



## Research Paper

### Article history :

Received : 17.08.2012

Revised : 09.11.2012

Accepted : 04.12.2012

# Effect of bio-fertilizers and micronutrients on yield and quality of strawberry (*Fragaria x ananassa* Duch) cv. CHANDLER

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**ABSTRACT :** Studies were carried out to evaluate the effect of bio-fertilizers and micronutrients on yield and quality of strawberry cv. Chandler having ten treatments with three replications in Randomized Block Design at Sam Higginbottom Institute of Agriculture, Technology and Sciences, Nani, Allahabad, during the year 2009-2010. The treatment T<sub>7</sub>-VAM@12kg/ha+Azotobacter @ 10kg/ha was found to be significant over other treatments. This treatment recorded highest number of fruits/plant (29.13), fruit yield/plant (417.73 g), fruit yield/ha (37.59 tonnes), fruit length (3.94 cm), fruit diameter (3.12 cm), specific gravity (1.380), T.S.S (7.36 °Brix), juice content (92.34%), titrable acidity (0.876%) and vitamin-C (59.12 mg/100 g).

**KEY WORDS :** Strawberry, Bio-fertilizers, Micronutrient, Yield, Quality

**HOW TO CITE THIS ARTICLE :** Singh, Sandeep Kumar and Saravanan, S. (2012). Effect of bio-fertilizers and micronutrients on yield and quality of strawberry (*Fragaria x ananassa* Duch) cv. CHANDLER, *Asian J. Hort.*, 7(2) : 533-536.

Strawberry (*Fragaria x ananassa* Duch) is one of the most important temperate fruit but it can also be grown in tropical and subtropical climate. It belongs to the family Rosaceae and all cultivated varieties are octaploid (2n=56). Strawberry has gained the status of being one of the most important soft fruits of the world after grapes. Among the fruits it gives quickest return in shortest possible time. Nutritionally, strawberry is a low calorie carbohydrate fruit but a rich source of vit. A (60 IU/100g of edible portion), vit. C (30-120mg/100g of edible portion), fiber and also has high pectin content (0.55%) available in the form of calcium pectate. Water is a major constituent (90 %) of strawberry fruit. Ellagic acid is a naturally occurring plant phenol. It has been found to inhibit the cancer disease and asthma by the regular consumption of its fruits (Wange and Kzlogoz, 1998). Strawberry fruits are in great demand for fresh market processing, industries as well as used in preserve and confectionaries purpose. Its popularity can be judged from the phenomenal increases in production during the recent years. During 2009, the world production of strawberry was

41,32,352 MT (Anonymous, 2009). Europe and North America accounts for 50 and 30 per cent of total world production, respectively. Among the European countries, France is the leading producer of the strawberry. In India, Maharashtra is a leading state in production of strawberry fruits. It is also commercially grown in Haryana, Punjab, Uttar Pradesh, Jammu and Kashmir, Uttrakhand and lower hills of Himachal Pradesh. The excessive use of nitrogenous fertilizers and imbalanced use of other chemical fertilizers has resulted in yield saturation and deterioration of health. Proper and regular incorporation of farm organic waste and bioinoculants are of utmost importance in maintaining the fertility as well as increasing the productivity of agricultural soils (Yadav, 2009). In this regard bio-fertilizers are helpful in improving biological activities of desirable microorganism in the soil and also to improve the crop yield and good quality of produce. The bio-fertilizers are economically viable and ecofriendly as well as increase the crop yield by 15-30 per cent. Micronutrients are known to stimulate various physiological activities when present in very small quantities. Among them zinc is necessary for the