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Abstract

Land Situation and Sowing Date Effects Growth and Yield of Crops in the Rice-Pulse Based Cropping Systems of Coastal India †

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Abstract: The costal saline zone of West Bengal in India is the home for millions of the world's poorest and most vulnerable people. Due to gradual increase in salt accumulation on soils of the costal saline zone of West Bengal in India from winter to summer days, cultivation of the second crop in winter season becomes possible in a limited area. To address this issue, field experiment was conducted both in rainy and winter seasons of 2016–2017 and 2017–2018 in this zone to study the feasibility of incorporating different winter pulses (lentil and grass pea) in the rice based cropping system. The experiment was conducted in strip plot design having two factors namely, Factor I: Six dates of sowing of rice at an interval of one week (2nd week of June to 3rd week of July) and Factor II: Two land situations (Medium-upland and Medium-lowland). Date of sowing significantly influenced dry matter and macro-nutrients (NPK) partitioning in rice. Irrespective of land situation, crop sown on 1st and 2nd dates recorded significantly higher grain yield and macro-nutrient uptake by rice. Date of sowing of rice and land situation also significantly influenced the seed and stover yield of different pulse crops. Pulse crops sown on 1st and 2nd dates recorded significantly higher seed yield in coastal saline ecology of West Bengal, India.

Keywords: rice; coastal saline; pulses; cropping system

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