

Research Paper :

Bioefficacy of rynaxypyr (Coragen) 20 SC against fruit borer *Helicoverpa armigera* (Hubner) in okra

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SUMMARY

Rynaxypyr (coragen) 20 SC, a new insecticide was evaluated against okra fruit borer, *Helicoverpa armigera* (Hubner) during 2009-2010 at Main Agricultural Research Station, University of Agricultural Sciences, Raichur, Karnataka, India. The experiment was laid out in RBD with three replications. Among the newer insecticide molecules evaluated, rynaxypyr 20 SC @ 30 g a.i. /ha and rynaxypyr 20 SC @ 20 g a.i. /ha were superior in recording less larval populations, lower fruit damage and higher fruit yield, followed by spinosad @ 56 g.a.i/ha, emamectin benzoate @15 g.a.i/ha and flubendiamide @ 45 g.a.i/ha.

Key words :

Rynaxypyr
(coragen), Fruit
borer, Okra

Okra [*Abelmoschus esculentus* (L.) Moench] is an important vegetable crop providing a good source of income to farmers. In India, okra is grown extensively all over the country in an area of 4.32 lakh hectares with a production of 45.2 lakh tones of fruits with a productivity of (Anonymous, 2009). In Karnataka it is cultivated on an area of 8,100 hectares with a production of 73.1 thousand tones (Anonymous, 2009). The important insect pests during early stage of crop growth are leaf hoppers (*Amrasca bigutulla bigutulla* Ishida), aphids (*Aphis gossypii* Glover), and white fly (*Bemisia tabaci* Genn.) while at later stage fruit borers like *Earias* spp. and *Helicoverpa armigera* (Hb.) cause considerable losses to the crop to the tune of 91.6 per cent (Shah *et al.*, 2001). Of the various pests infesting okra, fruit borers (*Earias* spp. and *Helicoverpa armigera* (Hubner), leaf hopper, aphid and red spider mite are more devastating, which reduce the yield and vitality of the plant (Sivakumar *et al.*, 2003)

Among the different insect pests, fruit borers take upper hand by causing direct damage to tender fruits. Though many non-chemical control strategies are advocated under the IPM umbrella, still farmers rely on chemical insecticides. Repeated use of same chemical may lead to development of resistance in insects. To over come these problems, a new

insecticide rynaxypyr, belonging to anthranilic diamide group has larvicidal activity. The insecticide is selective in action against wide range of lepidopteran insect pests. Therefore, efforts have been made in the present study to evaluate the efficacy against fruit borer, *H. armigera*.

MATERIALS AND METHODS

Field experiment was conducted at Main Agricultural Research Station, University of Agricultural Sciences, Raichur, Karnataka, with an okra variety, Arka Anamika during 2009-2010 cropping season. The field trial was laid out in a Randomized Block Design with three replications with a plot size of 5.0 x 5.0 m and a spacing of 60 x 30 cm. The seeds were sown after seed treatment with imidacloprid 70 WS @ 10 g per kg seeds against early sucking insect pests. Except for plant protection schedule, all the agronomic practices followed were similar as recommended in package of practices. There were eight treatments, *viz.*, two different dosages of rynaxypyr 20 SC (20 and 30 g a.i/ha) and compared with spinosad (Tracer) 45 SC, indoxacarb (Avaunt) 14.5 SC, flubendiamide (Fame) 48 SC, emamectin benzoate (Proclaim) 5 SG, quinalphos (Ekalux) 25 EC and untreated control. The insecticides in different dosages were sprayed twice based on the ETL of the

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