



STUDY THE YIELD AND ECONOMICS OF JAPANESE MINT (*MENTHA ARVENSIS*) AT DIFFERENT HARVESTING STAGES ON FARMERS FIELD

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Abstract

The main defective of the present study was to find out the yield and economics of the Japanese mint at different harvesting stages on the farmers field in Ghazipur district of Uttar Pradesh during 2010-11. It was found that herbage and oil yield are maximum at the time of 120 and 130 days of harvesting at different farmers field along with same result was in net income Rs/ha. Delayed harvest 140 and 145 day resulted, reduced herbage and oil yield responsible for land not returns. It's an economically more profitable crop when it should be taken on the field with a good frame of work along with suitable its farm plan.

Key words : Farmer, crop, harvesting, yield, higher, increasing trends.

Introduction

It is a perennial bushy herb locally called menthe. The aerial parts (mainly leaves) on distillation yield an aromatic oil rich in menthol. The mint oil and menthol are used in numerous pharmaceutical and food products. This crop prefers well-drained, loamy, silty loam to clayey loam soils. Light showers of planting and ample sunshine at the time of harvesting, suit its cultivation. The stagnating water damages the crop and frost causes a temporary set-back at the planting time. The crop is propagated by planting live juicy 8 to 10 cm. long stolons (underground stems) during early spring. The seed rate used 250 Kg. of Stolons per hectare and the spacing varies from upto 60 × 10cm. depending upon the soil fertility and the kind of inter culture implements used. This crop has high yield potential, its yield is goes down when it severally affected by weed said by Krishna Gowala *et al.* (1985). The fields require intensive weeding at least during the early stages of growth; it is the most expensive cultural operation which contributes to higher yield and maximum net returns of the crop. There is a need to ensure a proper plan and management practices for better oil production.

Harvesting stages are the main important constituents for greater productivity, which causes most critical positions who affect the growth, herbage and oil yield. It is an important to choose the optimum harvesting time who herbage and oil yield forms maximum and get more income and net returns.

Materials and Methods

This study was conducted in randomly selected village Sabua of Karanda Block in Ghazipur district of Uttar Pradesh during 2010-11 with farmers-scientist collaborations among the randomly selected one farmer from small, medium and large size of holdings for Japanese mint crop, suggested Koshi variety. Allowed them NPK@120:60:40 kg, per hectare, where as suggested the entire quantity of P and K along with one fifth of N is mixed with the soil at the time of planting, the remaining four-fifth of N is given as top dressing in suitable split doses, split application of N might have prevented the losses of N through leaching and volatilization and as a result this crop was benefited through adequate supply of N at different growth stages causes increase in yield

Table 1 : Herbage and oil yield of Japanese mint under different farm size groups during 2010-11.

Harvesting stages	Herbage yield (Qt./ha.)			Oil yield (Kg./ha.)		
	Small Farms	Medium Farms	Large Farms	Small Farms	Medium Farms	Large Farms
120 Days	208.65	220.60	240.85	90.50	120.10	135.50
130 Days	170.80	195.35	215.30	98.30	109.50	118.60
140 Days	125.95	140.35	165.10	110.45	112.35	115.65
145 Days	110.60	125.00	135.45	80.50	82.80	90.80

Table 2 : Economics of Japanese mint under different farm size groups during 2010 – 11.

Harvesting states	Cost of Cultivation(Rs./ha)			Gross of Income(Rs./ha)			Net Income(Rs./ha)			Benefit : Cost Ratio		
	Small Farms	Medium Farms	Large Farms	Small Farms	Medium Farms	Large Farms	Small Farms	Medium Farms	Large Farms	Small Farms	Medium Farms	Large Farms
120 Days	45,250	47,830	49,990	90,280	92,913	96,617	45,030	45,083	46,627	2.00	1.94	1.93
130 Days	36,100	36,950	40,153	78,350	82,436	88,200	42,250	45,486	48,047	2.17	2.23	2.20
140 Days	34,300	35,370	38,700	80,310	83,327	85,150	46,010	47,957	46,450	2.34	2.36	2.20
145 Days	31,650	32,050	33,375	68,430	71,814	74,380	36,780	39,764	41,005	2.16	2.24	2.23

and improve the quality said by Mondal *et al.* (1982). 10-12 irrigations during summer and another 4-6 in autumn has been proposed. All information's have been collected through survey method and tabular analysis was used. Family schedule has been used to collect the data from the selected farmers regarding size of holdings, size of family, area of the Japanese mint crop production and net income etc. All other agro-economic requirements had been supplied to crop when they needed.

Results and Discussion

The first harvest is taken before the onset of the rains after about 120 days of planting, particularly when the flower begin to open. The harvested crop is left in the fields for 3-4 hours for wilting to reduce its bulk before distillation. Other harvesting time has been mentioned in the table 1. The oil content was extracted by water and steam distillation methods. The harvesting schedules shows as a significant influence on herbage and oil yield.

Higher herbage and oil yield was formed at time of 120 and 130 days in all size groups of the formers which was shown in table 1, ranges increasing trends. Table 1 also show's that at all four stages of harvesting in small medium.

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