cycle weeder can be used after 15-20 DAS and their should be enough moisture at time of weeding. The weeding technology was demonstrated in the field where vegetables were grown in the farmers field.

Made frequent visits to the plots where the weeding was done using the cycle weeder in the vegetable crops and collected the data on weed menance , time require for weeding and yield. The following observation were made by the farmer who is using cycle weeder in the vegetables grown throughout the year.

**Table 1. Comparison of manual weeding with modified Cycle weeder in vegetables**

Si.No	Method of weeding	Manual weeding			Cycle weeder		
		Total no of labourers required per ha	Total numbers of labourers	Total Cost	Total no of labourers required	Total numbers of labourers	Total Cost
	Vegetables	18 X4Nos	72	10,800	6X4Nos	24	3,600

**Table 2. Economics of Manual weeding v/s Hand operated Cycle weeder in vegetables**

	Hand weeding	Cycle weeder
Area coverage per (ha)/day	0.398	0.405
No.of labourers required	18	4
Cost of labourers (Rs.)	2700	600
B:C	1.9	2.8

**Inference** : Four men labour could able to weedbetween the rows and in betwween the plants by hand operated cycle weeder an area of 0.4 ha/day for Rs.600/- but in hand weeding 18 women labourers were required for covering an area of 0.398 ha/day at Rs. 2700/- which saves 2100 per day.

#### **FARMERS FEED BACK ON THE TECHNOLOGY:**

The farmers using the technology expressed that the weeder is best suited for the farmers whose land holding is 2 acres and if he grows vegetables there is more beneficial. Earlier before the cycle weeder labourers were used for weeding. The main problem with labourers is their inefficiency and demanding high price at peak time of the crop. Farmers expressed that the timely sowing is important in agriculture and timely weeding is also important in agriculture. The farmer has added fly ash to his field and application cycle weeder is very easy as the soil has become fragile. Now, other family members can also use the cycle weeder .He usually does the weeding work in the early morning and evening for 3-4 hrs daily with other regular farm works . Mr Renukarya , retired Agri.scientist expressed that the technology of cycle weeder had used by me and it is best technology for the future agriculture when the land holdings will be reduced. The population is increasing day by day but not the land. There will be be more fragmented land and this will be very suitable for the farmers during the weeding.

#### **Conclusion**

The use of cycle weeder for weeding will be efficient where the soil moisture is optimum and soil should be loose enough to pull the weeder. This is specially designed for the small farmers and farmwomen. Now our taralabalu krishi vigyana Kendra is popularizing technology to the small farmers .This technology is being used by progressive farmers as they are facing the labourers problem.