

Intelligent Control for Automation of Yam Storage System Using Fuzzy Logic Controller

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Abstract

This paper presents the development of intelligent control technique for yam storage system based on fuzzy logic controller (FLC). The expert control of yam storage system is formulated in the form of fuzzy rules. The inputs to the controller are the outside and inside temperature, wind speed and presences of rain. The output is the window opening angle. Simulations were performed for different typical levels of input parameters and also for extreme fictitious conditions. The results shown that, the controller is capable of responding to the changes in temperature conditions by adjusting the window opening angle to keep the internal temperature within acceptable range. The controller also satisfies security requirements due to sudden changes in wind velocity and presence of rain.

Keywords: Fuzzy logic, Temperature measurement, Rain, Wind speed, Ventilation, Temperature sensors, Fuzzy Logic Controller (FLC), Yam Tuber, Yam Storage System, Intelligent Control

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