JINGOG SERIES

Established Series
UKT, KBJ, JFD
16 October, 1969

The Jingog series are members of the fine, mixed, mesic family of Typic Hapludults [Cutanic Alisols (Alumic Hyperdystric Clayic Chromic) classified by WRB]. These soils have reddish brown silt loam Ap horizons, red clay loam BA horizons, reddish brown silty clay loam Bw horizons, red clay 2Bt1 horizons, red clay 2Bt2 horizons, and red and yellowish red sandy loam 2C horizons. They occur on remnants of strongly dissected old pediplanes.

Typifying pedon: Jingog silty clay loam-red pepper (Colors are for moist soil).

Slope: 2-7%

Elevation: 47 m above m.s.l.

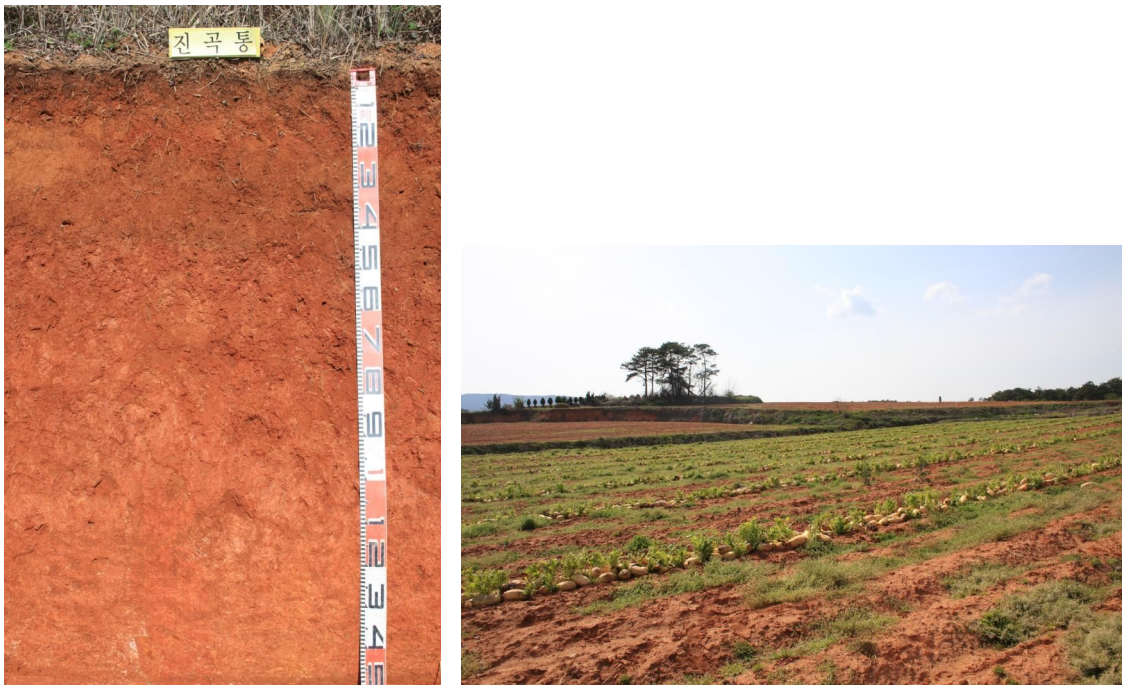
Soil moisture regime: Udic

Soil temperature regime: Mesic

Parent material: Residuum from granitic materials

Diagnostic features: An ochric epipedon from a depth of 0 to 13 cm and an argillic horizon from a depth of 44 to 110 cm (An argic horizon from a depth of 44 to 110 cm by WRB).

Described by: Song, K. C., D. C. Noh, and S. J. Jung, 15 April, 2010.



Morphological properties of typifying pedon.

Ap - 0 to 13 cm. Reddish brown (2.5YR 4/4) silt loam; moderate fine to medium granular structure; friable, sticky and plastic; common fine to medium roots; common fine pores; few very fine micas; few quartz grits; clear wavy boundary.

BA - 13 to 24 cm. Red (2.5YR 4/6) clay loam; moderate medium subangular blocky structure; friable, sticky and plastic; few fine to medium roots; common fine pores; few very fine micas; few quartz grits; few worm holes; clear wavy boundary.

Bw - 24 to 44 cm. Reddish brown (2.5YR 4/4) silty clay loam; weak coarse subangular blocky structure; slightly firm, sticky and plastic; thin patch clay cutans; few fine to medium roots; few fine pores; few very fine micas; common worm holes; few quartz grits; abrupt wavy boundary.

2Bt1 - 44 to 88 cm. Red (10R 4/6) clay; strong fine angular blocky structure; firm, very sticky and very plastic; thin patch clay cutans; few very fine roots; few fine pores; few very fine micas; few worm holes; common quartz grits; gradual wavy boundary.

2Bt2 - 88 to 110 cm. Red (10R 4/8) clay; weak coarse subangular blocky structure; very firm, very sticky and very plastic; thin patch clay cutans; few very fine roots; few medium pores; few very fine micas; common quartz grits; clear wavy boundary.

2C - 110 to 180 cm. Mottled, red (10R 4/8), red (2.5YR 5/8), and yellowish red (5YR 5/8) sandy loam; red (2.5YR 5/8), crushed color; structureless, massive; slightly sticky and slightly plastic; no roots; few very fine micas; many quartz grits and feldspars.

The typifying pedon has an ochric epipedon from a depth of 0 to 13 cm and an argillic horizon from a depth of 44 to 110 cm. It has a base saturation (by sum of cations) of less than 35% at a depth of 125 cm below the upper boundary of the argillic horizon. That can be classified as Ultisol. It has an udic soil moisture regime, and can be classified as Udult. Also it meets the requirements of Typic Hapludult.

The typifying pedon has more than 35% clay at the particle-size control section and has mesic soil temperature regime. Therefore it can be classified as fine, mixed, mesic family of Typic Hapludult.

Type Location: About 200 meters west of the Myeongdong Saemaeulhoegwan, Dongsan Dong, Gwangsan Gu, Gwangju city (126^{o} 42' 54.5", 35^{o} 07' 5.5").

Range in Characteristics: These soils have ochric epipedons and argillic horizons. Depth of the silty mantle ranges from about 30 to 50 cm and averages about 40 cm thick over 2Bt formed in granitic residuum which ranges from 100 to 200 cm. thick. Depth to bedrock is probably more than 5 meters. Reaction ranges from very strongly to strongly acid. Base saturation is very low. A horizons are brown or strong brown silt loam or silty clay loam. Cambic B horizons are developed in the fine silty mantle. They are yellowish brown, strong brown, or brown silty clay loam or clay loam. 2Bt horizons are yellowish red or red silty clay, or clay. C horizons are usually extremely weathered very deep red, yellowish red, strong brown, or yellowish brown silty clay, silty clay loam, silt loam, or loam granitic saprolites.

Competing Series and Their Differentiae: These are the Gwangju, Gwangsan. Jeonnam, and Bonggye soils. The Gwangju soils have similar silty mantle materials in the upper horizons but the lower 2Bt horizons are developed in old alluvium. The Gwangsan and Jeonnam soils do not

have silty mantle upper horizons but have deep residual Bt horizons. The Bonggye soils have no silty mantles and are derived from andesite porphyry materials.

Setting: The Jingog series occur on gently sloping and sloping remnants of strongly dissected rolling old bedrock pediplanes and in slight creep positions underlain by deeply weathered residual granitic saprolites. Slopes are dominantly 2 to 7 percent and range from 2 to 15 percent.

Principal Associated Soils: The Bancheon, Gwangju, Bansan, Gwangsan, Jeonnam, and Songjeong soils are associated. The Bancheon and Gwangju soils are associated on dissected river terraces. The Bansan soils are associated in slightly concave well drained land scale positions. The Gwangsan, Jeonnam, and Songjeong soils occur in residual upland positions.

Drainage and Permeability: Well drained. Permeability is very slow and runoff is moderately slow or medium.

Use and Vegetation: Most areas are used for cultivated crops such as sesame, soybean, red pepper, sweet potato, potato and tobacco. A small extent grow mulberry and pine forest.

Distribution and Extent: The Jingog series is of small extent and occur in southern parts of the country mostly in areas of strongly dissected rolling pediplanes.

Series Established: Gwangsan Gu, Gwangju city, 1967. **Revised,** Gwangsan Gu, Gwangju city, 2010.

Laboratory data sheets of typifying pedon.

Depth (cm)	Horizon	(--- Total ---)			(-- Clay --)		(-- Silt --)		(------- Sand -------)				
		Clay	Silt	Sand	Fine	Coarse	Fine	Coarse	VF	F	M	C	VC
		LT .002	.002 - .05	.05 - 2	LT .0002	LT .002	.002 - .02	.02 - .05	.05 - .10	.10 - .25	.25 - .50	.5 - 1	1 - 2
		- - - - - - - - - - - - Pct of < 2mm (3A1) - - - - - - - - - - - -											
0-13	A	31.4	46.0	22.6			28.0	18.0	1.7	2.4	4.5	7.0	6.9
13-24	BA	32.8	41.7	25.6			21.6	20.1	2.4	3.1	4.8	6.2	9.3
24-44	Bt1	35.9	49.5	14.6			26.9	22.6	1.1	1.8	3.6	4.7	3.4
44-88	Bt2	47.7	33.1	19.2			18.4	14.8	2.0	2.8	3.4	5.0	6.1
88-110	BC	45.8	33.2	21.0			19.3	13.8	2.2	3.2	4.3	4.8	6.6
110-180	C	28.4	29.3	41.3			18.4	10.9	4.2	8.2	13.4	10.2	6.3

Depth (cm)	Coarse Fractions(mm) Weight				>2mm Pct of Whole Soil	Orgn C	Total N	Extr P	Total S	(-- Dith -Cit --) Extractable		
	2-5	5-20	20-75	.1-75						Fe	Al	Mn
						6A1c	6B3a	6S3	6R3a	6C2b	6G7a	6D2a
	Pct of < 75mm (3B1)					Pct < 2mm		g/kg		- - Pct of < 2mm - -		
0-13						1.93						
13-24						1.11						
24-44						0.87						
44-88						0.71						
88-110						0.78						
110-180						0.75						

Depth (cm)	Ratio/Clay		Atterberg Limits		(Bulk Density)			COLE	(- Water Content -)				WRD
	CEC	1500 kPa	LL	PI	Field Moist	33 kPa	Oven Dry	Whole Soil	Field Moist	10 kPa	33 kPa	1500 kPa	Whole Soil
	8D1	8D1	4P1	4P	4A3a	4A1d	4A1h	4D1	4B4	4B1c	4B1c	4B2a	4C1
			Pct <0.4mm		- - g/cc - -			cm/cm	-- Pct of <2mm --				cm/cm
0-13	0.34				1.09				25.2				
13-24	0.29				1.36				22.1				
24-44	0.28				1.33				21.7				
44-88	0.28				1.38				25.6				
88-110	0.33				1.35				30.3				
110-180	0.39												

Depth (cm)	(NH4OAc Extractable Bases)					Acid-ity	Extr Al	(----- CEC -----)			Al Sat
	Ca 5B5a 6N2e	Mg 5B5a 6O2d	K 5B5a 6Q2b	Na 5B5a 6P2b	Sum Bases	6H5a	6G9a	Sum Cats 5A3a	NH4-OAc 5A8b	Bases + Al 5A3b	5G1
	- - - - - - - - - - - - - meq / 100g - - - - - - - - - - - - -										Pct
0-13	1.1	0.6	0.4	0.1	2.1	12.3	4.7	14.4	10.8	6.8	69.2
13-24	0.8	0.5	0.4	0.1	1.7	13.2	6.6	14.9	9.6	8.3	79.1
24-44	0.4	0.3	0.3	0.1	1.1	13.5	7.3	14.5	9.9	8.3	87.4
44-88	0.4	0.5	0.4	0.1	1.4	15.9	11.2	17.3	13.1	12.7	88.8
88-110	0.2	0.5	0.5	0.1	1.3	15.2	10.6	16.5	14.9	11.8	89.3
110-180	0.2	0.7	0.5	0.1	1.5	13.1	10.0	14.6	11.1	11.5	87.0

Depth (cm)	(Base Sat)		CO3 as CaCO3 <2mm	Res	Cond	(------ pH ------)				Acid Oxalate Extraction		
	Sum	NH4-OAc				NaF	KCl	CaCl2 .01M	H2O	Opt Den	Al	Fe	Si
	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 -		
0-13	14.5	19.3					3.6	4.0	4.6				
13-24	11.7	18.2					3.7	4.0	4.8				
24-44	7.2	10.6					3.6	4.0	4.7				
44-88	8.2	10.9					3.6	4.0	4.8				
88-110	7.7	8.5					3.6	4.0	5.1				
110-180	10.2	13.4					3.6	3.9	4.8				