Is It Clogged? Production of an Instrument to Detect Clogged Sprinkler Heads and Notify a Cellular Device

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The goal for this project was to engineer a device that would sense if there was a clog in a sprinkler nozzle, and notify a cellular device. Using sensors, an Arduino, and some code this idea was partly achieved. But first there needs to be an understanding on how it was built. A sprinkler regulator was the base for designing brackets to hold the sensor to the nozzle. This was achieved by using a 3D cad to design 3D prints to hold the sensor together. Then the code was written. This proved to be more difficult than anticipated, but after troubleshooting with the assistance of several companies, people, and error-detecting apps the code ran as it should. For the testing there were two variables: unclogged, and clogged. For each of the variables five tests were run for ten seconds. This was to test the accuracy of the device. The device ran almost perfectly except for the blade in the sensor getting stuck every so often. Not everything though that was wanted was accomplished. The original design was to have the device send a message to a phone saying the nozzle is clogged. This proved to be another set back, as the necessary components are not available at present, and therefore it did not make it to the first prototype. This portion of the device is still in the production phase, and will be tested upon receipt of the materials needed. With additional testing and modification, the goal is to get this device into production to help and save farmers time in their business.

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