

Study on the Subsurface Irrigation at Salt Affected Soils in Northeast Region of Thailand

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Summary

The north-east Thailand is in the region of saline soils. The salt components are transported by the capillary water and accumulated in soil surface. The main reasons of salinization are the high evaporation from soil surface, a little rainfall, and high ground water level. Salinization decreases the yield of agricultural products. However the utilization of agricultural land located in salt affected area becomes important for increasing the agricultural production in the world. So, there is currently a great interest in the preventing measures of salinization and the effective methods for irrigation in salt affected area. This study dealt with the development of ceramics for subsurface irrigation and the investigation for reducing irrigation amount using ceramics for subsurface irrigation.

The results showed that the mixing ratio of carbon as 25% enhanced the permeability of ceramics. The application of ceramics for subsurface irrigation was effective for reducing evaporation and for decreasing irrigation amount comparing with surface irrigation method. Additionally, subsurface irrigation system increased the water use by plant. It was considered that the application of ceramics for subsurface irrigation was effective for plant growth in salt affected area.