

Automated Irrigation System with Programmable Logic Controller and Photovoltaic Energy

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Abstract : This paper proposes the development of control and automation of irrigation system located sunflower harvest in the Teaching Unit, Research and Extension (UEPE), the Apodi Plateau in Limoeiro do Norte. The sunflower extraction, which in turn serves to get the produced oil from its seeds, animal feed, and is widely used in human food. Its nutritional potential is quite high what makes of foods produced from vegetal, very rich and healthy. The focus of research is to make the autonomous irrigation system sunflower crop from programmable logic control energized with alternative energy sources, solar photovoltaics. The application of automated irrigation system becomes interesting when it provides convenience and implements new forms of managements of the implementation of irrigated cropping systems. The intended use of automated addition to irrigation quality and consequently brings enormous improvement for production of small samples. Addition to applying the necessary and sufficient features of water management in irrigation systems, the system (PLC + actuators + Renewable Energy) will enable to manage the quantitative water required for each crop, and at the same time, insert the use of sources alternative energy. The entry of the automated collection will bring a new format, and in previous years, used the process of irrigation water wastage base and being the whole manual irrigation process.

Keywords : automation, control, sunflower, irrigation, programming, renewable energy

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