

Sanitized Guava Nursery Production Technology



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Pakistan is merely producing 7-8 tons/ha guava compared with 21-28 tons/ha in Taiwan and Brazil. India having similar agro-climatic conditions is also producing 3 tons/ha more. In Pakistan, 80% of the crop is contributed by Punjab province highlighting its significance for Punjab fruit industry. Despite lower yields, there is further sharp decline (2007-2010) in area under cultivation (1800 ha), production (35000 tons) and yield (1.5 tons/ha) which is an alarming situation.

Area under new plantations is increasing and old or productive orchards have been massively removed due to decline in guava. Poor health status of guava orchards leads to early termination of productive life and a declining fruit industry. Faulty conventional nurseries play key role in spreading diseases to the orchards even in areas with little or no disease. Biotic factors including soil borne fungal infestations play major role in causing guava decline. The above discussion highlights dire need for the development of containerized guava nursery in sterilized nutritious potting media and to establish a model for nursery growers and other stake holders. Hence, sanitized guava nursery production system was established and technology was presented to guava stake holders under EFS funded project.

Superior fruit of elite guava cultivars were selected from different areas of Punjab for quality analysis. Seeds were extracted and treated with acid for enhanced germination. Different types of potting media were used to standardize growing conditions for enhanced growth of guava plants. Media were sterilized in the model steam sterilization unit and conditions were optimized for sterilization. Guava seedlings of selected cultivars were raised in containers filled with sterilized media and plant growth patterns were noted.

Salient Results:

Cultivar Pyriform (Surahi) was better for most of the physical and chemical traits compared with cv. Round (Gola). Winter crop was better for most of the fruit physical and chemical traits compared with summer crop under Faisalabad conditions. In summer season, higher ratio of flesh weight: seed cavity weight indicated more flesh growth relative to seed development. Sugar: acid ratio was higher in cv. Gola depicting sweet fruit development during summer season compared with winter. Fruit quality in guava cultivars was strongly related to orchard localities. Steam sterilization of potting media did not affect nutrition and chemical composition of media. Sterilized sand gave higher seed germination. Scarification using HCl doubled the seed germination and modified silt media markedly enhanced plant growth and development. Potting mix comprising silt with organic matter (sand + silt + FYM +compost + coir) and silt as media alone enhanced shoot growth and no of leaves compared with other media components. Development of sanitized containerized nursery technology in guava is potentially important to minimize disease spread from nursery.

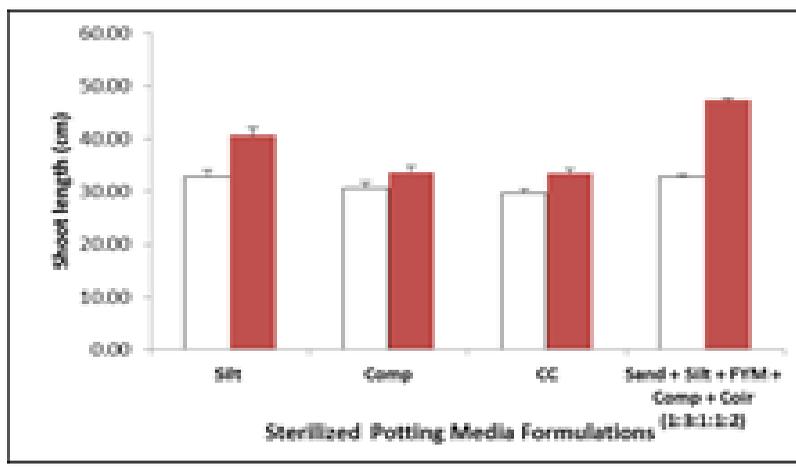


Fig. 1. Schematic illustration of raising sanitized guava nursery including flow chart, steam unit, chart showing higher shoot growth in potting mix and healthy guava nursery raised in sterilized potting media.