CENTER PIVOT HHCU VERSION 1.0 USER'S GUIDE

The purpose of this spreadsheet is to calculate the Coefficient of Uniformity for a center pivot irrigation system based on the modified Heermann and Hein Uniformity Equation. It must not be used to calculate the Coefficient of Uniformity for a linear move system.

The spreadsheet was designed to be used with the data collected from catch cans which were set out according to ASABE Standard S436.1 *"Test Procedure for Determining the Uniformity of Water Distribution of Center Pivot and Lateral Move Irrigation Machines Equipped with Spray or Sprinkler Nozzles"*. This publication is available free to all USDA employees from the following URL:

http://asae.frymulti.com/request.asp?search=1&JID=2&AID=14838&CID=s2000&v=&i=&T=2

Non USDA employees will need to contact ASABE at (269) 428-6324 or go to www.asabe.org in order to purchase the document.

Two lines of catch cans are to be set out. The spreadsheet has a separate worksheet for each line of catch cans. On the appropriate worksheet, enter the distance of the catch can from the pivot point, and the amount of irrigation water (in milliliters) captured in each individual can. The catch can data must be entered sequentially beginning with the can closest to the pivot. The spreadsheet was designed to be used with measurements made in milliliters (or cubic centimeters). The program will calculate the equivalent value of inches of water if the user enters the correct value of the catch can diameter (in inches) in the proper cell in the worksheet. The user may enter values in the yellow cells, all other cells are protected. If a can catches no water enter a zero. If a can falls over and spills its contents, leave the cell blank. All cells past the last catch can must be left blank.

Note that the sprinklers closest to the pivot cover the smallest amount of field. These sprinklers will therefore have the smallest nozzles and/or wider spacings. ASABE Standard S436.1 allows for not including the inner 20% of the effective radius of the pivot if mutually agreed upon by the testor and the client. NRCS recommends the first catch can be placed at a distance of 12% of the effective radius from the pivot. If catch cans are placed closer to the pivot you may leave the amount of water caught blank for the purpose of computing the Heermann and Hein Uniformity Coefficient.

The **PLOT** worksheet provides a graph of the depth of water caught versus the distance from the pivot for each of the lines of catch cans.

The worksheet titled **TOTAL** will display the Heermann and Hein Uniformity Coefficient for each line and will calculate the Heermann and Hein Uniformity Coefficient for both lines combined.

To print out the results of the analysis, go to the **PRINT** worksheet and click on the PRINT BUTTON.

Questions regarding the spreadsheet may be directed to:

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