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Abstract:	Rice (Oryza sativa L.) is one the most important staple food of the South- East Asia as well as India including the state of Jharkhand. Rice (Oryza sativa L., 2n=24) is grown in the state in around 18 lakh hectares. The crop is usually badly affected by half of a dozen of major insect pests. Out of these, gall midge is one of the most destructive insect pests of rice. It attacks the crop right from nursery to till the initiation of panicle emergence in rice plants. Use of chemical insecticides is one of the most effective tool of pest management but it's injudicious usage has too many side effects. So use of eco–friendly and neem based tools of IPM namely HPR, suitable adjustment in dates of planting, and use of eco-friendly insecticides is a need of present time for sustainable management of pests without harming the environment and ecosystem. Judicious and need based use of chemical insecticides may also be employed as the last resort. Information on all these aspects are almost lacking in the context of the state of Jharkhand. Keeping all these facts in view the present investigation entitled "management of rice gall midge (Orseolia oryzae Wood Mason)" was undertaken to explore the required and pertinent information pertaining to 5 set objectives of the thesis protocol. Accordingly, five experiments were conducted during kharif season of 2017 to explore the pertinent and significant information for management of rice gall midge in the context of the state of Jharkhand. The most active period of gall midge was found in 39th SMW i.e. 24th September to 30th September almost in all the three rice varieties i.e. TN-1, Suraksha and IR-36. The experimental results of field screening of 23 rice genotypes/ varieties against gall midge revealed that Kavya, W-1263, Abhaya, Phalguna, Suraksha and BG-380-2 emerged as resistant and promising against the insect pest, receiving silver shoot incidence almost below 5 percent in the present studies. Neem Baan (Aza. 1.0% EC), NSKE -5%, Neemazal (Aza. 1.0% EC)@ 1000 ml/ha, Achook (Aza. 0.03 % EC)@ 2500 ml / ha appeared to be relatively more effective against the pest species resulting in the realization of considerably higher grains yields of 34.03, 33.77, 33.60 and 32.70 q/ha respectively . The most effective chemical insecticide was the ready mix combination product of flubendamide 240 SC plus thiacloprid 240 SC (i.e. 480 SC) applied as foliar spray @ 250 ml/ha on need based basis which could be able to minimize the incidence of gall midge (8.95 % SS) that, in turn realized the highest grains yield to tune of 45.80 q/ha in rice (var. Swarna). The combined use of HPR and need based judicious and alternate foliar application of chlorpyriphos 20 EC @ 2.5 lit and NSKE-5 percent could be highly effective in reducing the incidence of silver shoot in the two resistant rice varieties viz. BG-380-2 (2.54 % SS) and Naveen (2.83 % SS) as well as in three other popular rice varieties viz. PAC-801 (5.13 % SS), Sahbhagi Dhan (4.96 % SS) and BVS-1 (5.59 % SS) with significantly higher yield realization of grains as compared to the same respective varieties grown in the unprotected situation. Even, the susceptible variety, TN-1 could also be highly benefited by suitable protection measures in this regards. In nutshell, use of HPR (host plant resistance) coupled with judicious application of the appropriate insecticide could be highly effective for minimization in the incidence of gall midge, and optimization of realization of higher grain's yield of rice with the least harm or no harm to the agro-ecosystem.
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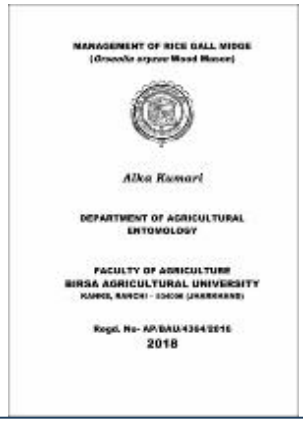
1667 Alka Kumari.pdf		4.7 MB	Adobe PDF	 View/Open (/displaybitstream?handle=1/5810062554)

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