

2009 CT Guidelines for Entering Percent Rock Cover in RUSLE2 Program

In RUSLE2, rock cover on the surface can provide substantial protection to the soil surface, absorbing raindrop impact, slowing surface runoff, and absorbing flow energy. In addition, this cover is somewhat different from residue cover because the rock does not decompose. RUSLE2 counts as rock cover only those particles large enough to not be displaced by raindrop impact nor to be moved downstream by surface flow.

RUSLE2 uses the K_f soil erodibility factor (< 2mm portion of soil). If surface rock fragments are present and not entered, erosion is over-predicted.

RUSLE2 rock fragments are defined as those **greater than 3/8 of an inch in size** (10mm) and larger.

Field Measurement of rock fragments can be performed using the line-transect method (method also used to measure percent crop residue cover). This method uses a 100ft. tape measure stretched-out over the sample area, counting each rock fragment “hit” as viewed directly above each one-foot increment (always using same side of the tape) for the entire 100 ft., to get percent rock cover. The tally can be a composite percentage from several sample areas.

Enter the number in the RUSLE2 cell “Rock cover, %” found in step 4c of the RUSLE2 program when in the “NRCS Simple” user template and Profile view. For other user templates: the NRCS summary and NRCS advanced templates, will also allow this entry, but are not labeled as step 4c.

Rock cover is site-specific, and the value entered into RUSLE2 should be based on a field measurement. Do not enter values from the NRCS soil survey and do not attempt to use data from the NRCS soil survey for rock in the soil profile to estimate rock cover. The appropriate time to measure rock cover is during the 1/4 to 1/3 period of the year or rotation when the slope is most susceptible to erosion.

The best time to measure rock cover on cultivated land is immediately after a sufficient storm where the rainfall has washed soil from the rock and the rock and its influence can be easily identified.