Effect of Integrated Nutrient Management on growth and yield of garlic (*Allium sativum* L.)

■ KULDEEP SEVAK[1], N.M. PATEL, H.S.BHADHAURIA[1] AND V.R. WANKHADE[1]

AUTHORS' INFO

Associated Co-author :

[1]Department of Horticulture, C.P. College of Agriculture, S.D. Agricultural University, SARDARKRUSHINAGAR (GUJARAT) INDIA
Email : ishalwankhade@gmail.com

Author for correspondence :
N.M. PATEL
Department of Horticulture, C.P. College of Agriculture, S.D. Agricultural University, SARDARKRUSHINAGAR (GUJARAT) INDIA
Email : nmpate1953@yahoo.com

ABSTRACT : The present investigation entitled effect of integrated nutrient management on growth and yield of garlic (*Allium sativum* L.) was under taken at Horticultural Instructional Farm, C. P. College of Agriculture, S. D. Agricultural University, Sardarkrushinagar in *Rabi* season 2010-11. The experiment was laid out in Randomized Block Design with four replications and nine treatments *viz.*, T_1 (RDF-100:50:50), T_2 (50% N in form of FYM+ 50% N in form of inorganic), T_3 (100% N in form of FYM), T_4 (50% N in form of de oil castor cake+ 50% N in form of inorganic), T_5 (100% N in form of de oil castor cake), T_6 (50% N in form of poultry manure+ 50% N in form of inorganic), T_7 (100% N in form of poultry manure), T_8 (50% N in form of vermicompost+ 50% N in form of inorganic) and T_9 (100%N in form of vermicompost). At 30, 60, 90 and 120 DAP, the treatment T_2 (50% N in form of FYM+ 50% N in form of inorganic) recorded the significantly maximum plant height (38.50, 49.25, 52.25 and 54.25 cm, respectively), number of leaves plant^{-1} (5.10, 8.10, 10.12 and 11.19 cm, respectively), neck thickness (0.56, 0.66, 0.86 and 1.02 cm, respectively) at 30, 60, 90 and 120 DAS. Similarly treatment T_2 recorded the minimum days to maturity (132.75) and number of cloves bulb^{-1} (21.75) with maximum diameter of bulb (5.60 cm), average weight of bulb (28.18 g), weight of 100 cloves (86.25 g) and yield plot^{-1} (6.61 kg) and yield hectare^{-1} (34425 kg).

Key Words : Garlic, INM, Organic and inorganic nutrients

How to cite this paper : Sevak, Kuldeep, Patel, N.M., Bhadhauria, H.S. and Wankhade, V. R. (2012). Effect of Integrated Nutrient Management on growth and yield of garlic (*Allium sativum* L.), *Adv. Res. J. Crop Improv.*, **3** (2) : 164-166.

Paper History : Received : 21.09.2012; **Revised :** 30.10.2012; **Accepted :** 29.11.2012

Garlic (*Allium sativum* L.) is an important bulb crop widely used as a spice or condiment. Its belongs to Alliaceae family and is known by several local names in different parts of India. In India it is widely known as Lahsun. It is a valuable condiment which is indispensible part of many of the food items in India. Garlic possesses medicinal properties and it is very popular medicinal plant. It is a hardy bulbous perennial plant having narrow flat leaves. The economic part of plant which comprise 6 to 30 smaller bulblets called 'cloves'. Garlic is frost hardy plant requiring cool and moist period during growth and relatively dry period during maturity of bulbs. The critical day length for bulb is 12 hrs. Garlic has several medicinal values. It reduces the cholesterol in blood. For better biometric observations, bulb characters and marketable bulb yield in garlic, combined use of inorganic and organic sources of nutrient supply is preferable (Patil *et al.*, 2007).

The pungency, strong flavour and keeping quality of garlic is found to be associated with the diallyl disulphide content.

RESEARCH PROCEDURE

A field experiment was conducted during the *Rabi* season of the year 2010-2011 at Horticultural Instructional Farm, Chimanbhai Patel College of Agriculture, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar. The Horticultural Instructional Farm of Sardarkrushinagar (Dantiwada campus) is located at 72°-19°' East longitude and 24° -19°' North latitude at 154.42 meter above sea level. Nine treatment combinations were allocated randomly in different plots by using the random numbers. The treatments were replicated four times in Randomized Block design (R.B.D). Ten plants were selected at random from the net plot of each treatments and tagged to record the observations. The numbers of bulbs harvested from each net plot were weighed in kilogram and the total yield was estimated on hectare basis and expressed