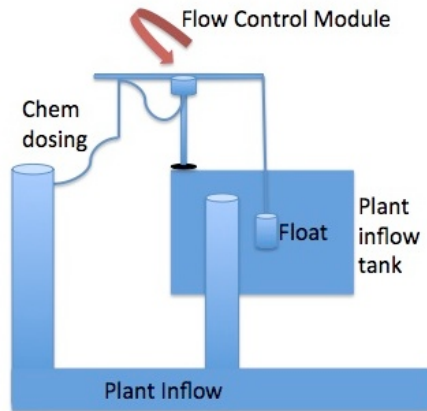# Linear Chemical Doser

Linear Chemical Doser

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This research is focused on designing a linear automated chemical doser that can automatically adjust the head loss in the chemical dosing system in response to plant inflow changes. Currently plant chemical dosing is determined based on plant inflow and turbidity. The chemical doser (CD) will eliminate the need for plant operators to dose for inflow, reducing the number of variables and therefore opportunities for error.

One main reason for the focus on this doser is that it will allow the AguaClara plants to be more flexible. Plant inflow is largely variable with weather, both seasonally and hourly. In Honduras particularly there is a high frequency of late night rain storms, which appreciably increase plant inflow. Ideally the automated chemical dosing system will allow plants to respond to these weather-driven changes without an operator's presence.

Subteam semester goals
Weekly subteam progress

Linear Chemical Doser Research: Methods and Results

Fall 2008

Overall Data Analyses

- Data from all three experimental runs in Fall 2008 analyzed together

Lever arm height versus chem dosing

- The robust chemical doser from Fall 2008 was tested by fixing the lever arm height at multiple heights while measuring flow controller outflow at different locations along the lever arm (similar to float height vs. chem dosing experiment)

Float height versus chem dosing at multiple lever arm locations

- The chemical doser apparatus and prototype from Fall 2008 were tested by increasing the float height while measuring flow controller outflow at different locations along the lever arm

Additional Information

Chemical doser design

- Includes apparatus design and chronological modifications to the experimental set-up

Parts list

Setting up and calibrating a CD

- Includes specific instructions for setting up and calibrating a CD

Take the new member quiz to become better acquainted with the project