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Abstract: Rice is one of the most important staple food crops of India including the state of Jharkhand. The crop is usually badly affected by half of a dozen of major insect pests which cause substantial loss in yield in the state. Use of chemical insecticides is one of the most effective tool of pest management but it's injudicious usage has too many side effects. Exploration of information for formulation of effective IPM tools of rice is the need of the hours. So use of eco-friendly tools of IPM namely HPR, suitable adjustment in dates of planting and use of eco-friendly insecticides is the need of present time for sustainable management of pests without harming the environment and ecosystem. Ample informations are lacking in the literature so far. Hence, the present thesis protocol "Management of insect pest complex of rice" was undertaken with five objectives and executed in kharif, 2016 and 2017. The abstract of the experimental findings are briefly mentioned here as under. Out of 18 prevailing insect pest species in rice ecosystem, six of them occurred as major pest's complex viz. yellow stem borer, gall midge, leaf folder, gundhi bug, brown plant hopper and termite. The rice varieties viz., Suraksha, Kavya, Lalat, CR Dhan – 303, CR Dhan – 205, CR Dhan – 304, Sabhagi Dhan, IR-36 and Naveen appeared as resistant/tolerant to six major insect pest species where as Lalat emerged resistant to five major pest species and remained susceptible to leaf folder. Minimum incidence of major pests namely – YSB, gall midge, hispa, leaf folder and GLH was observed when the crop was transplanted at the earliest, but maximum incidence of gundhi bug observed at the earliest planted crop. Highest yield of rice (var. Sahbhagi Dhan) was also found when the crop was transplanted at the earliest. Efficacy of all the seven test botanical insecticides appeared to be almost at par in terms of reduction in the incidence of prevailing major insect pests viz. YSB, gall midge, hispa, leaf folder, GLH and gundhi bug. Achook (0.03 % Aza. EC) @ 2500 ml/ha proved to be the most effective in reducing the incidence of the prevailing major insect pests, which, in turn realized the highest yield of grains (49.70 q/ha) with appreciably net profit (Rs. 22,679.20/ha) and B:C ratio (3.28:1). The new ready mixed combination product viz. spinetoram 6SC plus methoxyfenozide 30SC @ 400ml/ha remained the most effective against almost all the prevailing major insect pests of rice, which, in turn found at par with the same ready mixed combination product of insecticides, spinetoram 6SC plus methoxyfenozide 30SC @ 375 ml/ha, flubendiamide 48SC @ 50 ml/ha and carbofuran 3G @ 30 kg/ha followed by foliar spray of triazophos 40 EC @ 1500 ml/ha against all the prevailing major insect pests of rice. The new combination product (viz. spinetoram 6SC plus methoxyfenozide 30SC @ 400ml/ha could be also responsible for realizing the highest yield of rice grains (48.40 q/ha) with appreciably higher net profit (Rs. 19,645.20/ha) and B:C ratio (4:1). As such, integration of various IPM tools i.e., HPR (i.e. resistant varieties) coupled with early planting of the crop, need based and judicious application of the Achook0.03 (% Aza. EC @ 2500) ml/ha and judicious use of the new combination product viz. spinetoram 6SC plus methoxyfenozide 30SC @ 400ml/ha could be highly effective components (tools) as integral parts of IPM/ICM for sustainable production of rice.

Description: MANAGEMENT OF INSECT PEST COMPLEX OF RICE

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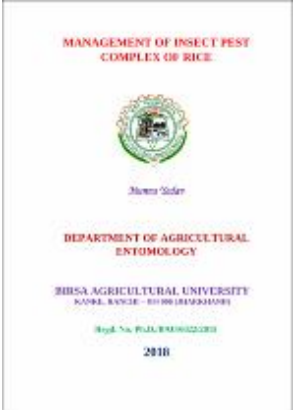
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