

Effect of substrates on anthurium culture

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ABSTRACT

An experiment was carried out to assess the influence of different substrates on growth and flower production of *Anthurium andreanum* cv. ALTIPLANO. The effect of some substrates viz., FYM + sand, FYM + Cocofibre, FYM + Cocopeat, FYM + Brick piece + Sand and FYM + Brick piece, on the vegetable growth (total number of leaves, leaf lamina diameter (cm), length of leaf sheath (cm) and plant height (cm) and flowering characteristics (early flowering, number of flowers, size of flowers (cm²) and length of flower stalk, (cm) of *Anthurium andreanum* was evaluated. The total number of leaves produced ranged from 5.00 (FYM + Brick piece) to 7.66 (FYM + Cocofibre). Maximum value of leaf lamina diameter (20.40 cm), leaf sheath length (24.40 cm), plant height (48.73 cm), early flower initiation (206.33 days), maximum number of flowers (4.66), largest flower (33.60 cm²) and longest flower stalk (31.20 cm) were recorded in FYM + Cocofibre. FYM + Cocofibre was an efficient alternate substrate for anthurium cultivation.

Key words : Anthurium, Cut flowers, Substrates, Growth.

Anthurium *andreanum* Lind. is colourful long lasting flowers. It has gained importance as a major cut flower of the modern world. In India, the major anthurium growing states are Kerala, Karnataka and Maharashtra. In many anthurium growing places, cocofibre and cocopeat have become the most popular media for anthurium cultivation. The present investigation was aimed to evaluate the suitability of Cocofibre and utilizing it as a major substrate for anthurium cultivation. The utilization of cocofibre as a major substrate will bring down the cost of cultivation.

MATERIALS AND METHODS

An experiment was conducted during December 2004 to August 2005 at the Department of Horticulture Nursery, I.G.A.U., Raipur (C.G.). In the present study, the *Anthurium andreanum* cv. ALTIPLANO tissue cultured plants were used for assessing different substrates for evaluation under protected structure having partially controlled environmental conditions. The substrates viz., FYM + Sand, FYM + Cocofibre, FYM + Cocopeat, FYM + Brick piece + Sand and FYM + Brick piece. The experiment was laid out in completely randomized block design with three replications and five treatments. The data were recorded on number of leaves/plant, leaf lamina diameter (cm), length of leaf sheath (cm), plant height (cm), days for commencement of flowering, number of flowers/plant, size of flowers and length of flower stalk (cm). The data were analyzed statistically.

RESULTS AND DISCUSSION

There was a significant difference between all characters under study (Table 1). This may be attributed to the composition of different potting media on growth and development of the plants. Among the different potting media studied, FYM + Cocofibre recorded maximum number of leaves (7.66), leaf lamina diameter (20.40 cm), length of leaf sheath (24.40 cm) and plant height (48.73 cm) followed by FYM + Cocopeat 5.33, 18.53 cm, 22.83 cm and 44.63 cm, respectively). Better performance of sugar bagasse, leaf mould, coarse sand, small brick pieces, neem cake, coir pith, compost, charcoal and coconut husk as major substrates was reported by Rajeevan and Valsala Kumari (1998). Cocopith as a best substrate for anthurium cultivation was suggested by Aswath *et al.* (1998). Turski *et al.* (1983) reported that the best substrates for *Anthurium andreanum* Lind. were those in which the basic component was more of peat. Hwetman *et al.* (1981) reported that, for plant height, number of leaves/plant and leaf area coefficient, the substrates peat + Sphagnum and peat + Perlite in equal proportions were found to be the best.

The effect of composition of different potting media was greatly visible on the character number of days taken to initiation of flowering across different treatments. FYM + Cocofibre recorded least number of days (206.33 days) for initiation of flowering followed by FYM + Cocopeat (212.66 days). Dhananjaya and Sniladmath (2003) reported that the media of coffee cherry husk : FYM : Soil : Sand was found to be best for early flower initiation. FYM + Cocofibre recorded maximum number of flower/plant (4.66), flower stalk length (31.20 cm) and spathe