ANGYE SERIES

Established Series
PCS, JYH
20 Oct., 1978

The Angye series are members of the fine loamy, mixed, mesic family of Anthraquic Hapludalfs [Hydragric Anthrosols (Eutric Oxyaquic) classified by WRB]. These soils have gray loam Ap horizons with brown mottles, gray loam BAg horizons with dark yellowish brown mottles, brown clay loam Bt1 horizons with yellowish brown mottles, strong brown loam Bt2 horizons with grayish brown mottles, and light brownish gray loam BCt horizons with brownish yellow mottles. These soils are on local valleys derived from sandstone and conglomerate materials.

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

Slope: 2-7%

Elevation: 77 m above m.s.l.

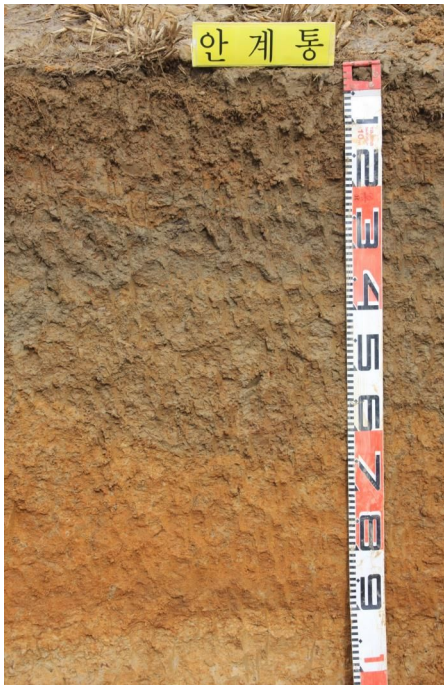
Soil moisture regime: Udic (Anthraquic)

Soil temperature regime: Mesic

Parent material: Local alluvium from sandstone and conglomerate materials

Diagnostic features: An ochric epipedon from a depth of 0 to 18 cm and an argillic horizon from a depth of 35 to 150 cm (An anthraquic horizon from a depth of 0 to 35 cm and a hydragric horizon from a depth of 35 to 150 cm by WRB)

Described by: Song, K. C., S. J. Jung, and D. C. Noh, 18 March, 2010



Morphological properties of typifying pedon.

Ap - 0 to 18 cm. Gray (10YR 5/1) loam; common fine to medium faint brown (7.5YR 4/4) mottles; structureless, puddled; slightly sticky and slightly plastic; many fine roots; common fine to medium pores; clear smooth boundary.

BAg - 18 to 35 cm. Gray (2.5Y 5/1) loam; common fine to medium distinct dark yellowish brown (10YR 4/4) mottles; moderate medium to coarse subangular blocky structure; firm, slightly sticky and slightly plastic; common fine roots; common fine pores; clear smooth boundary.

Bt1 - 35 to 60 cm. Brown (10YR 4/3) clay loam; common fine to medium faint yellowish brown (10YR 5/6) mottles; moderate medium to coarse prismatic structure; firm, sticky and plastic; thin continuous clay cutans; few fine roots; common fine to medium pores; few worm holes; clear wavy boundary.

Bt2 - 60 to 87 cm. Strong brown (7.5YR 5/6) loam; common fine to medium distinct grayish brown (10YR 5/2) mottles; weak fine to medium subangular blocky structure; friable, slightly sticky and slightly plastic; no roots; common fine to medium pores; clear smooth boundary.

BCt - 87 to 150 cm. Light brownish gray (2.5Y 6/2) loam; common fine to medium faint brownish yellow (10YR 6/6) mottles; weak fine to medium platy structure; friable, slightly sticky and slightly plastic; few fine pores.

Typifying pedon has an ochric epipedon from a depth of 0 to 18 cm and an argillic horizon from a depth of 35 to 150 cm, and has a base saturation (by sum of cations) of 35% or more at 125 cm below the upper boundary of the argillic horizon. That can be classified as Alfisol. It has aquic conditions for some time in normal years in one or more horizons within 50 cm of the mineral soil surface, but does not have 50 percent or more redox depletions with chroma of 2 or less within the upper 12.5 cm of the argillic horizon. Therefore it can be classified as Udalf. It meets the requirements of Hapludalf. It has anthraquic condition and keys out as Anthraquic Hapludalf.

Typifying pedon has in the fraction less than 75 mm in diameter, 15% or more particles with diameters of 0.1 to 75 mm and in the fine-earth fraction, 18 to 35% clay at the particle-size control section and has mesic soil temperature regime. Therefore it can be classified as fine loamy, mixed, mesic family of Anthraquic Hapludalf.

Type Location: About 200 meters south-east of the Keunma, Bogseong Ri, Sobo Myeon, Gunwi Gun, Gyeongsangbug Do (128^{o} 28' 29.5", 35^{o} 17' 51.8").

Range in Characteristics: These soils have ochric epipedons and argillic horizons. The solum thickness ranges from 100 to 150 cm. Depth to hard rock is more than 3 meters. Base saturation is more than 60 percent. Reaction is medium to neutral, except the surface horizons. The Ap horizons are grayish brown or gray loam, silt loam or sandy loam with strong brown or yellowish brown mottles. The Bt horizons are thick brown, strong brown or light brownish gray clay loam or loam with grayish brown, very dark gray, or very dark brown mottles.

Competing Series and Their Differentiae: These are the Chilgog, Ogdong, and Samam soils. The Chilgog soils occur mountain foot slopes and are derived from acidic rocks. The Ogdong soils occur mountain foot slopes and are derived from anorthite The Samam soils are reddish brown color and formed from red shale areas.

Setting: The Angye soils are on gently to moderately steep sloping areas in low terraces, local alluvial valleys or mountain foot slopes derived from sandstone and conglomerate materials.

Principal Associated Soils: These soils are Yonggog and Dongam in similar positions, Jeomgog and Yanggog soils in lower positions.

Drainage and Permeability: Moderately well drained; slow permeability; moderate runoff.

Use and Vegetation: The Angye soils are used for paddy field.

Distribution and Extent: The Angye soils are of small extent in sedimentary rock areas such as sandstone and conglomerate.

Series Established: Gunwi Gun, Gyeongsangbug Do, 1977. **Revised,** Gunwi Gun, Gyeongsangbug Do, 2010.

Laboratory data sheets of Angye soils.

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) - - - - - - - - - - -											
0-18	Ap	20.3	32.6	47.1			15.9	16.7	6.9	12.2	18.6	7.5	1.9
18-35	BAg	18.9	31.7	49.4			15.3	16.4	7.0	12.1	20.4	8.3	1.5
35-60	Bt1	23.9	39.4	36.7			16.6	22.8	6.2	9.5	13.7	5.8	1.6
60-87	Bt2	23.5	30.8	45.7			16.4	14.4	3.4	10.5	18.0	7.7	6.1
87-150	BCt	26.5	33.0	40.5			10.4	22.6	12.1	17.4	9.7	1.2	0.2

Depth (cm)	Coarse Fractions(mm) Weight				>2mm Wt	Orgn C	Total N	Extr P	Total S	(-- Dith -Cit --) Extractable		
	2-5	5-20	20-75	.1-75	Pct of Whole					Fe	Al	Mn
	Pct of < 75mm (3B1)				Soil	Pct < 2mm		g/kg		Pct of < 2mm		
						6A1c	6B3a	6S3	6R3a	6C2b	6G7a	6D2a
0-18						0.81						
18-35						0.43						
35-60						0.17						
60-87						0.09						
87-150						0.25						

Depth (cm)	Ratio/Clay		Atterberg		(Bulk Density)			COLE	(- Water Content -)				WRD
	CEC	1500 kPa	Limits		Field Moist	33 kPa	Oven Dry	Whole Soil	Field Moist	10 kPa	33 kPa	1500 kPa	Whole Soil
	8D1	8D1	LL 4P1	PI 4P	4A3a	4A1d	4A1h	4D1	4B4	4B1c	4B1c	4B2a	4C1
			Pct <0.4mm		- - g/cc - -			cm/cm	-- Pct of <2mm --				cm/cm
0-18	0.42				1.19				36.7				
18-35	0.41				1.68				20.2				
35-60	0.39				1.71				18.5				
60-87	0.36				1.59				22.2				
87-150	0.49												

Depth (cm)	(NH4OAc Extractable Bases)					Acid-	Extr	(----- CEC -----)			Al
	Ca 5B5a 6N2e	Mg 5B5a 6O2d	K 5B5a 6Q2b	Na 5B5a 6P2b	Sum Bases	ity 6H5a	Al 6G9a	Sum Cats 5A3a	NH4-OAc 5A8b	Bases + Al 5A3b	Sat 5G1
	- - - - - - - - - - - - meq / 100g - - - - - - - - - - - -										Pct
0-18	3.9	0.8	0.2	0.1	5.1	8.1	1.5	13.2	8.6	6.6	22.4
18-35	5.2	1.3	0.2	0.1	6.8	5.0	0.3	11.8	7.8	7.1	4.4
35-60	6.3	2.1	0.2	0.1	8.7	3.3	0	12.0	9.4	8.7	0
60-87	5.2	2.4	0.1	0.1	7.8	3.6	0	11.4	8.5	7.8	0
87-150	7.4	4.8	0.3	0.2	12.7	4.7	0.1	17.4	13.0	12.8	0.8

Depth (cm)	(Base Sat)		CO3 as	Res	Cond	(------ pH ------)				Acid Oxalate Extraction			
	Sum 5C3	NH4-OAc 5C1	CaCO3 <2mm 6E1g	8E1	8I	NaF 8C1d	KCl	CaCl2 .01M 8C1f	H2O 8C1f	Opt Den 8J	Al 6G12	Fe 6C9a	Si 6V2
	---- Pct ----			ohms/cm	dS/m		1: 1	1: 2	1: 1		- Pct of <2mm -		
0-18	38.7	59.4					4.1	4.5	5.1				
18-35	57.5	86.7					5.1	5.7	6.3				
35-60	72.4	91.7					5.8	6.4	7.2				
60-87	68.5	92.6					6.0	6.6	7.3				
87-150	73.0	97.9					3.9	5.0	5.7				