

EVALUATION OF DIFFERENT ENGINEERING PROPERTIES
OF SOIL IN DON SEVERINO AGRICULTURAL
COLLEGE

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A B S T R A C T

DILOY, RODRIGO HERRERA. Don Severino Agricultural College, Indang, Cavite. April 1990. "Evaluation of Different Engineering Properties of Soil in Don Severino Agricultural College." Adviser: Engr. Cezar C. Carriaga.

Soil samples were collected from the different sites in Don Severino Agricultural College which are being used to grow upland crops. These were analyzed to determine the following physical characteristics: texture, bulk density, particle density, total porosity, field capacity, permanent wilting point, available soil moisture, and infiltration rate. The gathered data led to a recommendation of a reliable and consistent values of different engineering properties of soil for the formulation of water management and in planning irrigation for upland crops.

The soil texture studied ranged from medium to fine texture. Two soil textures, i.e. clay loam, and clay were found to be present in areas planted to upland crops. Clay soil was found to be the most predominant texture used for growing upland crops.

Bulk density values of the gathered data ranged from 1.29 g/cc to 1.36 g/cc for clay loam soil while clay soil ranged from 1.21 g/cc to 1.33 g/cc. The particle density values obtained ranged from 2.64 g/cc to 2.66 g/cc for clay loam soil while clay soil ranged from 2.63 g/cc to

2.85 g/cc.

The total porosity value are well within the range of 30 to 60 percent. These values are well suited for growing upland crops.

Moisture content at field capacity increases as the texture becomes finer and this ranged from 24.88 percent to 26.72 percent for clay loam soil while clay soil ranged from 21.76 percent to 37.19 percent. The same trend was observed on the moisture level at permanent wilting point. The mean values range from 12.32 percent to 12.51 percent, for clayloam soil while clay soil ranged from 10.66 percent to 25.46 percent.

Available soil moisture varied from 8.81 percent for clay to 14.40 percent for clay loam.

The final infiltration rates varied from 2.17 mm/hr for clay soil to 4.93 mm/hr for clay loam soil. Infiltration rate decreases as the soil texture becomes finer.

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