COMPETITIVE BEHAVIOR OF WEED FLORA IN WETLAND RICE ECOSYSTEM AS INFLUENCED BY NUTRIENT MANAGEMENT AND SPACING

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Abstract: A field experiment was conducted at College of Agriculture, Vellayani, Thiruvananthapuram, Kerala to study the extent of crop-weed competition for nutrients and space as influenced by nutrient management and plant population in a wetland rice ecosystem. The treatments included four levels of nutrient management and three levels of crop spacing. The results indicated that by altering nutrient management and adjusting the plant population, the competitive ability of rice crop could be improved and weed management made more efficient and economic. During both the seasons, at 20 and 40 DAT, the weed density and dry weight were the lowest when NPK @ 90:45: 45 kg ha^{-1} was applied with 25 per cent N as organic while at 60 DAT the enhanced nutrient level of NPK @112.5:56:25:56.25 kg ha^{-1} applied with 25 per cent N as organic recorded the lowest weed density values. The general trend was that, though weed growth increased with increasing nutrient levels, partial organic substitution had a positive effect in suppressing weed growth. At all growth stages the weed growth parameters were minimum in closer spacing of 15 X 15 cm. An overall analysis of the weed growth and crop performance indicated that the enhanced nitrogen especially when it is applied in an integrated manner with organic substitution benefited the rice crop more than the weeds through altering the micro environment in favour of rice.

Keywords: Crop, Nutrients, Spacing, Rice

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