

**Section 11 of 22 (11g - Wind Erosion Management Considerations - Assessment Guide)**

**E = f (IKCLV):** E = estimated avg. annual soil loss in tons/ac/yr; f = relationships are not straight-line mathematical calculations;  
**I** = soil erodibility index; **K** = soil surface roughness factor; **C** = climatic factor; **L** = unsheltered distance; **V** = vegetative cover

I		K				C		Mo. %EWE		L		V	
WEG	SEI T/ac/yr	Krd	Krr		NM C factors	Jan	4.1	WED Factor	Multiply the <b>WED factor</b> times the <b>Width of the Field</b> to determine the <b>Unsheltered Distance (L)</b> in feet.	The smaller the <b>unsheltered distance</b> , the lower the soil erosion	Lbs/acre of residues or growing crops		
K = Krd x Krr		1	1			Feb	23.7				1.00	Refer to the Small Grain equivalents (SGe) curves found in the NRCS National Agronomy Manual (NAM), Part 502, Figures a-1 through d-8.	Higher residue = lower soil erosion
1	220	.9	Lower <b>Krd</b> factor = lower soil erosion		30	Mar	26.8	3.00					
2	104	.8	Lower <b>Krr</b> factor = lower soil erosion		50	Apr	17.6	5.00					
3	56	.7			80	May	11.0	7.00					
4	56	.6			100	Jun	1.6	9.00					
4L	56	.5			120	Jul	.4	11.00					
5	38	.4			150	Aug	.2	13.00					
6	21					Sep	.9						
7	21					Oct	1.3						
8	0					Nov	5.0						
						Dec	7.6						

- **WEG** = Wind Erodibility Group
- **SEI** = Soil Erodibility Index (I) for irrigated soils
- **Krd** = Soil Ridge Roughness factor (is a function of Ridge height & Spacing, Angle of deviation & SEI)
- **Krr** = Random Roughness (rr) factor (Krr is a function of Cloddiness, as created by tillage & SEI)
- **C** is a function of windspeed & surface soil moisture
- **% EWE** = % Erosive Wind Energy (values are for Las Cruces, NM)

- **WED** = Wind Erosion Direction factor (Reference: Tables 502-8A thru 502-8E of the NRCS NAM). WED factors are a function of field length/width ratio, wind preponderance and angle of deviation.
- **V** factor relates the kind, amount & orientation of vegetative material to its equivalent in lbs/ac of small grain residue in reference condition Small Grain Equivalent (SGe)

**e.g. calculation:** A fine textured soil was irrigated 3x during 45 days. 12% of the annual EWE occurs during this period. Therefore: Texture Wetness Factor (TWF) = 3; No. of irrigations during period = 3; Nonerodible Wet Days = 3 x 3 = 9; Irrigation Factor (IF) = (45 - 9) ÷ 45 = .80; Adjusted EWE = (.80) (12%) = 9.6%

**Note:** angle of deviation is 0°, when wind is perpendicular to the row

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**NOTE:** NRCS will be using WEPS (Wind Erosion Prediction System) to make wind erosion assessments

Agronomy Tech Note 76 (<http://www.nm.nrcs.usda.gov/technical/handbooks/iwm/nmiwm.html>)