Proposed by P. Vijarnsorn, 1982
Revised by :
P. Vijarnsorn and staffs, 1988
W. Sirichuaychoo, 2004

KAB DAENG SERIES **Field Symbol: Kd**

Distribution: Occupies a small extent in Peninsular Thailand and some area in Southeast Coast of Thailand.

Setting: Kab Daeng soils are organic soil materials and occurred on coastal of marginal of swampy areas and swampy areas after artificial drained for agricultural used and burnt dry organic matter to moderately thick. Kab Daeng is a organic soils. The climate is Tropical Rain Forest (Koppen 'Af'). Average annual precipitation is from 2,500 to 3,000 mm. Average annual air temperature is from 26 ^{o}C to 28^{o}C.

Drainage, Permeability and Surface Runoff: Drainage is very poorly drained, permeability is slow to moderate and surface runoff is slow. Very shallow ground water level.

Vegetation and Land Use: Grasses, reeds, sedges and *Melaleuca leucadendron* forest. Some part cleared for rice cultivation and oil palm.

Characteristic Profile Features: Kab Daeng series is a member of the loamy, mixed, superactive, dysic, isohyperthermic Terric Sulfihemists (soil taxonomy, 2003). They are moderately thick organic soils materials about 40 to 100 cm, fibric organic soil materials with extremely acid, reaction values less than 4.5 throughout and lower of organic materials are marine clay with high sulfur content ($\geq$ 0.75 percent total sulfur). Very strongly acid, reaction values range from 4.5 to 5.0.

Typifying Pedon: Kab Daeng fibric material, fresh water swamp forest, 10 to 50 cm flooding depth, shallow than 50 cm ground water (Melaleuca sp., sedges, reeds and ferns), South of To Daeng Swamp, Amphoe Su-ngai Kolok Changwat Narathiwat.

Profile Code: Profile S2 of the thesis submitted to the University of Tokyo. described by Pisoot Vijarnsorn**, 10 March 1984 (moist colors unless otherwise stated).

Horizon	Depth (cm)	Description
Oe	0-30	Dark brown (10YR3/3) unrubbed and rubbed, fibric materials and loam about 60% fiber; mostly consisting of undecomposed fine roots; massive; slightly sticky, nonplastic; react with α- dipyridyl but not with bentizine; sodium pyrophosphate test paper is light brown (7.5YR6/4); very strongly acid (field pH 5.0).
Oi	30-85	Dark brown (10YR3/2) unrubbed, dark reddish brown (5YR3/2) rubbed, fibric materials about 80% fiber; woody fragments of less than 1 cm consist about 50% and can be rubbed; massive; nonsticky, nonplastic; not react with α-dipyridyl and bentizine; sodium pyrophosphate test paper is pinkish white (7.5YR8/2); very strongly acid (field pH 5.0).
Cg1	85-110	Mixed gray (5Y5/1) and dark brown (10YR3/3) clay, unrubbed (muddy), estimated 15% fibric materials and wood fragments; massive; sticky, plastic; strongly react with α-dipyridyl but not bentizine; very strongly acid (field pH 5.0).
Cg2	110-170	Greenish gray (5GY5/1) clay, unrubbed (muddy); massive; sticky, plastic; strongly react with α- dipyridyl but not bentizine; strongly acid (field pH 5.5).

Remark: ** Pisoot Vijarnsorn, 1985. Characterization, genesis, classification and agricultural potential of peat and saline/acid sulphate soils of Thailand. A thesis submitted to the University of Tokyo, in partial fulfiment of the requirement for the degree of Doctor of Philosophy, 1985.

Type Location:

Name of swamp, Kab Daeng swamp, Amphoe Muang, Changwat Narathiwat.

Range of Profile Features:

The surface soils is fibric organic soil material which thickness about 40 to 100 cm, dark brown to very dark gray (10YR 2-3/1-3 or 7.5YR 2-3/0-4). Extremely acid, reaction values less than 4.5.

The subsoil or C horizon is marine clay, light gray to gray (5Y 5-6/1) or greenish gray to dark greenish gray (5G, 5GY or 5BG) with high sulphur content (sulfidic material), occurred within 100 cm from the soil surface (thicker than 30 cm within 130 cm from the soil surface). Very strongly acid, reaction values range from 4.5 to 5.0.

Similar Soil Series:

Narathiwat series (Nw): dysic, isohyperthermic Typic Haplofibrists, organic soil materials more than 100 cm thick.

Principal Associated Soils:

Kab Daeng soils is associated with Narathiwat, Ra-ngae and Munoh soils. Kab Daeng series occurred on the marginal of swamp, on the middle of swamp was Narathiwat soils. After drained water out for agricultural used and burnt organic materials become thin organic layer was Kab Daeng soils and very thin organic layer is Munoh soils.

Munoh series: fine, mixed, semiactive, acid, isohyperthermic Sulfic Endoaquepts.

ANALYSIS RESULTS

(oven dry basis)

Profile code No.: No. S2 (thesis)

Soil series: Kab Daeng series (Kd)

Lab No.	Depth (cm)	Horizon	Particle size distribution analysis (% by weight)								Texture		pH		$CaCO_3$ %	P, mg kg^{-1} Bray 2	K, mg kg^{-1} NH_4OAc
			USDA grading			Sand-fraction grading					Lab result	Field estim^{n}	1:1 water	1:1 KCl			
			sand	silt	clay	vc	c	m	f	vf							
	0-30	Oe	0.0	0.0	0.0							hemic	4.0	3.2		53.4	178
	30-85	Oi	0.0	0.0	0.0							fibic	4.0	3.2		64.9	145
	85-110	Cg1	35.0	34.3	30.7	1.1	1.2	18.9	9.1	4.7	cl	c	4.3	3.4		16.6	55
	110-170	Cg2	30.3	44.2	25.5	2.0	1.5	16.4	8.3	2.1	l	c	4.4	3.4		18.2	56

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations ($cmol_{(+)}$ kg^{-1})									Base satur^{n} (%)		ECEC $cmol_{(+)}$ kg^{-1} (B+D)	Al KCl extr. $cmol_{(+)}$ kg^{-1} (D)	Electrical condut^{y} (ECx10^{6}) dS m^{-1}
				Ca	Mg	K	Na	SUM cations (B)	Extr. acidity (A)	SUM (B+A)	CEC NH_4OAc (C)	CEC 100g Clay	B/Cx100	(Bx100)/ (B+A)			
0-30	10.6	24.01	0.71	1.00	0.70	0.40	0.30	2.40	95.50	97.90	70.5		3	2			0.07
30-85	12.8	33.76	0.81	0.90	0.70	0.30	0.40	2.30	129.70	132.00	92.8		2	2			0.07
85-110	5.0	8.62	0.25	0.40	0.60	0.10	0.30	1.40	39.00	40.40	23.2		6	3			0.10
110-170	4.1	0.94	0.05	0.50	0.70	0.10	0.30	1.60	10.50	12.10	7.7		21	13			0.07

Surveyor: Pisoot Vijarnsorn

Date:March 10,1984

Reported by: W. Sirichuychoo

Date:Nov. 2, 1998