

Studies on Impact of Different Seed Rates and Spacings against Insect Pests in Direct Seeded Rice

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ABSTRACT

A field experiment entitled “Studies on impact of different seed rate and spacing against insect pests in direct seeded rice” was conducted at Agriculture College Farm Bapatla during *kharif*, 2022. Rice seeds were sown directly in the field with 11 treatments (T₁ at 8kg acre⁻¹ seed rate, 30x10cm spacing, T₂ at 12kg acre⁻¹ seed rate, 30x10cm spacing, T₃ at 16kg acre⁻¹ seed rate, 30x10cm spacing, T₄ at 8kg acre⁻¹ seed rate, 40x10cm spacing, T₅ at 12kg acre⁻¹ seed rate, 40x10cm spacing, T₆ at 16kg acre⁻¹ seed rate, 40x10cm spacing, T₇ at 8kg acre⁻¹ seed rate, 45x10cm spacing, T₈ at 12kg acre⁻¹ seed rate, 45x10cm spacing, T₉ at 16kg acre⁻¹ seed rate, 45x10cm spacing, T₁₀-broadcasting and T₁₁-transplanting with 20x15cm spacing) to study the impact of different seed rates, spacings against insect pests in direct seeded rice. Among 11 treatments T₄ (8kg acre⁻¹ seed rate and 40x10cm spacing) was found to be the best treatment when compared to broadcasting and transplanting treatments based on mean per cent damage (6.13) of rice leaf folder *Cnaphalocrocis medinalis* and mean population (1.55) of rice BPH *Nilaparvata lugens*. The major insect pests identified during the crop season were rice leaf folder and Brown plant hopper. The mean per cent damage of leaf folder in different seed rates and spacings along with transplanting and broadcasting treatments ranged from 6.13 (T₄ at 8kg acre⁻¹ seed rate, 40x10cm spacing) to 12.56 (T₁₀- broadcasting) per cent. The mean population damage of BPH ranged from 1.55 (T₄ at 8kg acre⁻¹ seed rate 40x10cm spacing) to 2.33 (T₁₀- broadcasting). Results revealed that broadcasted treatment recorded the highest infestation because of closer spacing and higher seed rate. Yield at different seed rate and spacing was more in T₄ 8kg acre⁻¹ seed rate 40x10cm spacing with 6672 kg ha⁻¹ and very low yield of 5032 was observed in T₁₀ (broadcasting).

Keywords: *Direct Seeded Rice, Leaf folder, BPH, Seed rate and Spacing*