



A Review

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Biological inputs : Boon for Horticulture

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ABSTRACT : Modern agricultural practices largely rely on high inputs of mineral fertilizers to achieve high yield and also involve application of chemical pesticides against pathogens and pests. Use of costly and scarce chemical fertilizers is much exorbitant to poor farmers of the country. Chemical pesticides not only extensively damage the beneficial microbes in the soil but also causes ill effects on human health as well as environment hazards and reduce the soil fertility. Concerns about the possible consequences of using increasing amount of chemical fertilizers and pesticides have led to a strong interest in alternative strategies to ensure competitive yields and protection of crops. Environmental concerns and awareness of soil health has been increasing day by day which has led to the renewed interest in organic production of high value crops. In view of increasing demand from consumers for quality food coupled with sustainable productivity, organic inputs are claimed to be most benign alternative. In this review, the scattered information on the use of organic inputs to increase the quality and quantity of fruit and vegetables are being tried to put together. This could eventually be helpful in drawing the attention of the researchers and scientists to work on it, besides would be benefitted by utilizing the knowledge reviewed in this paper.

KEY WORDS : Organic manures, Compost, Green manure, Mulching, Biofertilizers, Vermicompost, Bioagents

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India having 2.27 per cent of the total land area, feeds more than 16 per cent of the world's population. Such a huge population magnifies the demand for more food production from rapidly shrinking cultivated land area which requires huge amount of fertilizers and other inputs of production. The chemical fertilizers have played a very significant role in providing nutrients for intensive food production, which has brought about manifold increase in production but has adverse effects on the quality of fruit and vegetables, environment (soil and air), animal and human health. So, now-a-days, there is essentiality of integrated production and protection technologies for enhancing the quality as well as production of horticultural crops and to reduce the cost of production. So, alongwith high production of horticultural crops good quality is also required to fetch high price and to ensure the supply of crops throughout the year. Biological input supply is a system which avoids or largely excludes the use of synthetic inputs such as fertilizers, pesticides, hormones and livestock feed additives etc. and

maximizes the reliability upon crop rotation, crop residues, animal manures, off-farm organic wastes and biological system of nutrient mobilization and plant protection. Various production and protection technologies like use of resistant varieties, seed treatment, manuring, fertilization, IPNS, weed control, use of green/poly houses, integrated pest and disease management etc. need to be integrated to produce good quality of important fruits and vegetables. The yearly application of organic manures viz., FYM, compost, green manures, biofertilizers and vermicompost in conjunction with NPK fertilizers has a pronounced effect in enhancing the efficiency of chemical fertilizers. This has also led to improve crop productivity by 16-44 per cent in various soil groups. In addition to yield, organic manure has also significantly increased the availability of limiting nutrients in soil and thus maintains the fertility of different soils. An integrated approach to plant nutrient management has gained scope and importance in recent years through organic and biological sources. The objective of the approach is efficient and judicious use of all