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VARIATION OF STEADY STATE INFILTRATION RATE WITH LAND USE TYPE

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The infiltration characteristics of soils under three different land use practices were studied in the premises of the University of Peradeniya, Sri Lanka. The land use practices considered were: turf area, forest area and shrub area. The study aimed at examining the effect of various land use types on infiltration and determining the degree of relationship between infiltration rates and selected soil properties under different land use types. The soil properties selected were initial moisture content, and results of sieve analysis test and Proctor compaction test. These results were used to determine the level of compaction and soil type.

The experiment was arranged randomly in selected land use areas and was replicated thrice. The infiltration rates of the soils were measured using a double-ring infiltrometer. The soil samples from these areas were analysed for selected soil properties. It was found that the soil type of all these places was sandy clay loam.

The results showed that forest area had the highest average infiltration rate of 31-48 cm/hr while the turf area experienced the least infiltration rate of 14-27 cm/hr; the infiltration rate in shrub area was 30-35 cm/hr. A negative correlation was found between the level of compaction and infiltration rate. Initial moisture content had less influence on steady infiltration rate and it only changed the time to reach the steady infiltration rate.