Research Paper :

Field efficacy of rynaxypyr (coragen) 20 SC against fruit and shoot borer, *Earias vitella* (Fab.) in okra

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SUMMARY

A field experiment was conducted to evaluate the efficacy of rynaxypyr (coragen) 20 SC against okra fruit and shoot borer, *Earias vitella* (Fab.) during 2009-2010 at Main Agricultural Research Station, University of Agricultural Sciences, Raichur, Karnataka. 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 (7.80 and 10.51 %) and higher fruit yield (11.60 and 10.89 t/ha), 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, *Earias vitella*

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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 spotted bollworm of okra fruit and shoot borer, *E. vitella* is a widely distributed insect pest. It is estimated to cause about 69 per cent losses in marketable yield of okra due to attack of fruit borer (Rawat and Sahu, 1973). Shah *et al.* (2001) observed fruit damage to the extent of 91.6 per cent due to attack of fruit borers.

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 was evaluated. It has larvicidal activity. The insecticide is selective in action against wide range of lepidopteran insect pests. Hence, preliminary investigations have been made to evaluate the efficacy against fruit and shoot borer.

MATERIALS AND METHODS

Field experiment was conducted at Main Agricultural Research Station, University of Agricultural Sciences, Raichur- 584102, 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 mtr and a spacing of 60 x 30 cms. 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 first insecticidal application was initiated at 50 days after sowing when the larval population of fruit borer reached at below economic injury level (EIL) and repeated second spray at 20 days after first spray. In both the insecticidal sprays pre-spray count of fruit borer larvae per plant was also taken. Five plants were selected at random and tagged in