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A REVIEW

Balanced fertilization for increasing and sustaining fruit quality and productivity-A Review

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Abstract : Balance nutrient management is an approach to soil health management that combines organic and mineral methods of soil fertilization with physical and biological measures for soil and water conservation. The indiscriminate use of chemical pesticides along with improper nutrient management is deleterious to the plant and soil health, environment and human being who consume them. It also causes soil health deterioration and disturbs the soil microorganisms. Due to these practices, the plants also become susceptible to several biotic and abiotic stresses. The quality attributes of different fruits are badly affected due to indiscriminate application of inorganic agro-chemicals which results in quality deterioration with less consumer preference and low returns to the growers. Thus, adequate mineral nutrition is a pre-harvest factor affecting fruit quality. Therefore, it is a holistic approach based on usage of all possible sources of plant nutrients in an integrated manner is considered as alternative source to maintain soil fertility and plant nutrient supply for sustaining the desired crop productivity. Due to huge distinction in the nutrient use efficiency of perennial fruit crops, their nutrient management- based production system is characteristically intricate to understand. Integrated plant nutrient management aims to optimize the condition of the soil, with regard to its physical, chemical, biological and hydrological properties, for the purpose of enhancing farm productivity, whilst minimizing land degradation. There are studies that integrated nutrient management provide tangible benefits in terms of higher yields, but simultaneously and almost imperceptibly conserve the soil resource itself along with produce quality. The replenishment of soil nutrients lost by leaching and/or removed in harvested products through an integrated plant nutrition management approach that optimizes the benefits from all possible on- and off-farm sources of plant nutrients. The review on balanced fertilization on a variety of fruit crops revealed similar combinations. These observations provided a countrywide database that INM module which consists of nutrient sources having three-tier nutrient release pattern, has far reaching consequences on soil and plant health translating into real guard production sustainability, nearer to climate resilient fruit crops.

Key Words : Nutrient use efficiency, INM, Productivity, Mycorhizza, Fertilization, Soil fertility

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