



Research Paper

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Influence of plant bio-regulators and picking time on yield of strawberry (*Fragaria x ananassa* Duch) cv. SWEET CHARLIE

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Abstract : An experiment was conducted to study the effectiveness of foliar spray of gibberellic acid (25, 50 and 75 ppm), triacontanol (1.25, 2.5 and 5 ppm) and cycocel (300, 600 and 900 ppm) and picking time on yield of strawberry cv. SWEET CHARLIE. The results revealed that plants treated with 900 ppm cycocel took minimum days to produce first flower, bud formation, early fruit maturity and highest fruit yield per plant, whereas 50 ppm GA₃ treated plants showed lowest fruit yield. Maximum number of days taken for flowering, bud formation and delayed harvesting were reported in 5 ppm triacontanol treated plants.

Key words : Strawberry, Gibberellic acid, Cycocel, Triacontanol, Sweet charlie

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Strawberry (*Fragaria x ananassa* Duch.) is one of the most important temperate fruits and it is very much liked for its attractive shape, distinct, pleasant and refreshing aroma. It is the most widely distributed fruit crop due to its genotypic diversity, highly heterozygous nature and broad range of environmental adaptation (Larson, 1994 and Childers *et al.*, 1995). The crop is cultivated well in temperate climate but it can also be grown in tropical and sub-tropical climate. It is a profitable fruit crop in the shortest possible time as compared to the other fruits. It is also nutritious and beneficial to anemic patients. Its consumption can reduce the risk of developing cancer by 50 per cent due to high levels of vitamin-C (30-100 mg/100 g of fruit) as well as foliate and photochemical compound such as the ellagic acid present in the fruit. Besides this, it is also a fairly good source of vitamin-A (60 IU/100g of edible portion). Now strawberries are available as fresh fruit throughout the year rather than being a traditionally seasonal

crop. The world area and production of strawberry is 21.78 lakh ha and 2.99 lakh mt, respectively (F.A.O. 1999). Plant growth regulators (PGR's) are plant hormone enhancers or disruptors that can be man-made or naturally derived. Plant hormones play many roles in a plants growth such as root or shoot growth, leaf drop, flower development and fruiting. Many of these functions are still unknown processes. The manipulation of growth and increasing productivity of plants is the basis for most plant-related research. Gibberellins (GA's) are a family of plant hormones that mediate many responses in plants, from seed germination to senescence. The most widely available compound is GA₃ or gibberellic acid, which induce stem and internodes elongation, seed germination, enzyme production during germination and fruit setting and growth (Davies, 1995). Plant growth regulators are also used in order to control vegetative growth (Latimer, 1991). Cycocel is an onium compound, which blocks GA biosynthesis at the step