TABLE 5A: Contour P Factor Values
Low (1-3") Ridge or Oriented Roughness Height
10-Year EI = 60

Downhill Slope	Row Grade (%) 0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
0	1.00																
2	0.75	0.85	0.90	0.95	1.00												
4	0.65	0.75	0.80	0.85	0.90	0.90	0.95	0.95	1.00								
6	0.60	0.75	0.75	0.80	0.85	0.85	0.90	0.90	0.95	0.95	1.00						
8	0.60	0.70	0.75	0.80	0.80	0.85	0.85	0.85	0.90	0.90	0.95	0.95	1.00				
10	0.65	0.70	0.75	0.75	0.80	0.80	0.85	0.85	0.85	0.90	0.90	0.95	0.95	1.00			
12	0.70	0.75	0.80	0.80	0.80	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.95	0.95		
14	0.80	0.80	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	1.00	1.00
16	1.00																

TABLE 5B: Contour P Factor Values
Moderate (3-5") Ridge or Oriented Roughness Height
10-Year EI = 60

Downhill Slope	Row Grade (%) 0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00	9.00	10.00	12.00	14.00	18.00
0	1.00																	
2	0.40	0.70	0.80	0.90	1.00													
4	0.30	0.55	0.65	0.75	0.80	0.85	0.90	0.95	1.00									
6	0.30	0.50	0.60	0.65	0.70	0.75	0.80	0.85	0.85	0.95	1.00							
8	0.35	0.50	0.60	0.65	0.65	0.70	0.75	0.80	0.80	0.85	0.90	0.95	1.00					
10	0.40	0.55	0.60	0.60	0.65	0.70	0.70	0.75	0.75	0.80	0.85	0.90	0.95	0.95	1.00			
12	0.40	0.55	0.60	0.60	0.65	0.70	0.70	0.75	0.75	0.80	0.85	0.85	0.90	0.90	0.95	1.00		
14	0.45	0.55	0.60	0.60	0.65	0.65	0.70	0.70	0.75	0.75	0.80	0.85	0.85	0.90	0.90	0.95	1.00	
16	0.50	0.55	0.60	0.65	0.65	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.85	0.85	0.90	0.95	0.95	1.00
18	0.55	0.60	0.65	0.65	0.70	0.70	0.75	0.75	0.75	0.80	0.80	0.80	0.85	0.85	0.90	0.90	0.95	1.00
20	0.65	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.85	0.85	0.85	0.90	0.90	0.90	0.95	1.00
22	0.80	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	1.00
24	1.00																	

12

TABLE 5C: Contour P Factor Values
Ridge Systems with Ridge Height = 6"
10-Year EI = 60

Downhill Slope	Row Grade (%) 0.00	0.50	1.00	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	24.00
0	1.00																	
2	0.30	0.65	0.80	0.90	1.00													
4	0.15	0.45	0.60	0.70	0.75	0.80	0.90	1.00										
6	0.10	0.35	0.50	0.60	0.65	0.70	0.75	0.85	0.90	1.00								
8	0.10	0.35	0.45	0.50	0.55	0.60	0.65	0.75	0.80	0.90	1.00							
10	0.15	0.35	0.40	0.45	0.50	0.55	0.60	0.70	0.75	0.80	0.90	1.00						
12	0.15	0.30	0.40	0.45	0.50	0.55	0.55	0.65	0.70	0.75	0.85	0.90	1.00					
14	0.15	0.30	0.40	0.45	0.50	0.50	0.55	0.60	0.65	0.70	0.80	0.85	0.95	1.00				
16	0.20	0.35	0.40	0.45	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.85	0.90	0.95	1.00			
18	0.20	0.35	0.40	0.45	0.50	0.50	0.55	0.60	0.65	0.65	0.75	0.80	0.85	0.90	0.95	1.00		
20	0.30	0.40	0.45	0.45	0.50	0.55	0.55	0.60	0.65	0.65	0.75	0.80	0.85	0.90	0.90	0.95	1.00	
22	0.35	0.45	0.50	0.50	0.55	0.55	0.60	0.60	0.65	0.70	0.75	0.80	0.85	0.85	0.90	0.95	0.95	1.00
24	0.45	0.50	0.55	0.55	0.60	0.60	0.65	0.65	0.70	0.70	0.75	0.80	0.85	0.85	0.90	0.90	0.95	1.00
30	0.70	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.95	0.95
33	1.00																	

TABLE 5D: Contour P Factor Values
Low (1-3") Ridge or Oriented Roughness Height
10-Year EI = 80

Downhill Slope	Row Grade (%) 0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
0	1.00																
2	0.85	0.90	0.95	0.95	1.00												
4	0.75	0.85	0.90	0.90	0.95	0.95	0.95	1.00									
6	0.70	0.80	0.85	0.85	0.90	0.90	0.90	0.95	0.95	0.95	1.00						
8	0.70	0.80	0.80	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.95	1.00					
10	0.75	0.80	0.80	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.95	0.95	0.95	1.00			
12	0.80	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	1.00		
14	0.85	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00		
16	1.00																

TABLE 5E: Contour P Factor Values
Moderate (3-5") Ridge or Oriented Roughness Height
10-Year EI = 80

Downhill Slope	Row Grade (%)																	
	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00	9.00	10.00	12.00	14.00	18.00
0	1.00																	
2	0.50	0.75	0.85	0.95	1.00													
4	0.40	0.60	0.70	0.75	0.80	0.85	0.90	0.95	1.00									
6	0.40	0.55	0.65	0.70	0.75	0.80	0.80	0.85	0.90	0.95	1.00							
8	0.45	0.60	0.65	0.70	0.70	0.75	0.80	0.80	0.85	0.90	0.90	0.95	1.00					
10	0.50	0.60	0.65	0.70	0.70	0.75	0.75	0.80	0.80	0.85	0.90	0.90	0.95	0.95	1.00			
12	0.50	0.60	0.65	0.70	0.70	0.75	0.75	0.75	0.80	0.80	0.85	0.90	0.90	0.95	0.95	1.00		
14	0.55	0.65	0.65	0.70	0.70	0.75	0.75	0.75	0.80	0.80	0.85	0.85	0.90	0.90	0.90	0.95	1.00	
16	0.60	0.65	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.85	0.85	0.85	0.90	0.90	0.95	0.95	1.00
18	0.65	0.70	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.95	1.00
20	0.75	0.80	0.80	0.80	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	1.00
22	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00
24	1.00																	

TABLE 5F: Contour P Factor Values
Ridge Systems with Ridge Height = 6"
10-Year EI = 80

Downhill Slope	Row Grade (%)																	
	0.00	0.50	1.00	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	24.00
0	1.00																	
2	0.40	0.70	0.80	0.90	1.00													
4	0.20	0.50	0.60	0.70	0.75	0.85	0.90	1.00										
6	0.15	0.40	0.50	0.60	0.65	0.70	0.75	0.85	0.90	1.00								
8	0.15	0.35	0.45	0.50	0.60	0.65	0.65	0.75	0.80	0.90	1.00							
10	0.20	0.35	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.90	1.00						
12	0.20	0.35	0.40	0.50	0.50	0.55	0.60	0.65	0.70	0.75	0.85	0.95	1.00					
14	0.20	0.35	0.40	0.45	0.50	0.55	0.55	0.65	0.70	0.70	0.80	0.85	0.95	1.00				
16	0.25	0.35	0.45	0.45	0.50	0.55	0.55	0.60	0.65	0.70	0.75	0.85	0.90	0.95	1.00			
18	0.30	0.40	0.45	0.50	0.50	0.55	0.60	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00		
20	0.35	0.45	0.50	0.55	0.55	0.60	0.60	0.65	0.65	0.70	0.75	0.80	0.85	0.90	0.95	0.95	1.00	
22	0.45	0.50	0.55	0.60	0.60	0.60	0.65	0.65	0.70	0.75	0.75	0.80	0.85	0.90	0.90	0.95	0.95	1.00
24	0.55	0.60	0.60	0.65	0.65	0.70	0.70	0.70	0.75	0.75	0.80	0.85	0.85	0.90	0.90	0.95	0.95	1.00

DETERMINING "P" FACTORS FOR TERRACES

Purpose.

To provide a procedure for determining terrace P-values.

Procedure.

(a) A joint ARS-SCS work group has developed the following procedure to allow P factors for terraces. The basis for this procedure is that research shows the trapped sediment accumulating in the channel and ridge area to such an extent that this portion of the land does not deteriorate significantly. The P factor is proportioned to give credit where the resource is maintained, i.e., the factor gets larger as the horizontal interval gets wider, thus giving less credit.

(b) The P factors in the table for terraces are to be multiplied by the P factor for contouring or contour stripcropping, if appropriate. All the requirements in Agriculture Handbook No. 537 must be met for contouring or contour stripcropping if these factors are to apply. In addition, contour stripcropping must contain at least two strips within the horizontal interval if the factor for it is to be used. For example, a horizontal interval of 200 ft would require a maximum strip width of 100 ft for the P factor to apply. For terraces with vegetated channels and ridges the two strips must be located on the cropped portion of the horizontal interval.

(c) The P factor is larger for open outlet terraces to account for their lower trap efficiency. Research data show significant increases in sediment delivery as grades increase from a level grade.

Terrace P Factors

Horizontal Interval (ft)	Closed Outlets 1/	Open outlets with percent grade of-- 2/		
		0.1-0.3	0.4-0.7	≥ 0.8
Less than 110	0.5	0.6	0.7	1.0
110 - 140	0.6	0.7	0.8	1.0
140 - 180	0.7	0.8	0.9	1.0
180 - 225	0.8	0.8	0.9	1.0
225 - 300	0.9	0.9	1.0	1.0
300 up	1.0	1.0	1.0	1.0

1/ "P" factors for closed outlet terraces also apply to terraces with underground outlets and to level terraces with open outlets.

2/ The channel grade is measured on the 300 ft of terrace or the one-third of total terrace length closest to the outlet, whichever distance is less.

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Examples.

1. Given: Horizontal interval - 150 ft
   Outlet - closed
   Contouring - 4 percent slope

   The P factor is calculated as 0.50 (factor for contouring) x 0.7 (factor for 150 ft horizontal interval) or 0.35 as the composite.

2. Given: Horizontal interval - 270 ft
   Outlet - open
   Terrace grade - 0.6 percent
   Contour stripcropping - 90-ft strips, 6 percent slope

   The P factor is 0.25 (factor for contour stripcropping) x 1.00 (factor for 270 ft horizontal interval and 0.6 percent grade) or 0.25. The terrace in this case does not provide any additional benefit through the P factor.

3. Given: Horizontal interval - 160 ft
   Outlet - closed
   Up and down hill farming, 4 percent slope

   The P factor is read directly at 0.70.

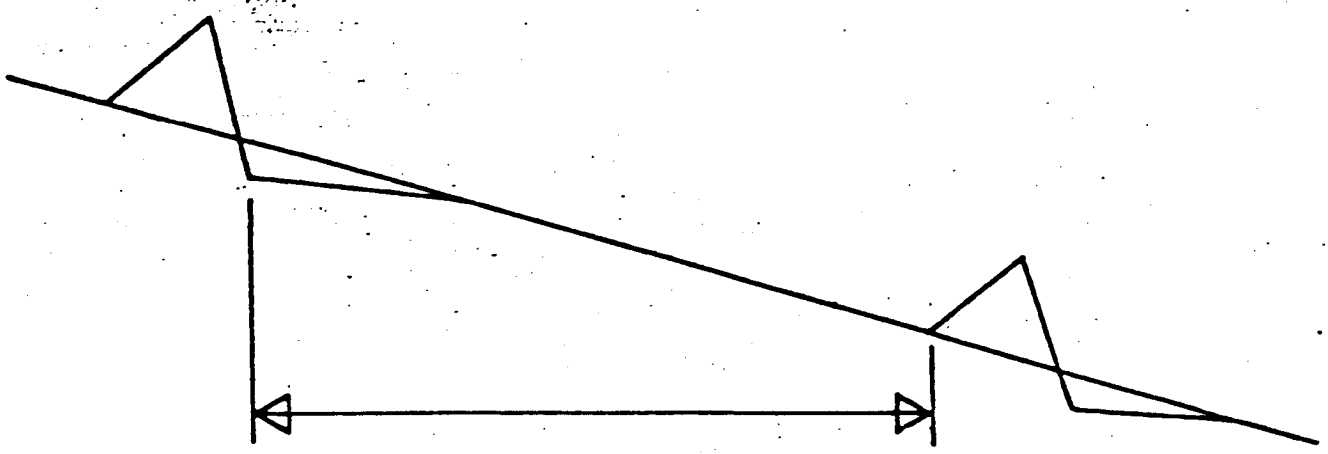
4. Given: Horizontal interval - 100 ft
   Contour farming - 3 percent slope
   Outlet - closed

   The P factor is 0.50 (contouring) x 0.50 (factor for 100 ft horizontal interval) or 0.25.

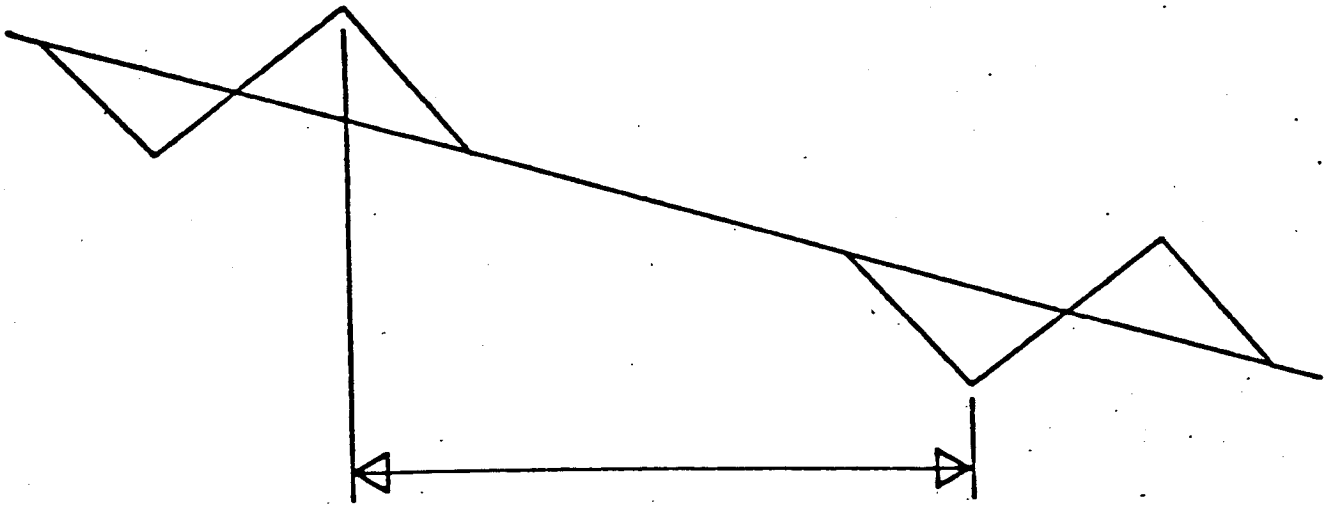
5. Given: Horizontal interval - 100 ft
   Contour farming - 3 percent slope
   Outlet - open - grade 0.5 percent

   The P factor is 0.50 (contouring) x 0.70 (factor for 100 ft horizontal interval and 0.5 percent grade) or 0.35.

Horizontal intervals for use in calculating P factors.



Horizontal interval for steep back slope or narrow-based terraces.



Horizontal interval for broad-based terraces.

TABLE

Slope-Effect Table (Topographic Factor, LS)

Percent Slope	Slope Length in Feet													
	10	20	40	60	80	100	110	120	130	140	150	160	180	200
0.2	0.04	0.05	0.06	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.10	0.10
0.3	0.04	0.05	0.07	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.11
0.4	0.05	0.06	0.07	0.08	0.09	0.09	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11
0.5	0.05	0.06	0.08	0.08	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.12	0.12
1.0	0.06	0.08	0.10	0.11	0.12	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.16
2.0	0.10	0.12	0.15	0.17	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.24	0.25
3.0	0.14	0.18	0.22	0.25	0.27	0.29	0.30	0.30	0.31	0.32	0.32	0.33	0.34	0.35
4.0	0.16	0.21	0.28	0.33	0.37	0.40	0.42	0.43	0.44	0.46	0.47	0.48	0.51	0.53
5.0	0.17	0.24	0.34	0.41	0.48	0.54	0.56	0.59	0.61	0.63	0.66	0.68	0.72	0.76
6.0	0.21	0.30	0.43	0.52	0.60	0.67	0.71	0.74	0.77	0.80	0.82	0.85	0.90	0.95
8.0	0.31	0.44	0.63	0.77	0.89	0.99	1.04	1.09	1.13	1.17	1.21	1.25	1.33	1.40
10.0	0.43	0.61	0.87	1.06	1.23	1.37	1.44	1.50	1.56	1.62	1.68	1.73	1.84	1.94
12.0	0.57	0.81	1.14	1.40	1.61	1.80	1.89	1.98	2.06	2.14	2.21	2.28	2.42	2.55
14.0	0.73	1.03	1.45	1.78	2.05	2.29	2.41	2.51	2.62	2.72	2.81	2.90	3.08	3.25
16.0	0.90	1.27	1.80	2.20	2.54	2.84	2.98	3.11	3.24	3.36	3.48	3.59	3.81	4.01
18.0	1.09	1.54	2.17	2.66	3.07	3.43	3.60	3.76	3.92	4.06	4.21	4.34	4.61	4.86 5.30
20.0	1.29	1.82	2.58	3.16	3.65	4.08	4.28	4.47	4.65	4.83	5.00	5.16	5.47	5.77
25.0	1.86	2.63	3.73	4.56	5.27	5.89	6.18	6.45	6.72	6.97	7.22	7.45	7.90	8.33
30.0	2.52	3.56	5.03	6.16	7.11	7.95	8.34	8.71	9.07	9.41	9.74	10.06	10.67	11.25
40.0	4.00	5.66	8.00	9.80	11.32	12.65	13.27	13.86	14.43	14.97	15.50	16.01	16.98	17.30
50.0	5.64	7.97	11.27	13.81	15.94	17.82	18.69	19.53	20.32	21.09	21.83	22.55	23.91	25.21
60.0	7.32	10.35	14.64	17.93	20.71	23.15	24.28	25.36	26.40	27.39	28.36	29.29	31.06	32.74