Appendix B
Examples

HISTOSOLS

Rhei-gelic Histosol with a hemic topsoil
Loc.: Kola Peninsula, Federation of Russian States
Thickness: 30 cm
Ref.: Polyntseva (1962), p. 66, prf. 187

0-38 cm H Medium to strongly decomposed sedge peat, consisting of scraps of sedge rootlets, occasional pieces of epidermis and some scraps of horsetail rhizomes.

	pH		OC	N	C/N	BD	Exchangeable bases cmol(+)kg^{-1} soil			
Cm	H_2O	Salt.sol	%	%		Mg m^{-3}	Ca	Mg	H	NH_4^+
0-5	5.1	4.3	nd	nd	nd	0.25	43.4	7.2	17.3	0.3
10-15	5.4	4.6	48.4	2.2	22	0.23	nd	nd	nd	nd
20-25	5.7	4.9	nd	nd	nd	0.22	82.4	9.7	8.7	0.4

Note: arctic is not used as this is implied by gelic; hemic is used to specify degree of decomposition.

Rhei-sapric Histosol with an hydric topsoil
Loc.: Slievenkilla Td., County Leitrim, Republic of Ireland
Thickness: 30 cm
Ref.: Hammond R.F. (1979), p. 53/4

0-60 cm H Dark reddish brown (5YR 3/2) peat; well-humified; greasy; recent roots to at least 50 cm depth.

cm	pH H_2O	BD Mg m^{-3}	Ash %	N %	Moisture field	Moisture satur.	Rubbed fiber %
0-30	4.2	0.09	4.2	2.52	85.1	1171	1.0

Note: hydric is used to indicate low bulk density; sapric is not used as it is indicated in the classification.

Eutri-sapric Histosol with a drained, brunic topsoil
Loc.: Dane County, Wisconsin, USA
Thickness: 30 cm
Ref.: Lee G.B. and Bamrung Manoch (1974)

Note: Soil has been drained since about 1910.

0-20 cm	O1	Black (5YR-10YR 2/1 to N2/) muck; ca. 5 % unrubbed fiber; weak medium subangular blocky, parting to moderate medium and fine granular; soft and very friable moist.
20-25 cm	O2	Black (5YR 2/1) and dark reddish brown (5YR 2/2) muck; low fiber content; moderate very coarse prismatic, parting to moderate coarse platy;
25-36 cm	O3	Black (5YR 2/1) and dark reddish brown (5YR 2/2) muck; low fiber content; moderate very coarse and medium prismatic, wedgeshaped; firm.

cm	pH	OC %	N %	C/N	BD Mg m^{-3}	Fiber %	Ash %	SPEC (*) 10YR
0-20	5.7	55.8	4.3	13	0.32	3	26.2	5/4
20-25	5.7	55.8	3.7	15	nd	nd	13.4	6/3
25-36	5.8	57.7	4.2	14	nd	7	24.5	5/3

SPEC (*) = sodium pyrophosphate extract colour.

Note: drained is used to indicate artificial drainage. Topsoil qualifies for brunic because of pH and the granular structure.

CRYOSOLS

Hapli-gleyic Cryosol with a silty, redoxic, organi-brunic topsoil
Loc.: 6 km NW of Fairbanks, Alaska, USA
Thickness: 30 cm
Ref.: Rieger S. et al. (1979), p. 40

0-12 cm	O	Very dark brown (10YR 2/2) mat of moss and roots.
12-20 cm	Ahg	Very dark grayish brown (10YR 3/2) and dark gray (5Y 4/1) silt loam; weak very thin platy, parting to weak very fine granular; friable moist; many roots.
20-40 cm	Bg	Dark gray (5Y 4/1) silt with many medium distinct dark brown mottles; weak very thin platy, parting to weak very fine subangular blocky; friable moist, nonsticky wet.

cm	Particle size distribution Sand	Silt	Clay	OC %	N %	C/N
0-12	nd	nd	nd	36.38	1.212	30
12-20	8	76	15	11.51	0.399	29
20-40	4	80	17	1.62	0.081	20

cm	PH H_2O 1:1	Exchangeable bases Ca	Mg	K	Na	CEC (NH_4OAc)	Extr. ac.	BS
		cmol(+) kg^{-1} soil						%
0-12	5.4	nd	nd	nd	nd	nd	nd	nd
12-20	5.7	24.3	11.8	0.5	0.3	40.5	27.2	91
20-40	6.9	14.7	7.6	0.1	0.4	22.3	6.4	100

Note: arctic is not used as this is implied by Cryosol; redoxic is used to indicate periodic saturation as evidenced by the reduction colours and many mottles; organi-brunic is used to indicate the thick (>10 cm) mat of moss and roots on top of a brunic layer; neutral is used although it is redundant with brunic to indicate the neutral soil reaction of the organic layer.

Haplic Cryosol with a neutral, sandy topsoil
Loc.: Grandview Hills, Yukon, Canada
Thickness: 30 cm
Ref.: Zoltai and Pettapiece (1973), p. 89/90

0-2 cm	O	Dark gray (10YR 3/1, dry) loose organic material.
2-6 cm	A	Pinkish gray (10YR 6/2, dry) coarse sandy loam; single grained; loose dry, friable moist.
6-22 cm	Bu1	Yellowish red (5YR 4/8, moist) sandy loam to loamy sand; single grained; friable moist.
22-37 cm	Bu2	Strong brown (10 - 7.5YR 5/6, moist) loamy sand; single grained; loose dry.

	Particle size distribution			OC	pH	BS
cm	Sand	Silt	Clay	%	$CaCl_2$	%
2-6	68	30	2	0.78	5.3	25
6-22	76	14	10	0.44	5.3	20

Note: arctic is not used as this is implied by the Cryosol classification.

ANTHROSOLS

Plaggic Anthrosol with a sandy topsoil
Loc.: Deventer, Province of Overijssel, The Netherlands
Thickness: 30 cm
Ref.: Stiboka (1979), p.84

0-40 cm	Ap	Black (10YR 2/1) loamy sand; loose.

	Particle size distribution						Pt
cm	Sand				Silt	Clay	%
	2-0.2	0.2-0.15	0.15-0.1	0.1-0.05			
0-40	30	18	17	12	17	6	0.17

cm	Humus %	C/N	pH KCl	Sum of Cations	Extr. H cmol(+)	Sum of Bases kg^{-1} soil	BS %
0-40	3.7	14	4.4	8.5	5.8	14.4	59

Note: Plaggen is not used as this is already mentioned in the classification.

Regi-irragric Anthrosol with a loamy, salsic topsoil
Loc.: Sadah, Sadah Province, Yemen
Thickness: 30 cm
Ref.: King et al. (1983), p. 420/2

Note: 157 cm of deposits through spate irrigation is recorded.

0-22 cm C Dark yellowish brown (10YR 3/6, moist) sandy loam; strong coarse prismatic; strongly calcareous.
22-57 cm 2C Dark yellowish brown (10YR 3/6, moist) sandy loam; strong coarse prismatic; soft dry, friable moist, slightly sticky and plastic wet; strongly calcareous.

	Particle size distribution			pH	Org. mat.	CEC	$CaCO_3$	EC
				H_2O		Cmol(+)		
cm	Sand	Silt	Clay		%	kg^{-1} soil	%	dS m^{-1}
0-22	73	22	5	7.5	1.25	15	7.8	0.31
22-57	73	22	5	6.9	1.48	38	8.8	6.50

Note: salsic is used to indicate the intermediate salinity between 22 and 30 cm depth.
Cumulic is not used as topsoil property as this is already implied in the classification.

LEPTOSOLS

Eutri-lithic Leptosol with a loamy, melanic topsoil
Loc.: Kassab, Lattakia Province, Syria
Thickness: 7 cm
Ref.: Directorate of Soils, MAAR (1982), p. 17/8

0-7 cm Ah Very dark brown (10YR 2/2, moist) sandy loam; moderate medium subangular blocky, parting to moderate fine granular; hard dry, friable moist, slightly sticky and slightly plastic wet.
7+ cm R Lithic contact with volcanic rocks.

	Particle size distribution			pH	OC	CEC (NaOAc)
cm	Sand	Silt	Clay	H_2O	%	cmol(+) kg^{-1} soil
0-7	70	17	13	6.5	3.3	70

Note: melanic is used to indicate the appreciable accumulation of OM under near neutral conditions; the topsoil properties border chernic, but lack the structural requirements; shallow is not used as this is indicated by lithic.

Hapli-rendzic Leptosol with a loamy topsoil
Loc.: Goulvany par Courdemanges, Marne, France
Thickness: 30 cm
Ref.: FAO-Unesco (1981), p.118/9

0-18/20 cm Ap Very dark grayish brown (10YR 3/2, moist) calcareous loam; moderate fine to medium granular; loose dry, very friable moist.
18/20-30/35 cm AC White weathered limestone loam.

cm	Particle size distribution CF	CS	FS	Silt	Clay	pH H_2O	OC %	N %	C/N
0-18/20	44	5	11	44	31	7.9	4.7	0.4	12
18/20-30/35	82	14	8	42	32	8.4	Nd	nd	nd

cm	Exchangeable bases Ca	Mg	K	Na	CEC (NH_4OAc)	BS %
			cmol(+) kg^{-1} soil			
0-18/20	42	1.1	1.1	0.3	44.5	100

Note: rendzic is not used as this is already indicated in the classification.

Hapli-eutric Leptosol with a loamy topsoil
Loc.: Province of Sevilla, Spain
Thickness: 25 cm
Ref.: INIA (1975), p.236/7

0-1 cm	O	Organic litter layer.
1-4 cm	Ah	Dark red (2.5YR 3/6) sandy loam; strong medium and coarse crumb.
4-25 cm	B	Dark red (2.5YR 3/6) sandy loam; columnar when dry, crumb when moist; slightly hard dry.
25 cm	R	Lithic contact.

cm	Particle size distribution Sand	Silt	Clay	OC %	N %	C/N	$CaCO_3$ %
1-4	69	12	19	0.88	0.08	11	1.4
4-25	57	25	18	0.65	0.08	8	1.8

Cm	pH H_2O	Exchangeable bases Ca	Mg	K	Na	CEC
				cmol(+) kg^{-1} soil		
1-4	7.3	6.1	0.5	0.2	0.07	7.0
4-25	7.1	14.1	0.6	0.2	0.09	6.0

Note: brunic is not used as structures are too strong. Most likely this soil is eroded, in which case "truncated" can be added. No data, however, were found to substantiate this.

VERTISOLS

Eutri-grumic Vertisol with an natric, clayey, crusting and self-mulching topsoil
Loc.: Hag Abudalla, South Gezira, Sudan
Thickness: 30 cm
Ref.: FAO (1985), p. 196/8

0-4 cm	Ah1	Dark grayish brown (10YR 4/2, moist) clay; soft platy crust on surface underlain by strong medium granular structure; slightly hard dry, friable moist, sticky and plastic wet; calcareous.

4-25 cm Ah2 Very dark grayish brown (10YR 4/1.5, moist) clay; strong coarse prismatic parting to moderate medium and coarse subangular blocky; extremely hard dry, friable moist, sticky and plastic wet; calcareous.

25-45 cm B Very dark grayish brown (10YR 4/1.5, moist) clay; moderate medium subangular blocky, parallelepiped; very hard dry, firm moist, sticky and plastic wet; calcareous.

	Particle size distribution				OC	N	C/N	pH		$CaCO_3$
cm	CS	FS	Silt	Clay	%	%		paste	H_2O	%
0-4	9	11	25	55	0.13	0.045	3	8.1	8.9	1.3
4-25	7	12	24	57	0.41	0.035	12	8.2	8.9	1.4
25-45	9	12	23	56	0.47	0.035	13	8.4	9.3	1.2

	Exchangeable bases					EC	SAR	ESP
	Ca	Mg	Na	K	CEC			
cm			cmol(+) kg^{-1} soil			DS m^{-1}		
0-4	nd	nd	4.12	1.5	55	0.16	5	7
4-25	nd	nd	7.81	1.4	57	0.60	4	14
25-45	nd	nd	13.79	1.1	52	1.32	10	27

Note: self-mulching is used as this is not directly implied by grumi-.

FLUVISOLS

Gleyi-orthithionic Fluvisol with an clayey, hydri-redoxic and sulfic topsoil
Loc.: Bang Pakong, Thailand
Thickness: 30 cm
Ref.: Breemen (1976), p. 168/9

Note: occasional flooding by brackish water and rainwater.

0-10 cm Ah 50% dark grayish brown (10YR 4/2, moist) and 50% (dark) brown (10YR 4/3, moist) silty clay; many coarse faint dark reddish brown (5YR 4/3, moist) mottles; weak coarse angular blocky; sticky and non-plastic wet.

10-18 cm Bu1 70% dark grayish brown (10YR 4/2, moist) and 30% (dark) brown (10YR 4/3, moist) silty clay; many coarse distinct reddish brown (5YR 4/3-4, moist) mottles; weak coarse angular blocky; sticky and non-plastic wet.

18-30 cm Bu2 Dark grayish brown (10YR 4/2, moist), locally very dark gray (10YR 3/1, moist) silty clay; many coarse distinct reddish brown (10YR 4/3-4, moist) glossy coatings on pore walls; few jarosite mottles; weak coarse prismatic; slightly sticky and non-plastic wet.

	Particle size distribution			OC	N-value	BD
cm	Sand	Silt	Clay	%		Mg m^{-3}
0-10	1	50	49	1.7	0.88	1.06
10-18	1	43	57	2.7	1.04	0.87
18-30	1	41	58	3.5	1.32	0.66

cm	PH fresh	Aerated
0-5	5.5	4.8
5-10	4.2	4.3
10-15	3.3	3.2
15-20	3.1	2.8
20-25	3.4	2.4
25-30	3.8	2.1

cm	Watersoluble SO_4-S in %	Pyrite-S %	Total-S %
0-20	0.05	0.01	0.06
20-40	0.11	1.11	1.22

Note: Sulfic is used as topsoil already contains more than 0.75 % S, which is not implied by orthithionic. Jarositic is not used because mottles are too few. Redoxic is used because of many brown mottles, while the topsoil is also hydric (n-value >0.7). Modic is not used as the combination hydri-redoxic and sulfic better characterizes the topsoil.

Calcari-hyposodic Fluvisol with a loamy, calci-halic topsoil
Loc.: Al Khawkhak, Yemen
Thickness: 30 cm
Ref.: King et al. (1983), p. 336/8

0-5 cm	Ah	Brown (10YR 4/3, moist) loam; strong medium platy; slightly hard dry, friable moist, slightly sticky and slightly plastic wet; strongly calcareous.
5-15 cm	2Ah	Brown (10YR 5/3, moist) loamy sand; strong coarse subangular blocky; hard dry, friable moist, slightly sticky and non-plastic wet; strongly calcareous.
15-33 cm	3Ah	Pale brown (10YR 6/3, moist) sandy loam; strong coarse subangular blocky; slightly hard dry, friable moist, sticky and plastic wet; strongly calcareous.

cm	Particle size distribution Sand	Silt	Clay	pH H_2O	EC dS m^{-1}	Org. mat. %	$CaCO_3$ %
0-5	49	38	13	7.6	6.5	1.18	16.6
5-15	79	16	5	7.5	17.5	0.96	18.6
15-33	57	38	5	7.5	9.9	2.20	24.3

Note: The crusting requirement is not met as the percentage sand is too high; the platy structure in the top is probably due to the fluvic characteristics; calcic is used, because topsoil has > 15 % $CaCO_3$ (not implied by calcari-), while halic is used as between 5 and 15 cm the EC is > 15 dS m^{-1}.

SOLONCHAKS

Hypersali-sodic Solonchak with a clayey, crusting calci-halic topsoil
Loc.: Lower Tigris terrace, east of Chay Khanah, Iraq
Thickness: 30 cm
Ref.: Altaie (1968), p.128/130

0-2 cm	Az1	Dark brown (7.5YR 4/3, moist) silty clay; weak coarse platy; friable dry, sticky and plastic wet; calcareous.

2-5 cm	Az2	Dark brown (7.5YR 4/3, moist) silty clay; moderate granular; friable dry, sticky and plastic wet; calcareous.
5-25 cm	Bz1	Reddish brown (5YR 4/4, moist) silty clay; massive; firm moist, sticky and plastic wet; calcareous.
25-50 cm	Bz2	Reddish brown (5YR 4/4, moist) silty clay; moderate medium subangular blocky; hard dry, firm moist, sticky and plastic wet; calcareous.

	Particle size distribution			OC	PH	$CaCO_3$	Gypsum
Cm	Sand	Silt	Clay	%	Paste		%
0-5	5	52	43	0.30	7.4	22.7	0.2
5-25	3	45	52	0.53	7.3	21.8	1.4
25-50	2	49	49	0.49	7.2	21.1	1.8

		Exchangeable bases					
Cm	EC $dS\ m^{-1}$	Ca	Mg	K	Na	CEC	ESP
				$cmol(+)\ kg^{-1}$ soil			
0-5	46.9	nd	nd	0.5	2.6	21.4	12
5-25	59.2	nd	nd	0.4	2.0	26.1	8
25-50	50.5	nd	nd	0.4	5.1	23.8	21

Note: The arid requirement is not met as the exchangeable K percentage is < 5; crusting property is used as the topsoil meets sand and silt and the CEC requirement; it is corroborated by the presence of a platy structure; calci-halic is used as the topsoil has > 15 % $CaCO_3$ and has an EC of > 15 $dS\ m^{-1}$ (depth of both properties is not reflected in the classification).

Aridi-sodic Solonchak with an natric, clayey, crusting and halic topsoil
Loc.: San Bernardino County, California, USA
Thickness: 30 cm
Ref.: Soil Survey Staff (1975), p. 566/7

0-5 cm	C	Yellowish brown (10YR 5/4, moist) clay; very fine subangular blocky; very hard dry, firm moist.
5-15 cm	Cn1	Yellowish brown (10YR 5/4, moist) clay; very fine granular; soft dry, very friable moist.
15-25 cm	Cn2	Dark yellowish brown (10YR 4/4, moist) silty clay; moderate very fine to medium granular; slightly hard dry, friable moist.
25-58 cm	Cn3	Brown (10YR 5/3, moist) clay; weak fine subangular blocky; very hard dry, firm moist.

	Particle size distribution							OC	N	C/N
cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-5	0.2	0.5	0.5	4	7	25	62	0.10	0.013	8
5-15	0.1	0.4	0.6	3	6	25	65	0.17	0.012	14
15-25	0.3	0.5	0.5	3	5	45	46	0.20	0.013	15
25-58	0.1	0.2	0.3	2	4	30	64	0.16	0.015	11

	pH		Exchangeable bases		
	H_2O	Sat. paste	K	Na	CEC
cm	1:10			$cmol(+)\ kg^{-1}$ soil	
0-5	9.8	8.6	6.2	20.2	33.0
5-15	9.1	8.5	6.2	24.5	32.8
15-25	9.0	8.4	5.3	28.6	31.3
25-58	9.4	8.4	6.2	24.5	33.7

cm	EPP	ESP	SAR	EC dS m^{-1}	Salt %	$CaCO_3$ %	Gypsum %
0-5	19	61	107	10.8	0.3	14	-
5-15	19	75	352	92.6	3.9	14	0.73
15-25	17	91	399	99.0	4.1	14	2.06
25-58	18	73	181	63.8	2.5	17	0.09

Note: topsoil meets the requirements for crusting, although the presence of a crust is not given in the profile description; topsoil does not qualify for duric as only the surface layer is very hard when dry. Both halic and sodic properties apply to the topsoil and choice has to be made to limit the modifiers to three. Because of the presence of free salts halic has been chosen.

GLEYSOLS

Andi-anthraquic Gleysol with a loamy, brunic topsoil
Loc.: Tanigashira, Miyakonojo-shi, Japan
Thickness: 30 cm
Ref.: Wada K. (Ed.) (1986), p. 216-221

0-18 cm Ap Black (10YR 1.85/1, moist) clay loam; weak fine angular blocky; very friable moist, sticky and plastic wet; many roots; few fine pores; few pumices.

18-30 cm Ahg Black (10YR 1.85/1, moist) clay loam to light clay; massive; friable moist, sticky and plastic to very plastic wet; common roots; few fine pores; common thready iron mottles; common pumices.

cm	Particle size distribution CS	FS	Silt	Clay	CF %	OC %	N %	C/N	BD Mg m^{-3}	AL(p) Al(o)
0-18	19	39	19	24	1.1	6.1	0.47	13	0.69	0.24
18-30	19	39	18	24	2.2	5.3	0.38	14	0.87	0.17

cm	pH H_2O	KCl	NaF	Exchangeable bases Ca	Mg	K	Na cmol(+) kg^{-1} soil	CEC (NH_4OAc)	BS %
0-18	5.8	4.9	10.0	8.0	1.4	0.2	0.2	21.7	45
18-30	5.9	5.0	10.3	7.1	1.2	0.2	0.3	20.4	43

Note: allophanic is not used as the structural and consistence requirements are not met, although Al(p)/Al(o), pH (H_2O) and the only moderate leaching suggest that allophane is probably the stabile compound. The practice of puddling may have oblitered this. The combination umbri- and brunic indicates that this topsoil has a BS (NH_4OAc) between 35 and 50 %; reduced, redoxic or stagnic is not used as anthraquic implies periodical water saturation.

ANDOSOLS

Fulvi-silic Andosol with a neutral, loamy, thixotropic and allophanic topsoil
Loc.: Nilque, Chile
Thickness: 30 cm
Ref.: Beinroth et al. (1985), p. 143/7

0-17 cm Ah1 Black (10YR 2/1, broken and rubbed) loam; strong medium coarse granular; friable moist, slightly sticky and slightly plastic wet; weakly smeary.

17-48 cm Ah2 Black (10YR 2/1) and very dark grayish brown (10YR3/2) silt loam; weak coarse and very coarse subangular blocky; friable moist, slightly sticky and slightly plastic; weakly smeary.

	Particle size distribution							OC	N	C/N
cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-17	1	6	15	13	12	49	4	9.2	0.71	13
17-48	1	7	20	10	11	48	5	5.4	0.31	17

		pH		Exchangeable bases				CEC	Extr.		
				Ca	Mg	K	Na	(NH_4OAc)	ac.	Al	BS
cm	H_2O	$CaCl_2$	NaF	cmol(+) kg^{-1} soil							%
0-17	5.4	5.0	10.9	8.6	1.4	0.2	-	36.0	43.8	0.3	28
17-48	6.2	5.5	10.9	6.9	0.5	0.1	-	25.0	34.2	0.1	30

	BD	P	Acid oxal.			Pyroph.	Al(o)+	Al(p)/
cm	Mg m^{-3}	ret.	Al	Fe	Silt	Al	1/2Fe(o)	Al(o)
0-17	0.85	95	2.4	1.5	1.0	1.1	3.2	0.46
17-48	0.77	96	2.9	2.1	1.6	0.7	4.0	0.24

Note: Neutral is used as the soil reaction requirement for allophanic (pH 5 or more) has no upper limit. In practice alkaline allophanic topsoils are not likely to occur. When this is verified neutral can be dropped and an upper limit for soil reaction can be added to the allophanic requirements.

Hapli-dystric Andosol with a neutral, loamy, opali-modic topsoil
Loc.: Teradani, Iwata-shi, Japan
Thickness: 30 cm
Ref.: Wada (Ed.) (1986), p.228/33

0-3 cm O Litter.

3-12 cm Ah1 Brownish black (7.5YR 2.5/2, moist) clay loam; weak to moderate fine granular and in part weak medium subangular blocky; friable moist, sticky to very sticky and very plastic wet.

12-32 cm Ah2 Very dark brown (7.5YR 2/3, moist) clay loam; weak fine and fine to medium subangular blocky; friable moist, sticky and very plastic wet.

	Particle size distribution			OC	N	C/N	BD	Al(p)/
cm	Sand	Silt	Clay	%	%		Mg m^{-3}	Al(o)
3-32	44	23	34	6.52	0.35	19	0.74	1.1

		pH		Exchangeable bases				Exch.	CEC	BS
				Ca	Mg	K	Na	Al	(NH_4OAc)	
cm	H_2O	KCl	NaF	cmol(+) kg^{-1} soil						%
3-32	5.0	4.3	10.2	0.8	0.2	0.2	0.1	4.5	20.9	6

Note: Opalic and modic are used in combination as there are no organic matter properties included in opalic. Neutral is used as the pH is 5.0, to indicate the boundary case, because opalic and modic both require a pH (H_2O) of < 5.0.

PODZOLS

Carbi-gleyic Podzol with a sandy, para-modic topsoil
Loc.: Brantley County, Georgia, USA
Thickness: 8 cm
Ref.: Soil Survey Staff (1975), p. 698/9

0-8 cm Ah Gray (10YR 5/1, moist) sand; white sand and finely divided OM.
8-41 cm E Light gray (10YR 7/1-7/2, moist) sand; loose.

	Particle size distribution							OC	N	C/N
Cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-8	0.4	21	36	31	5	5	0.5	1.12	0.039	29
8-41	0.6	23	34	32	5	5	0.4	0.03	0.006	5

		Exchangeable bases				CEC	Extr.	
Cm	pH H_2O	Ca	Mg	K	Na	(NH_4OAc)	ac.	BS
		cmol(+) kg^{-1} soil						%
0-8	4.8	1.5	0	<0.1	<0.1	3.2	4.3	50
8-41	5.6	0.4	0	<0.1	<0.1	0.4	0.6	100

Note: BS is too high for modic, however, all other characteristics are present (low pH, poor mixture of OM and mineral particles, colour), therefore para-modic is used.

PLINTHOSOLS/FERRALSOLS

Veti-humic Ferralsol with a clayey, sombric topsoil
Loc.: E of Braganca Paulista, SP, Brazil
Thickness: 30 cm
Ref.: Tour Guide VIII International Soil Classification Workshop (1986), p. 44--51

0-10 cm Ap Black (N2/ , moist) clay; moderate fine and medium granular; friable moist, slightly plastic and nonsticky wet.
10-43 cm Ah Very dark brown (7.5YR 2.5/1, moist) clay; weak fine and medium granular; very friable and friable moist, slightly plastic and nonsticky wet.

	Particle size distribution							OC	N	C/N
cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-10	3	7	7	9	5	14	56	5.95	0.325	18
10-43	4	7	7	8	4	12	59	4.03	0.216	19

	pH		Exchangeable bases				CEC			
	H_2O	KCl	Ca	Mg	K	Na	(NH_4OAc)	Al	BS	AlS
cm	1:1		cmol(+) kg^{-1} soil						%	%
0-10	4.7	4.4	1.64	0.36	0.14	?	21.9	3.8	10	64
10-43	4.5	4.1	0.24	0.05	0.02	?	16.0	4.7	2	94

Note: sombric is used despite the humic classification to be more precise on the nature of the topsoil, which according to the classification can be an umbric A or a mollic A horizon with low BS in the B horizon, or a high amount of OM; acid is not used as this is implied by sombric.

Hapli-rhodic Ferralsol with an acid, clayey, humic topsoil
Loc.: Temerloh, Pahang, Malaysia
Thickness: 30 cm
Ref.: Beinroth and Paramananthan (Ed.) (1979), p. 296/9

0-4 cm	Ah	Dark reddish brown (2.5YR 3/4) clay; strong crumb; very friable.
4-33 cm	BA	Dark red (2.5YR 3/6) clay; moderate medium subangular blocky; very friable.

	Particle size distribution				OC	N	C/N	pH	
Cm	CS	FS	Silt	Clay	%	%		H_2O	KCl
0-4	2	13	34	51	3.0	0.37	8	5.2	4.9
4-33	2	4	28	66	1.5	0.09	17	4.6	4.3

	Exchangeable bases				CEC	Exch.	Extr.	BS	Al
	Ca	Mg	K	Na	(NH_4OAc)	Al	ac.		sat.
Cm	cmol(+) kg^{-1} soil							%	%
0-4	7.0	2.4	0.4	0.1	10.9	2.5	13.6	91	21
4-33	1.2	0.7	0.2	0.1	5.7	1.7	12.1	37	45

Note: Apart from the C/N ratio in the surface layer all other requirements are met for humic.

PLANOSOLS

Luvi-alic Planosol with a loamy, modic topsoil
Loc.: Liberty County, Georgia, USA
Thickness: 25 cm
Ref.: Soil Survey Staff (1975), p. 706/7

0-10 cm	Ah1	Dark gray (N4/ , moist) very fine sandy loam; weak fine crumb; friable moist.
10-18 cm	Ah2	Dark gray (N4/ , moist) fine sandy loam; few fine faint (N7/) and pale yellow (2.5Y 8/4) mottles; weak fine crumb.
18-25 cm	Eg	Grayish brown (2.5Y 5/2, moist) fine sandy loam; common faint medium yellow (2.5Y 7/6) and light gray (2.5Y 7/2) mottles; fine granular; friable to firm moist.
25-38 cm	Btg	Grayish brown (2.5Y 5/2, moist) loam; common medium distinct yellow (10YR 7/6) and strong brown (7.5YR 5/6) mottles; weak subangular blocky; firm moist.

	Particle size distribution							OC	N	C/N
Cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-10	0.3	3	4	24	24	38	7	2.20	0.095	23
10-18	2	4	4	30	18	36	7	1.17	0.059	20
18-25	1	10	2	27	16	36	9	0.54	0.060	9
25-38	1	13	2	20	9	37	18	0.22	nd	

	pH	Exchangeable bases				CEC	Extr.	BS
	H_2O	Ca	Mg	K	Na	(NH_4OAc)	ac.	
Cm	1:1	cmol(+) kg^{-1} soil						%
0-10	4.1	1.8	0.9	0.1	0.1	14.6	11.7	20
10-18	4.4	1.0	0.6	tr	0.1	10.8	9.1	16
18-25	4.5	0.8	0.8	tr	0.1	8.3	6.6	20
25-38		0.7	1.1	0.1	0.1	10.7	8.7	19

Note: Although stagnic is implied by the Planosol classification, it is used here to indicate that the stagnic influence reaches the topsoil; thickness of the topsoil is reduced by the contrasting layer at 25 cm depth.

SOLONETZ

Hapli-gleyic Solonetz with a clayey, termitic, hard-setting and natric topsoil
Loc.: South Nyanza District, Kenya
Thickness: 30 cm
Ref.: Wielemaker and Boxem (Eds) (1982), p. 177

Note: medium termite activity observed.

0-8 cm	Ah	Very dark (grayish) brown (10YR 2.5/2, moist) clay loam; strong fine subangular blocky; hard dry, firm moist, sticky and plastic wet.
8-30 cm	Bt	Very dark brown (10YR 2/2, moist) clay; strong coarse prisms coated with a very thin sprinkling of grey (10YR 6/1, dry) silt loam or loam on prism tops and along cracks; very hard dry, very firm moist, very sticky and very plastic wet; plentiful fine and medium roots.

	Particle size distribution			OC	N	C/N	pH
Cm	Sand	Silt	Clay	%	%		H_2O
0-8	32	30	38	2.1	0.50	4	5.2
8-30	26	32	42	0.9	0.09	10	6.0

	Exchangeable bases				CEC	BS	ESP
	Ca	Mg	K	Na	(NH_4OAc)		
Cm			cmol(+) kg^{-1} soil			%	
0-8	19.2	6.8	0.8	0.9	42.0	66	2
8-30	10.8	5.1	0.5	6.1	34.4	65	18

Note: Despite being a solonetz, natric is still mentioned as that property reaches into the topsoil.

CHERNOZEMS

Calci-luvic Chernozem with a loamy, melanic topsoil
Loc.: Williams County, North Dakota, USA
Thickness: 28 cm
Ref.: Soil Survey Staff (1975), p. 520/1

0-4 cm	Ah1	Very dark brown (10YR 2/1.5, moist) loam; moderate fine crumb; soft dry, very friable moist.
4-8 cm	Ah2	Very dark brown (10YR 2/1.5, moist) loam; weak medium prismatic, parting to weak fine granular; slightly hard dry, very friable moist.
8-20 cm	Bt1	Very dark brown (10YR 2/2, moist), crushing to very dark grayish brown (10YR 3/2.5) clay loam; moderate medium prismatic parting to strong fine and medium angular and subangular blocky; hard dry, friable moist.
20-28 cm	Bt2	Dark grayish brown (1Y 4/2, moist) clay loam; moderate medium prismatic, parting to moderate medium angular and subangular blocky; hard dry, friable moist.

28-58 cm BCk Light olive brown (2.5Y 5/3, moist), mottled with dark grayish brown (2.5Y 4/2) and light brownish gray (2.5Y 6/2); weak coarse prismatic parting to weak medium blocky; hard dry, friable moist.

	Particle size distribution							OC	N	C/N
cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-4	4	4	5	12	11	44	22	4.68	0.335	14
4-8	2	4	5	13	12	39	24	2.60	0.227	11
8-20	2	5	6	14	12	32	29	1.26	0.116	11
20-28	4	5	6	14	11	33	28	1.20	0.115	10
28-58	3	4	5	11	11	35	32	0.77	nd	

		Exchangeable bases				CEC	BS	$CaCO_3$
	pH	Ca	Mg	K	Na	(NH_4OAc)		
cm	H_2O	cmol(+) kg^{-1} soil					%	%
0-4	6.9	18.7	5.4	1.3	0.1	27.9	91	-
4-8	6.5	12.0	4.1	0.9	0.1	20.8	82	-
8-20	6.7	14.5	5.7	0.5	0.1	22.6	92	-
20-28	8.1	nd	nd	0.3	0.1	21.8	nd	3
28-58	8.8	nd	nd	0.2	0.1	16.0	nd	19

Note: Topsoil does not qualify for chernic as averaged OC content is < 3 % (actually 1.9 %); neutral is used as soil reaction in melanic does not have an upper limit.

Glossi-chernic Chernozem with a silty topsoil
Loc.: Smirnovski, Kazakhstan
Thickness: 30 cm
Ref.: FAO-Unesco (1978), p. 104/5

0-18 cm Ah1 Black heavy loam; fine crumb; slightly compacted.
18-28 cm Ah2 Blackish grey heavy loam; crumb; slightly compacted.
28-52 cm AB Dark grey heavy loam with brownish grey mottles; crumb; slightly compacted; tonguing boundary.

					Exchangeable bases				
	pH	OC	N	C/N	Ca	Mg	K	Na	$CaCO_3$
cm	H_2O	%	%		cmol(+) kg^{-1} soil				%
0-18	6.4	5.2	0.37	14	31.0	1.8	nd	0.1	0.0
18-28	6.5	3.5	0.31	12	25.6	5.4	nd	0.1	0.1
35-45	7.0	1.7	0.17	11	25.5	3.6	nd	0.2	0.9

Note: Neutral is not used as this is implied by chernic in the classification.

KASTANOZEMS

Hapli-calcic Kastanozem with an natric, silty, vermi-melanic topsoil
Loc.: Kokkumber, Tien Shan, Kirgizia
Thickness: 25 cm
Ref.: FAO-Unesco (1978), p. 126/7

0-15 cm Ah Grey heavy loam with chestnut shade; granular; numerous roots and earthworms; slightly compacted.

15-25 cm AB Grey heavy loam; granular; numerous roots and earthworms; fungous mycelia; scattered stones.
25-45 cm Bk Light grey medium loam; structureless; compact; scattered pebbles; roots; porous.

	Particle size distribution						OC	N	C/N
cm	Sand		Silt	coarse	Clay	FCl	%	%	
0-15	3	3	37	17	19	18	3.5	0.56	6
15-25	3	5	35	11	17	18	2.7	0.37	7
30-40	4	1	30	11	14	15	2.0	0.29	7

		Exchangeable bases		CEC	$CaCO_3$
	pH	Ca	Mg	(NH_4OAc)	
cm	H_2O	cmol(+) kg^{-1} soil			%
0-15	8.2	26.8	2.1	31.0	2
15-25	8.4	18.4	2.1	26.3	7
30-40	8.1	10.3	2.2	20.3	21

Note: No chernic because of thickness and OC content.

PHAEOZEMS

Hapli-pachic Phaeozem with a loamy, aggeri-brunic topsoil
Loc.: Roccamonfina, Lazio, Italy
Thickness: 30 cm
Ref.: Sevink J. et al. (1984), p. 96/7

Note: topsoil on terraced slope.

0-50 cm Ap Very dark grayish brown (2.5Y 3/2, moist) sandy loam; very fine to medium crumb; soft when dry.

	Particle size distribution							OC	PH	
cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	H_2O	$CaCl_2$
0-50	13	10	13	17	8	29	12	1.2	6.3	6.2

Note: being a deep topsoil on a terraced slope, the use of aggeric is justified; the topsoil meets also the brunic requirements. No soil reaction indication as brunic requires pH 5.0-6.5.

GYPSISOLS/DURISOLS/CALCISOLS/ALBELUVISOLS

Calci-endopetric Durisol with a loamy, arid topsoil
Loc.: Cochise County, Arizona, USA
Thickness: 30 cm
Ref.: Soil Survey Staff (1975), p. 594/5

0-5 cm Ah1 Brown/dark brown (7.5YR 4/4, moist) loamy coarse sand; moderate medium platy; slightly hard dry, very friable moist; abundant very fine and fine roots.
5-15 cm Ah2 Dark reddish brown (5YR 3/4, moist) fine sandy loam; massive, parting to weak very fine and fine subangular blocky; slightly hard dry, very friable moist; abundant very fine, fine and medium roots.

15-23 cm AB Dark reddish brown (5YR 3/4, moist) fine sandy loam; massive, parting to moderate very fine and fine subangular blocky; slightly hard dry, friable moist; common very fine and fine roots.

23-30 cm B Dark reddish brown (5YR 3/4, moist) loam; massive, parting to moderate fine and medium subangular blocky; slightly hard dry, friable moist; common very fine and fine roots.

	Particle size distribution							OC	N	C/N
cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-5	4	15	14	27	15	19	6	0.35	0.032	11
5-15	4	12	13	25	13	24	10	0.29	0.030	10
15-23	5	12	11	20	11	29	13	0.26	0.031	8
23-30	5	9	9	17	10	33	17	0.26	0.031	8

	pH	Exchangeable				CEC	Extr.	BS
	H_2O	Ca	Mg	K	Na	(NH_4OAc)	ac.	
cm	1:1			cmol(+) kg^{-1} soil				%
0-5	6.3	2.2	1.1	0.8	0.2	4.2	1.8	100
5-15	6.0	2.8	1.6	1.0	0.2	5.7	2.3	98
15-23	6.6	4.0	2.2	0.8	0.2	6.9	1.2	100
23-30	7.1	5.0	2.3	0.9	0.3	8.5		100

Note: topsoil meets the requirements for arid, but lacks properties of crusting. Despite being a Calcisol calcic is not used, indicating that the topsoil does not have > 15 % $CaCO_3$ equivalent.

ALISOLS

Hyperdystr-profondic Alisol with an acid, loamy, humic topsoil
Loc.: East Kalimantan, Indonesia
Thickness: 30 cm
Ref.: Bremen, H. van, et al. (1990), Annex II, p. 23-24

0-8 cm Ah Dark brown to brown (7.5YR 4/4, moist) loam; weak fine subangular blocky; very friable moist, slightly sticky wet; many roots in mat at top.

8-25 cm E Yellowish brown (10YR 5/8, moist) loam; moderate medium angular blocky; friable moist, moderately sticky wet; many roots.

25-52 cm Bt Brownish yellow (10YR 6/8, moist) clay loam; strong medium to coarse angular blocky; firm moist, moderately sticky wet; many roots.

	Particle size distribution			OC	N	C/N	pH	
cm	Sa	Silt	Clay	%	%		H_2O	KCl
0-8	60	23	17	4.46	0.26	17	3.6	3.4
8-25	49	26	25	1.27	0.08	16	4.0	3.7
25-52	43	26	31	0.45	0.04	11	4.4	3.7

	Exchangeable bases				CEC		Extr.	BS	Al
	Ca	Mg	K	Na	(NH_4OAc)	clay	Al		sat.
cm	cmol(+) kg^{-1} soil							%	%
0-8	0.56	0.37	0.15	0.07	9.49	27.3	8.55	12	91
8-25	0.41	0.16	0.07	0.17	9.24	28.3	8.83	9	94
25-52	0.25	0.12	0.07	0.10	8.07	29.0	7.67	7	93

NITISOLS

Humi-alic Nitisol with a clayey, chemically degraded and para-sombric topsoil
Loc.: Chuka-South, Kenya
Thickness: 30 cm
Ref.: De Meester and Legger (Eds) (1988), p. 246/8

0-20 cm Ah Dark reddish brown (5YR 3/3, moist) silty clay; weak fine granular structure; loose, non sticky and nonplastic.

20-45 cm AB Dark reddish brown (2.5YR 3/4, moist) clay; moderate medium subangular blocky; friable, slightly sticky and slightly plastic; continuous thin clay skins, shiny ped faces.

	Particle size distribution			OC	PH	
cm	Sa	Silt	Clay	%	H_2O	KCl
0-20	32	24	44	2.3	4.6	4.4
20-45	6	18	76	1.5	4.2	4.0

	Exchangeable bases				CEC	BS
	Ca	Mg	K	Na	(NH_4OAc)	
cm			cmol(+) kg^{-1} soil			%
0-20	1.7	0.8	0.3	<0.1	20.5	14
20-45	1.4	0.6	0.1	<0.1	23.2	9

Note: Chemically degraded is interfered from the low base status, and because maize yields in the area are given between 300 and 1600 kg ha^{-1}, which is low and 70 % or more below the normal yields on these soils.

ACRISOLS

Hyperdystri-profondic Acrisol with a loamy, hard-setting, termiti-arescic topsoil
Loc.: Kasama, Northern Province, Zambia
Thickness: 20 cm
Ref.: Woode (Ed.) (1985), p. 348/55

0-10 cm Ah Dark yellowish brown (10YR 3/4, moist) sandy loam; weak fine and medium subangular blocky; slightly hard, slightly sticky and non-plastic; common termite chambers 4 to 5 cm in diameter connected by channels 1 cm in diameter.

10-20 cm AB Strong brown (7.5YR 4/6, moist) sandy clay; moderate fine and medium subangular blocky; hard, very sticky and plastic; common termite chambers as in Ah.

20-43 cm Bt Strong brown (7.5YR 4/6, moist) clay; weak fine and medium subangular blocky; hard, very sticky and plastic; common termite chambers as in Ah.

	Particle size distribution							OC	N	C/N
cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-10	0.4	4	22	35	13	10	17	0.85	0.053	16
10-20	0.3	4	17	28	12	11	29	0.57	0.042	14
20-43	0.4	3	12	20	10	9	45	0.37	0.033	11

cm	PH H_2O	PH KCl	Exchangeable bases Ca	Mg	K	Na	CEC (NH_4OAc)	Extr. Al	Extr. ac.
			cmol(+) kg^{-1} soil						
0-10	5.1	4.1	0.2	0.4	0.2	tr	3.7	0.8	4.1
10-20	5.1	4.0	-	0.3	0.3	tr	4.3	1.1	4.5
20-43	4.9	4.0	-	0.3	0.2	tr	5.1	1.7	5.7

LUVISOLS

Hapli-rhodic Luvisol with a neutral, clayey, severely eroded topsoil
Loc.: Kitui District, Kenya
Thickness: 30 cm
Ref.: Sketchley H.R. et al. (1978), p. 339/43

Note: slope 8%; severe erosion note.

0-14 cm B Dark reddish brown (2.5YR 3/4, moist) sandy clay loam; weak medium subangular blocky; hard dry, friable moist, non-sticky wet.

14-35 cm Bt Dark red (2.5YR 3/6, moist) clay; moderate medium subangular blocky; hard dry, firm moist, slightly sticky wet.

cm	Particle size distribution VCS	CS	MS	FS	VFS	Silt	Clay	OC %	pH H_2O	pH KCl
0-14	18	7	5	12	9	13	37	0.97	7.2	6.1
14-35	14	6	4	9	8	15	45	0.56	6.3	5.2

cm	Exchangeable bases Ca	Mg	K	Na	CEC (NH_4OAc)	BS
			cmol(+) kg^{-1} soil			%
0-14	11.5	3.3	0.7	0.1	14.8	100
14-35	9.1	3.5	0.3	0.1	14.8	88

Note: topsoil does not meet the requirements for brunic because of the high pH; melanic does not apply because of the colour; this is logical in view of the severely eroded state of the topsoil, the topsoil properties are dominated by the properties of the former subsoil.

LIXISOLS

Ferri-profondic Lixisol with a neutral, gravelly coarse-loamy, melanic topsoil
Loc.: Nakhon Ratchasima Province, Thailand
Thickness: 30 cm
Ref.: Beinroth and Panichapong (Eds) (1979), p.415/9

0-15 cm Ap Dark reddish brown (5YR 3/2) very gravelly (ironstone) sandy loam; weak fine and medium subangular blocky; very friable, slightly sticky, slightly plastic.

15-35 cm AB Dark reddish brown (5YR 3/3) very gravelly sandy clay loam; weak fine and medium subangular blocky; very friable, slightly sticky, slightly plastic.

	Particle size distribution							OC	N	C/N
cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-15	11	6	7	17	14	33	13	1.90	0.08	23
15-35	10	5	6	19	15	26	19	0.42	0.11	4

	PH		Exchangeable bases				CEC	Extr.	BS
			Ca	Mg	K	Na	(NH_4OAc)	ac.	
cm	H_2O	KCl							%
0-15	6.7	5.8	6.5	2.0	0.38	0.03	12.3	5.5	73
15-35	7.0	6.0	6.6	1.8	0.20	0.03	11.7	3.9	74

Note: neutral is used as in the melanic requirements soil reaction has no upper boundary.

Rhodi-profondic Lixisol with a neutral, fine-loamy, hard-setting and compacted topsoil
Loc.: Lusaka, Zambia
Thickness: 30 cm
Ref.: Woode (Ed.) (1985), p. 452/9

0-24 cm Ap1 Dark reddish brown (5YR 3/4, moist) sandy clay loam; moderate fine and medium subangular blocky; slightly hard.

24-38 cm Ap2 Dark reddish brown (2.5YR 3/4, moist) sandy clay loam; weak coarse and very coarse platy parting to moderate fine and medium subangular blocky; hard.

	Particle size distribution							OC	N	C/N	BD
cm	VCS	CS	MS	FS	VFS	Silt	Clay	%	%		Mgm^{-3}
0-24	0.3	1	6	29	24	18	22	0.63	0.048	13	1.76
24-38	0.3	1	5	27	21	17	29	0.55	0.042	13	1.92

	PH		Exchangeable bases				CEC	Extr.	BS
			Ca	Mg	K	Na	(NH_4OAc)	ac.	
cm	H_2O	KCl	$cmol(+)\ kg^{-1}$ soil						%
0-24	6.7	6.0	4.0	1.2	0.2	0.1	4.8	1.8	100
24-38	6.8	5.8	3.3	1.1	0.2	tr	4.6	2.3	100

Note: Topsoil does not qualify for brunic as pH (H_2O) is too high; the OC content just reaches 0.61 % averaged over 0 - 30 cm.

UMBRISOLS

Hapli-humic Umbrisol with a steep, clayey, para-sombric topsoil
Loc.: Muguga, Gikongor prefecture, Rwanda
Thickness: 30 cm
Ref.: Beinroth et al. (Eds.) (1983), p. 74/81

0-15 cm Ah1 Dark reddish brown (6YR 3/3, moist) clay; weak fine crumb, very friable.

15-35 cm Ah2 Dark reddish brown (6YR 3/3, moist) clay; very weak fine crumb; very friable with some massive blocks up to 5 cm.

cm	Particle size distribution							OC	N	C/N
	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	
0-15	4	12	19	15	4	8	40	3.08	0.167	18
15-35	3	11	17	13	4	9	44	2.42	0.140	17

cm	PH		Exchangeable bases				CEC	Extr.		BS	Al
			Ca	Mg	K	Na	(NH_4OAc)	Al	ac.		sat
	H_2O	KCl	cmol(+) kg^{-1} soil							%	%
0-15	4.7	3.8	0.3	0.1	0.1	tr	12.1	3.9	19.0	4	89
15-35	4.5	3.8	0.3	tr	0.1	tr	12.2	4.1	20.7	3	91

Note: OC content too low for sombric, hence para-sombric.

ARENOSOLS

Lamelli-aridic Arenosol with a wind-eroded topsoil
Loc.: Dikokwane Pan, Botswana
Thickness: 30 cm
Ref.: SMAS (1990), p. 18/9

Note: wind erosion/deposition has been observed.

0-25 cm Ap Strong brown (8YR 4/6, moist) sand; weak fine to coarse subangular and angular blocky; slightly hard.

25-70 cm B Strong brown (7.5YR 4/6, moist) sand; very weak fine to coarse angular and subangular blocky; friable.

cm	Particle size distribution							OC	N	pH	
	VCS	CS	MS	FS	VFS	Silt	Clay	%	%	H_2O	$CaCl_2$
5-25	0	1	19	55	17	4	5	0.2	0.00	6.9	6.2
30-50	0	1	21	56	16	3	5	0.1	0.00	7.1	6.3

cm	Exchangeable bases				CEC	BS	EP	$CaCO_3$
	Ca	Mg	K	Na	(NH_4OAc)			
	cmol(+) kg^{-1} soil					%	%	%
5-25	2.0	0.5	0.4	0.0	4.2	69	10	0.0
30-50	1.7	0.5	0.2	0.1	3.2	78	6	

REGOSOLS

Hapli-calcaric Regosol with an natric, clayey, severely eroded calcic topsoil
Loc.: Torremegia, Badajoz Prov., Spain
Thickness: 30 cm
Ref.: ISRIC, monolith nr. E 11

0-4/6 cm Ap Yellowish red (5YR 4/6, moist) gravelly clay; weak to moderate fine crumb; hard dry, friable moist, sticky and plastic wet.

4/6 + cm Ck Pink (7.5YR 7/4), dull brown (7.5YR 5/3) and brown (5YR 5/2) very heterogeneous, strongly calcareous clay; structureless; friable moist.

	Particle size distribution				OC	N	C/N	pH	
Cm	CS	FS	Silt	Clay	%	%		H_2O	KCl
0-6	7	19	21	53	0.88	0.07	13	7.9	7.1
6-20	1	5	14	80	0.44	0.05	9	8.3	7.3

	Exchangeable bases				CEC			
	Ca	Mg	K	Na	(NH_4OAc)	BS	Exch. Ca/CEC	$CaCO_3$
Cm	cmol(+) kg^{-1} soil					%		%
0-6	16.7	1.3	0.88	?	20.0	94	84	37.0
6-20	12.0	1.0	0.35	?	14.5	92	83	56.9

Note: strong-clayey is used as the average clay content of the topsoil is > 60 %. Calcic is used to indicate that the entire topsoil has > 15 % $CaCO_3$ equivalent, which is not implied in calcaric. Neither brunic or melanic apply.