

Interventions of Sodic Soil Reclamation Technologies and Constraints in their Adoption

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ABSTRACT

On farm participatory trials were initiated in Galwa command area in North-Eastern part of Rajasthan state of India. The command area was severely affected by sodicity due to indiscriminate use of sodic ground water. Before initiation of trials, a survey was conducted to evaluate farmers' response to land reclamation and to identify the constraints in adoption of reclamation technology. Out of 64 farmers surveyed, 34.4% knew the sodic soil reclamation technology, 44 farmers had not adopted any practice of sodic soil reclamation. Principal reasons of non-adoption of land reclamation was lack of availability of good quality water (27.3% farmers), while, other factors responsible for lack of response to technology were lack of risk bearing capacity, undulated topography, fragmented holdings, lack of investment power and knowledge of reclamation and limited availability of gypsum. After interventions for sodic soil reclamation, maximum and significantly higher mean yields of 4.69 t ha⁻¹ grain and 5.07 t ha⁻¹ stover of wheat and 2.61 t ha⁻¹ grain and 11.57 t ha⁻¹ stover of pearl millet was obtained with deep tillage in summer along with gypsum application @ 50% GR, green manuring and FYM @ 10 t ha⁻¹ compare with other treatments, whereas non-significant difference was observed between deep tillage in summer along with gypsum application @ 25% GR, green manuring and FYM @ 10 t ha⁻¹ and GR-50% along with green manuring and FYM @ 10 t ha⁻¹ treatment. Treatment of deep tillage in summer along with GR-50%, green manuring and FYM @ 10 t ha⁻¹ resulted in maximum reduction of pH and soil sodicity, improvement in infiltration rate and increase in available N, P, K and micronutrients.