

Use of Degrees or Percent of Slopes in Soil Surveys

Information Sheet

Caribbean Area

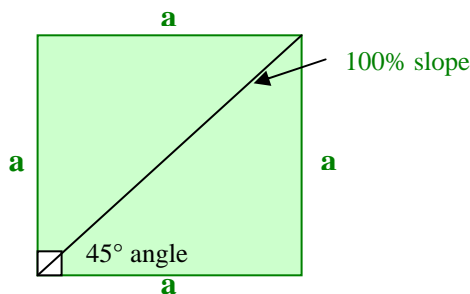
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For practical purposes in field work, soil slope is represented in percent. This measure derives from conversion of angles to percent. Percent is the tangent of an angle multiplied by 100. Angles are expressed in degrees and are measured with a protractor (in Spanish "transportador"). Some of the instruments used to measure angles can also read percent. Some of these include: the clinometer, the hand level and the transit level.

Knowing the soil slope percent help us to:

- select conservation practices
- apply and establish conservation practices at appropriate distances

The following sketch shows the concept of degrees and slope percent:



From this example:

If $a=5$, then: $\frac{5}{5} \times 100 = 100\%$.

In order to be 45° all sides of the figure must be the same measure. The slope gradient is a term that describes the degree of steepness or inclination of a

Table 1. Table of equivalents from angles to slope percent

Angle	% Slope	Angle	% Slope
0°	0	46°	103.6
1°	1.8	47°	107.2
2°	3.5	48°	111.1
3°	5.2	49°	115.0
4°	7.0	50°	119.2
5°	8.8	51°	123.5
6°	10.5	52°	128.0
7°	12.3	53°	132.7
8°	14.1	54°	137.7
9°	15.8	55°	142.8
10°	17.6	56°	148.3
11°	19.4	57°	154.0
12°	21.3	58°	160.0
13°	23.1	59°	166.4
14°	24.9	60°	173.2
15°	26.8	61°	180.4
16°	28.7	62°	188.1
17°	30.6	63°	196.3
18°	32.5	64°	205.0
19°	34.4	65°	214.5
20°	36.4	66°	224.6
21°	38.4	67°	235.6
22°	40.4	68°	247.5
23°	42.5	69°	260.5
24°	44.5	70°	274.7
25°	46.6	71°	290.4
26°	48.8	72°	307.8
27°	51.0	73°	327.1
28°	53.2	74°	348.7
29°	55.4	75°	373.2
30°	57.7	76°	401.1
31°	60.1	77°	433.1
32°	62.5	78°	470.5
33°	64.0	79°	514.5
34°	67.5	80°	567.1
35°	70.0	81°	631.4
36°	72.7	82°	711.5
37°	75.4	83°	814.4
38°	78.1	84°	951.4
39°	81.0	85°	1143.0
40°	83.9	86°	1430.0
41°	86.9	87°	1908.1
42°	90.0	88°	2864.0
43°	93.3	89°	5728.9
44°	96.6	90°	
45°	100		

slope, ascending or descending.

Slopes must be measured in segments following linear, concave or convex shapes in irregular topography, and then, estimate an average general slope.