

KanSched - An ET Based Irrigation Scheduling Tool



Irrigation scheduling is the determination of when and how much water needs to be applied to a crop to maintain healthy growth. ET based scheduling uses real-time crop and weather data to calculate daily crop rate use. Daily water use values, combined with soil root zone information, can be used to develop an irrigation schedule that tracks soil water levels, which determines when irrigation should be added to maintain acceptable levels. The KanSched scheduling program is a simple and user friendly computer program that can be quickly learned and easily used by irrigators to develop an irrigation schedule.

The initial input needs are minimal for a field and may take only a few minutes to enter at the beginning of each session. The information needed to initialize the program for an individual field is available on “help” sheets in the program.

- Field Input:
1. **Soil characteristics and emergence and maximum rooting depths.** Help screens with information are available for most inputs. Soil type and rooting depth determines the amount of available water that the soil holds which can be used by a crop.
 2. **Crop characteristics.** These questions relate to when the crop emerges, reaches various levels and matures.
 3. **Crop coefficients.** Each crop has specific water use needs at various growth stages. Program help screens allows the irrigator to customize the crop coefficients for the scheduled field.

- Daily Inputs:
- ET based irrigation scheduling is most generally considered a daily process. In practice, the actual schedules maybe only updated at the end of an irrigation cycle or following a major rain event. Even if KanSched is updated on a three or four day basis, daily input of the ET value is required. Daily inputs may include:
1. **Reference ET** (this number is obtained from a weather station)
 2. **Rainfall or irrigation** amount
 3. **Soil water value** (This is also a calculated value, but can be re-entered during the season if desired)

Calculated and Graphed Output:

1. KanSched immediately updates the **root zone water level** percentage (100% equals a full root zone). It will also calculate and display the amount of available water remaining in the root zone and the root zone deficit. These numbers are displayed on the same budget page where the daily inputs are entered.
2. A **seasonal management chart** (Figure 1) is automatically developed in KanSched. It plots daily soil water values (relative to field capacity and wilting point), rainfall and irrigation amount. The management chart gives a quick historical overview and current status report of field conditions.

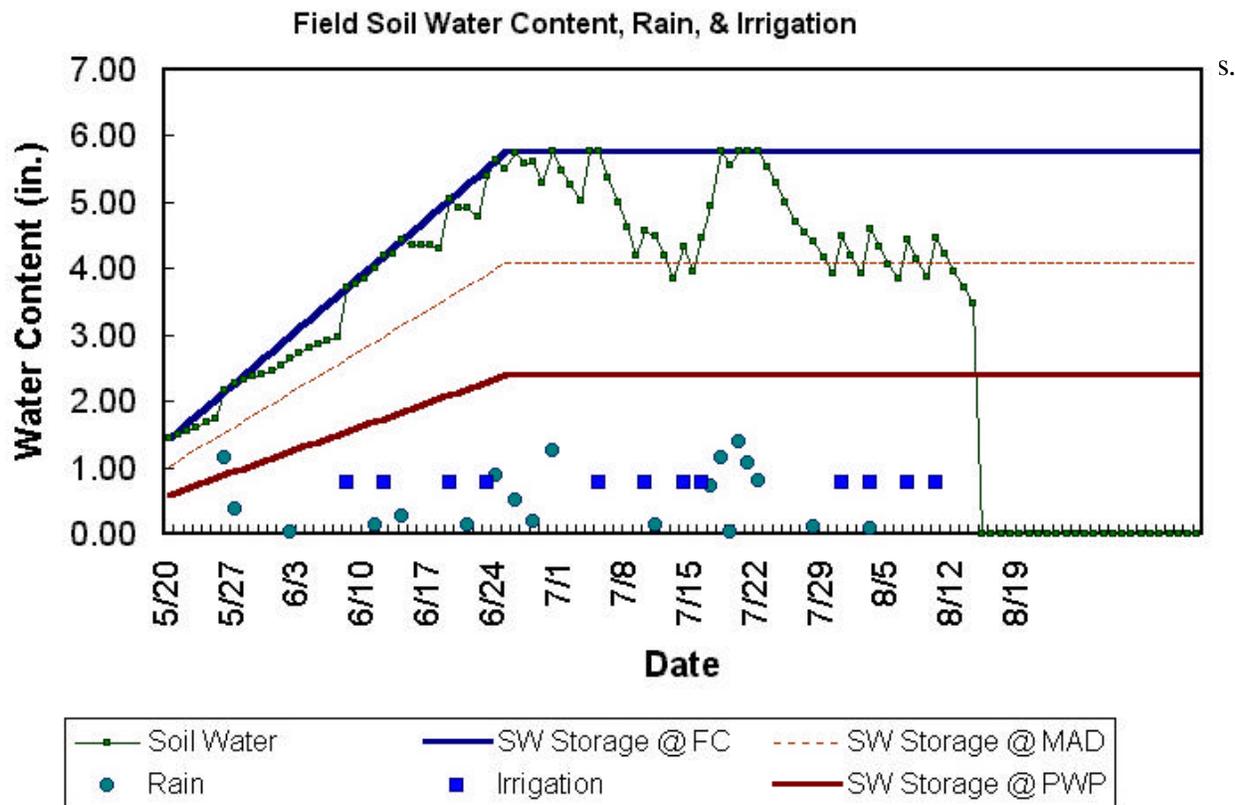


Figure 1: 2000 Sandyland KanSched output

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