

ABSTRACT

The hydroponic expert system application with the forward chaining decision-making method and certainty factors, becomes a tool for hydroponic activists that can be carried anywhere with only the Internet and an Android Smartphone. The expert system that is built can monitor and control an integrated hydroponic nutrition control device (Internet of Things). The ph and tds sensor data will be processed using the forward chaining decision-making method and the Certainty Factor determinant to classify and handle hydroponic solution problems.

The expert system is made using the android studio application which has an accuracy of decision making that has been validated by experts at 100%, and has an average time interval of sending data to the tool for 39.2 seconds. Alpha testing has been carried out on the application system with 100% accuracy, beta testing with usability aspects > 80%, validity testing with all 6 questions having a value > rtabel declared valid, reliability test having Alpha value = 0.8105 > 0.6 (comparable value) then declared reliable.

Keyword : Hydroponic, Expert System, Forward Chaining, Certainty Factor