

Effect of organic fertilizers on the water holding capacity of soil

in different terrains of Jaffna peninsula in Sri Lanka

Vengadaramana, A., Jashothan, P.T.J.

Abstract

Soil texture and organic matter content are the key components that determine soil water holding capacity (WHC). Management practices designed to improve soil structure are the main way to improve WHC. The object of this study was to improve the WHC of farm soils by the addition of organic fertilizers. Soil obtained from 10 different areas in Jaffna peninsula and evaluated the effect of organic fertilizers such as compost fertilizer and cow dung on the WHC of those soils. The soils from Urumpirai (0.536 ± 0.04) and Ariyali (0.535 ± 0.01) showed higher mean WHC where as soil from Iddaikaddu showed lower mean WHC than other soil samples. A significant difference ($p < 0.05$) was observed on mean WHC of each soil sample with compost fertilizer and cow dung treated separately when compared to the control. Addition of compost fertilizer and cow dung treated separately increased the mean WHC of each soil sample. Cow dung doubly increased the WHC of each soil sample. The best option for a farmer is to increase their soil organic matter to increase the WHC of their farm soil. More water in the soil could save time, money and energy spent on frequently irrigating garden plants, pot plants, glasshouse plants and general horticulture.