Irrigation System for Tropical Climate

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One of the characteristics that influences crop production on our island is the location of Puerto Rico in a tropical zone. This fact, in turn, can have a significant effect on food production. Due to the increase in temperature, the production of a good crop is reduced, and the proliferation of weeds and pests increases (Nelson, et.al., 2009). To try to solve this problem; an attempt was made to demonstrate which irrigation system was more effective in producing a healthy crop, considering that an automated irrigation system was more effective than a traditional system. For this, a small irrigation system was built, which would be measuring the soil temperature of the harvest with a sensor and programmed so that this parameter could be determined quickly and presented on a display. A water pump was added, which released the necessary water, determined by the pre-programmed microprocessor, to the plant. According to the results, the temperature sensor circuit did not work. Also, the water pump is not automatic and had to be turned on manually, making this prototype partially functional. The main idea behind it is that it was largely automatic, so the human using it doesn't have much information. In the future, it is intended to improve the design of the prototype, using other technological resources, and including the measurement of other important parameters for its efficiency.

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