Effect of Some Amendments on Soil Properties and Plant Growth

By

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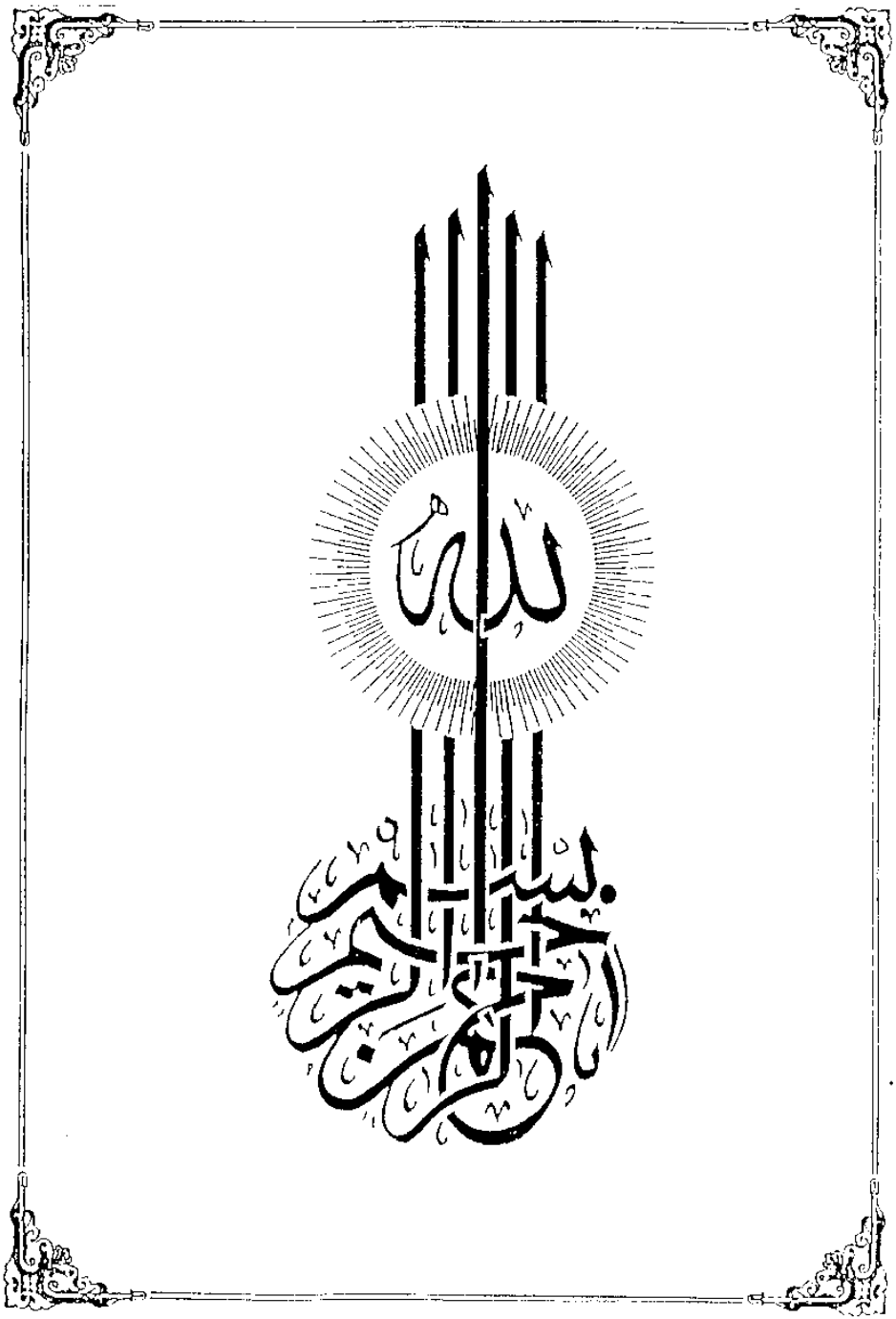

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ABSTRACT

Two pot experiments were carried out by application of 2% or 4% of Chicken manure and humefied peanut shells either alone or in combination with 0.2% polyacrylamide gel to sandy soil. The first experiment was carried out to study the effect of these organic amendments on the physical and chemical properties of the fallow sandy soil or under its cultivation by cucumber. Soil and plant samples were analysed after one,

two and three months of plant growth. Results indicate that polyacrylamide gel improved infiltration rate and aggregates of the sandy soil while the two rates of chicken manures were superior to increase nutrient availability in soil and cucumber dry matter yield as well as uptake of macro-and micronutrients. The second experiment was carried to investigate the residual effect of these organic amendments on the chemical properties of soil and cucumber growth in the next season. Results indicate that chicken manure was still superior to the other treatments.

On the other hand, other pot experiment was carried out to study the effect of sulfur, peanut shell and chicken manure on physical and chemical properties of a calcareous soil as well as the cucumber growth. Results indicate that application of these amendments did not improve the physical properties, but increase nutrient availability. Cucumber plants did not grow after 25 days under the poor physical properties of the studied calcareous soil.

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