عنوان مقاله:

Analytical and Laboratory Evaluation of the Solubility of Gypsiferous Soils

محل انتشار:

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خلاصه مقاله:

Gypsum soil is one of the problematic soils because of considerable solubility for Gypsum particles in contact with water. In this research the effects of three factors including; gypsum percent, hydraulic gradient and soil texture were studied on solubility of gypsum soils. To do this, samples of gypsum soils were provided artificially by adding various rates of natural gypsum rock including 0, 5, 10, 20 and 30 percent weight of 3 kinds of soil textures including clay, silty clay and sand. Totally, 15 types of gypsum soils were prepared. Then each of gypsum soils were leached under five hydraulic gradients levels 0.5, 1, 2, 5 and 10. The results of the test indicated that the rate of Gypsum in the soil had direct effect on the rate of soluble and by increasing the percent of Gypsum, the rate of solubility was increased. In addition, by increasing hydraulic gradient, the speed of water existing soil media in a specified time was increased and also higher rate of Gypsum was derived. Also the soil texture has a considerable effect on the rate of solubility of soil. In this study, rate of solubility of gypsum soils with sandy soils was determined as 1.5 to 2 times more than the rate of clay soils. The statistical results show the highest impact of gypsum percentage and lowest impact of hydraulic gradient soil on solubility of particles in different types of soils and it has no significant effect on the overall equation of the soil texture.

کلمات کلیدی:

Gypsum soil; Hydraulic Gradient; Solubility Speed; Statistical Analysis