

Proposed by W. Van der Kevie, 1970  
Revised by:  
1. S. Kunaporn, 1987  
2. S. Udomsri, 2004

## DONG TAKHIAN SERIES

Field Symbol: Dt

**Distribution:** Occupies small extent in the southeast region, mainly in Chachoengsao province.

**Setting:** Dong Takhian soils are formed from alluvium and local colluvium from granite and occur on high terraces. Relief is undulating. Slopes range from 2-4%. Elevation range from 20-40 m above sea level. The climate is Tropical Savanna (Köppen 'Aw'). Mean annual precipitation ranges from 1,300 mm to 1,800 mm. Mean annual temperature is 27°C.

**Drainage, Permeability and Surface Runoff:** Somewhat excessively drained. Permeability is rapid. Runoff is slow to moderate. Groundwater level is below 1.5 m throughout the year.

**Vegetation and Land Use:** Mixed deciduous forest with some shifting cultivation of upland crops, especially cassava.

**Characteristic Profile Features:** Dong Takhian series is a member of the Coated, isohyperthermic Lamellic Ustic Quartzipsamments. They are very deep, medium to slightly acid soils and are characterized by a dark coloured loamy sand or sandy loam A horizon overlying a thick pinkish white, white, pinkish gray or light gray loamy sand or sand E horizon. This in turn overlies a brown or dark brown sandy C horizon which has an upper boundary at some depth below 1 m from the soil surface. There has a thin lamellae about 2-3 cm within 200 cm with sandy loam textures.

**Typifying Pedon:** Profile code number is Code SE-14/41

**Location:** Ban Rong Mo, Tambon Khao Hin Son, Amphoe Phanom Sarakham, Changwat Chachoengsao.

**Sheet Name:** Amphoe Phanom Sarakham

**Sheet No.:** 5236 II

**Coordinate:** 664212

**Elevation:** 30 m (MSL)

**Relief:** undulating

**Slope:** 3 %

**Physiography:** eroded hill

**Parent material:** derived from granite

**Drainage:** somewhat excessively well drained

**Permeability:** rapid

**Runoff:** moderate

**Ground water depth:** >3 m

**Flooding depth:** - cm

**Duration:** - month

**Frequency:** every year

**Annual rainfall:** 1,716.7 mm

**Mean temp:** 27.7 °C

**Climate type:** Tropical Savannah

**Natural vegetation and/or land use:-**

**Other:**

**Described by:** Noi and Vibul

**Date:** 26 April, 1977

**Revised by:** S. Udomsri

Horizon	Depth (cm)	Description
A	0-7	Very dark gray (10YR 3/2) sand; weak fine and medium subangular blocky structure breaking to single grain; loose, nonsticky, nonplastic; many fine and medium roots; medium acid medium acid (field pH 6.0); abrupt, smooth boundary.
E	7-57	Pinkish gray (7.5YR 7/2) sand; single grain; loose, nonsticky, nonplastic; common fine roots; slightly acid slightly acid (field pH 6.5); clear, smooth boundary.
C1	57-81/84	Dark grayish brown (10YR 4/2) light brownish gray (7.5YR 6/2) sand; weak fine and medium subangular blocky structure and single grain; loose, nonsticky, nonplastic; few fine roots; medium acid medium acid (field pH 6.0); clear, slightly wavy boundary.

C2	81/84-98	Very pale brown (10YR 7/3) yellowish brown (10YR 5/4) sand; weak fine and medium subangular blocky structure and single grain; loose, nonsticky, nonplastic; few fine roots; medium acid (field pH 6.0); clear, smooth boundary.
C3	98-125	Very pale brown (10YR 7/3) brown (10YR 5/3) sand; weak fine and medium subangular blocky structure and single grain; loose, nonsticky, nonplastic; few fine roots; medium acid (field pH 6.0).

**Range of Profile Features:**

The A horizon is from 10 to 20 cm thick, has 10YR hue, values of 4 or 5 and chromas of 1 or 2. Structure is very weak blocky or single grain and field pH values range from 5.5 to 6.5.

The E or C horizon has 10YR and 7.5YR hues, values of 6 through 8 and chromas of 2 to 4. Weak spodic horizon or lamellae may occur, The horizon is structureless single grain and has field pH values of 5.5 to 6.5.

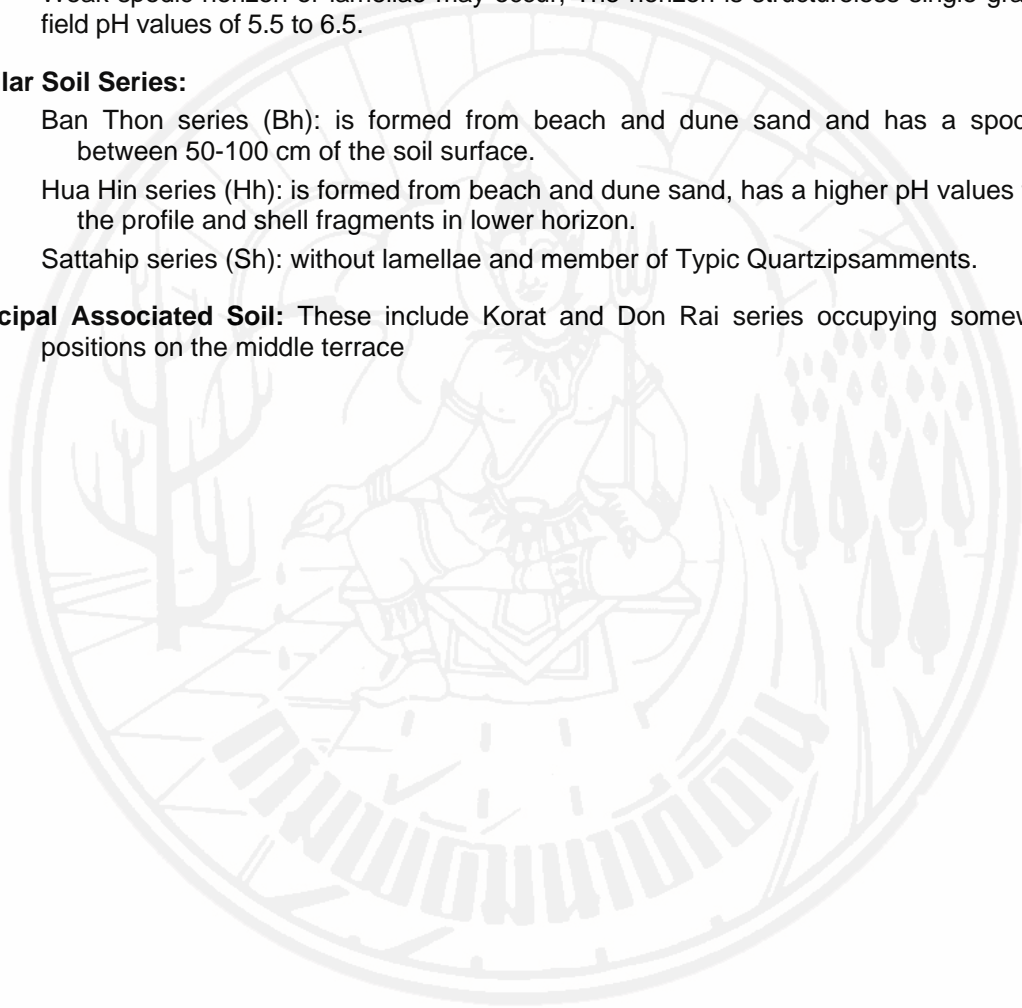
**Similar Soil Series:**

Ban Thon series (Bh): is formed from beach and dune sand and has a spodic horizon between 50-100 cm of the soil surface.

Hua Hin series (Hh): is formed from beach and dune sand, has a higher pH values throughout the profile and shell fragments in lower horizon.

Sattahip series (Sh): without lamellae and member of Typic Quartzipsamments.

**Principal Associated Soil:** These include Korat and Don Rai series occupying somewhat lower positions on the middle terrace



**ANALYSIS RESULTS**  
(oven dry basis)

Profile code No.: SE-14/41  
Soil series : Dong Takian (Dt)

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>1</sup>	water	KCl				
DN-4977	0-7	A	88.1	9.1	2.8	11.4	11.5	13.7	10.2	13.9	s	ls	5.5	4.6		3.7	10	
DN-4978	7-57	E	97.9	0.1	2.0	3.0	24.5	36.8	23.8	14.8	s	s	5.3	4.6		1.8	-	
DN-4979	57-81/84	C1	91.9	6.8	1.3	3.3	21.8	37.0	16.6	11.3	s	ls	5.6	4.4		4.3	-	
DN-4980	81/84-98	C2	92.3	7.6	0.1	3.3	18.5	35.2	28.0	10.2	s	ls	6.1	4.5		3.2	-	
DN-4981	98-125+	C3	92.0	6.7	1.3	4.0	23.1	34.9	23.8	10.9	s	ls	5.0	4.5		2.3	-	

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations (cmol <sub>(+)</sub> kg <sup>-1</sup> )										Base satur <sup>n</sup> (%)		ECEC cmol <sub>(+)</sub> kg <sup>-1</sup> (B+D)	Al KCl extr. cmol <sub>(+)</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 cations (B)	Extr. acidity (A)	SUM (B+A)	CEC NH <sub>4</sub> OAc (C)	CEC 100g Clay	B/Cx100	(Bx100)/(B+A)			
0-7	0.1	0.46		0.70	0.20	0.10	0.20	1.20	0.90	2.10	1.60	57.1	75	57			0.01	
7-57	0.1	0.06		0.20	0.03	0.03	0.20	0.46	0.20	0.66	0.20	10.0	100	70			0.00	
57-81/84	0.1	0.10		0.30	0.05	0.03	0.20	0.58	0.90	1.48	1.10	84.6	53	39			0.00	
81/84-98	0.2	0.06		0.30	0.05	0.02	0.20	0.57	0.60	1.17	0.70	700.0	81	49			0.00	
98-125+	0.1	0.04		0.20	0.03	0.02	0.20	0.45	0.60	1.05	0.30	23.1	100	43			0.00	