

Proposed by C. Changprai and staffs, 1973  
Revised by :  
P. Vijarnsorn and staffs, 1988  
W. Sirichuaychoo, 2004

## O LAM CHIAK SERIES

Field Symbol: Oc

**Distribution:** Occupies a small to moderate extent in the Southeast Coast of Thailand.

**Setting:** O Lam Chiak soils derived from fine grain clastic rocks namely shale, phyllite or equivalent rocks and occurred on denudation surface. Relief is undulating to rolling. Slope ranges from 5 to 20 percent. Elevation ranges from 100 to 140 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°C.

**Drainage, Permeability and Surface Runoff:** Drainage is well drained, permeability is moderate to slow and surface runoff is medium to rapid. Ground water level falls below 1.5 m throughout the year.

**Vegetation and Land Use:** Original vegetation is Tropical Evergreen Forest. Parts have been cleared for upland crop cultivation.

**Characteristic Profile Features:** The O Lam Chiak series is a member of the very-fine, mixed, active, isohyperthermic Typic Hapludalfs (soil taxonomy, 2003). They are moderately deep soils to bed rocks and are characterized by a dark brown or dark reddish brown or reddish brown clay surface or A horizon overlying a yellowish red or red clay argillic B horizon which in turn overlies a multicolored weathering shale or phyllite layer (may be C or R horizon) between 50 to 100 cm from the soil surface. Slightly acid to moderately alkaline, reaction values range from 6.5 to 8.0 over moderately acid to neutral, reaction values range from 6.0 to 7.0.

**Typifying Pedon:** O Lam Chiak clay - Tropical Evergreen Forest, from nearby. Ban O Lam Chiak, Amphoe Pong Nam Ron Changwat Chanthaburi, 120 m above mean sea level, 2 to 5 percent slopes (sheet number 5449 I).

**Profile Code Number:** SE-17/25 described by S. Kitiyarak and C. Chaengprai, 20 January 1973 (moist colors unless otherwise stated).

Horizon	Depth (cm)	Description
A	0-28	Reddish brown (5YR4/4) clay; moderate fine and medium subangular blocky structure; extremely hard, extremely firm, sticky and plastic; few fine interstitial and tubular pores; common fine, common medium and few coarse roots; moderately alkaline (field pH 8.0); gradual smooth boundary.
Bt	28-68	Red (2.5YR4/6) clay; moderate medium to coarse subangular blocky structure breaking into strong fine subangular blocky structure; friable, sticky and plastic; thin broken clay coating on ped faces and in pores; few to common fine interstitial and few fine tubular pores; few fine and common medium roots; moderately alkaline (field pH 8.0); clear smooth boundary.
Cr	68-90 <sup>+</sup>	Mixed light yellowish brown (10YR6/4) yellowish red (5YR4/6) and yellowish brown (10YR5/8) clay and weathering phyllite fragments; moderate medium subangular blocky; friable, sticky and slightly plastic; common fine interstitial pores; strongly acid (field pH 5.5).

### Type Location:

Name of village, Ban O Lam Chiak, Amphoe Pong Nam Ron, Changwat Chanthaburi.

### Range of Profile Features:

The surface or A horizon clay or clay loam, ranges from 10 to 30 cm in thickness and has 5YR or 7.5YR hues, values 3 to 4 and chromas 2 to 6. Texture of silty clay loam may occur. Structure is moderate fine and coarse blocky. Slightly acid to moderately alkaline, reaction values range from 6.5 to 8.0.

The argillic B horizon has 5YR or 2.5YR hues, values 4 or 5 and chromas 4 to 8. Structure is moderate fine and medium blocky. Moderately acid to slightly alkaline, reaction values range from 6.0 to 7.5.

The C horizon usually occur below 50 cm of the surface but within 1 meter and has a multicolored due to the weathering stage of parent rock (brownish, yellowish and reddish colors). Moderately acid to neutral, reaction values range from 6.0 to 7.0.

### Similar Soil Series:

Nathon series (Ntn) : fine, mixed, semiactive, isohyperthermic Typic Hapludults, has low base saturation and yellower color (yellowish brown or strong brown) in the subsoil.

### Principal Associated Soils:

These include Phak Kat, Pong Nam Ron and Bueng Chanang series.

Phak Kat series (Pat): fine, mixed, semiactive, isohyperthermic Plinthic Paleudalfs.

Pong Nam Ron series (Pon): fine-loamy, mixed, active, isohyperthermic, shallow Typic Hapludolls.

Bueng Chanang series (Bng): fine, mixed, superactive, isohyperthermic Fluventic Eutrudepts.

### ANALYSIS RESULTS (oven dry basis)

Profile code No.: SE-17/25

Soil series: O Lam Chiak series (Oc)

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
Pd-1889	0-28	A	16.0	41.5	42.5						sic	c	6.8	5.6	3.9	73.4	29
Pd-1890	28-68	Bt	10.0	23.0	67.0						c	c	4.6	5.4	2.9	3.1	13
Pd-1891	68-90+	Cr	23.0	35.5	41.5						c		5.4	4.0	4.2	4.5	10

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations (cmol <sub>(c)</sub> kg <sup>-1</sup> )								Base satur <sup>n</sup> (%)		ECEC (cmol <sub>(c)</sub> kg <sup>-1</sup> ) (B+D)	Al KCl extr. (cmol <sub>(c)</sub> kg <sup>-1</sup> ) (D)	Electrical conduct <sup>y</sup> (ECx10 <sup>6</sup> ) dS m <sup>-1</sup>	
				Ca	Mg	K	Na	SUM	Extr.	SUM	CEC	CEC	B/Cx100				(Bx100)
								cations (B)	acidity (A)	(B+A)	NH <sub>4</sub> OAc (C)	100g Clay					(B+A)
0-28	5.4	4.83		28.60	8.90	1.10	0.40	39.00	9.80	48.80	43.0	101.2	91	80			0.83
28-68	3.4	1.11		14.80	10.70	0.30	0.30	26.10	12.10	38.20	30.2	45.1	86	68			0.52
68-90+	2.6	0.57		19.40	16.60	0.20	0.60	36.80	18.80	55.60	46.8	112.8	79	66			0.38

Surveyor: S. Kitiyarak & C. Chaengprai

Reported by: W. Sirichuaychoo

Date: Jan. 20, 1973

Date: Dec.5, 1998