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Effect of weed control treatments on grain yield, weed control efficiency, nutrient uptake and soil microflora in transplanted Rice

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A field experiment entitled "Effect of weed control treatments on grain yield, weed control efficiency, nutrient uptake and soil microflora in transplanted rice" was conducted during *Kharif* 2011 at ZARS, Brahmavar, Udipi district (Karnataka), India. The experiment consisted of 10 treatments laid out in randomized complete block design with three replications. The treatments are four pre-emergence herbicides, three post emergence herbicides, cono weeder at 20 days after transplanting followed by hand weeding at 40 days after transplanting, hand weeding twice at 20 and 40 days after transplanting and unweeded control. The results revealed that bensulfuron methyl at 60 g a.i ha⁻¹ + pretilachlor at 600 g a.i ha⁻¹ and bispyribac sodium at 25 g a.i. ha⁻¹ have achieved significantly higher grain yield (5212 and 5012 kg ha⁻¹, respectively), weed control efficiency (95.74 and 93.29%) and nitrogen, phosphorous and potassium (110.83, 16.32 and 113.85 kg ha⁻¹, respectively) uptake by crop. Unweeded control recorded the significantly highest nitrogen, phosphorous and potassium removal by weeds (16.10, 3.18 and 20.15 kg ha⁻¹, respectively). Significantly least nitrogen, phosphorous and potassium removal by weeds was recorded with bensulfuron methyl at 60 g a.i. ha⁻¹ + pretilachlor at 600 g a.i. ha⁻¹ (2.70, 0.87 and 2.20 kg ha⁻¹). Highest microbial population of bacteria, fungi, actinomycetes, PSB and Azospirillum were recorded in hand weeding twice at 20 and 40 DAT (54.30 × 10⁶, 16.33 × 10³, 8.33 × 10⁴, 17.67 × 10⁵ and 14.00 × 10⁵ CFU g⁻¹ soil, respectively).

Biography

M Padmanabhan born and brought up in Mysore, Karnataka completed his school and college education in Mysore. He then completed his BSc (Agriculture) during 2011 and his M.Sc. (Agriculture) in Agronomy during 2013 from University of Agricultural Sciences, GKVK, Bengaluru. He conducted his research on "Effect of different organic manures on growth and yield of transplanted rice" for his Master's degree. He has published two research papers, four research abstracts and two popular articles in reputed journals and magazines. He has also participated in two national level conferences. At present, he is pursuing his Ph.D. degree in Agronomy from UAS, GKVK, Bengaluru.

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Bionomics of rose thrips, *Frankliniella occidentalis* Pergande

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A lab trial was conducted during 2012-13 at Department of Entomology, College of Agriculture, JAU, Junagadh to study the bionomics of rose thrips, *Frankliniella occidentalis* Pergande. Laboratory studies revealed that the female laid their eggs in the leaf tissues by sharp ovipositor. The average incubation period was found 5.28 day. The larva passed through two distinct instar and average duration of each instar was 1.72 and 4.76 day, respectively. The total larval period was on an average of 6.48 day with the total pupal period of 3.96 day. The average pre-oviposition, oviposition and post-oviposition period were 3.12, 32.68 and 4.20 day, respectively. The number of progenies produced by a single female varied from 28 to 69 with an average of 58.8. The average longevity of male and female was 21.60 and 42.36 day with entire life span of 25.52 and 48.40 day, respectively. The sex ratio of male to female was worked out as 1:1.73 at a constant temperature of 25±1°C.

Biography

H G Kanara completed his BSc (Agri) and M.Sc. (Agri) and continuing Ph.D. (Agri.) in Entomology from Junagadh Agricultural University (Gujarat) at the age of 23 year. He achieved first class grade in both UG and PG studies. He completed research work on western flower thrips on rose.

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