

## PRACTICES OF FARM MANAGEMENT ON THE PRODUCTIVITY OF ONION CULTIVATION, NASHIK DISTRICT OF MAHARASHTRA

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**Abstract :** Onion is one of the most important horticultural crop. At least 175 countries grow onion. India is second largest growing country in the world. The total area under cultivation of onion crop is 8,04,600 thousands hectares with total production in metric tons during the year 2010-2011. Agricultural Universities and research centre has recommended high yielding onion varieties of good quality with suitable agronomic packages for the various zone in India, However farmer complain that low yield and had to bear high cost for onion production. A field survey was conducted with 180 farmers in major onion growing area in Nashik district to study this situation. Plantation of selected and treated seedling at June is the best period of Kharip season and October – mid November is the good period of for a higher standard crop rabbi season. Fifty percent of farmer deviation from correct time of planning, selection of seedling and 22 percent did not follow the any seedling treatment. Use of recommended chemicals and rates of correct time effectively control the pest and disease. Seventy two percent of farmer use chemicals which are not recommended at high frequency and 30 percent did not follow proper weed controlling method, resulting increased cost of production. Many farmers did not adopt organic maturing for soil improvement. Nobody followed any culturing practices required for the quality of bulcks. Deviation from recommended onion crop management practices caused an increased cost of production with low yields and low quality.

**Key words:** Onion Practices, Farm management, Productivity, Planting.

**Introduction:** Agriculture forms the backbone of Indian economy .According to the Indian census 2011. More than 65 Percent of Indian population is engaged in agricultural activities, but agriculture, but agriculture is known as gamble in the hands of monsoon due to inadequate and irregular rain fall. Onion is grown usually in winter season (rabbi) largely in which accounts for 60 % of production comes from Karip and late Kharip season. N-53, Baswant 780, Agrifound Dark Red varieties are suitable for Kharip season. Seed production techniques for bulb to seed, tow year production method and seed to seed are develop. Among the diseases, purple blotch and stemphylium are important and onion thrips is important pest. Price for onion fluctuation from year to year and season to season. The prices of onion in November –December and January – March are affected by production in Kharip and late Kharip .Invariability, weather condition are more critical for Kharip onion which has been influencing the prices of onion in in December – January. Therefore, steady supply of onion to the level of consumption and storage as buffer stock to meet the need are essential. beside the production lack of knowledge of nursery management , improved production technology , post harvested management , unavailability of quality seed and other production constraints , which need attention . However farmers complain that they obtain low yield with high cost of production leading to lower profit margin. Therefore, the aim of the present study was to identify the reason causing yield

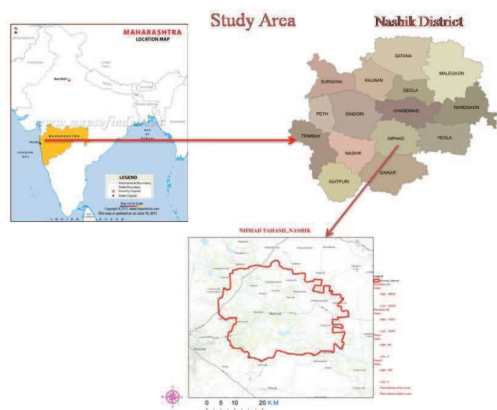
reductions and high cost of production in onion cultivation.

**Objectives :**

The present study has been undertaken with the following specific objectives:

1. To study the practices of the farm management productivity of onion.
2. To identify the cost of cultivation for cultural practices of onion.

**Study Area:** The Nashik district is situated in western part in Maharashtra state. The district consists fifteen tahsils covering 1739 villages. The total area extent is of 10,480sq.km. Extending from 19°35' North latitudes and 20°52' East longitudes. This district is confined by Nashik district north, Dhule district to east, Ahemadnagar district to south and East Gujarat to Jalgaon West district (Fig.3). Nashik district has typical landscapes due to variations in relief, climate and vegetation. The climate ranges from the rainiest in the Trimbakeshwar region which has an average annual rainfall of over 6000 mm to the driest in the Manmad, Igatpuri, Surgana and Trimbakeshwar tahsils where the average annual rainfall is about 500 mm. The vegetable about cover to varies from the typical monsoon forest in the west parts. Rice, Jawar, Bajra, Onion, vegetables, sugarcane and pulses are mainly cultivated in the district.



**Table No. 1 : Yield of onion seed source**

Sr. No.	Seed source	Farmers	Yield kg.
1	Locally produced seeds	140	2100
2	Market seeds	40	133
	<b>Total farmers</b>	<b>180</b>	<b>2233</b>

Source : Complied by Researcher 2012-13

**Onion varieties cultivated :** In Nashik district eastern part of the Manmad, Dewola, Chandwad, Nandgaon and some part of the Niphad tahsils area under highest Kharip onion cultivation, because low rainfall in this area, favorable climate sandy and rocky soils. In western part of the Nashik district in rainy season this region high rainfall due to fog, unfavorable climate for Kharip season of onion crop. In Kharip season N-53, Baswant 780, Agrifound Dark Red locally name as known as Halwa onion in this region. In rabbi season in the Nashik district Manmad, Dewola, Chandwad, Nandgaon and Nashik tahsils highest area under cultivated rabbi onion crop locally known as Garwa onion. Therefore, the availability of this variety is limited use of farmers.

**Time of Planting :** Onion is a sensitive crop, it requires dry period for a successful crop. Considering climatic and weather conditions and pest disease problem June -mid July is the best planting time of Kharip onion and October-mid November time rabbi onion to obtain high quality onion and good yields. 73 percent farmers planted during the recommended period. Eleven percent of farmers delayed planting and nineteen percent of farmers planted early Table.2. Farmers who deviated from the recommended planting time obtained low yields.

**Data Base and Methodology:** The present study is based on primary and secondary data collected District Nashik Office Department of Agriculture Nashik District, Season and Crop Reports published by the Department of agriculture. Statistical abstract of Maharashtra, Socio-Economic Review of Nashik District 2011-12, District Census Hand Book, Gazetteer Agricultural epitomes, Agricultural Statistical information Maharashtra State etc. were also scanned for getting relevant information. For the present investigation study was conducted during 2011, Nashik district were selected on the basis of the area allocated to onion crop.

**Material And Methods :** A survey was conducted in Nashik district 2012-13 kharip and rabbi season with 180 onion farmers in the Manmad, Kalwan, Deola, Chandwad, Nandgaon and Niphad tahsils. Farmers were selected with the help of village level Agriculture Assistant Officer and village headman directly connected through the onion farmers. The information was collected by interviewing farmers and inspecting their fields academic during the year 2012-13. Information related to planting materials, cropping system, time of planting, nursery management, pest and disease control, fertilizer management and usage of labour for each activity were recorded using a structural questionnaire from the beginning to end of the onion crop.

**Source of onion Seeds:** Agricultural Universities and onion research institute has developed for time seed production and proved that yields could be effectively increased by using local seeds. In Nashik district farmers to produce required amount of good quality seedling with high yields from their nurseries Table.1 onion seed production requires low humidity ambient during the winter and mid summer season. Climates that are cool in the winter and summer are best suited for onion seed production. Chandwad and Deola local called Phursangi local onion seed production. In the Market mixing of seeds which are the result in very unsuccessful of onion cultivation.

**Table No. 2 : Time of onion planting in Nashik District**

Sr. No.	Time of onion planting	Farmers	Yield (qui/ha.)
1	Mid May- Mid June	19	1330
2	Mid June – Mid July	73	5402
3	August – September	11	1045
4	October- Mid December	77	15246
	<b>Total farmers</b>	<b>180</b>	

Source : Complied by Researcher

**Application of Fertilizer :** The present data in

Table.3 indicate that the different sources of fertilizer used. The majority of farmers were using Urea (92.77 percent), Suphla (88.33 percent), 20:20:0 (50.55 percent) and 10:26:26 (32.22 percent) fertilizer for cultivation of onion crop. The onion growers were mostly using mixed fertilizers for the cultivation of crop. The mixed fertilizers were also used at the time of top dressing, which results into more use of nitrogen and phosphours to the onion crop. The farmers apply more than the recommended quantity of fertilizers, the yield did not increase. Farmers who applied even less amount of organic manure received higher yield compared to others. In addition, they have applied more than two splits (4-5) even six weeks after planting. Application of additional fertilizers amount and splits did not affect the yield but the storability. Though farmers were asked to apply direct fertilizers, only few of them had practiced.

**Table No.3 : Percent distribution onion growers according to fertilizer management**

Sr. No.	Types of fertilizers used	Farme rs	Perce nt
1	Urea	167	92.77
2	Suphala (15:15:15)	159	88.33
3	20:20:0	91	50.55
4	Mahadhan(23:23 :0)	49	27.22
5	18:18:0	22	12.22
6	10:26:26	58	32.22

Source : Complied by Researcher

**Pest and Disease Management :** Major insect pest problem in kharif onion and rabbi onion in Nashik district. Some foliar diseases (downy, midew, basal rot etc.) were controlled by applying different chemicals. Only 89 percent of the farmers applied recommended chemicals. The major reason for this was that all the advice for chemicals were obtained from the nearest village. Most of the farmers used to apply chemicals within 2-3 days expecting sudden results.

**Weed control :** Basic chemical weed control which is practices prior to lad preparation and application of per emergence weedicides just after field established followed y 1-2 hand weeding effectively control all kind of weed with less weeding cost. Almost all have used only pre-emergence weedicides followed by hand weeding. Specially, perennial weed control is difficult with these practices. Therefore, farmers had spent more labour for hand weeding resulting increased for weeding operations.

**Irrigation Management :** About 97 percent onion growers in Nashik district were having well as a source of irrigation. The water stress occurred during cultivation of onion was also studied and it was noticed that about 47-63 percent onion growers did not experienced water stress in the onion cultivation. More than 60 days water stress was noticed by about 37-53 percent sample farmers in the onion cultivation.

**Cost of production :** The details of cost of cultivation and cost of marketing consists the cost of production and it is presented in Table.4 and it was noticed that, per quintal cost of production was Rs. 432 at the overall level. The per quintal price realized was to the extent of Rs. 548.

**Table No.4 : Cost of cultivation for different cultural practices**

Sr. No.	Cultural practices	Cost of Cultivation as a % of the total cost
1	Land preparation	12
2	Seed material	10
3	Nursery management	10
4	Fertilizer	13
5	Weed control	15
6	Pest control	12
7	Irriagation	5
8	Harvesting	14
9	Marketing	09
	<b>Total</b>	<b>100%</b>

Source : Complied by Researcher

The above table.4 shows that out of the highest total cost was recorded for weed control (15%), followed by harvesting (14%), fertilizer (13%), land preparation (12%), pest control (12%), seed material (10%), nursery management (10%) and marketing of onion (09%). Extreme deviation from those recommendations they could be able to maximize the yield with a low level of cost of production to get a higher profit margin.

**Conclusion:** Use of locally produced true seeds could effectively increase the onion yield. Use of higher fertilizers did not influence the yields. Knowledge of the farmers about the Agricultural Universities, Krishi Vidyanan Kendra, Agricultural Advisers, Agricultural assistants in village level area, neighbours, Television, Newspapers, agricultural Produce Market Committee. In Nashik district onion farm management practices observed low productivity and high cost of

production.

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