

DAEGOG SERIES

Established Series
PCS, JYH, UKT
28 Mar, 1977

The Daegog series are members of the fine loamy, mixed, mesic family of Typic Dystrudepts [Haplic Cambisols (Dystric) classified by WRB]. These soils have moderately thick brown to dark brown loam A horizons and deep brown to dark brown loam cambic B horizons with grayish brown mottles in the lower part of the horizon. The C horizons are dark yellowish brown with grayish brown mottles and weakly stratified silt loam, loam and sandy loam. They are developed in narrow valleys derived from acidic crystalline materials.

Typifying Pedon : Daegog loam-barley (Field description Naju Gun profile No. 8; colors are for moist soil).

Slope: 2-7%

Elevation: m above m.s.l.

Soil moisture regime: Udic

Soil temperature regime: Mesic

Parent material: Alluvium-colluvium from granite

Diagnostic features: An ochric epipedon from a depth of 0 to 15 cm and a cambic horizon from a depth of 30 to 75 cm (A cambic horizon from a depth of 30 to 75 cm by WRB).



Morphological properties of Daegog series.

Ap - 0 to 15 cm. Dark yellowish brown (10YR 3/4) loam; weak fine to medium granular structure; friable, slightly sticky and plastic; few fine pores; common fine to medium micas and

roots; diffuse smooth boundary.

BA - 15 to 30 cm. Dark yellowish brown (10YR 4/4) loam; weak medium to coarse subangular blocky structure; friable, slightly sticky and plastic; micas as above; common fine to medium pores; few fine roots; clear smooth boundary.

Bw - 30 to 55 cm. Brown (7.5YR 4/4) loam; weak fine to medium subangular blocky structure; friable, sticky and plastic; many fine to medium pores; micas as above; very few fine roots; diffuse smooth boundary.

BC - 55 to 75 cm. Brown (7.5YR 4/4) loam; common fine to medium distinct grayish brown (2.5Y 5/2) mottles; weak medium subangular blocky structure; friable, sticky and plastic; many fine to medium pores; micas as above; few fine black manganese mottles; clear smooth boundary.

C - 75 to 120 cm. Mottled, yellowish brown (10YR 5/4), dark yellowish brown (10YR 3/4), grayish brown (2.5Y 5/2) loam; dark yellowish brown (10YR 4/4), crushed; weak fine to medium subangular blocky structure; friable, sticky and plastic; common fine pores; mica as above.

Type Location: About 100 meters west of Duham Burag, Jangseong Ri, Bonghwang Myeon, Naju city, Jeollanam Do.

Range in Characteristics: These soils have ochric epipedons and cambic horizons. Solum thickness ranges from 50 to 100 cm and depth to hard rock is greater than 200 cm. Quartz grits are less than 10 percent throughout the profile. Base saturation is less than 60 percent. Reaction is very strongly to strongly acid except A horizon. Fine micas occur throughout the profile. The A horizons are brown to dark brown or dark yellowish brown sandy loam, loam or silt loam. Thickness of A horizon ranges from 10 to 20 cm. The cambic B horizons are brown to dark brown, yellowish brown, dark yellowish brown or strong brown loam, silt loam, clay loam or silty clay loam. Clay contents of cambic B horizons are between 18 to 35 percent. Lower part of the cambic B horizons has grayish brown mottles. The C horizons are stratified grayish brown, dark grayish brown, yellowish brown or dark yellowish brown silt loam, loam, clay loam or sandy loam with massive structure.

Competing Series and Their Differentiae: These are the Wongog, Yongji, Eungog, Baegsan, Seongsan, Sangju and Banho series. The Wongog soils have yellowish red or red colors and well drained. The Yongji and Eungog soils have grayish brown mottles throughout the profile. The Baegsan soils are free mottles and well drained. Seongsan and Sangju soils are in the coarse loamy texture family and lack gray mottles. The Banho soils have gravel and are derived from gray shale rocks.

Setting: The Daegog soils occur in gently sloping to sloping local valleys in materials washed mainly from yellowish red granitic soils. Dominant slopes are 2 to 7 percent and range from 2 to 30 percent.

Principal Associated Soils: The Jeonnam, Bancheon, Songjeong, Yesan, Baegsan, Wongog,

Bansan, Yeongog, Jisan and Yongji soils are associated. The residual soils of fine clayey Jeonnam, fine loamy Songjeong and coarse loamy Yesan soils are associated with upper slopes of Daegog soils. The Baegsan, Wongog, and Yongji soils are associated with similar physiographic position as Daegog soils. Old alluvial fine clayey Bancheon and fine clayey Bansan soils occur slightly higher physiographic position than Daegog soils. Moderately well drained Yongji soils which have gray mottles throughout profile and imperfectly drained fine loamy Jisan soils are associated with lower part of the Daegog soils.

Drainage and Permeability: Moderately well drained. Runoff is medium depending on slope gradient and permeability is generally moderately slow.

Use and Vegetation: Most areas are used for cultivated upland crops such as barley, soybean, red pepper, sweet potato, cabbage, radish and similar non irrigated upland crops.

Distribution and Extent: The Daegog soils are of small extent but they occur in many small areas in local valleys associated with residual granite in the western part of the country and to less extent in scattered areas throughout the granitic areas of the country.

Series Established: Naju Gun, Jeollanam Do, 1972.

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	.05	LT	LT	.002	.02	.05	.10	.25	.5	1
		.002	- .05	- 2	.0002	.002	- .02	- .05	- .10	- .25	- .50	- 1	- 2
		- - - - - Pct of < 2mm (3A1) - - - - -											
0-15	Ap	21.2	42.0					4.5	5.6	6.3	8.5	11.9	
15-30	BA	24.4	44.3					4.7	5.0	6.6	7.5	7.5	
30-55	Bw	22.8	45.6					4.2	5.4	7.2	8.5	6.3	
55-75	BC	20.6	42.8					4.1	5.2	7.3	8.6	11.4	
75-120	C	21.0	43.1					3.9	5.3	7.5	9.3	9.9	

Depth (cm)	Coarse Fractions(mm)				>2mm	Orgn	Total	Extr	Total	(-- Dith -Cit --)		
	Weight				Wt	C	N	P	S	Extractable		
	2-5	5-20	20-75	.1-75	Pct of					Fe	Al	Mn
					Whole	6A1c	6B3a	6S3	6R3a	6C2b	6G7a	6D2a
	Pct of < 75mm (3B1)				Soil	Pct < 2mm		g/kg	Pct of < 2mm			
0-15						1.26						
15-30						0.98						
30-55						0.64						
55-75						0.52						
75-120						0.52						

Depth (cm)	Ratio/Clay		Atterberg		(Bulk Density)			COLE	(- Water Content -)				WRD
	CEC	1500	Limits		Field	33	Oven	Whole	Field	10	33	1500	Whole
		kPa	LL	PI	Moist	kPa	Dry	Soil	Moist	kPa	kPa	kPa	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
0-15										35.7	31.6	11.5	
15-30										36.0	31.1	12.4	
30-55										31.3	27.7	11.7	
55-75					-					30.5	25.9	10.8	
75-120					-					26.3	24.7	10.9	

Depth (cm)	(NH4OAc Extractable Bases)					Acid-	Extr	(----- CEC -----)			Al
	Ca	Mg	K	Na	Sum	ity	Al	Sum	NH4-	Bases	Sat
	5B5a	5B5a	5B5a	5B5a	Bases			Cats	OAc	+ Al	
	6N2e	6O2d	6Q2b	6P2b		6H5a	6G9a	5A3a	5A8b	5A3b	5G1
	- - - - - meq / 100g - - - - -										Pct
0-15	5.00	1.98	0.46	0.11					10.80		
15-30	3.25	1.38	0.11	0.10					10.05		
30-55	2.00	1.35	0.10	0.12					8.65		
55-75	1.65	1.18	0.10	0.12					7.40		
75-120	1.50	1.23	0.10	0.08					7.70		

Depth (cm)	(Base Sat)		CO3 as	Res	Cond	(----- pH -----)				Acid Oxalate Extraction			
	Sum	NH4-	CaCO3			NaF	KCl	CaCl2	H2O	Opt	Al	Fe	Si
		OAc	<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 -		
0-15		69.9					5.1		5.9				
15-30		48.2					4.1		5.1				
30-55		41.3					4.0		5.2				
55-75		41.2					4.0		5.2				
75-120		37.8					3.9		5.0				