

User Manual

Note: This program was created based on the climatic information provided by CEDEGE from the weather stations located in the Santa Elena Peninsula. The Evapotranspiration (ET_o) values were calculated using the CROPWAT software from FAO-UN.

This basic program is intended for a quick reference to calculate water requirements for the Santa Elena Peninsula (SEP). However, if available, real-time weather data should be used to calculate crop water requirement (CWR). To learn more about other methods please check the Internet sites listed in the 'Literature' section of this manual.

Instructions:

- Choose the 'Enable Macros' option when the program opens.
- There are only two inputs required by this program (Table 1):
 - o The first is to select the crops; to do this the number one (1) has to be entered in the column "Select Crops". Zero (0) should be entered for the crops that are not being cultivated (de-select).
 - o The other one is the in-field application efficiency value, also entered as a percentage.
- **Warning!** – It is important to notice that the (irrigation) application efficiency cannot exceed 100%.

How to read the results:

- The output of the program is expressed in millimeters (mm) of water that must be applied to fulfill the ET demand of the crops.
- In 'Table 2' the monthly Crop Water Requirement values for the entire year are presented for each crop at the assumed in-field efficiency (depends in the input). These values were also calculated based on the areas entered in the input column.
- Graph, it shows the crop water requirement (Table 2) in a graphical format for the months of April and August. These months are the ones with the highest CWR. However, for a specific combination of crops and areas other month can give the highest crop water requirement (CWR).

Basic Definitions:

- Crop Area, the proportion of the area planted with the specified crop in the current cropping pattern.

- Evapotranspiration (ET_o) stands for reference crop evapotranspiration in millimeters per time step.
- Crop Water Requirement (CWR), calculated as ET_o*CropK_c.
- Irrigation efficiency refers to the 'in-field' application efficiency.

Literature:

CROPWAT. FAO-UN. <http://www.fao.org/landandwater/aglw/cropwat.stm>

Crop evapotranspiration. Guidelines for computing crop water requirements. FAO Irrigation and drainage paper 56. <http://www.fao.org/docrep/X0490E/X0490E00.htm>