



## Research Paper

### Article history :

Received : 03.12.2012

Revised : 29.03.2013

Accepted : 12.04.2013

# Effect of runner node order and different rooting media on growth of strawberry plug cv. STRAWBERRY FESTIVAL

■ FRAIDOOON KARIMI, B. ARUNKUMAR<sup>1</sup>, M. ASIF<sup>1</sup>, B.N.S. MURTHY<sup>1</sup> AND K.V. VIJAY KUMAR<sup>1</sup>

### Members of the Research Forum

#### Associated Authors:

<sup>1</sup>Department of Genetics and Plant Breeding, University of Agricultural Sciences, G.K.V.K., BENGALURU (KARNATAKA) INDIA

#### Author for correspondence :

#### FRAIDOOON KARIMI

Division of Fruit Crops, Indian Institute of Horticulture Research (IIHR), BENGALURU (KARNATAKA) INDIA

**Abstract :** The study was carried out to investigate the effect of explant type (first and second order node and runner tip) and media *i.e.* coir peat + perlite 1:1, v/v (T<sub>1</sub>) and sand+ red earth +FYM 1:2:1, v/v (T<sub>2</sub>) on growth of strawberry plugs cv. Strawberry Festival. The explant type did not have significant effect on most of plug biomass. However, good growth and performance in terms of plug establishment (89 %) and number of roots (12.20) was observed in plugs raised from first order node. Media markedly affected plug growth. Higher plug establishment (87%), longer root (15.40 mm), higher number of roots (12.33) and leaves (5.43) and larger plug crown diameter (7.32 mm) were observed in plugs produced in T<sub>1</sub> as compared to T<sub>2</sub>. Higher shoot fresh weight (13.26 g) and root fresh weight (7.30 g) and also higher shoot dry weight (4.20 g) and root dry weight (2.93 g) was observed when plugs raised in T<sub>1</sub> as compared to T<sub>2</sub>.

**KEY WORDS :** Strawberry Festival, Explant, Plug

**HOW TO CITE THIS ARTICLE :** Karimi, Fraidoon, Arunkumar, B., Asif, M., Murthy, B.N.S. and Vijay Kumar, K.V. (2013). Effect of runner node order and different rooting media on growth of strawberry plug cv. STRAWBERRY FESTIVAL, *Asian J. Hort.*, **8**(1) : 179-182.

Strawberry (*Fragaria ananassa* Duch.) is a perennial, low-creeping, stoloniferous herb belonging to the family Rosaceae. It is basically a temperate fruit crop, widely distributed due to its genotypic diversity, high heterozygous nature and broad range of environmental adaptations (Sharma and Sharma, 2004). The cultivated strawberry of today's commercial market is result of cross between Scarlet (*Fragaria virginiana* Duch.) and the Chilean (*Fragaria chiloensis* Duch.) in early seventeen century in France (Galletta and Bringhurst, 1990). It has a unique, highly desirable taste and flavour and is one of the most popular fruits around the world (Sturm *et al.*, 2003).

Strawberry plants are clonally propagated by means of runners and are generally transplanted as cold-stored bare-root plants (Frigo). However, frigo plants are often of low quality with relatively low carbohydrate content, root and crown infections with serious fungal plant pathogens such as *Phytophthora*, *Verticillium* and *Colletotrichum*. Hence, has poor performance after transplanting (Lopez *et al.*, 2002). The development of a strawberry plug could eliminate many of the problems associated with frigo transplants. Plug offer

several benefits including easier planting, better establishment, fewer pests and diseases, and lower water use during plant establishment. Plugs also offer the potential for mechanical planting (Menzel, 2007). Takeda *et al.* (2004) found that, plugs developed from nodes in further distance from the mother plants reduced the ability of producing a satisfactory vegetative growth. He further reported that, at 3 weeks, 87per cent of daughter plants that weighted <0.9 g and at least 96 per cent of daughter plant that weighted >1.0g was rated acceptable for field transplanting, respectively. Average weight declined with increasing nodes position on the runner. Daughter plants produced from nodes were more mature than the runner tips. Larger daughter plants produced more branch crowns than did smaller daughter plants in the fall. Bartczak *et al.* (2007) reported that, bigger crown diameter (14.2 mm) in cv. 'Elsanta' and (13.4mm) in cv. 'Honeoye,' higher number of leaves and higher plug weight produced from first order node in comparison with those obtained from the third.

Plug grown in peat mix produced larger crown as compared to coarse perlite and pine bark. The larger crown size and higher leaf number of plug grown in peat-mix related