



Research Paper

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Response of different size and growth regulator on cuttings of passion fruit var. Purple (*Passiflora edulis* var. *edulis* Sims)

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ABSTRACT : A study was carried out on the response of different size and growth regulator on cuttings of passion fruit var. Purple (*Passiflora edulis* var. *edulis* Sims) under semi-controlled greenhouse conditions. The treatments consisted of four levels of IBA (250, 500, 750 and 1000 ppm). The types of cuttings consisting of two nodes (N_2), three nodes (N_3) and four nodes (N_4) cuttings. Significant differences were observed in all the parameters under study. The result obtained from the study exhibited that three node cuttings (N_3) performed better in respect to length of shoot (3.25 cm), NPK content in leaf (3.49 %), (0.27 %), (2.40 %), number of roots (26.58), and dry matter percentage in leaf (1.27). Four node cuttings (N_4) showed better responses in terms of survival percentage (45.00), number of leaves (6.53), the longest root (13.75 cm), diameter of roots (3.76 mm) and leaf area (55.90 cm²). Among the IBA treatments, 750 ppm was found to be the best concentration in many of the parameters viz., number of leaves per cutting (5.50), number of roots per cutting (30.36), diameter of roots (4.93 mm), NPK content in leaf (4.13 %), (0.26 %), (2.19 %) and dry matter percentage in leaf (1.31).

KEY WORDS : Cuttings, Nodes, Passion fruits, Rooting, Indole butyric acid

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Passion fruit (*Passiflora edulis* Sims., family-Passifloraceae) is a native to the warmer moist regions of the rainforest in the Amazon region of Brazil and possibly in Paraguay and northern Argentina. It is a perennial, vigorous, climbing, woody vine. The purple passion fruit (*P. edulis* var. *edulis* Sims.) is adapted to subtropics or at higher altitudes in the tropics. Passion vines prefer a slightly acid soil.

In India, passion fruit grows wild in the Nilgiris, Wyanad, Kodaikanal, Coorg, Malabar, Nagaland, Mizoram and Manipur. Recently, its commercial cultivation has been extended into most part of Manipur. The passion fruit is becoming as one of the most important fruit crops in the North-Eastern states of India (Chadha, 2002).

It was grown in limited/few pockets of Manipur before but now cultivation of this fruit crop has been extended in almost all the districts of Manipur. As the fruit is gaining popularity day by day, it has become as one of the most

important fruit crops in Manipur. However, there is need for increasing the fruit yield and fruit quality and to provide sufficient planting materials to the growers.

The juice of passion fruit has an excellent flavour and is quite delicious, nutritious and liked for its blending quality. Passion fruits serve a good source of provitamin-A, ascorbic acid, riboflavin and niacin and also contains fair amount of minerals sodium, magnesium, sulphur and chlorides (Chand, 1980). The passion fruit juice and leaves are used in many countries as medicines. The flower of passion fruit has a mild sedative and can help to induce sleep. Passion flower has been used in the treatment of nervous and easily calms down the most hyperactive child, bronchial asthma, insomnia and nervous disorders (Daniel, 1993) and used in treating asthma, whooping cough, bronchitis and other tough coughs.

The common methods adopted for propagation of passion fruit is by using seeds and grafting on resistant rootstock. The plant raised from seedlings takes many weeks