THE ASIAN JOURNAL OF HORTICULTURE
Volume **8** | Issue 1 | June, 2013 | 292-295

Research Paper

Article history :
Received : 07.02.2013
Revised : 25.04.2013
Accepted : 18.05.2013

Effect of spacing and nitrogen on growth and yield of onion (*Alluim cepa* L.)

DINESH KUMAR[1], J.P. SINGH, RAJBEER[1], NATHI RAM[1], BRIJ MOHAN[2], HIMANSHU KAUSHIK[1] AND SATISH KUMAR[1]

Members of the Research Forum

Associated Authors:
[1]Department of Horticulture, Gochar Mahavidyalaya, Rampur Maniharan, SAHARANPUR (U.P.) INDIA

[2]Krishi Vigyan Kendra, Duvasu, MATHURA (U.P.) INDIA

Author for correspondence :
J.P. SINGH
Department of Horticulture, Gochar Mahavidyalaya, Rampur Maniharan, SAHARANPUR (U.P.) INDIA

ABSTRACT : The present investigation was conducted at horticulture Research Farm, Department of Horticulture, Gochar Mahavidyalya Rampur Maniharan, during the year 2010-2011. The experiment was laid out in Randomized Block Design, consisting 9 treatments with control. Three levels of spacing, *i.e.* 16x8, 16x12 and 16x18, two levels of nitrogen, *i.e.* 50 kg/ha and 100kg/ha with one control were taken. All growth and flowering attributes were significantly affected with the application of spacing and nitrogen.The maximum plant hight (49.55cm), no. of leave (16.93), length of leaves (48.33), diameter of longest leaf (1.61cm), diameter of pseudostem (1.73cm), maturity period of bulb (103.11days), bulb length (4.39cm), bulb diameter (5.86cm), fresh weight per bulb (81.47g), bulb yield (313.74), was recorded under the treatment S_3N_2(16 x 18 cm, 100 kg) in comparison to individual treatment and control.

KEY WORDS : Nitrogen, Spacing, Growth, Yield, Onion

HOW TO CITE THIS ARTICLE : Kumar, Dinesh, Singh, J.P., Rajbeer, Ram, Nathi, Mohan, Brij, Kaushik, Himanshu and Kumar, Satish (2013). Effect of spacing and nitrogen on growth and yield of onion (*Alluim cepa* L.), *Asian J. Hort.*, **8**(1) : 292-295.

Onion (*Allium cepa* L.) is one of the most important bulbous crop grown in India. Onion is being cultivated in India for thousands of years. It is the dynamite of natural food. It is a good cleaner and healer. In case of the nose bleeding it is cut in halves and placed on the nose. Nitrogen is an essential constituent of protein and chlorophyll. Obviously, nitrogen deficiency retards growth and root development. Spacing is another important factor in addition to the soil fertility governing the yield of crops. Plant spacing should be deciding after a through consideration so that the plant can grow side by side and get sufficient space which would provide adequate amount of nutrients, light and air for the normal growth and development which resulting in remunerative yield of better quality produce.

RESEARCH METHODS

The field experiment was conducted at Horticulture Research Farm of Gocher Mahavidhalaya Rampur Maniharan, Saharanpur (U.P.) during 2011-12 with 9 treatment combinations spacing and nitrogen. The experiment was laid out in Randomized Block Design with three replications. The seed of onion was sown in the bed 3x1m in size in the first week of November. Six week old seedling of uniform height were selected and transplanted in the field with the spacing S_1 (16x8 cm), S_2 (16x12 cm), S_3 (16x18 cm) and nitrogen N_0 (0 kg/ha) N_1 (50 kg/ha) N_2 (100 kg/ha). Experiment treatment combinationS_1N_1 (16x8 cm and 50 kg/ha), S_1N_2 (16x8 cm and 100 kg/ha), S_2N_1 (16x12cm and 50 kg/ha), S_2N_2 (16x12 cm and 100 kg/ha), S_3N_1(16x18 cm and 50 kg/ha),S_3N_2 (16x18 cm and 100 kg/full dose of phosphorus, potash and half dose of nitrogen was applied as basel dose while remaining ½ dose of nitrogen was applied at two suplit doses, first at 30 days after transplanting and second at the time of bulb formation on top dressed. The soursce of nitrogen, phosphorus and potash were urea, single super phosphate and murat of potash .The observation with regard to the growth and yield components was recorded from the five randomly selected plants. The mean value of the recorded data was considered as the actual value of the respective character. The first observation were recorded at 30 days after transplanting and there after observation were