

RUSLE2 Soil Loss on Sod Farms

Sod farms are occasionally interested in applying for Farm Bill benefits. Build a RUSLE2 management file to show the anticipated rotation of tillage and cropping operations with the vegetation and operations files that are available in the model. With sod farms there is little concern about the potential for sheet and rill erosion; sod farms are usually located on flat or relatively flat slopes that are not normally subject to water erosion losses.

The main concern for sod farms is the soil that is removed in the harvest operations. The following is a chart showing the anticipated amount of soil based on the depth that is removed:

<u>Soil thickness removed</u>	<u>Tons per acre removed</u>
1/15 inch	10 tons
1/10 inch	15 tons
2/15 inch	20 tons
1/5 inch	30 tons
27/100 inch	40 tons
1/3 inch	50 tons
1/2 inch	75 tons
2/3 inch	100 tons

The thinnest layer of soil removed in a sod cutting operation is at least 1/3 inch or about 50 tons per acre. The typical operation with a sod cutter will remove about 1/2 inch of soil along with the sod. Use the above estimates to account for the soil removed by the sod harvesting operation. Average the number of harvests over the period of the rotation and enter the average annual removal as a manual entry in the "Wind and Other Erosion" box of the Soil Conditioning Index in the RUSLE2 model. This will account for the soil removed and negative effect on soil quality.

EXAMPLE: if sod is grown every year and harvested on the same field, enter the amount removed annually. If two sod harvests occur every three years in the rotation, take the value from the chart, multiply this amount by 2 and divide by 3 to calculate the average annual soil removal to manually enter into the RUSLE2 model.