

Brett Bostrom  
*Automated Irrigation*

Autonomous irrigation is an idea for the future. Sub-surface irrigation increases efficiency by placing water only where it's needed, at the roots, and by virtually eliminating evaporation. The purpose of this project is to design, build, and program an autonomous agriculture irrigation system capable of monitoring ground moisture levels and which would automatically apply water to a crop as needed. A secondary goal of this project is to create a system which increases irrigation efficiency, applying water only when needed. Results indicate that an autonomous irrigation system can be successful. Software programming produced for this project had a Watermark water sensor monitor two sections of agriculture ground for moisture content and then solenoids were used to open valves controlling water flow. A fully autonomous irrigation system was developed.