Proposed by Moorman, 1964
Revised by :
P. Vijarnsorn and staffs, 1988
W. Sirichuaychoo, 2004

THA MAI SERIES **Field Symbol: Ti**

Distribution: Occupies a small extent in Southeast Coast Thailand.

Setting: Tha Mai soils are formed from basalt and occurred on basalt terrain. Relief is gently undulating to undulating. Slope ranges from 2 to 12 percent. Elevation ranges from 30 to 40 m above mean sea level. The climate is Tropical Monsoon (Koppen 'Am'). Average annual precipitation is from 2,000 to 3,400 mm Average annual air temperature is 27^{o}C.

Drainage, Permeability and Surface Runoff: Drainage is well drained, permeability is moderate to slow and surface runoff is rapid. Ground water level falls very deep, usually 3 or 4 m from the surface.

Vegetation and Land Use: Mainly used for fruit crops such as Durian, Rambutan, banana and pineapples. The natural is moist evergreen and moist mixed deciduous forests.

Characteristic Profile Feature: The Tha Mai series is a member of the fine, kaolinitic, isohyperthermic Typic Hapludox (soil taxonomy, 2003). They are very deep soils and are characterized by a dark reddish brown clay surface or A horizon overlying a dark reddish brown or reddish brown silty clay or clay oxic B horizon. Reaction is a moderately acid to neutral, reaction values range from 6.0 to 7.0 at the surface layer and a very strongly acid to strongly acid, reaction values range from 4.5 to 5.5 in the subsoil.

Typifying Pedon: Tha Mai silty clay - fruit trees cultivation, Amphoe Tha Mai, Changwat Chanthaburi, 4 percent slopes.

Profile Code Number: No.32, described by L. Moncharoen and W. Sirichuaychoo (moist colors unless otherwise stated).

Horizon	Depth (cm)	Description
Ap	0-20	Dark reddish brown (5YR3/3) clay; weak fine granular structure; very friable, slightly sticky and slightly plastic; many fine and medium roots; strongly acid (field pH 5.5); diffuse smooth boundary.
Bo1	20-50	Dark reddish brown (5YR3/4) clay; weak fine subangular blocky structure; very friable, slightly sticky and slightly plastic; many fine and medium roots; strongly acid (field pH 5.5); diffuse smooth boundary.
Bo2	50-95	Dark reddish brown to reddish brown (5YR3-4/4) clay; weak fine and medium subangular blocky structure; very friable, slightly sticky and slightly plastic; common fine and medium roots; strongly acid (field pH 5.5); diffuse smooth boundary.
Bo3	95-180	Dark reddish brown to reddish brown (5YR3-4/4) clay; weak medium subangular blocky structure; very friable, slightly sticky and slightly plastic; few fine roots; strongly acid (field pH 5.5).

Remark: This profile is Bench Mark Soil of Thailand, October, 1987.

Type Location:

Name of district, Amphoe Tha Mai, Changwat Chanthaburi.

Range of Profile Features:

The surface or A horizon clay varies from 10 to 20 cm in thickness and has 5YR or 2.5YR hues, values 3 or 4 and chromas 2 to 4. Texture of silty clay loam or clay loam may occur in places. Structure is weak and moderate fine and medium blocky. Strongly acid to neutral, reaction values range from 5.5 to 7.0.

The oxic B horizon clay has 2.5YR or 5YR hues, values 3 or 4 and chromas 3 to 6. Structures is moderate fine and medium blocky. Very strongly acid to slightly acid, reaction values range from 5.0 to 6.5.

Similar Soil Series:

Chok Chai series (Ci): very-fine, kaolinitic, isohyperthermic Rhodic Kandiustox, ustic soil moisture regime.

Pak Chong series (Pc): very-fine, kaolinitic, isohyperthermic Rhodic Kandiustox, ustic moisture regime and are formed from shale in association with limestone.

Principal Associated Soils:

These include Nong Bon series.

Nong Bon series (Nb): fine, kaolinitic, isohyperthermic Typic Kandiudults.

ANALYSIS RESULTS (oven dry basis)

Profile code No.: No. 32 (Benchmark Soil)

Soil series: Tha Mai series (Ti)

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	Field	1:1	1:1			
			sand	silt	clay	vc	c	m	f	vf	result	estim[n]	water	KCl			
	0-20	Ap	5.0	33.4	61.6						c	c	5.3		1.1		
	20-50	Bo1	8.0	38.8	53.2						c	c	5.3		1.0		
	50-95	Bo2	10.4	32.4	57.2						c	c	5.2		0.9		
	95-125	Bo31	4.9	29.1	66.0						c	c	5.3		1.1		
	125-155	Bo32	3.8	26.6	69.6						c	c	5.2		1.1		
	155-180	Bo33	3.9	34.9	61.2						c	c	5.1		0.9		

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] ($EC \times 10^6$) 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)			
0-20		1.65	0.12	2.53	0.08	0.29	0.47	3.37			18	29.2	23.29		17.56		0.13
20-50		0.83	0.08	1.96	1.24	0.20	0.31	3.71			11	20.7	30.80		11.17		0.11
50-95		0.79	0.09	1.00	0.54	0.14	0.28	1.96			10	17.5	18.67		10.50		0.10
95-125		0.63	0.15	1.84	0.48	0.06	0.12	2.50			9	13.6	26.26		9.52		0.10
125-155		0.42	0.08	1.44	0.32	0.06	0.11	1.93			9	12.9	21.64		8.92		0.05
155-180		0.41	0.04	1.61	0.38	0.06	0.11	2.16			10	16.3	21.14		10.22		0.05

Surveyor: L. Moncharoen & W. Sirichuaychoo

Date:

Reported by: W. Sirichuaychoo

Date: Nov. 6, 1998