

Proposed C.Pintip, 1971
Revised by :
P. Vijarnsorn and staffs, 1988
W. Sirichuaychoo, 2004

THAI MUEANG SERIES

Field Symbol: Tim

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

Setting: Thai Mueang soils derived from granite, gneissic granite or granitic gneiss and occurred on granitic terrain. Relief is gently undulating to rolling. Slope ranges from 2 to 20 percent. Elevation is approximately from 30 to 80 m above mean sea level. The climate is Tropical Monsoon (Koppen 'Am') or Tropical Rain Forest (Koppen 'Af'). Average annual precipitation is above 2,000 mm Average annual air temperature is from 26 °C to 28°C.

Drainage, Permeability and Surface Runoff: Drainage is well drainage, permeability is estimated to be moderate and surface runoff is medium to rapid. Ground water level falls very deep, commonly below 2 m throughout the year.

Vegetation and Land Use: Used exclusively for para rubber and fruit trees, but on steep slope, occupied by natural tropical evergreen forest.

Characteristic Profile Features: The Thai Mueang series is a member of the fine, kaolinitic, isohyperthermic Typic Kandiodults (soil taxonomy, 2003). They are very deep soils and are characterized by a very dark grayish brown or grayish brown sandy loam surface or A horizon overlying a strong brown or yellowish brown medium or coarse sandy clay loam kandic B horizon grading to gravelly sandy clay or gravelly clay with discernible sand fractions of kandic B or BC horizon. Very strongly acid to moderately acid, reaction values range from 5.0 to 6.0 throughout the soil profile.

Typifying Pedon: Thai Mueang sandy loam - low secondary scrub forest, Ban Ha Yeak, Tambon Rawai, Amphoe Muang Changwat Phuket, 20 m above mean sea level, 2 to 5 percent slopes (sheet name Ban Rawai, sheet number 4634II).

Profile Code Number: S-63/3, described by C. Pintip, 9 April 1971 (moist colors unless otherwise stated).

Horizon Depth (cm)	Description
Ap 0-17	Dark brown (10YR3/3) sandy loam; weak medium and coarse subangular blocky structure breaking to fine and medium granular structure; friable, slightly sticky and slightly plastic; many fine interstitial pores; common fine roots; moderately acid (field pH 6.0); clear smooth boundary.
BA 17-28	Brown (7.5YR5/4) and dark brown to brown (10YR4/3) medium sandy clay loam; weak fine to medium subangular blocky structure; friable, slightly sticky and slightly plastic; common very fine interstitial and few very fine tubular pores; few fine roots; moderately acid (field pH 6.0); gradual smooth boundary.
Bt1 28-64	Strong brown to brown (7.5YR5/4-6) clay with medium sandy; moderately medium and coarse subangular blocky structure; firm, sticky and plastic; broken moderately thick cutan on ped faces; common very fine and fine interstitial pores and few very fine tubular pores; very few fine roots; strongly acid (field pH 5.5); gradual smooth boundary.
Bt2 64-94/98	Yellowish red (5YR5/6) strong brown (7.5YR5/8) slightly gravelly clay with medium sandy; weak to moderate medium and coarse subangular blocky structure; firm, sticky and plastic; broken moderately thick cutan on ped faces; common very fine interstitial and tubular pores; very few fine roots; strongly acid (field pH 5.5); clear smooth boundary.
Bt3 94/98-135	Strong brown (7.5YR5/8) and yellowish red (5YR4/6) gravelly clay with medium sandy; weak to moderate medium and coarse subangular blocky structure; firm,

sticky plastic; broken moderately thick cutan on ped faces; common very fine interstitial and tubular pores; strongly acid (field pH 5.5).

Type Location:

Name of district, Amphoe Thai Mueang, Changwat Phangnga.

Range of Profile Features:

The surface or A horizon sandy loam or sandy clay loam is from 10 to 15 cm in thickness and has 10YR or 7.5YR hues, values 3 or 4 and chromas 2 or 3. Structure is moderate fine subangular blocky. Very strongly acid to moderately acid values range from 5.0 to 6.0.

The kandic B horizon sandy clay has 10YR or 7.5YR hues, values 5 or 6 and chromas 6 or 8. Matrix of reddish color (5YR 4-5/6-8) may occur but below 80 cm from the soil surface. Gravels are mainly composed of angular and subangular quartz grains.

Gravelly horizon commonly occurs below 50 cm but within 1 meter from the soil surface. Structure is moderate medium and coarse subangular blocky. Very strongly acid to strongly acid, reaction values range from 4.5 to 5.5.

Similar Soil Series:

Phangnga series (Pga): fine, kaolinitic, isohyperthermic Typic Kandiudults, do not contain gravels.

Khok Kloi series (Koi): fine, kaolinitic, isohyperthermic Typic Kandiudults, 5YR hue commonly occurs within 80 cm from the soil surface.

Phuket series (Pk): fine, kaolinitic, isohyperthermic Typic Kandiudults, 5YR or 2.5YR hues in kandic B horizon.

Principal Associated Soil:

These include Khok Kloi, Phangnga and Phuket series. The Thai Mueang series may also occur as parts of Slope Complex.

ANALYSIS RESULTS

Profile code No.: S-63/3

(oven dry basis)

Soil series: Thai Mueang series (Tim)

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 ₄ OAc
			USDA grading			Sand-fraction grading				Lab	Field	1:1 water	1:1 KCl			
			sand	silt	clay	vc	c	m	f	vf	result	estim ⁿ				
Pe-1329	0-17	Ap	73.0	17.0	10.0					sl	sl	4.6	4.2	0.0	4.0	111
Pe-1330	17-28	BA	61.0	15.0	24.0					scl	mscl	4.9	4.0	0.3	1.7	59
Pe-1331	28-64	Bt1	48.0	14.0	38.0					sc	msc	5.0	4.0	0.0	1.7	64
Pe-1332	64-94/98	Bt2	42.5	12.5	45.0					c	sl.gmsc	5.3	4.1	0.0	3.0	90
Pe-1333	94/98-135	Bt3	39.5	14.0	46.5					c	gsc	5.4	4.2	0.6	2.3	93

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 conduct ^y (ECx10 ⁶) dS m ⁻¹
				Ca Mg K Na				SUM cations (B)	Extr. acidity (A)	SUM (B+A)	CEC NH ₄ OAc (C)	CEC 100g Clay	B/Cx100	(Bx100)/(B+A)				
				Ca	Mg	K	Na	cations (B)	Extr. acidity (A)	SUM (B+A)	CEC NH ₄ OAc (C)	CEC 100g Clay	B/Cx100	(Bx100)/(B+A)				
0-17	2.0	1.08		0.80	0.30	0.20	0.30	1.60	7.20	8.80	2.7	27.0	59	18			0.20	
17-28	2.1	0.64		0.70	0.20	0.10	0.30	1.30	8.10	9.40	3.8	15.8	34	14			0.05	
28-64	2.2	0.54		0.70	0.30	0.10	0.40	1.50	9.90	11.40	5.8	15.3	26	13			0.03	
64-94/98	2.2	0.37		0.60	0.20	0.20	0.20	1.20	11.10	12.30	3.8	8.4	32	10			0.03	
94/98-135	2.5	0.65		0.40	0.20	0.20	0.20	1.00	11.80	12.80	5.6	12.0	18	8			0.04	

Surveyor: C. Pintip

Reported by: W. Sirichuaychoo

Date: April 19, 1971

Date: Nov. 19, 1998