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Abstract: Rice (*Oryza sativa* L.) is the most important staple food crop of Jharkhand. Insect pests problem are one of the major constraints in increasing the production of rice in the state. In order to explore the information pertaining to the pre-requisites for formulating pest management tactics for rice crop, the present investigation “Studies on the incidence of insect pests of rice and their management” was undertaken with four objectives, during wet season of 2010. Three sets of field experiments were conducted, in addition to pest survey of rice, during kharif,2010 to fulfil the objectives of the investigation. Among the 17 insect pest species, infesting rice in Jharkhand, six of them namely *Orseolia oryzae* WM, *Scirpophaga incertulas* Wlk., *Dicladispa armigera* Oliv., *Nephotettix* spp., *Cnaphalocrosis medinalis* Guen. and *Leptocorisa* spp. were noticed to appear as major pests in succession as well as in overlapping fashion in different growth stages of the crop . The results of field studies on the impact of plant nutrients made available to the transplanted rice (cv. Pusa Basmati-1) from organic and inorganic sources revealed that sole application of neem cake @ 2.5 t/ha and karanj cake @ 2.5 t/ha could be able to cause almost maximum suppression of all the six major insect pests of the crop resulting in sustaintially higher grain’s yield of rice to the tune of 41.50 q/ha and 38.60q/ha with net profit of Rs. 42,825 /ha and BC ratio of 1.5:1 and Rs.38,909/ha and BC ratio of 1.4:1 respectively .It was encouraging to mention that neem and karanj cake applied in the soil ,as organic ii manure, @0.5 to 1.0t/ha with supplementary and compensatory application of NPK through chemical fertilizers could also be highly effective in reducing the incidence of the six major prevailing insect pests ,resulting in considerably higher grains yield ranging from 34.20 to 37.40 q/ha and net profit of Rs.38,642 to Rs. 41,864 per hectare with BC ratio of 1.9:1 to 2.3:1. The results of field studies on varietal response of twenty five rice cultivars/varieties against the six major insect pests species ,indicated that Kavya,IR-36,Naveen and MTU-1010 appeared to have moderately resistant reaction against almost all six major insect pests resulting in considerably higher grains yield to the tune of 35.40,39.60,44.50 and 30.90 q/ha respectively. Lalat also appeared to have multiple pest resistant traits against all the major pest species except leaf folder (*Cnaphalocrocis medinalis*), resulting in appreciably higher grain yield of 46.90 q/ha .Among the six tested hybrid varieties, PA6444 received relatively lesser incidence of all the six pest species ,resulting in the overall maximum grain yield of 49.50 q/ha .TN-1 remained highly susceptible to all the pest species with minimum grain yield of 14.50 q/ha. The findings of field bio-efficacy of the tested insecticides against major pests of rice (var.IR-64) revealed that granular application of carbofuran 3G at 15 DAT (days after transplanting) followed by need based foliar spray of monocrotophos 36 WSC @ 1390 ml/ha at 40 and 85 DAT (T11)proved to be the most effective in causing maximum reduction in the incidence of all the six major prevailing insect pests ,resulting in the highest grains yield of 45.60 q/ha with iii maximum net profit of Rs. 25,341 /ha with BC ratio of 5.4:1. Granular application of cartap hydrochloride 4G@ 25 kg/ha at 15 DAT followed by two foliar spray at 40 and 85 DAT with trizophos 40 EC @1000ml /ha (T10) was found responsible for reducing the pest incidence almost upto maximum extent resulting in almost highest grain yield of 41.40 q/ha with net profit of Rs. 17,855 /ha and BC ratio of 2.8:1 .The new combined formulation of buprofezin 20 % SP plus acephate 50% SP (i.e.70 SP)@ 1000ml/ha applied as foliar spray at 15,40 and 85 DAT (T3) remained also very effective and at par to T11&T10 in terms of pest reduction and realization of grain yield (40.60 q/ha) with net profit of Rs.15,285 /ha and BC ratio of 2.2:1. In nut shell, use of pest resistant varieties, for raising the crop under balanced supply of plant nutrients (NPK), particularly through neem and karanj cake supplemented with the required quantity of chemical fertilizers(NPK) and need based application of the recommended insecticide(s) could be promising packages of practices for sustainable rice production for upliftment of socioeconomic condition of the farming communities with minimum or no harm to agro- ecosystem.

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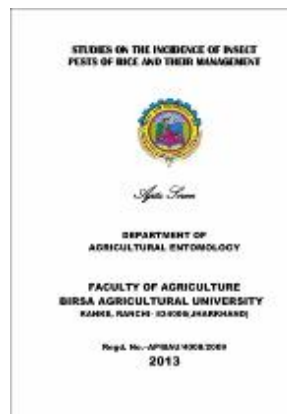
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