

# Instructions for Nebraska Users

## Spreadsheet instructions for Nebraska NRCS Users:

**Crop yield:** Crop yield parameters by CMZ are found in FOTG: Sec. I : Erosion Prediction for most common crops. Crop yields entered on the WEO spreadsheet should be adjusted to reflect these parameters as closely as possible. For other crops, use best available local information to determine the crop yield to be selected on the spreadsheet. Be certain that the yield selected reflects the potential of the crop being grown and whether it is dryland or irrigated.

**Actual conditions:** If a soil loss calculation is being done based on actual conditions as measured or observed in the field (as for compliance purposes), the user needs to make certain that default values in the spreadsheet for ridge height and row spacing (columns I and J) match the actual field conditions. If ridge height and row spacing measurements taken in the field may differ from the values that defaulted into columns I and J of the spreadsheet, it will be necessary to adjust these numbers. This is done by clicking on the Oper worksheet, then find the operation that matches the operation on the row you wish to adjust and make the appropriate edits to ridge height and row spacing. Ridge height and row spacing are used to determine the "K" factor used in wind erosion soil loss calculations and may have a significant effect on soil loss results.

**Wheat in rotation:** Wheat crop selections from the Crop dropdown list in the spreadsheet have been modified to make them easier to understand. Wheat growth tables were updated for Nebraska to make them consistent with RUSLE2. RUSLE2 results from CMZ 5 were used to make these tables. Wheat can be shown to grow up to December 1 in Nebraska, at which time there should be a dormant period and wheat growth can resume during the last 2 weeks of March depending upon your location. The last wheat crop shown in the calculation in the fall at the dormancy date (e.g. Wheat, winter, dry 060) should also be the first wheat crop shown at the spring resume growth date. Do not use an Over winter loss operation during winter wheat dormancy.

60					
61	11/15/2002	Wheat, winter, dry 045	Grow		80%
62	12/1/2002	Wheat, winter, dry 060	Grow		70%
63	4/1/2003	Wheat, winter, dry 060	Grow		70%
64	4/15/2003	Wheat, winter, dry 075	Grow		60%
65					

Show the same days of growth at the beginning and end of winter dormancy

No Over winter loss operation is needed here

**Over winter loss:** An Over winter loss operation should be included in the calculation for crop residues of crops harvested the previous year, but not for growing crops. The Over winter loss operation should be shown on March 1 or the date of the earliest spring operation, whichever is earlier.

**Sodbuster calculations:** For sodbuster calculations the initial crop shown on the spreadsheet should be either Sodbuster, cool season, or, Sodbuster, warm season, depending on the situation. The first operation shown after Start Rotation should be Harvest. This will set the initial available dry matter level (column L) at the appropriate poundage (3000 lbs for cool season and 3500 lbs for warm season grass). The date of Start Rotation, Harvest and the management operation when the sodbuster seedbed preparation begins should all be the same. In other words, sodbuster calculations begin with the date of seedbed preparation (by current policy). Refer to current Nebraska sodbuster policy to determine duration of sodbuster calculations for planning and compliance decisions.

70					
71	3/1/2001	Sodbuster, warm season	<b>Start Rotation</b>	10%	-
72	3/1/2001	Sodbuster, warm season	Harvest	10%	
73	3/1/2001	Sodbuster, warm season	Disk, tandem heavy primary op. N	100%	
74	5/1/2001	Corn, grain, dryland	Planter, DD opener F	100%	
75					

The Start Rotation, Sodbuster: Harvest and first tillage operation for seedbed prep should all have the same date

**Cover crops:** As in previous versions of the calculator, any crop grown must be harvested before any other operations can be used; however, in v9.02, some crops which are commonly used as cover crops can be harvested on any date of growth and the resulting cover amounts used in the calculations will reflect the amount of biomass that was available at the time the cover crop was harvested (this is essentially equivalent to killing the growing cover with a non-selective herbicide). Because of the way the mathematical formulae work within the spreadsheet, it is necessary to show four operations on the date that you wish for the cover crop to stop growth. Refer to the example below for the proper sequence of operations.

67	3/1/2002	Rye Cover, irr 060	Grow	100%
68	3/1/2002	Rye Cover, irr 060	Harvest	100%
69	3/1/2002	Rye Cover, irr	No Operation	100%
70	3/1/2002	Rye Cover, irr	No Operation	100%
71	5/5/2002	Corn, grain, irrigated	Planter, DD opener N	100%
72				

These four operations done on the same date stop rye cover growth at 60 days (as if sprayed) and allow subsequent operations to continue.

The following crops can be harvested (growth stopped) in this manner: wheat, spring oats, rye cover, forage sorghum and alfalfa (alfalfa is included because it is commonly killed with chemical prior to no-till planting of the subsequent crop). These and any other crops harvested for production should show the crop name without days of growth in column B when harvested.

74					
75					
76	7/1/2002	Corn, grain, irr 60	Grow	100%	
77	7/16/2002	Corn, grain, irr 75	Grow	100%	
78	10/15/2002	Corn, grain irrigated	Harvest	50%	20%
79	10/15/2002	Corn, grain, irrigated	No Operation	50%	
80	3/1/2003	Corn, grain, irrigated	Over winter loss N	50%	
81					

Normal harvest (for production) operation sequence.

Note: Adding a No Operation operation on the same date as harvest corrects a programming glitch in the worksheet which otherwise may not show the correct after harvest residue amount.

**Irrigation:** The irrigation choice from the dropdown should always be selected as N (no) in Nebraska. This is done for the following reason: Nationally (NAM Circular 8), it was decided that for irrigated crops on soils with I = 180 and lower, the soil I factor would be reduced by one level to account for the effects of irrigation on the soil surface. In the worksheet, this I factor credit is applied 12 months of the year; however, in Nebraska, the majority of soil loss due to wind erosion occurs during the critical wind erosion months of March, April and May when there is typically little, if any, irrigation water applied. For this reason, it has been decided that the I factor credit for irrigation is not valid in Nebraska. Any exceptions should be approved by the State Resource Conservationist. **This cell will be locked on the worksheet.**

Just say no

The screenshot shows the 'NRCS-NE WEQ INPUT WORKSHEET' with the following details:

- Version:** 9.02 12-20-2005
- Climate Data Station:** NE, NORFOLK
- Field Width (Ft.):** 2640
- Tillage Direct (NS/EW):** EW
- Field Direction (NS/EW):** EW
- Length/Width Ratio:** 1.0
- Adjusted Soil "I":** 250
- Site "C" Value:** 25
- Tract:** [Blank]
- Field:** [Blank]
- Irrigated? (y or n):** N (highlighted with a red circle)
- Wind Erodibility Group:** 1 (1-7)
- Average Annual Wind Erosion (t/ac):** 5.3
- Yrs in Rotation:** 2.0
- Sum Period Erosion:** 10.6 (tons/ac)

# Instructions for Nebraska Users

**Using older versions of the calculator.** You may have templates you have saved for recurring use on older versions of the WEQ spreadsheet (v8.01 or v8.05). In the past you could copy a management from v8.01 and paste it directly into v8.05 to get the new result. *This no longer works without some additional manipulation of the inputs.* Because there were name changes made in the Operation and Crop files for RUSLE2 consistency, v9.02 will not recognize all of the inputs that will result if a management is copied and pasted from v8.01 or v8.05. It will be necessary to check integrity of input and make corrections every time an old management is pasted into v9.02. This is done by clicking on each crop and operation cell and verifying that the dropdown selection highlighted matches the cell contents; when it does not match, another selection must be made from the dropdown choices. The calculation for soil loss on v9.02 will not be correct until every cell is verified and corrected as needed.

Example 1:

15	4/30/2001	Wheat, winter, yield irr	Plow, field, sweeps, 9"-16" N	100%	
16	5/15/2001	Alfalfa, dry 15	Plow, DD opener, 30 in sp F	100%	
17	5/30/2001	Alfalfa, dry 30	Plow	100%	
18	6/15/2001	Alfalfa, dry 45	Plow	100%	
19	7/1/2001	Alfalfa, dry 60	Plow	100%	
20	7/15/2001	Alfalfa, dry 75	Plow	100%	
21	7/15/2001	Alfalfa, dry, new 15	Plow	100%	
22	8/1/2001	Alfalfa, dry, new 30	Plow	100%	
23	10/15/2001	Alfalfa, dry, new 45	Harvest	50%	10%

Wheat, winter, yield irr is not shown in the dropdown list, so a new selection must be made

15	4/30/2001	Wheat, winter, yield irrigated	Plow, field, sweeps, 9"-16" N	100%	
16	5/15/2001	Wheat, spring, irr 90	Plow, DD opener, 30 in sp F	100%	
17	5/30/2001	Wheat, winter, silage	Plow	100%	
18	6/15/2001	Wheat, winter, yield dryland	Plow	100%	
19	7/1/2001	Wheat, winter, yield irrigated	Plow	100%	
20	7/15/2001	Wheat, winter, dry 015	Plow, rowcrop, ridge till, pass 1	100%	
21	7/15/2001	Wheat, winter, dry 030	Plow	100%	
22	8/1/2001	Wheat, winter, dry 045	Plow	100%	
23	10/15/2001	Wheat, winter, dry 060	Harvest	50%	10%

Wheat, winter, yield irrigated is selected from the dropdown choices and now appears in cell B15.

Example 2:

22	10/15/2001	Corn, grain, high yield	Harvest	50%	10%
23	11/30/2001	Corn, grain, high yield	Grazing, 25%	50%	
24	2/1/2002	Corn, grain, high yield	Grazing, 25%	50%	
25	4/30/2002	Corn, grain, high yield	Grazing, 50%	100%	
26	5/15/2002	Corn, grain, high yield	Grazing, 75%	100%	
27	6/1/2002	Corn, grain, high yield	Grow	100%	
28	6/15/2002	Sunflower 15	Hand pull crop F	100%	
28	6/15/2002	Sunflower 15	Hand pull crop N	100%	
29	7/1/2002	Sunflower 30	Harrow, coiled tine F	100%	
29	7/1/2002	Sunflower 30	Harrow, coiled tine N	100%	
30	7/15/2002	Sunflower 45	Grow	100%	

Grazing, 25% appears in the dropdown list when it is opened; no correction is needed

Once again, every cell in crop and operation columns must be verified and/or corrected in this manner for the spreadsheet calculation results to be correct.

