

INCIDENCE OF WHITE BACKED PLANT HOPPER, *SOGATELLA FURCIFERA* (HORVATH), ZIGZAG LEAF HOPPER, *RECILIA DORSALIS* AND WHITE LEAF HOPPER, *COFANA* SPP. UNDER UPLAND RICE ECOSYSTEM AND THEIR CORRELATION WITH WEATHER PARAMETERS

Yaspal Singh Nirala*, Gajendra Chandrakar, Sanjay Sharma and Sanjay Kumar Ghirtlahre

Department of Entomology, College of agriculture, Indira Gandhi Krishi Vishwavidyalaya, Raipur- 492012, Chhattisgarh, India

*Email : yasnirala@gmail.com

Received-17.02.2015, Revised-04.03.2015

Abstract: Rice occupies the prominent place in Indian agriculture. Field experiment was conducted at research farm of Indira Gandhi Krishi Vishwa Vidyalaya, Raipur during *kharif* season 2013-14 using two upland direct seeded rice ecosystems (UDS) and upland transplanted rice ecosystems (UTP). The results of field experiments revealed that the maximum incidence of white backed plant hopper, *Sogatella furcifera* and zigzag leaf hopper, *Recilia dorsalis* observed in UTP with (1.38) and (1.46) as compare to UDS with (0.20) and (0.32) nymph/adult/25 sweeps (seasonal mean), respectively. White backed plant hopper showed significant positive correlation with sun shine hours in UDS only. Zigzag leaf hopper showed significant positive correlation with sun shine hours and significant negative correlation with minimum temperature, average temperature, evening relative humidity, average relative humidity in UTP. The maximum population of white leaf hopper, *Cofana* spp. was observed in UDS as compare to UTP and showed non-significant correlation with weather parameters.

Keywords: Ecosystem, Leaf hopper, Plant hopper, Rice, Upland

REFERENCES

- Anonymous** (2004). Production oriented survey. *Dir. rice res.* Hyderabad, pp. 57-59.
- Anonymous** (2009). Status paper on rice Chhattisgarh. *Dir. rice res.* Hyderabad, pp. 11-16.
- Fernando, C.H.** (1995). Rice fields are aquatic, semi-aquatic, terrestrial and agricultural: a complex and questionable limnology. *Tropical limnology* **1**: 121-148.
- Gangurde, S.** (2004). Aboveground arthropod pest and predator diversity in irrigated rice (*Oryza sativa* L.) production systems of the Philippines. *Journal of Tropical Agriculture* **45** (1): 1-8.
- Garg, V.** (2012). Monitoring of rice insect pest and their natural enemies during *Kharif* season at Raipur. *M.Sc.(Ag.) thesis*, Indira Gandhi Agricultural University Raipur, Chhattisgarh (India) p. 88.
- Gomez, K.A. and Gomez, A.** (1985). Statistical procedure for agriculture research. A wibey-Inter Sci.Publication John and sons, Newyork.
- Kalode, M. B. and Pasalu, I. C.** (1986). Pest management in rice. *Indian Farming* **9**: 31-34.
- Nath, P. and Bhagabati, K.N.** (1998). Population dynamics of leafhopper vectors of rice tungro virus in Assam. *Indian Phytopath* **55** (1): 92-94.
- Ngoan, N. D.** (1972). Recent progress in rice insect research in Vietnam, *Proc. of Symp. On Tropical Agric. Res.*, Japan **5**: 133-141.
- Narayansamy P, Balasubramanian B and Baskaran P.** (1979). Biological Studies of the population dynamics of rice brown plant hopper and green leaf hopper. *International Rice Research Newsletter* **4**(3): 21.
- Oyediran, I.O., Ndongidila, A. and Heinrichs, E.A.** (1999). Strepsipteran parasitism of white leafhoppers, *Cofana* spp. (Hemiptera: Cicadellidae) in lowland rice in Cote d'Ivoire. *International-Journal-of-Pest-Management* **46** (2): 141-147.
- Pathak, M. D. and Khan, Z. R.** (1994). Insect pests of rice. *IRRI*, Los Banos, Laguna, Philippines pp. 77-89.
- Rajendra, B. S.** (2009). Status of paddy insect pests and their natural enemies in rainfed ecosystem of Uttara Kannada district and management of rice leaf folder. *M.Sc(Agri) Thesis*, Univ. Agric. Sci., Dharwad (India) p.117.
- Reddy, M. S., Rao, P. K., Rao, B. H. K. and Rao, G. N.** (1983). Preliminary studies on the seasonal prevalence of certain Homoptera occurring on rice at Hyderabad. *Indian J. Entomology*, **45** (1): 20-28.
- Rogel, C.J.G.** (2004). The richness of Philippine Rice Fields. *A Public Education Series of the Asia Rice Foundation*, **1**(3): 1-4
- Singh, B.B. and Singh, R.** (2010). Major rice insect pests in northeastern UP. *Int. J. LifeSc. Bt & Pharm. Res.* **3** (1):124-143.
- Uphoff, N.** (2011). The system of rice Intensification: An Alternate civil society innovation. *Technikfolgenabschätzung – Theorie und Praxis.*, **2** (1):45-52.
- Watanabe, T., Wada, T., Mohd, N., Noor, B. and Salleh, N.** (1992). Parasitic activities of egg parasitoids on the rice planthoppers, *Nilaparvata lugens* Stal. and *Sogatella furcifera* Horvath (Homoptera: Delphacidae), in the Muda Area of Pennisular Malaysia, *Applied Entomology and Zoology*, **27** (2): 205-211.

*Corresponding Author