### Micro System Evaluation

#### Materials:

Lg graduated cylinders or pitchers (sprayer calibration pitchers work well)

Pressure Gauge / Goof Plugs

Tape

Stopwatch or smart phone

#### Procedure:

1. Check the lateral screens, and flush the system if necessary and then allow the system to fill before testing.
2. Determine how the system laterals, sub mains, and main lines are laid out. Diagram the layout using a straightedge (sketch on paper first). (Hint: use google maps to see shape of field.)
3. Develop an evaluation plan by:
   * 1. Selecting laterals at the start of the sub main, ¼, ½, ¾, and end of the sub main.
     2. Select sprinklers at the start of the lateral, ¼, ½, ¾, and end.
4. Show your audit plan to the instructor and have the system turned on.
5. Using a graduated cylinder sample one micro sprinkler at each location. Note any anomalies (like a plugged sprinkler). Indicate these locations on your diagram. How you measure will depend on the type of sprinkler. Sprinklers that are on stakes can be inverted into the catch bucket. Sprinklers that are on fixed risers often can me measured by attaching a hose to the nozzle and diverting the output into a bucket.
6. Measure the pressure at the end of farthest lateral(s) and the closest lateral (to the mainline) using the pressure gauge. Note the pressures in your notes.

### Field Data:

Crop: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Plant Spacing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Field: \_\_\_\_\_\_\_

Sprinkler Model: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Nominal Flow: \_\_\_\_\_\_\_\_\_\_\_

Sprinklers/Plant: \_\_\_\_\_

Number of Laterals: \_\_\_\_\_\_\_\_\_\_\_\_\_ Lateral type/size: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pressure: Low: \_\_\_\_\_\_\_\_\_\_ High: \_\_\_\_\_\_\_\_\_\_\_ (Note locations on diagram)

Water Source: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pump Pressure: \_\_\_\_\_\_\_\_\_\_\_\_ Pump Flow (if known): \_\_\_\_\_\_\_\_\_\_\_\_\_\_

### Analysis (from data):

Use the online tool (on the website) to analyze the data. You should know how to calculate on your own.

Average Flow (GPH): \_\_\_\_\_\_\_\_\_\_ (average catch converted to GPH)

Precipitation rate (in/hr): \_\_\_\_\_\_\_\_\_\_\_ (use spacing of the trees/vines))

Average Flow of the low quarter (GPH): \_\_\_\_\_\_\_ D.U.: \_\_\_\_\_\_\_

1gal = 3785 ml=128 oz.

### Field Notes:

System Diagram (map)

(Show where samples will be taken or catchments placed. Include pressure sample locations.)

A grid of graph paper

Description automatically generated

## Data:

|  |  |
| --- | --- |
| Site: | Date: |
| Time of Day of Test: | Volume Units: ❑ ml ❑ oz. |
| Outlet Spacings (ft): X | Elapsed Time of Test (seconds per sample): |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| # | Location  (row & position) | Collection | Flow (GPM) |  | # | Location  (row & position) | Collection | Flow (GPM) |
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