

SIMCHEON SERIES

Established Series
PCS, JYH
5 Aug., 1979

The Simcheon series are members of the fine silty, mixed, mesic family of Anthraquic Eutrudepts [Hydragric Anthrosols (Eutric Oxyaquic Siltic) classified by WRB]. These soils have dark grayish brown silt loam Ap horizons with brown mottles, brown silt loam BA horizons, brown and dark gray silty clay loam Bw horizons, and brown silty clay loam BC horizons with brown mottles. These soils are on broad alluvial plains derived from alluvial materials.

Typifying Pedon: Simcheon silt loam-paddy rice (Colors are for moist soil).

Slope: 0-2%

Elevation: 103 m above m.s.l.

Soil moisture regime: Udic (Anthraquic)

Soil temperature regime: Mesic

Parent material: Alluvium

Diagnostic features: An ochric epipedon from a depth of 0 to 22 cm and a cambic horizon from a depth of 46 to 78 cm (An anthraquic horizon from a depth of 0 to 46 cm and a hydragric horizon from a depth of 46 to 78 cm by WRB).

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Morphological properties of typifying pedon.

Ap - 0 to 22 cm. Dark grayish brown (10YR 4/2) silt loam; common fine to medium distinct brown (7.5YR 4/4) mottles; structureless, puddled; sticky and plastic; common fine to medium roots; common fine to medium pores; common fine micas; few quartz grits; abrupt smooth boundary.

BA - 22 to 46 cm. Mottled, brown (7.5YR 4/2) and brown (7.5YR 4/4) silt loam; crushed color, brown (7.5YR 4/3); moderate medium to coarse platy structure; very firm, sticky and plastic; thick continuous clay cutans; few fine roots; common fine to medium pores; common very fine micas; gradual smooth boundary.

Bw - 46 to 78 cm. Mottled, brown (7.5YR 4/4), brown (7.5YR 4/3), dark gray (7.5YR 4/1), and brown (7.5YR 5/3) silty clay loam; crushed color, brown (7.5YR 4/3); moderate medium to coarse platy structure; very firm, very sticky and very plastic; thick continuous clay cutans; no roots; common fine to medium pores; common very fine micas; gradual wavy boundary.

BC - 78 to 150 cm. Brown (7.5YR 4/3) silty clay loam; common medium to coarse faint brown (7.5YR 4/2) mottles; moderate coarse prismatic structure; very firm, very sticky and very plastic; thick continuous clay cutans; common medium to coarse pores; common very fine micas.

The typifying pedon has an ochric epipedon from a depth of 0 to 22 cm and a cambic horizon from a depth of 46 to 78 cm. That can be classified as Inceptisol. It is used for paddy field, but does not have aquic conditions for some time in normal years in a layer at a depth between 40 and 50 cm from the mineral soil surface. Therefore it can be classified as Udept. It has a base saturation (by NH₄OAc) of 60% or more in one or more horizons at a depth between 25 and 75 cm from the mineral soil surface. That keys out as Eutrudept. It has anthraquic conditions and can be classified as Anthraquic Eutrudept.

The typifying pedon has fine silty particle-size class and mesic soil temperature class. Therefore it can be classified as fine silty, mixed, mesic family of Anthraquic Eutrudept.

Type Location: About 800 meters north-east of Simcheon Middle School, Chogang Ri, Simcheon Myeon, Yeongdong Gun, Chungcheongbug Do (127° 43' 16.5", 36° 13' 25.0").

Range in Characteristics: These soils have ochric epipedons and cambic horizons. The solum thickness ranges from 100 to 150 cm and depth to hard rock is more than 5 meters. The reaction is neutral except Ap horizons. Base saturation is more than 60 percent. These soils have gray silt loam Ap horizons with yellowish brown or strong brown mottles; gray silt loam Bg horizons with yellowish brown or strong brown mottles and dark brown or brown silt loam C horizons.

Competing Series and Their Differentiae: These are the Gangjin, Yulgog, and Gyum soils. The Gangjin soils occur on local valleys derived from porphyry rocks. The Yulgog soils occur on local valleys derived from limestone materials. The Gyum soils are fine silty over coarse silty textures.

Depth (cm)	(NH4OAc Extractable Bases)					Acid- ity	Extr Al	(----- CEC -----)			Al Sat
	Ca	Mg	K	Na	Sum			Sum	NH4- Cats	Bases + Al	
	5B5a	5B5a	5B5a	5B5a	Bases						
	6N2e	6O2d	6Q2b	6P2b		6H5a	6G9a	5A3a	5A8b	5A3b	5G1
----- meq / 100g -----											Pct
0-22	6.7	1.2	0.4	0.1	8.4	2.6	0	13.0	11.9	8.4	0
22-46	8.0	2.5	0.6	0.2	11.3	5.7	0	17.0	15.3	11.3	0
46-78	7.7	3.3	0.5	0.2	11.8	5.3	0	17.1	11.7	11.8	0
78-150	6.2	3.4	0.6	0.2	10.3	7.2	0	17.5	11.4	10.3	0

Depth (cm)	(Base Sat)		CO3 as	Res	Cond	(----- pH -----)			Acid	Oxalate	Extraction		
	Sum	NH4- OAc	CaCO3			NaF	KCl	CaCl2	H2O	Opt	Al	Fe	Si
			<2mm					.01M		Den			
	5C3	5C1	6E1g	8E1	8I	8C1d		8C1f	8C1f	8J	6G12	6C9a	6V2
----- Pct -----			ohms /cm	dS/m		1: 1	1: 2	1: 1		- Pct of <2mm -			
0-22	64.6	71.3				4.7	5.4	5.8					
22-46	66.5	73.7				5.7	6.9	7.5					
46-78	68.9	100				5.2	6.5	7.0					
78-150	58.8	90.1				4.7	6.0	6.6					