

Phytoadaptation in Desert Soil Prediction Using Fuzzy Logic Modeling

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Abstract : In terms of ecology forecast effects of desertification, the purpose of this study is to develop a predictive model of growth and adaptation of species in arid environment and bioclimatic conditions. The impact of climate change and the desertification phenomena is the result of combined effects in magnitude and frequency of these phenomena. Like the data involved in the phytopathogenic process and bacteria growth in arid soil occur in an uncertain environment because of their complexity, it becomes necessary to have a suitable methodology for the analysis of these variables. The basic principles of fuzzy logic those are perfectly suited to this process. As input variables, we consider the physical parameters, soil type, bacteria nature, and plant species concerned. The result output variable is the adaptability of the species expressed by the growth rate or extinction. As a conclusion, we prevent the possible strategies for adaptation, with or without shifting areas of plantation and nature adequate vegetation.

Keywords : climate changes, dry soil, phytopathogenicity, predictive model, fuzzy logic

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