Research Paper :

Potentiality of Certain Chemical Spreaders/Stickers for Mycosis *Verticillium lecanii* in *Lipaphis erysimi* (Kalt.) on Mustard

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SUMMARY

Field-cum-laboratory experiment was conducted to evaluate the efficacy of certain chemical spreaders/ stickers in increasing the efficacy of *V. Lecanii* on *L. erysimi* in mustard. The dose of *V. Lecanii* was 4.0 g/litre. Ranipal 2BA @ 0.1 per cent was the most effective in increasing the mortality to 67.82 per cent due to *V. Lecanii* in third nymphal stage of *L. erysimi* which IS followed by Aspa-80 @ 0.1 per cent with 58.77 per cent mortality after 10 days of treatment.

Key words : *Verticillium Lecanii*, *Lipaphis erysimi*, Mustard, spreaders/stickers

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Mustard is an important oilseed crop and this crop heavily infested by mustard aphid, *Lipaphis erysimi* (Kalt). Its heavy incidence resulted in 65.5 to 95.7 per cent losses in seed yield (Sachan, 2003). Several bio-control agents have been tried against this pest to bring down the pesticidal applications. Use of fungal pathogen, *Verticillium Lecanii* (Zimmerman) has been found effective against *L. erysimi* in field condition (Rana and Singh, 2002). Certain chemical spreaders/stickers are supplied to increase the persistence of the fungus, *V. Lecanii* under environmental conditions and thereby improve its efficacy. The efficacy of *V. Lecanii* in combination with polysaccharides and detergents such as soyameal, carboxymethyl cellulose, sodium alginate and Tween 20 has earlier been investigated (Pfrommer and Mendgen, 1992). In the present experiment, different chemical spreaders/stickers were mixed with *V. Lecanii* sprays and evaluated for their effect on virulence of *V. Lecanii* against *L erysimi* in mustard crop.

MATERIALS AND METHODS

Field-cum-laboratory experiment was conducted during the *rabi* season of 2005-06, at Junagadh Agricultural University, Junagadh. The experiment was laid out in Completely Randomized Block Design with seven treatments replicated four times. Different treatments consisted of *V. Lecanii* application alone and in combInation with chemical spreaders/stickers against *L. erysimi*. The entomopathogenic fungal preparation (VERTICEL) supplied by Excel Industries, Mumbai was used for the present study. The suspension of *V. lecanii* along with different spreaders/stickers was sprayed on mustard plants in field with the help of a knapsack sprayer. Soap @ 5.0 g/litre was mixed to obtain an oil diluted suspension. The care was taken to obtain the uniform coverage of spray solution in the respective plots. After 24 hours of treatment the treated leaves were collected from the respective plots and provided to the one day starved third instar nymphs of *L. erysimi*. Twenty five nymphs per treatment in each repetition were studied. These nymphs were allowed to feed on the treated leaves for 24 hours. After 24 hours of feeding they were transferred into other Petri dishes and provided with fresh untreated food. The data in percentage were converted into arcsme transformation before analysis. Natural mortality was corrected (Abbott, 1925).

RESULTS AND DISCUSSION

The results presented in Table 1 indicated that all the chemical spreaders/stickers significantly increased the effectiveness of *V. lecanii* than untreated control. The highest Ranipal mortality (26.04 %) was recorded in the treatment of *V. lecanii* @ 4.0 g/l + Ranipal 2BA 0.1 per cent after one day of treatment.