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EFFECT OF PLANOFIX ON FRUIT SET IN MANGO (VAR. NEELUM)

Fruit drop is a serious problem in mango and a very low percentage of the fertilised flowers are carried to maturity. Chacko (1969) reported that natural drop is greater between mustard and marble stage. Use plant growth regulators control this fruit drop to a considerable extent (Singh *et al.* 1959; Singh, 1960; Jagirdar and Choudhury, 1967; and Prasad and Pathak, 1972). Present investigation was undertaken in the College of Horticulture, Mannuthy, with a view to study the affect of planofix on the fruit set in mango (*Mangifera indica* L.) under the conditions obtaining in Kerala.

Aqueous solutions of planofix (a proprietary product of May and Baker, containing NAA) were sprayed at three concentrations, viz., 10 ppm, 20 ppm and 30 ppm with distilled water spray as control. Uniform inflorescences belonging to three different stages, viz., mustard stage (Stage I—first week after fertilization), pea stage (Stage II—second week after fertilization) and marble stage (Stage III—third week after fertilization) were selected for the trial in the variety Neelum. Two sprayings were given at an interval of 15 days.

The experiment was carried out in the strip plot design with four replications, each replication containing four inflorescences. Observations were taken at weekly intervals and data on the percentage of fruits retained, over the number of fruits in different stages of application are presented in table 1. In table 2 the number of fruits retained under natural conditions in different weeks after fertilization is given.

From the data presented in table 1 it will be seen that planofix sprays at all the three concentrations significantly improved the fruit set over the control. However, the effect due to the different concentrations was significant which means that even a concentration as low as 10 ppm of planofix and can be used to improve the fruit set in mango. Similar results have been reported by previous workers (Singh *et al.* 1959; Jagirdar and Choudhury, 1967; Prasad and Pathak, 1972). The most effective stage of application was found to be the marble stage (3rd week after fertilization) followed by pea stage (2nd week after fertilization) and mustard stage (1st week after fertilization). Maximum normal shedding occurred between the first and second week of fertilization, i. e., between mustard and pea stage, although shedding was noticed between second and third week after fertilization, i. e., between pea and marble stage (Vide table 2).

Table 1 Percentage fruit set under different concentration of Planifix

Treatments	Fruitset % (Mean of replications)		
	Stage I	Stage II	Stage III
Control	0.96	7.70	19.28
Planifix 10 ppm	1.28	9.28	27.80
„ 20 ppm	1.33	8.45	28.20
„ 30 ppm	0.90	13.18	24.00
C. D. at 0.05 level for comparison between treatments	4.34		
C. D. at 0.05 level for comparison between stages	7.32		

Table 2 Natural set in mango var, Neelum

Stages	Set	Shedded	Total
Stage I	58	644	702
Stage II	28	30	58
Stage III	5	25	30
Total	91	699	790

Chi-Square (2 df) for comparing the shedding in 3 stages = 84.89^{**}

Chi-Square (1 df) for comparing the shedding in Stage I and Stage II = 85.47^{**}

Chi-Square (1 df) for comparing the shedding in stage I and Stage III = 2.58

Chi-Square (1 df) for comparing the shedding in Stage II and Stage III = 8.43^{**}

The significant effect of the application of planifix at marble stage could be due to the normal stabilisation attained in fruit set at the marble stage. The growth regulator application, perhaps, enhances the internal auxin level present at the marble stage, thereby increasing the natural set. Chacko *et al* (1970) reported that growth promoting substances occurred in developing mango fruits and the total amount of all these growth promoters present consistently increased until the fruits reached full size.

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കേരള *rara*(£/1<9s>eo.ajorail യൂണിവേഴ്സിറ്റിയുടെ കീഴിലുള്ള ഹാർട്ടിക്കൽ കോളേജിൽ നടത്തിയ പരീക്ഷണങ്ങളിൽ 'ഓറോഫിക്സ്' എന്ന മരുന്ന 10.ppm തോതിൽ raigl കണതു് മാവിൽ കൂടുതൽ കായ് പിടിക്കുന്നതിനടയാക്കുന്നതായി കണ്ടു.

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