

# PHAUCET BASICS

If you irrigate in Mississippi, chances are you've heard about the PHAUCET program. But what exactly is PHAUCET? Here's a breakdown of the basics:

## What is PHAUCET?

PHAUCET stands for Pipe Hole and Universal Crown Evaluation Tool. This computer program was developed by the U.S. Department of Agriculture – Natural Resources Conservation Service to improve the efficiency of existing furrow-irrigation systems. Farmers can use PHAUCET to determine the best size holes to punch along the length of a polypipe irrigation set. The tool calculates these hole sizes based on pressure changes along the tubing, pipe diameter, the different row lengths that will be encountered along an irrigation set and the elevation changes in a field.

## Why use it?

Using the PHAUCET program to determine hole sizes in a line of polypipe allows water to reach the ends of variable-length rows more evenly and can help reduce runoff and irrigation pumping time. **Using the program can save a farmer approximately \$10 an acre for regularly shaped**

**fields and up to \$25 per acre for irregularly shaped fields.**

## Where to start?

PHAUCET can be downloaded for free from the Yazoo Mississippi Delta Joint Water Management District website, [www.ymd.org](http://www.ymd.org). You may also contact the organization to have a disc containing the program mailed to you.

- Before you start punching holes, you will need to input the following data from your fields and irrigation wells into the tool:
- Field size dimensions.
- Flow rate from wells.
- Maximum number of hours that can be pumped in one set without causing problems.
- The lengths of the longest and shortest row in each set. Think you don't have time to measure all of your rows? Turn to the World Wide Web. "I used Google Maps to determine

row lengths on my fields," says Arcola farmer Bubba Simmons, who set up PHAUCET on all of his acres in 2013. Although this method might not yield perfect measurements, Simmons says they were close enough that PHAUCET was highly effective on his farm.

- Length and slope of turn row.
- Row spacing and whether you irrigate every furrow or every other furrow.

## What next?

After installing the program and collecting your field data, input that information into the program. That will result in a printout you can take to the field to tell you the size of the holes to punch along each length of pipe. For troubleshooting assistance, search for PHAUCET on the MSPB website, [www.mssoy.org](http://www.mssoy.org), to find a troubleshooting guide.

**That's how much farmers can cut their water use by using PHAUCET versus conventional irrigation.**

Source: Mississippi State University Extension Irrigation Specialist Jason Krutz



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