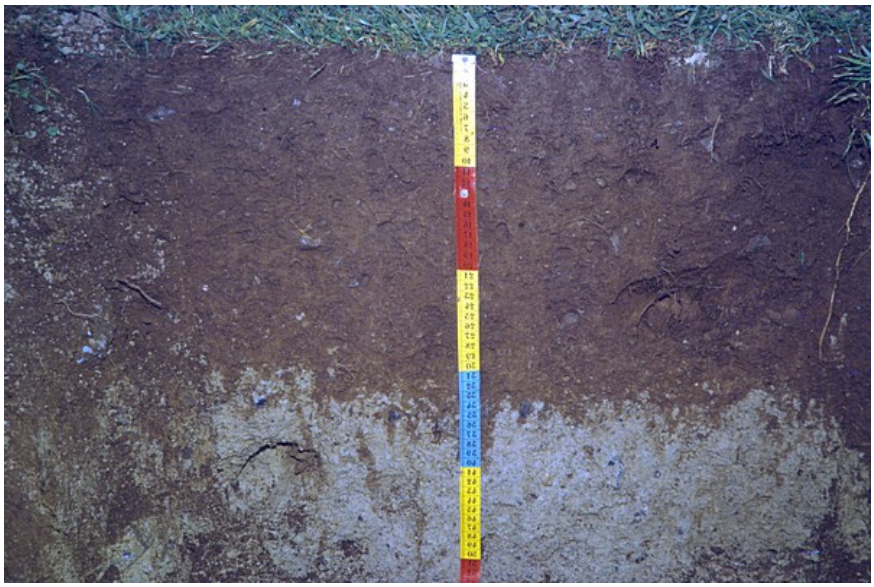
Reference soil Ireland 10: Phaeozem

Description



Classification

WRB 1998:

Siltic Phaeozem

FAO-UNESCO-ISRIC 1988:

Silti- Haplic Phaeozem

FAO-UNESCO 1974:

Haplic Phaeozem

Site description

General information:

Names of person(s) who described the profile	: Creutzberg D
General description of location of profile (e.g., town, province)	: Co. Galway, 5 km E of Gort
Climate classification according to Köppen	: Cfb
Date	: 1967
Latitude / Longitude	: N 53.0666666° / W -8.73333°

Physiography:

The altitude of the soil profile relative to mean sea level, specified in meters	: 70 m asl
Regional landform	: glacial plain
Topography of the surrounding country	: undulating
Physiographic Unit in the immediate surrounding of the site	: long slope
The slope refers to the inclination of the land immediately surrounding the site. The measured or estimated slope angle is specified to the nearest per cent	: 2 %
The physiographic position of the site where the profile is located	: middle slope
Form of the slope surrounding the site	: straight
Slope Aspect of the site	:

Parent material:

The main parent rock/ material over which the soil has been formed (1st entry)	: mixed lithology and composition
Mode of Accumulation or deposition of parent material (1st entry)	: glacial till
Texture of parent material (1st entry)	:
Weathering status of solid rock (1st entry)	: slightly
Resistance against weathering (solid rock) (1st entry)	: moderate
Depth1 of lithological boundary	: cm
The main parent rock/ material over which the soil has been formed (2nd entry)	:
Texture of parent material (2nd entry)	: loamy
Resistance against weathering (solid rock) (2nd entry)	:
Soil Depth; depth to which roots can easily penetrate throughout the year	: 35 cm

Hydrology and drainage:

Depth of groundwater table	: cm
Groundwater Top	: cm
Groundwater Bottom	: cm
Kind of groundwater table	: no groundwater table observed
Top Stagnating Layer	: cm
Bottom Stagnating Layer	: cm
Runoff	: medium
Flooding frequency	: never
Estimated permeablity (class) of least permeable part of the profile	: moderate
Drainage Class	: well
To Drainage Class	:
Moisture conditions of the profile: dry from -to	: cm
Moisture conditions of the profile: moist from -to	: cm
Wet From - To	: cm

Land use / vegetation:

Current land use at the site	: cultivated pasture
Major crops	:
Main type of irrigation	:
Rotation scheme	:
Vegetation Type:The natural vegetation at	

Erosion and aggredation:

Soil erosion type (1st entry)	:
Occurrence of soil aggradation	:
Slope Stability	:

the site	:
Status of vegetation	:

Surface characteristics:

Microrelief type: small-scale differences in relief in the direct vicinity of the site	: knobs
Microrelief Pattern	: isolated
Microrelief Height	: 10
Rockiness	: none
Stoniness	: none
Average size of stones	:
Shape of stones (on average)	:
Slaking of aggregates by tillage, rainfall or frost	: no surface slaking/crusting observed
Evidence of salt	: non-saline
Evidence of alkali	: non-alkaline

Nearest climate station:

Station	: No representative climate station available for this site

Profile description:

Ap 0-15 cm	: greyish brown (10YR 5/2, dry), loam gravelly, moderate medium subangular blocky, common fine pores moderately porous (40-60 vol%), common fine roots, many medium and coarse gravel weathered limestone, gneiss and sandstone fragments, few pedotubules, clear smooth boundary to,
Ah 15-35 cm	: brown (10YR 5/3, dry), silt loam gravelly, moderate medium subangular blocky, common fine pores moderately porous (40-60 vol%), few fine roots, common medium and coarse gravel weathered limestone, gneiss and sandsone fragments, few pedotubules, abrupt wavy boundary to,
C 35-55 cm	: light grey (10YR 7/2, dry), loam gravelly, porous massive, common medium pores moderately porous (40-60 vol%), no roots, many medium and coarse gravel weathered limestone, gneiss and sandstone fragments, no pedotubules,

Physical

Particle size distribution:

Depth (cm)		Gravel (%)	Very Coarse Sand (%)	Coarse Sand (%)	Medium Sand (%)	Fine Sand (%)	Very Fine Sand (%)	Total Sand (%)	Coarse Silt (%)	Fine Silt (%)	Total Silt (%)	Clay (%)
0-15	:	17	-	-	-	-	-	37.7	24.2	16.3	40.5	21.8
15-30	:	15	-	-	-	-	-	35.9	15.4	35.5	50.9	13.2
35-45	:	21	-	-	-	-	-	36.9	15	26.6	41.6	21.5

Other physical data

Depth (cm)		Bulk Density (kg/dm³)	Spec. Surf. Area (m2/g)	COLE (cm/cm)	Water Disp. Clay (%)	Clay (%)
0-15	:	-	-	-	-	21.8
15-30	:	-	-	-	-	13.2
35-45	:	-	-	-	-	21.5

Chemical characteristics:

Depth (cm)		pH H2O	pH KCl	EC 1 : 2.5 (mS/cm)	CaCO3 (%)	Org. C (%)	Org. N (%)	C / N	Exch. Acid (cmol/kg)	Exch. Al (cmol/kg)	Ca (cmol/kg)	Mg (cmol/kg)	K (cmol/kg)	Na (cmol/kg)	Sum Cations (cmol/kg)
0-15	:	7.4	6.9	-	-	3.14	0.45	7	-	-	15.4	0.6	0.2	0.0	16.2
15-30	:	7.8	7.4	-	-	1.94	0.20	10	-	-	13.9	0.3	0.1	0.0	14.3
35-45	:	8.3	8.4	-	-	0.17	0.01	17	-	-	8.6	0.1	0.1	0.0	8.8

Depth (cm)		CEC Soil (cmol/kg)	CEC Clay (cmol/kg)	CEC Org (cmol/kg)	ECEC (cmol/kg)	Base sat. (%)	Al sat. (%)	ESP (%)
0-15	:	21.8	100	-	-	74	-	-
15-30	:	16.3	123	-	-	88	-	-
35-45	:	2.6	12	-	-	-	-	-

Source of analyzing procedures:

Laboratory	Attribute	Description	Proc. ref
ISRIC	Base sat.	Calculation; Sum of Exchangeable Cations (Na, K, Ca, Mg) / CEC soil	labmanual
ISRIC	C / N	Calculation; Organic Carbon / Organic Nitrogen	labmanual
ISRIC	Ca	Exchangeable bases with 1 M ammonium acetate at pH 7; Ca by atomic absorption spectrometry	9-4 and 9-5.3
ISRIC	CEC Clay	Calculation; ((CEC soil - CEC org.m.)/ clay %)*100	9-6.3
ISRIC	CEC Soil	CEC; with index cation in buffered solution pH7	9-4 and 9-5.3.3
ISRIC	Clay; < 0.002 mm	Fraction by Pipette analysis; after removal CaCO3 and organic matter, dispersion and sedimentation	3-4.7
ISRIC	Gravel	Fraction from field sample, after drying, crushing, sieving	1-1
ISRIC	K	Exchangeable bases with 1 M ammonium acetate at pH 7; K by flame atomic emission spectrometry	9-6.1
ISRIC	Mg	Exchangeable bases with 1 M ammonium acetate at pH 7; Mg by atomic absorption spectrometry	9-4 and 9-5.3
ISRIC	Na	Exchangeable bases with 1 M ammonium acetate at pH 7; Na by flame atomic emission spectrometry	9-4 and 9-5.3
ISRIC	Organic Carbon	Wet combustion of organic matter by potassium dichromate and sulphuric acid at about 125 degrees Celcius. Residual dichromate is back titrated against ferrous sulphate. To compensate for incomplete destruction an emprical correction factor of 1.3 is applied	5
ISRIC	Organic Nitrogen	Organic Matter is digested in sulphuric acid (and hydrogen peroxide) with selenium as catalyst. Nitrogen is converted to ammonium sulphate. The solution is made alkaline and ammonia is distilled off. The evolved ammonia is trapped in boric acid and titrated with standardized acid solution	6
ISRIC	pH H2O	pH electrode; in supernatant suspension	4-1
ISRIC	pH KCl	In supernatant suspension; potentiometrically	4-1
ISRIC	Sand; 2.0 -	Total sand fractions by sieving; after removal CaCO3 and organic matter	3-5

	0.05 mm		
ISRIC	Silt; 0.02 - 0.002 mm	Fraction by Pipette analysis ; after removal CaCO3 and organic matter, dispersion and sedimentation	3-4.7
ISRIC	Silt; 0.05 - 0.002 mm	Calculation; Sum fractions Silt 0.05 - 0.02 mm	3-4.7
ISRIC	Silt; 0.05 - 0.02 mm	Fraction by Pipette analysis ; after removal CaCO3 and organic matter, dispersion and sedimentation	3-4.7
ISRIC	Sum cations	Sum of Exchangeable Cations (Ca, Mg, Na, K) with 1 M ammonium acetate at pH 7	9-

*ref: no labmanual available, link to presumable used analytical methode

Other classification

Classification (other) :
Brown earth

Please report suggestions for improvement to the webmaster

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