

Proposed by F.J. Dent, 1966  
Revised by :  
P. Vijarnsorn and staffs, 1988  
W. Sirichuaychoo, 2004

## NAM KRACHAI SERIES

Field Symbol: Ni

**Distribution:** Occupies moderate extent in Peninsular Thailand and some areas in Southeast coast of Thailand.

**Setting:** Nam Krachai soils are formed from alluvium and occurred on alluvial fan. Relief is nearly level to gently undulating. Slope ranges from 1 to 5 percent. Elevation ranges from 20 to 30 m above mean sea level. The climate is Tropical Monsoon (Koppen 'Aw'). Average air temperature is from 26 °C to 28°C. Average annual precipitation is from 1,800 to 3,000 mm.

**Drainage, Permeability and Surface Runoff:** Drainage is somewhat poorly drained, permeability is estimated to be moderate and surface runoff is medium. The ground water level is below 1.5 m during the peak of dry season. Surface flooding may occur during the rainy season for 2 to 3 weeks.

**Vegetation and Land Use:** Mainly planted in para rubber, coconut and variety of fruits including durian. When abandoned revert to low secondary shrubs, grasses and bamboo.

**Characteristic Profile Features:** Nam Krachai series is a member of the coarse-loamy, mixed, semiactive, isohyperthermic Typic Plinthaquults (soil taxonomy, 2003). They are very deep soils and are characterized by a dark gray or grayish brown sandy loam surface or A horizon overlying a yellowish brown or pale brown sandy loam argillic B horizon. Yellowish brown and/or brownish yellow mottles occur in the surface and subsurface horizon, strong brown and/or reddish yellow in the upper argillic B horizon and red (plinthite) more than 50 percent in the lower argillic B horizon. Very strongly acid to moderately acid, reaction values range from 5.0 to 6.0.

**Typifying Pedon:** Nam Krachai sandy loam - coconut, bamboo, palm and orange, Ban Khlong Sa, Tambon Tha Utae, Amphoe Kanchanadit Changwat Surat Thani, less than 2 percent slopes.

**Profile Code Number:** S-61/39, described by Prasat Rimchala, 29 March 1976 (moist colors unless otherwise stated).

Horizon Depth (cm)	Description
Apg 0-9	Grayish brown (10YR5/2) fine sandy loam; weak fine subangular blocky structure; friable, nonsticky and nonplastic; many fine and few medium and coarse roots; strongly acid (field pH 5.5); gradual smooth boundary.
BAg 9-26	Light brownish gray to light gray (10YR6-7/2) fine sandy loam; many medium prominent reddish yellow (7.5YR6/6) mottles; weak fine to medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common fine and few medium roots; strongly acid (field pH 5.5); gradual smooth boundary.
Btg 26-50	Light brownish gray to light gray (10YR6-7/2) sandy loam; many coarse prominent reddish yellow (7.5YR6/6) mottles; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; patchy thin clay coating on ped faces; few fine and few medium roots; strongly acid (field pH 5.5); clear smooth boundary.
Btgv1 50-74	Light brownish gray (10YR6/2) sandy clay loam; common medium prominent dark red (2.5YR3/6) and strong brown (7.5YR5/6) mottles; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; broken moderately thick clay coating on ped faces; plinthite more than 10 –20 % by volume of the soil matrix; few fine and few medium roots; very strongly acid (field pH 5.0); clear smooth boundary.
Btgv2 74-110	Gray to light gray (10YR5-6/1) sandy clay loam; many coarse prominent red to yellowish red (2.5-5YR5/6) mottles; moderate medium to coarse subangular

blocky structure; hard, firm, sticky and slightly plastic; continuous thick clay coating on ped faces; plinthite more than 50% by volume of the soil matrix or continuous phase; few fine and medium roots; very strongly acid (field pH 5.0).

**Type Location:**

Name of village, Ban Nam Krachai, Tambon Nam Noi, Amphoe Muang, Changwat Songkhla.

**Range of Profile Features:**

The surface or A horizon is between 10 to 20 cm thick and has 10YR hues, values 4 to 6 and chromas 1 to 3. The structure is weak fine and medium blocky. Very strongly acid to moderately acid, reaction values range from 5.0 to 6.0.

The argillic B horizon sandy clay loam with an average of clay in the control section not more than 18 percent, has 10YR to 7.5YR hues, values 6 to 8 and chromas 1 to 3. These soils are mottled of strong brown and yellowish brown red or dusky red (plinthite) more than 50 percent of the matrix within 150 cm or continuous phase from the soil surface. The blocky structure becomes moderate expressed and varies from fine and medium in size. Few iron-manganese nodules may occur in the deeper subsoil. Very strongly acid to moderately acid, reaction values range from 5.0 to 6.0.

**Similar Soil Series:**

Kho Hong series (Kh): coarse-loamy, kaolinitic, isohyperthermic Typic Kandiodults, well drainage.

Visai series (Vi): fine-loamy, mixed, semiactive, isohyperthermic Typic Plinthaquults.

**Principal Associated Soils:**

These include Kho Hong and Visai series.

ANALYSIS RESULTS

Profile code No.: S-61/39

(oven dry basis)

Soil series: Nam Krachai series (Ni)

Lab No.	Depth (cm)	Horizon	Particle size distribution analysis (% by weight)								Texture		pH		CaCO <sub>3</sub> %	P, mg kg <sup>-1</sup> Bray 2	K, mg kg <sup>-1</sup> NH <sub>4</sub> OAc
			USDA grading			Sand-fraction grading					Lab	Field	1:1	1:1			
			sand	silt	clay	vc	c	m	f	vf	result	estim <sup>n</sup>	water	KCl			
Pg-458	0-9	Apg	59.0	39.0	2.0						sl	fsl	4.7	3.7	0.6	10.0	78
Pg-459	9-26	BAG	52.3	38.7	9.0						sl	fsl	4.8	3.7	0.3	2.5	36
Pg-460	26-50	Btg	52.4	36.1	11.5						sl	sl	5.2	3.8	0.0	2.3	29
Pg-461	50-74	Btgv1	52.8	32.7	14.5						sl	scl	5.2	3.7	0.6	2.3	29
Pg-462	74-110	Btgv2	39.4	31.6	29.0						cl	scl	5.6	3.5	0.6	2.2	49

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations (cmol <sub>(+)</sub> kg <sup>-1</sup> )										Base satur <sup>n</sup> (%)		ECEC cmol <sub>(+)</sub> kg <sup>-1</sup> (B+D)	Al KCl extr. cmol <sub>(+)</sub> kg <sup>-1</sup> (D)	Electrical conduct <sup>y</sup> (ECx10 <sup>6</sup> ) dS m <sup>-1</sup>
								SUM	Extr.	SUM	CEC	CEC	B/Cx100	(Bx100)/				
				Ca	Mg	K	Na	cations (B)	acidity (A)	(B+A)	NH <sub>4</sub> OAc (C)	100g Clay		(B+A)				
0-9	0.6	1.69	0.19	0.40	0.40	0.20	1.20	2.20	2.80	5.00	5.0	250.0	44	44			0.12	
9-26	1.6	0.43	0.06	0.20	0.20	0.10	0.40	0.90	3.80	4.70	3.0	33.3	30	19			0.04	
26-50	1.0	0.18	0.04	0.20	0.10	0.10	0.60	1.00	3.10	4.10	2.7	23.5	37	24			0.00	
50-74	0.7	0.19	0.03	0.20	0.10	0.10	0.30	0.70	5.40	6.10	4.8	33.1	15	11			0.01	
74-110	1.8	0.12	0.04	0.20	0.30	0.10	0.90	1.50	9.60	11.10	9.3	32.1	16	14			0.04	

Surveyor: P Rimchala

Reported by: W. Sirichuaychoo

Date: March 29, 1976

Date: Nov. 19, 1998