

RUSLE P SUBFACTOR VALUES FOR TERRACING

Step 1. Gather information for use in RUSLE.

- a) Determine the slope gradient of the landscape profile. Will it change with construction of terrace? If yes, determine new slope gradient.
- b) Identify the R value for site being evaluated.
- c) Determine what supporting conservation practice will accompany the terraces, contouring or contour stripcropping.
- d) Determine terrace horizontal spacing interval using **Table 2** from **page 600-2, NHCP, Terrace** conservation practice standard, as a guide. Check maximum and minimum spacing requirements for the proper slope and R value ranges. Minimum spacing interval given at bottom of **Table 2**. If terrace(s) will be used in conjunction with contour stripcropping, read across to spacing interval in feet under **With Contour Stripcropping** column.
- e) Decide whether terrace will have an open or closed outlet.
- f) If an open outlet, decide channel grade of terrace at outlet end. If channel grade is 0.8 or greater, skip step 2. Practice factor equals 1.0. Do proceed with step 3, however.

Step 2. Determine terrace P subfactor.

- a) Enter **Table 1** from **page 600-2, NHCP, Terrace** conservation practice standard. Select proper horizontal spacing interval range row. Read across to the selected outlet type. If an open outlet is the design choice, then select the terrace channel grade range column that describes the design terrace channel grade. Read the P subfactor value at the row-column intersection.

Step 3. If terrace horizontal spacing interval is less than landscape profile slope length, recalculate LS value to reflect shorter sheet and rill erosion flow length.

- a) Check original landscape profile length. If terrace horizontal spacing interval is less than it, LS value must be recalculated.
- b) If significant earthmoving will cause a change in landscape profile slope, recompute landscape profile slope, record new slope and use in step c.
- c) Enter appropriate **LS** table with terrace spacing interval length by going across table column heading until slope length in feet approximates terrace interval. Read down column until you intersect correct percent slope. This is the new adjusted LS factor value. Enter this value in place of the original value estimated before terraces were used to split the original landscape profile. If terrace spacing falls between two slope length column headings, interpolate for more precision, if desired.

Step 4. Determine composite P factor for terracing when used in combination with contouring alone, or with contouring and stripcropping.

- a) When terraces are used in conjunction with contouring, multiply terrace P subfactor times the contouring P subfactor to get the composite P factor.
- b) When terraces are used in conjunction with both contouring and stripcropping, multiply all three P subfactors together to get the composite P factor.

Example E:

Step 1. Gather information.

- a) Landscape profile = 6%. Will not change with construction of terrace
- b) For the site near Lewiston, Maine, the R factor = 95.
- c) Contouring will be used. Row grades will parallel terrace channel.
- d) Horizontal spacing interval selected is 150 feet. Will split landscape profile slope length into thirds (originally 450'). This is the minimum spacing allowed by **Table 2, page 600-2 Terrace**.
- e) Open outlet selected. Terraces will outlet into stone center waterway
- f) Terrace channel grade will be 0.5%.

Step 2. Determine P subfactor for Terracing.

- a) In **Table 1, page 600-2 Terrace**, find horizontal interval range 140-180 and read across to Open Outlets, with percent grade of 0.4-0.7. Read the P subfactor value of 0.9.

Step 3. Adjust LS value.

- a) Horizontal terrace spacing interval = 150'. This one third of the original landscape profile lope length. Adjust LS factor value and re-enter new value into the general RUSLE equation. Original LS = 1.49.
- b) No appreciable change in the landscape profile slope is expected. Continue to use 6%.
- c) Enter **LS table** for moderate ratio of rill to interrill erosion. Find the column for 150 feet of slope length and the value in the intersected row for 6% slope. Read the new LS value of 0.93. Enter this new value into the general RUSLE equation.

Step 4. Determine composite P factor.

- a) Contour P subfactor is based on a low ridge, 10 yr EI = 60, C soil hydrologic group, and 0.5% row grade. Off-contour P subfactor = 0.59.
- b) Multiply terrace P subfactor 0.9 times off-contour P subfactor 0.59. Composite P factor = 0.53.