



A Review

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Effective nutrient management in fruit crops

■ SANDEEP KUMAR SINGH¹, NIDHIKA THAKUR² AND YAMINI SHARMA

Members of the Research Forum

Associated Authors:

¹Department of Vegetable Science,
Dr. Y.S. Parmar University of
Horticulture and Forestry, Nauni
SOLAN (H.P.), INDIA
Email: sandeephort0233@gmail.com

²Department of Fruit Science, Dr.
Y.S. Parmar University of
Horticulture and Forestry, Nauni
SOLAN (H.P.), INDIA
Email : nidhika991@gmail.com

Author for correspondence :

YAMINI SHARMA

Department of Fruit Science, Dr.
Y.S. Parmar University of
Horticulture and Forestry, Nauni
SOLAN, (H.P.), INDIA
Email: yaminisharma811@gmail.com

ABSTRACT : The increase in productivity of horticultural produce removes large amounts of essential nutrients from the soil. Without proper management, continuous production of crops reduces nutrient reserves in the soil. Another issue of great concern is the sustainability of soil productivity, as land began to be intensively exhausted to produce higher yields. Overtime, cumulative depletion decreases production, yield and soil fertility and lead to soil degradation. On the other hand, excess supply or continuous use of inorganic fertilizers as source of nutrient in imbalanced proportion is also a problem, causing economic inefficiency, damage to the environment and in certain situations, harm the plants themselves and also to human being who consume them. The new approach to farming often referred to as sustainable agriculture, seeks to introduce agricultural practices that are ecofriendly and maintain the long term ecological balance of soil ecosystem. The judicious use of organic inputs with inorganic is considered as the alternative source to meet the nutrient requirement of the crops.

KEY WORDS : Vermicompost, FYM, Biofertilizers, Green manuring

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The continuous use of chemical fertilizers has degraded the soil health in terms of fertility and has also caused soil pollution. The reduction in the soil fertility has resulted in low productivity of the crop. Besides, the increasing cost of fertilizers and their negative effect on soil health has led to intensified attempts to the use of biofertilizers and organic matter along with inorganic fertilizers. The integrated nutrient management infuses long term sustainability in the productivity level because of availability of nutrients in soil for next season crop. Incorporation of organic fertilizers is a common practice to improve the yield of many fruit crops. It also limits chemical intervention and finally minimizes the negative impact on the wider environment. Due to the high cost of chemical fertilizers and poor purchasing capacity, organic manures have been used for their eco friendly and beneficial effect on environment and fruit crops. Good quality farmyard manure, vermicompost, biofertilizers and green manures are the most valuable organic matter applied to the soil. All these organic matter are very useful to the plants and soil. Farmyard manure consists of decomposed mixture of cattle

and ramnants of straw and plant stalks fed to the cattle. In vermicompost some of the secretions of worms and the associated microbes act as growth promoters alongwith other nutrients. Green manuring is a practice of ploughing or turning into the soil undecomposed green plant tissues for the purpose of improving physical structure as well as fertility of the soil. Biofertilizers are microbial inoculants which are capable of mobilizing nutritive elements from non soluble to soluble form through biological process. They can also be used for nitrogen fixing, phosphate solubilizing etc. The relevant work done on integrated nutrient management in various fruit crops has been reviewed here :

Chauhan (2008) reported that integrated application of organic manures along with chemical fertilizers gave better option for enhancing the growth of plum trees. She reported that the highest growth of plum trees was recorded with the application of 80per cent recommended dose of fertilizer + 20 kg vermicompost + 60 g biofertilizers. Tirkey *et al.* (2002) reported that better growth of banana cv. Dwarf Cavendish was obtained when inorganic fertilizers (100:100:150 g NPK