

Computer based advisory system to advise the farmers on soil condition management in paddy fields

K.G.Y.R.S.Perera and C.M.Navaratne

Department of Agric Engineering, Faculty of Agriculture, University of Ruhuna, Sri Lanka

sadeegalle@gmail.com, champa@agracc.ruh.ac.lk

Abstract

Study was conducted with the objectives of development of a computer based advisory system to advise the farmer on soil condition management by diagnosing the soil condition considering the soil formation characters and symptoms of soil conditions, then providing the relevant management practices and rice varieties. The study consists with several phases, in the knowledge gathering phase the knowledge was gathered under problematic soil conditions, toxic conditions, management practices and rice varieties tolerance to the soil conditions. In the knowledge representation phase gathered knowledge was formally represented using production rules. In software development phase the rule engine was designed and implemented with the capability of inference using forward chaining and making Sinhala strings. The developed rule engine was tested for errors. In final phase the knowledge was populated with the knowledge base. Developed system is user friendly and interactive also it can provide management practices and rice varieties successfully by diagnosing the soil conditions. Key words: problematic soils, agricultural computer based advisory systems, toxic conditions, rule based systems.