

## Guidance on Irrigation and Soil Loss

In the Revised Universal Soil Loss Equation Version 2 (RUSLE2) any supplemental irrigation water applied is documented on the management screen for the crop rotation. The application of irrigation water is an annual management decision made by the producer based on agronomic and economic considerations similar to tillage, fertilizer, and pesticide choices. Open the management file in either the Worksheet or Profile view screens by placing the cursor arrow on the yellow file folder in front of a rotation where irrigation will be used. Each rotation on a Worksheet will need to have irrigation options added to the management file if irrigations are planned for any or all of the crops in the rotation.

Date, m/d/y	Operation	Vegetation	Yield (# harv. units)	Type of cover material	Cover matl add/remov e, lb/ac	Cover from addition, %	Fuel used this operation
4/5/2	Fert. applic. anhyd knife 30 in						...ault
4/7/2	Fert applic. surface broadcast						...ault
4/10/2	Sprayer, pre-emergence						...ault
4/15/2	Planter, double disk opnr w/fluted couler	Corn, grain	112.0				...ault
6/10/2	Sprayer, fungicide						...ault
10/20/2	Harvest, killing crop 50pct standing stubble				3136.0	70	...ault
4/10/3	Sprayer, post emergence			weeds: 0-3 mo	250.00	14	...ault
5/1/3	...ter, double disk opnr, 15 inch row spacing	Soybean, mw 15 - 20 in rows	25.00				...ault
6/10/3	Sprayer, post emergence			weeds: 0-3 mo	250.00	14	...ault
10/5/3	Harvest, killing crop 20pct standing stubble				720.00	35	...ault

Supplemental irrigation water affects the RUSLE2 model by identifying additional inputs that could result in an increase in sheet and rill erosion. For example, irrigated land may be already saturated prior to a storm event, increasing the amount of runoff that would occur. Benefits include a potentially better crop with heavier residue cover and yield, but this change must be entered manually into the model to be correctly evaluated. Enter the additional yield expected from the addition of irrigation water in Step 4c: Adjust Yields in the Profile Screen or Yield Values in the Worksheet Screen.

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After opening the management file locate the Irrigation System block in the upper one-third of the display above Management Operations. Click on the dropdown arrow on the right-hand side of the box to see the list of options for irrigation scheduling.

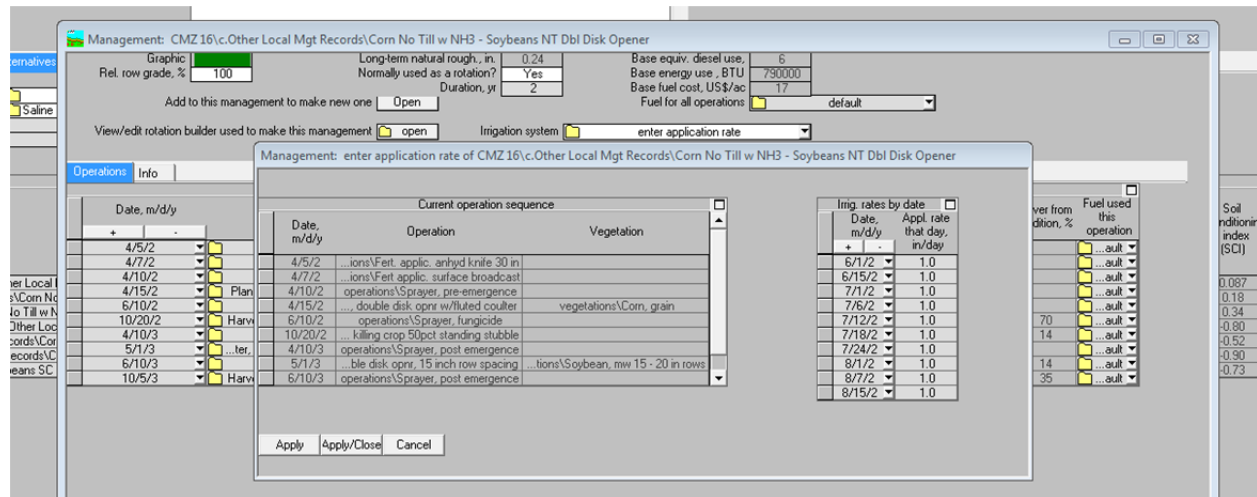
The irrigation entries may be in the following forms from the irrigation system dropdown list for each management file:

- no irrigation
- enter application rate
- enter application depth
- enter monthly application depth

Select the appropriate method for recording the additional water applied for all crops in the entire rotation. After selecting a method to document irrigation applications, click on the yellow file folder to the left of the selection to enter specific data for each management. If only one crop of the rotation is irrigated, document this one irrigation season. The irrigation data can be saved with the management and recalled for later use on other producers.

## Possible Irrigation Selections in RUSLE2 Management Files

- 1) **No Irrigation** – default value of zero



- 2) **Enter Application Rate** – This selection allows you to enter specific dates and net water amounts applied during the rotation. Enter the average date for all irrigation applications and the average amount applied to meet crop needs. Continue to enter dates and rates for the entire irrigation system for each crop in the rotation. Make sure to “Apply and Close” the irrigation scheduling box after making the correct entries. The model will determine the average daily irrigation depth for the time period between dates and will add this amount to the average precipitation for each day.

