Effect of Age of Transplants on the Growth and Yield of Onion under Low Land Condition

M. U. Vachhani and Z. G. Patel

Department of Agronomy,
Gujarat Agricultural University,
Navsari 396 450

In India onion is grown in an area of about 2.7 lakh hectares with the total bulb production of about 29 million tonnes and in Gujarat onion occupied an area of about fifteen thousand hectare with total bulb production of about five lakh tonnes (Anon. 1986). It is used as vegetable at all stages of its growth as well as for seasoning different foods all the year round.

Onion crop in South Gujarat is cultivated by raising seedlings in nursery and then transplanted in the field after harvesting Kharif paddy. The bulb yield of onion is greatly affected by vario agronomic practices but age of seedlings transplanting extent profound influence vegetative growth of the crop.

The experiment was conducted in Randomis block design on black soils of Navsari. Treatmen consisted of seven different ages of seedlings transplanting (4 to 10 week old) were replicat thrice. The seeds of onion variety Pusa Red we sown on 19th October, 1987 and seedlings we transplanted at a distance of 15 cm × 10 cm as p treatments. The crop was fertilized at the rate 100-50-100 kg NPK/ha. The irrigation an handweeding were done as per the need. The cro was harvested on 7th March, 1988 when most the tops had dried up.

The results on plant height, no. of leaves pe plant, diameter and weight of individual bulb an bulb yield of onion recorded during th investigation are presented in Table-1. The data indicated that the effect of age of seedlings on bulb weight was found to be significant but it did no exert any significant effect on plant height, numbe

TABLE 1

Different growth and yield characters of onion as affected by age of the seedlings.

Treatment	*Age of seedling at transplanting (week)*	*No.of leaves/ plant*	*Plant height (cm)*	*Bulb diameter (cm)*	*Bulb weight (g)*	*Bulb yield (q/ha)*
T_1	4	9.67	54.0	4.69	50.67	257.67
T_2	5	9.80	57.3	5.19	52.00	289.00
T_3	6	10.13	58.9	5.23	54.67	313.33
T_4	7	10.67	64.8	5.53	81.33	462.33
T_5	8	10.60	64.3	5.34	71.33	420.00
T_6	9	10.27	61.5	5.13	65.33	405.67
T_7	10	9.60	56.8	4.53	62.00	325.33
S. Em±		0.56	3.11	0.23	4.46	14.97
C.D. at 5% level		N.S.	N.S.	N.S.	13.74	46.10

N. S. = Not significant

leaves per plant and the bulb diameter. Maximum ılb weight (81.33 g) was recorded under treatment ₄, but remained statistically at par with T_5. The eight of onion bulb reduced with the reduction in ge upto 4 weeks old seedlings and increased upto 0 weeks, when compared with 8 weeks old eedlings. The results also revealed that the onion ulb yield was also significantly affected by age of eedlings at transplanting. The highest bulb yield of 62.33 q/ha was recorded when 7 weeks old eedlings were transplanted (T_4) but remained on a ar with T_5. The bulb yield increased with an ncrease in age of seedlings upto 7 weeks. The yield ncrease was probably due increase in bulb weight nd to some extent increase in bulb diameter. The owest bulb yield (257.67 q/ha) was obtained with ₁ but remained at par with T_2.

According to Thompson and Kelley (1957) bulb rmation in most of the onion varieties is favoured y relatively long photo-periods and therefore, later lantings give higher yields than the earlier plantings. Similar results were also reported by Verma *et al.* (1971 and Singh and Singh 1974).

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