

Proposed by: L. Monchareon-1965
 Revised by: 1. B. Boonsompopphan,
 P. Hemsrichart, 1988
 2. K. Malairotsiri, 2004

YANG TALAT SERIES

Field Symbol: YI

Distribution: Occupies small extent in the Northeast Thailand.

Setting: Yang Talat soils are formed from washed deposit from sandstone and occur on the upper part of peneplain. Relief is undulating and range of slope is from 2 to 8 percent. Elevation is from 170 to 240 m above sea level. The climate is Tropical Savannah (Köppen 'Aw'). Average annual precipitation is from 1,100 to 1,500 mm. Mean annual air temperature is 27°C.

Drainage, Permeability and Surface Runoff: Somewhat excessively drained soils. Permeability and surface runoff are rapid. Ground water table falls below 2 m all year round. They dry out deeply in the dry season.

Vegetation and Land Use: Mostly dipterocarp forest, many areas are used for upland crops, such as kenaf

Characteristic Profile Feature: The Yang Talat series are a member of the coarse-loamy, siliceous, semiactive, isohyperthermic, Oxyaquic (Ultic) Halpustalfs. They are deep soils and are characterized by a dark brown or dark reddish brown loamy sand or sandy loam A or Ap horizon overlying a reddish brown or light reddish brown sandy loam argillic B horizon. Reaction is medium acid to slightly acid throughout the profile. Faint mottles may occur in very deep subsoil.

Typifying Pedon: Profile code no. is NE-N-30/68 (moist colors unless otherwise stated).

Location: Soil Conservation Center Changwat Khon Kaen.

Sheet Name: Changwat Khon Kaen

Sheet No.: 5541 I

Coordinate: 211695

Elevation: 170-240m

Relief: gently undulating to undulating

Slope: 2-8%

Physiography: upper part of peneplain

Parent material: washed deposit from sandstone

Drainage: well drained

Permeability: rapid

Runoff: rapid

Ground water depth: >2 m

Flooding depth: -

Duration: -

Frequency: -

Annual rainfall: 1,207.6 mm

Mean temp: 26.7 °C

Climate type: Tropical Savannah

Natural vegetation and/or land use: mostly dipterocarp forest, many parts are used for kenaf and other upland crops

Other:

Described by: L. Monchareon

Date: 1965

Revised by:

Horizon	Depth (cm)	Description
A	0-15	Dark brown (10YR 3/4) loamy sand; weak fine subangular blocky structure breaking to single grain; very friable, nonsticky, nonplastic, many fine tubular and interstitial pores; common fine few medium and one coarse roots; medium acid (field pH 6.0); clear, smooth boundary.
AB	15-28	Brown (7.5YR 5/4) loamy sand; weak fine subangular blocky structure breaking to single grain; very friable, nonsticky, nonplastic; many fine and few medium tubular and interstitial pores; one termite hole; few fine, few medium roots; medium acid (field pH 6.0); clear, smooth boundary.

Bt1	28-52	Strong brown (7.5YR 5/6) and reddish brown (5YR 5/4) sandy loam; weak fine and medium subangular blocky structure; very friable, slightly sticky, slightly plastic; patchy thin clay coating on ped faces; many fine, few medium tubular and interstitial pores; few fine, medium and coarse roots; slightly acid (field pH 6.5); gradual, smooth boundary.
Bt2	52-95	Light reddish brown (5YR 6/4) and strong brown (7.5YR 5/6) sandy loam; weak fine and medium subangular blocky structure; very friable, slightly sticky, slightly plastic; patchy thin cutans on ped faces; many fine, few medium tubular and interstitial pores; very few fine and few medium roots; slightly acid (field pH 6.5); gradual, smooth boundary.
Bt3	95-120	Light reddish brown (5YR 6/3) sandy loam; many fine and medium distinct strong brown (7.5YR 5/8) mottles; moderate to strong medium and coarse subangular blocky structure; slightly firm, sticky, plastic; patchy thin clay coating on ped faces and in pores; hard and packed horizon; common fine tubular and interstitial pores; very few very fine roots; slightly acid (field pH 6.5).

Type Location: The Yang Talat series was named for Amphoe Yang Talat, Changwat Kalasin in which soils of this series were first described.

Range of Profile Features:

The thickness of an A or Ap horizon varies from 10 to 30 cm and has 10YR or 7.5YR hues, values of 3 to 5 and chromas of 2 to 4. Structure is single grain and/or weak fine blocky. Field pH values are from 5.5 to 6.5.

The subsurface horizon has 5YR or 7.5YR hues, values of 4 to 6 and chromas of 3 or 4. Structure is weak coarse blocky and/or single grain. Field pH values are from 5.5 to 6.5.

The B horizon has 5YR hue, values of 4 to 6 and chromas of 3 or 4 in the upper part of the horizon while the lower part ones has 7.5YR or 5YR hues, values of 6 or 7 and chromas of 4 to 8. Textures of sandy clay loam may occur in very deep subsoil, usually below 1 m. Structure is weak medium to coarse blocky. Field pH values are from 5.5 to 6.5.

Similar Soil Series:

Huai Thalaeng series (Ht): is browner colors (10YR or 7.5YR hues) in the B horizon, and lower pH in the subsoils..

Principal Associated Soils: These include Yasothon, Khorat and Warin Soils.

ANALYSIS RESULTS Profile code no.:NE-N-30/68
(oven dry basis) Soil series : Yang Talat (YI)

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	1:1			
			sand	silt	clay	vc	c	m	f	vf	result	estim ¹	water	KCl			
	0-15	A	77.5	18.7	3.8						ls	ls	5.5	4.9		8.5	67
	15-28	AB	78.4	17.1	4.5						ls	ls	5.5	4.7		8.8	24
	28-52	B11	71.2	18.0	10.8						sl	sl	6.0	4.6		9.7	44
	52-95	B12	72.0	16.2	11.8						sl	sl	5.7	4.4		3.7	42
	95-120	B13	67.0	19.0	14.0						sl	sl	5.6	4.2		5.0	70

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations (cmol _(c) kg ⁻¹)										Base satur ¹ (%)		ECEC cmol _(c) kg ⁻¹ (B+D)	Al KCl extr. cmol _(c) kg ⁻¹ (D)	Electrical conduct ¹ (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)				
															B			
0-15	0.4	0.58	0.07	2.10	0.70	0.20	0.30	3.30	2.60	5.90	3.70	97.4	89	56			0.18	
15-28	1.8	0.20	0.02	1.30	0.30	0.10	0.30	2.00	1.70	3.70	1.80	40.0	100	54			0.15	
28-52	0.7	0.16	0.02	1.80	1.50	0.10	0.40	3.80	1.80	5.60	3.90	36.1	97	68			0.08	
52-95	2.6	0.04	0.01	1.40	1.80	0.10	0.30	3.60	1.50	5.10	3.60	30.5	100	71			0.06	
95-120	0.4	0.02	0.01	1.70	1.90	0.20	0.30	4.10	1.90	6.00	4.30	30.7	95	68			0.05	