TABLE 5

ON GRADE CONTOURING P SUBFACTOR VALUE ADJUSTED FOR FURROW GRADE

Ratio = % Furrow Grade / % Profile Grade (Land Slope)

Example: Producer is farming with terraces that have a 0.5% grade with a field slope of 6%. 0.005 divided by 0.06 = 0.08, round to 0.1

On Grade Contouring Subfactor Value (From Table 4)	(RATIO) 0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.04	0.34	0.47	0.57	0.65	0.72	0.78	0.84	0.90	0.95	1.00
0.06	0.36	0.48	0.57	0.65	0.72	0.79	0.85	0.90	0.95	1.00
0.08	0.37	0.49	0.58	0.66	0.73	0.79	0.85	0.90	0.95	1.00
0.10	0.38	0.50	0.59	0.67	0.74	0.80	0.85	0.90	0.95	1.00
0.12	0.40	0.51	0.60	0.68	0.74	0.80	0.86	0.91	0.95	1.00
0.14	0.41	0.52	0.61	0.68	0.75	0.81	0.86	0.91	0.96	1.00
0.16	0.43	0.54	0.62	0.69	0.75	0.81	0.86	0.91	0.96	1.00
0.18	0.44	0.55	0.63	0.70	0.76	0.82	0.87	0.91	0.96	1.00
0.20	0.45	0.56	0.64	0.71	0.77	0.82	0.87	0.92	0.96	1.00
0.22	0.47	0.57	0.65	0.71	0.77	0.82	0.87	0.92	0.96	1.00
0.24	0.48	0.58	0.66	0.72	0.78	0.83	0.88	0.92	0.96	1.00
0.26	0.49	0.59	0.67	0.73	0.78	0.83	0.88	0.92	0.96	1.00
0.28	0.51	0.60	0.67	0.74	0.79	0.84	0.88	0.92	0.96	1.00
0.30	0.52	0.61	0.68	0.74	0.79	0.84	0.89	0.93	0.96	1.00
0.32	0.54	0.62	0.69	0.75	0.80	0.85	0.89	0.93	0.97	1.00
0.34	0.55	0.64	0.70	0.76	0.81	0.85	0.89	0.93	0.97	1.00
0.36	0.56	0.65	0.71	0.76	0.81	0.86	0.90	0.93	0.97	1.00
0.38	0.58	0.66	0.72	0.77	0.82	0.86	0.90	0.93	0.97	1.00
0.40	0.59	0.67	0.73	0.78	0.82	0.86	0.90	0.94	0.97	1.00
0.42	.060	0.68	0.74	0.79	0.83	0.87	0.91	0.94	0.97	1.00
0.44	0.62	0.69	0.75	0.79	0.84	0.87	0.91	0.94	0.97	1.00
0.46	0.63	0.70	0.76	0.80	0.84	0.88	0.91	0.94	0.97	1.00
0.48	0.64	0.71	0.76	0.81	0.85	0.88	0.92	0.95	0.97	1.00
0.50	0.66	0.72	0.77	0.82	0.85	0.89	0.92	0.95	0.97	1.00

TABLE 5 (CONT.)

ON GRADE CONTOURING P SUBFACTOR VALUE ADJUSTED FOR FURROW GRADE

$$\text{Ratio} = \frac{\%\ \text{Furrow Grade}}{\%\ \text{Profile Grade (Land Slope)}}$$

On Grade Contouring Subfactor Value (From Table 4)	(RATIO) 0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.52	0.67	0.73	0.78	0.82	0.86	0.89	0.92	0.95	0.98	1.00
0.54	0.69	0.75	0.79	0.83	0.87	0.90	0.92	0.95	0.98	1.00
0.56	.070	0.76	0.80	0.84	0.87	0.90	0.93	0.95	0.98	1.00
0.58	0.71	0.77	0.81	0.85	0.88	0.91	0.93	0.96	0.98	1.00
0.60	0.73	0.78	0.82	0.85	0.88	0.91	0.93	0.96	0.98	1.00
0.62	0.74	0.79	0.83	0.86	0.89	0.91	0.94	0.96	0.98	1.00
0.64	0.75	0.80	0.84	0.87	0.89	0.92	0.94	0.96	0.98	1.00
0.66	0.77	0.81	0.85	0.88	0.90	0.92	0.94	0.96	0.98	1.00
0.68	0.78	0.82	0.86	0.88	0.91	0.93	0.95	0.97	0.98	1.00
0.70	0.79	0.83	0.86	0.89	0.91	0.93	0.95	0.97	0.98	1.00
0.72	0.81	0.85	0.87	0.90	0.92	0.94	0.95	0.97	0.99	1.00
0.74	0.82	0.86	0.88	0.90	0.92	0.94	0.96	0.97	0.99	1.00
0.76	0.84	0.87	0.89	0.91	0.93	0.95	0.96	0.97	0.99	1.00
0.78	0.85	0.88	0.90	0.92	0.94	0.95	0.96	0.98	0.99	1.00
0.80	0.86	0.89	0.91	0.93	0.94	0.95	0.97	0.98	0.99	1.00
0.82	0.88	0.90	0.92	0.93	0.95	0.96	0.97	0.98	0.99	1.00
0.84	0.89	0.91	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1.00
0.86	0.90	0.92	0.94	0.95	0.96	0.97	0.98	0.99	0.99	1.00
0.88	0.92	0.93	0.95	0.96	0.96	0.97	0.98	0.99	0.99	1.00
0.90	0.93	0.94	0.95	0.96	0.97	0.98	0.98	0.99	0.99	1.00
0.92	0.95	0.96	0.96	0.97	0.98	0.98	0.99	0.99	1.00	1.00
0.94	0.96	0.97	0.97	0.98	0.98	0.99	0.99	0.99	1.00	1.00
0.96	0.97	0.98	0.98	0.99	0.99	0.99	0.99	1.00	1.00	1.00
0.98	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

SUPPORT PRACTICE FACTOR (P) FOR TERRACING

Terraces reduce sheet and rill erosion on the terrace interval by breaking the slope into much shorter slope lengths. Also, deposition along the terraces may trap much of the sediment eroded from the interterrace interval, particularly if the terraces are level and include closed outlets, have underground outlets, or have a very low grade. So deposited sediment remains on the field and is redistributed over a significant portion of the field, thus reducing soil deterioration caused by erosion. In this way, terraces help to maintain the soil resource much as contour stripping does. Furthermore, properly designed terraces and outlet channels collect surface runoff and convey it off the field at nonerosive velocities. Without the terraces and outlet channels, runoff in natural waterways on unterraced fields can cause significant erosion.

DEPOSITION BEHIND TERRACES

The amount and location of sediment deposited on terraced fields are important in assigning P-factor values to calculate soil loss for conservation planning. If no soil is trapped, none is saved by deposition. Even if deposition traps all sediment eroded from the interterrace interval, the area benefiting directly is that near the terraces. Some of the interterrace interval is still degraded as if no deposition occurs. The P-factor for computing soil loss for conservation planning to maintain the soil resource is computed as a function of spacing between terraces. The maximum benefit assigned to deposition is that half of the deposition directly benefits maintenance of the soil resource at spacings of less than 110 ft. At spacing of greater than 110 ft., the benefit is assumed to decrease to the point that no benefit is assigned for spacings of 300 ft. and greater.

Erosion of the upslope and deposition on the downslope portion, within the terrace interval, cause a flatter slope that can be permanently maintained above storage-type terraces. On deep soils, a permanent bench can be formed, resulting in less erosive topography and easier farming.

INSTRUCTIONS
FOR
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) Determine what supporting conservation practice will accompany the terraces, contouring or contour stripcropping.

c) Select the terrace horizontal spacing interval based on the state terrace standard to be used with Table 6.

d) Decide whether terraces will have an open or closed outlet.

e) If an open outlet, decide channel grade of terrace at outlet end. If channel grade is 0.8 or greater, skip step 2, since the terrace P subfactor equals 1.0. Do proceed with step 3, however.

Step 2. Determine terrace P subfactor.

a) Enter Table 6. Select proper horizontal spacing interval range row. Read across to the selected outlet type. If it is an open outlet, then select the appropriate terrace channel grade range column. Read the P subfactor value at the row-column intersection.

Step 3. Recalculate LS, if necessary.

a) If terrace horizontal spacing interval is less than landscape profile slope length, recalculate original LS value to reflect shorter slope length.

b) If significant earthmoving will cause a change in landscape profile slope, use the new landscape slope.

c) Enter appropriate LS table and use the terrace interval for new slope length (L) and the new profile slope (S). This new LS value will be used to calculate soil loss for this selected profile.

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

a) When terraces are used in conjuction with contouring, multiply terrace P subfactor times the contouring P subfactor to get the composite P factor.

b) When terraces are used in conjuction with both contouring and strippcropping, multiply all three P subfactors together to get the composite P factor.

Example

Step 1. Gather information

a) Landscape profile = 4%. Will not change with construction of terrace.
b) Contouring will be used. Row grades will be parallel to the terrace channel.
c) Horizontal spacing interval selected is 120 feet, slope length = 100 feet.
d) Open outlet selected. Terraces will outlet into grassed waterway.
e) Terrace channel grade will be 0.5%.

Step 2. Determine P subfactor for Terracing

a) In Table 6 find horizontal interval range 110-140 feet and read across to Open Outlets, with percent grade of 0.4-0.7. The P subfactor value will be 0.8.

Step 3. Adjust LS value.

a) The horizontal terrace spacing interval = 120 feet. Because the terrace spacing interval is greater than the original slope legth, no adjustment for slope length is needed.

b) No appreciable change in the landscape profile slope is expected. Continue to use 4%.

c) No adjustment in LS is needed.

Step 4. Determine composite P factor.

a) Contour P subfactor is based on a 10 year EI = 120, Cover-Management Condition = 6, Moderate Ridges(3-4 inches), soil hydrologic group = B, and 0.5% row grade. The off-contour P subfactor is 0.63.

b) Multiply terrace P subfactor 0.8 times off-contour P subfactor 0.63. The product, 0.50, is the composite P factor.