

ABSTRACT

The thesis describes experiments designed to study the relative erodibility and actual rate of accelerated erosion on soils of the island of Tobago as related to soil type and slope. Easily installed plots were set up on three soils (Goldsborough clay formed on volcanic rock; Concordia sandy clay loam formed on diorite and Bloody Bay clay loam formed on schist) on slopes of 10, 20 and 30 degrees. Rainfall and soil loss data were collected and correlated with slope and soil types. The Wischmeier-Smith rainfall factor was applied to the data in an effort to determine the relative erodibility of the soils.

Results indicate that where a wide range of steep slopes is involved the classical relationship of increasing erosion with increasing slope does not hold true. In addition, exposure, particularly in areas where strong winds prevail, seemed to affect soil loss considerably. The Wischmeier-Smith rainfall factor did not seem applicable to the data.

Actual soil loss and laboratory data indicated that the Bloody Bay clay loam is the most erodible soil. Differences in amount of erosion recorded on Goldsborough clay and Concordia sandy clay loam seemed to be due to differences in vegetative cover resulting from differential exploitation and inherent fertility. Suggestions were made about the ~~sett~~ing up of erosion research projects under West Indian conditions.