Laboratory Model of Automation in Agricultural Drainage

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ABSTRACT

Research in water management in the developed countries is progressing towards real time irrigation, decision support systems and expert systems. As the farm holdings are not large enough in India and also high cost of automation cannot be realized, low cost auto drainage, if developed and can be made availability to the farmers serves as a tool comfortable in view of the frequent power cuts and less power available in his farm. Based on simple electronic circuit principles of agricultural drainage, an attempt has been made to develop low cost auto irrigation and drainage based on soil moisture level or timer. Commercially available aqamon make single phase auto cut off and auto cut on circuit board fixed in a box along with sensors. This aqamon reversible circuit is used for agricultural drainage. The sensors in the auto drainage were kept at 0.2 m and 0.7 m height in the drainage well, if water level reaches beyond the cut off depth i.e.0.2 m from the bottom of the drainage well, the motor stops and motor stars at a depth 0.7 m from the bottom of the drainage wall. For the design of low cost automatic drainage circuit and it cost was Rs.350/- The device tested in the lab conditions almost similar to the actual filed conditions.

Key words : Auto agricultural drainage, Drainage well, Electrical circuits and Lab model.