

Research Paper :

## Chemical control of chiku moth (*Nephoteryx eugraphella* R.) in North Gujarat conditions



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### SUMMARY

The field studies on chemical control of chiku moth (*Nephoteryx eugraphella* R.) under north Gujarat conditions showed that out of 10 treatments, all were significantly superior over control of 1<sup>st</sup>, 3<sup>rd</sup>, 7<sup>th</sup> and 15<sup>th</sup> days of spraying. While treatment with Profenophos + cypermethrin 0.044 per cent was most effective against chiku moth (*Nephoteryx eugraphella* R.) on the basis of per cent shoot damage. Looking to the economics of the treatments profenophos + cypermethrin 0.044 per cent (NICBR 1:22.97) was found best followed by chlorpyrifos + cypermethrin 0.05 per cent (NICBR 1:20.96) and D.D.V.P. 0.03 per cent (NICBR 1:19.93)

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### Key words :

*Nephoteryx eugraphella*,  
Chiku moth,  
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Sapota [*Manilkara achras* (Mill.) Farsberg, syn. *Achras zapota* Linn.] is an important tropical fruit tree, which is generally planted in Gujarat and Maharashtra states. The area under sapota is increasing year after year. About 25 insect pests attack sapota tree (Butani, 1975). Among these, chiku moth (*Nephoteryx eugraphella* R.) is the more destructive pest of sapota in India. It is direct as well as indirect pest of sapota. Larvae feed on leaves, floral buds and small fruits of sapota and also the larvae join the leaves with silken threads and feed on the leaf tissues and remain hidden within the loose tunnel made up of excretal pellets (Sandhu *et al.*, 1974 and Butani, 1975). The pest is active throughout the year. Chemical control of this pest has been studied earlier by Sandhu *et al.* (1974), Sandhu and Sran (1982), Jhala *et al.* (1986), Patel (1996), Patange *et al.* (1997), Deshmukh, (2001) and Patel (2001).

However, considering the importance of *Nephoteryx eugraphella* R. the present investigation was undertaken in order to know the effectiveness of certain chemicals to control the chiku moth (*Nephoteryx eugraphella* R.)

under north Gujarat conditions.

### MATERIALS AND METHODS

The experiment was carried out at Horticultural Instructional Farm, C.P. College of Agriculture, S.D.A.U., Sardarkrushinagar (Gujarat). Thirty sapota plant of variety Kalipatti were selected for experiment with 10m x 10m spacing. Randomized Block Design was used for experiment with three replications and ten treatments (one tree kept as treatment unit) *i.e.* T<sub>1</sub>- Neem oil (0.5%), T<sub>2</sub>- D.D.V.P. (0.03%), T<sub>3</sub>- Profenophos (0.075%), T<sub>4</sub>- Profenophos + cypermethrin (0.044%), T<sub>5</sub>- Chlorpyrifos (0.05%), T<sub>6</sub>- Endosulfan (0.07%), T<sub>7</sub>- Chlorpyrifos + cypermethrin (0.055%), T<sub>8</sub>- Azadiractin (0.0003%), T<sub>9</sub>- *Bacillus thuringiensis* (1kg/ha), T<sub>10</sub>- control. Only one spray was given, the treatments were evaluated based on per cent shoot (leaf-clusters) infected per twig per plant, selected randomly and per cent shoot damage were recorded, prior to treatment and 1<sup>st</sup>, 3<sup>rd</sup>, 7<sup>th</sup> and 15<sup>th</sup> days after treatment. The incremental cost benefit ratio (ICBR) was worked out on the basis of cost of various treatments including

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