

Proposed by S. Charoenpong, 1966
Revised by :
P. Vijarnsorn and staffs, 1988
W. Sirichuaychoo, 2004

HUAI YOT SERIES

Field Symbol: Ho

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

Setting: Huai Yot soils derived from fine grain clastic rocks namely shale, phyllite or equivalent rocks and occurred on denudation surface. They usually occurred on eroded hill. Relief is undulating to hilly with slopes ranging from 5 to 35 percent. Elevation ranges from 50 to 150 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 27°C to 28°C.

Drainage, Permeability and Surface Runoff: Drainage is well drained, permeability is estimated to be rapid and surface runoff is rapid and very susceptible to erosion if not under the natural vegetation or commercial tree crops.

Vegetation and Land Use: Most are under Tropical Evergreen Forest but many parts have been cleared for para rubber and oil palm growing.

Characteristic Profile Features: The Huai Yot series is a member of the loamy-skeletal, mixed, semiactive, acid, isohyperthermic, shallow Typic Udorthents (soil taxonomy, 2003). They are very shallow soils to bed rocks and are characterized by a brown or dark yellowish brown loam surface or A horizon overlying a strong brown and/or yellowish brown very gravelly loam or very gravelly clay loam which in turn overlies a layer of bed rock within 50 cm from the soil surface. Very strongly acid to strongly acid, reaction values range from 4.5 to 5.5 throughout the soil profile.

Typifying Pedon: Huai Yot loam – para rubber plantation, from Ban Thung Wa, Amphoe Thung Wa, Changwat Satun, 16 percent slopes (sheet name King Amphoe Thung Wa, sheet number 4932 II, coordinate 840850).

Profile Code Number: S-67/14, described by Anan Pittayarak, 12 April 1973 (moist colors unless otherwise stated).

Horizon Depth (cm)	Description
A 0-10	Dark yellowish brown (10YR4/4) loam; weak medium granular structure; friable, nonsticky and nonplastic; many fine interstitial pores, common fine and medium tubular pores; many fine and common coarse roots; strongly acid (field pH 5.0); clear smooth boundary.
C 10-20/36	Yellowish brown (10YR5/4-6) very gravelly loam; weak medium and coarse subangular blocky structure; friable, slightly sticky and slightly plastic; common fine and common very fine tubular pores; gravels composed of shale fragments; very strongly acid (field pH 5.0); clear smooth boundary.
Cr 20/36 ⁺	Level-bedded shale.

Type Location:

Name of district, Amphoe Huai Yot, Changwat Trang.

Range of Profile Features:

The surface or A horizon loam, clay loam or gravelly loam is 5 to 15 cm in thickness and has 10YR or 7.5YR hues, values 4 or 5 and chromas 3 or 4. Structure is weak fine subangular blocky. Very strongly acid, reaction values range from 4.5 to 5.0.

The C horizon very gravelly clay loam, has 10YR or 7.5YR hues, values 5 to 6 and chromas 6 to 8. Mixed brownish and reddish color of weathering rock are commonly observable. Very strongly acid to strongly acid, reaction values range from 4.5 to 5.5.

The R layer or paralithic contact occurs within 50 cm of the soil surface.

Similar Soil Series:

Khlong Teng series (Klt): fine-loamy, mixed, semiactive, isohyperthermic, shallow Typic Haplohumults, meet bed rock of shale or equivalent rocks within 50 cm from the surface.

Nathon series (Ntn): fine-clayey mixed, semiactive, isohyperthermic Typic Haplohumults, meet bed rock of shale or equivalent rocks between 50 to 100 cm from the soil surface.

Khlong Chak series (Kc): clayey-skeletal,, kaolinitic, isohyperthermic Typic Kandihumults.

Principal Associated Soils:

These include Khlong Teng, Nathon and Khlong Chak series.

ANALYSIS RESULTS

Profile code No.: S-67/14

(oven dry basis)

Soil series: Huai Yot series (Ho)

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						
Pd-695	0-10	A	50.5	35.0	14.5							I	I	4.8	3.6	0.6	4.2	73
Pd-696	10-20/36	C	38.0	42.0	20.0							I	vgl	4.6	3.6	0.3	2.3	73
Pd-697	20/36+	Cr	42.5	35.0	22.5							I	thered	5.0	3.6	0.3	1.1	79

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 conductivity (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)			
0-10	0.4	2.44		0.60	0.40	0.30	0.10	1.40	8.60	10.00	6.3	43.4	22	14			0.05
10-20/36	1.3	1.41		0.20	0.20	0.10	0.10	0.60	10.40	11.00	7.8	39.0	8	5			0.02
20/36+	1.4	0.91		0.20	0.20	0.30	0.10	0.80	10.00	10.80	8.7	38.7	9	7			0.02

Surveyor: A. Pitayarak

Reported by: W. Sirichuaychoo

Date: April 12, 1973

Date: Nov. 9, 1998