

EFFECTS OF SOIL AMENDMENTS ON RICE GROWING ON ACID SALINE
SOIL IN NORTHEAST THAILAND

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ABSTRACT

To search for suitable soil amendment to correct effect of soil salinity lowering rice yield in the Northeast region of Thailand, a pot experiment was conducted to grow rice on paddy soil mixed with 7 different soil amendments (rice husk, compost, dry sunnhemp, rice husk + compost + dry sunnhemp, lime, lime + compost and none) and superimposed with 4 salt concentrations (112.8, 56.4, 28.2 and 0 millimole NaCl). Yield and yield components and straw weight of the rice plants were assessed at 104 days growing period. Without application of soil amendment treatments, rice plants were damaged by salt adding at every concentration resulting in poor plant growth and low yield. In some soil amendment treatments, rice yield increased with the application of low salt concentration (28.2 millimole NaCl) but at higher concentrations the yield decreased in all treatments. The highest sunnhemp. The low concentration of added salt seemed to have favorable effect on growth and yield of rice plant grown on soil amending with dry sunnhemp. In general, the results indicated that the soil amendment treatments could increase soil pH and rice yield over the control. Green manure was probably the best soil amendment to improve yield of rice grown on weakly saline soil.