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**Effect of plant growth regulators on yield and quality of sapota**

**(*Achras zapota* l*.*) through crop regulation under hill zone of Karnataka**

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**ABSTRACT**

*An experiment was conducted in the 35 year old sapota orchard at Mudigere (Karnataka) during 2014-15 to know the Effect of plant growth regulators on yield and quality of sapota (Achras zapota L.) through crop regulation under hill zone of Karnataka. Three growth regulators viz., NAA ( 250, 300 and 350 ppm ), 2, 4-D (40, 50 and 60 ppm ) and Ethephon (350, 400 and 450 ppm) at varied concentrations were sprayed at pea nut stage. The results of the experiment showed that, the foliar application of NAA at 350 ppm gave significantly maximum fruit weight (110.23 g), fruit length (6.07 cm), fruit diameter (58.30 mm), volume of fruit (106.87 ml), yield per tree (108.47 kg), yield per hectare (10.85 t) and extended shelf life (10.58 days) with minimum physiological loss in weight ( 6.10 %,*

*8.11 % and 10.22 % at 3, 6 and 9 days during storage respectively) compared to all other treatments tried. The foliar application of Ethephon 450 ppm showed significantly decrease in number of mummified fruits (40.10) with maximum per cent of thinning (35.30 %), total soluble solids (19.75 ÚBrix), reducing sugars (9.12%), non reducing sugar (6.96%) and total sugars (15.97%).*

***Keywords****:* Sapota, Growth Regulators, Ethephon, Crop Regulation, Mummified Fruits.