



Research Paper

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Effect of organics on shelf life qualities of fruits of bell pepper grown under open condition

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ABSTRACT : A field experiment was conducted to know the effect of organic fertilizers on shelf life qualities of bell pepper grown in open and shade house condition at Agricultural Research Station, Gangavati, Koppal district, Karnataka, India. Split plot design with three replications was adopted with two bell pepper varieties viz., California Wonder (V_1) and Gangavati Local (V_2) as main plot treatments and nine completely organic nutrient sources along with recommended package of practice nutrients and only recommended inorganic nutrients sources were used as sub plot treatments (O_1 to O_{11}). The fruits of bell pepper varieties grown under open condition with various organic sources of nutrients were subjected to storage under ambient conditions for a period of 16 days to know bio-chemical changes and their shelf life quality with respect to their colour and nutritional contents. Results revealed that, after the end of 16 days ambient storage, the fruits of California Wonder retained better colour value (1.95) than Local Variety (1.50). TSS (5.37 0 Brix), acidity (1.01 %), ascorbic acid (190.05 mg/100mg), total sugars (13.57 %) contents were superior in California Wonder fruits grown in open condition than Local Variety after 16 days of ambient storage. The fruits grown by the application of 100 % recommended dose of nitrogen (RDN) through combination of 50 per cent farm yard manure and 50 per cent poultry manure as basal dose in open and shade house condition were superior in retaining the higher values with respect to TSS (5.54 0 Brix), acidity (1.02 %) ascorbic acid (182.80 mg/100g), total sugars (13.55 %) as well as fruit colour (1.92) even after the end of storage period. The quality of the fruits produced by supplying various organic sources of nutrients was superior from their fruit color and other nutritional parameters than those grown inorganically.

KEY WORDS : Organics, Sugar, Shelf life qualities, Chlorophyll, Ascorbic acid, Bell pepper

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Bell pepper is one of the fruit vegetables characterized by fleshy and tender pericarp having short shelf life and high perishability. The fruit starts shriveling and becoming dull coloured in a few days of storage under ambient condition. During the process of storage and ripening, the fruit undergoes physical, physiological and biochemical changes that also accounts in determination of quality of the fruits. The fruits which retain good colour along with other biochemical nutrients like TSS, acidity, ascorbic acid, sugars etc. over the period of storage are generally preferred as good quality fruits. These characters are influenced by the genetic make up of the crop, variety, growing environment and also the sources of nutrients supplied to the crop during the

process of their production. These factors will also have profound effect on the fruits even after their harvest as the fruits are living objects and undergo lot of physiological and bio chemical changes. This dynamic transformation of fruit is mainly due to rapid degradative metabolism (Broughtan and Wang, 1979). However, the degree of changes differs with storage conditions and pre harvest growing conditions. Therefore, understanding the details of post harvest physiology and associated bio chemical changes during storage are an essential pre-requisite for developing efficient post harvest handling techniques for bell pepper fruit.