

Proposed by: W. Van der Kevie, 1967  
 Revised by:  
 1. C. Changprai, 1987  
 2. S. Udomsri, 2004

**DON CHEDI SERIES**

**Field Symbol: Dc**

**Distribution:** Occupies small extent along the borders of the northern part of the Central Plain.

**Setting:** Don Chedi soils are formed from alluvium and occur on coalescing fan or remnants of old creek levees. Relief is nearly flat to slightly undulating. Slopes are about 1-5 %. Elevation ranges from 10-20 m above sea level. the climate is Tropical Savanna (Köppen 'Aw'). Mean annual precipitation is about 1,300 mm. Mean annual temperature is 27°C.

**Drainage and Permeability and Surface Runoff:** Well drained to moderately well drained. Runoff and permeability are moderate. Groundwater level rises to within 1 m of the soil surface during the rainy season; but falls below 2 m during the peak of the dry season.

**Vegetation and Land Use:** Mainly used as settlement sites or abandoned to bamboo and shrubs, or used as natural pasture.

**Characteristic Profile Features:** Don Chedi series is a member of the Coarse-loamy, mixed, active, isohyperthermic Typic Dystrustepts. They are deep, strongly to very strongly acid soils. They are characterized by a thick dark brown or dark grayish brown sandy loam A horizon, overlying a brown, dark brown or reddish brown sandy loam to sandy clay loam cambic B horizon. Distinct mottles may occur in the deeper subsoil.

**Typifying Pedon:** Profile code number is Code SW-51/49

**Location:** 500 m south-west of Ban Bo Rae, Tambon Nong Ya Sai, Amphoe Samchuk Changwat Suphan Buri.

**Sheet Name:** Ban Nong Krathum

**Sheet No.:** 4938 I

**Coordinate:** 922371

**Elevation:** 34 m (MSL)

**Relief:** nearly level to gently undulating

**Slope:** 1-2%

**Physiography:** alluvium fan

**Parent material:** alluvium

**Drainage:** well drained

**Permeability:** moderate

**Runoff:** moderate

**Ground water depth:** >2 m

**Flooding depth:** - cm

**Duration:** - month

**Frequency:** every year

**Annual rainfall:** 1,112.8 mm

**Mean temp:** 28.2 °C

**Climate type:** Tropical Savannah

**Natural vegetation and/or land use:** sugar cane and tobacco

**Other:**

**Described by:** C. Manotham

**Date:** 20 February, 1980

**Revised by:** S. Udomsri

Horizon	Depth (cm)	Description
Ap	0-23/26	Dark grayish brown (10YR4/2) sandy loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; common fine roots; few fine to medium charcoal pieces; many fine micas; strongly acid (field pH 5.5); clear, smooth boundary.
AB	23/26-50	Dark brown to brown (10YR4/3) sandy loam; moderate fine to medium subangular blocky structure; soft, friable, slightly sticky, nonplastic; common fine roots; few fine to medium charcoal pieces; common fine micas; very strongly acid (field pH 5.0); clear, smooth boundary.
Bw1	50-84	Dark brown to brown (7.5YR4/4) sandy loam; moderate fine to medium subangular blocky structure; soft, friable, slightly sticky, nonplastic; common fine roots; few medium to coarse termite holes; common fine

		micas; very strongly acid (field pH 5.0); clear, smooth boundary.
Bw2	84-115	Dark brown to brown (7.5YR4/4-5/4) sandy loam; weak fine to medium subangular blocky structure; soft, friable, nonsticky, nonplastic; common fine roots; many fine micas; very strongly acid (field pH 5.0); clear, smooth boundary.
Bw3	115+	Strong brown (7.5YR5/6) sandy loam; weak fine to medium subangular blocky structure; soft, friable, nonsticky, nonplastic; strongly acid (field pH 5.5).

**Type Location:** Name of Amphoe, Amphoe Don Chedi Changwat Suphan Buri.

**Range of Profile Features:**

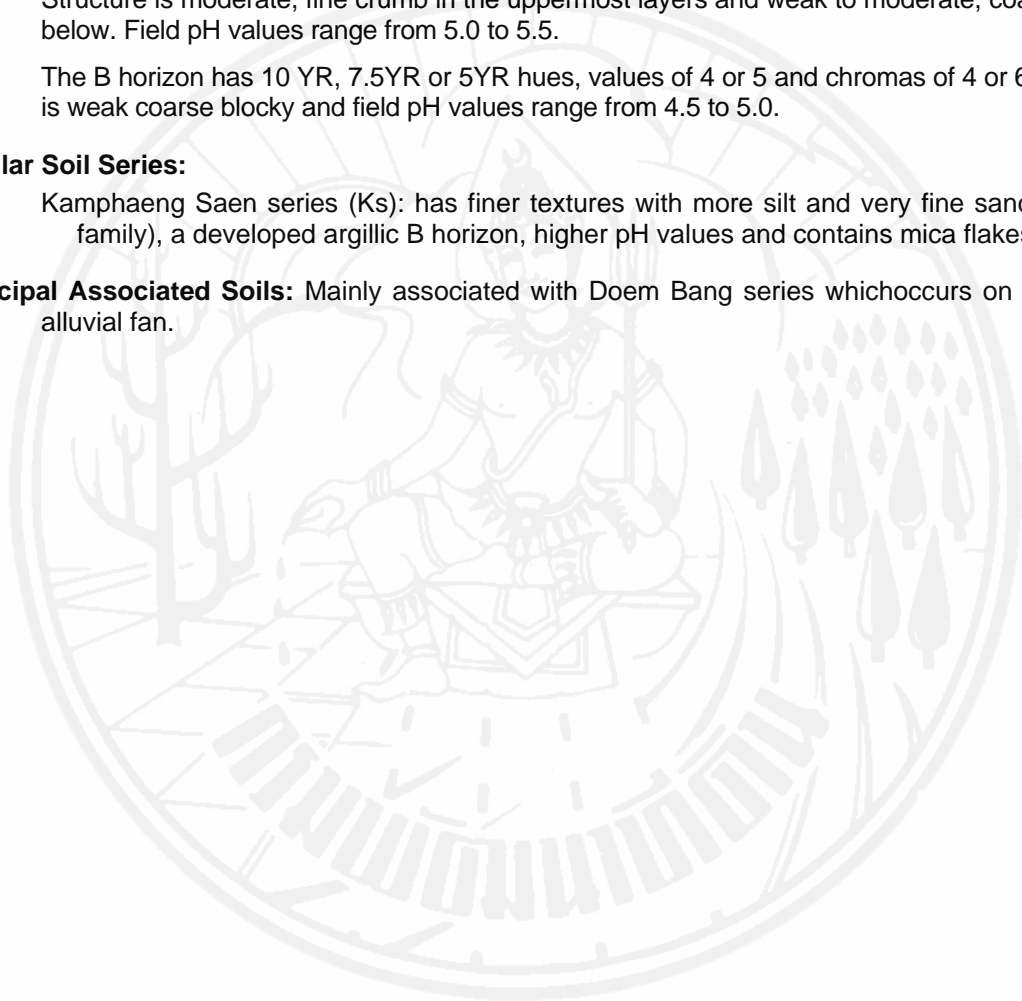
The A horizon is from 15 to 30 cm thick, has 10YR hue, values of 3 or 4 and chromas of 2 or 3. Structure is moderate, fine crumb in the uppermost layers and weak to moderate, coarse blocky below. Field pH values range from 5.0 to 5.5.

The B horizon has 10 YR, 7.5YR or 5YR hues, values of 4 or 5 and chromas of 4 or 6. Structure is weak coarse blocky and field pH values range from 4.5 to 5.0.

**Similar Soil Series:**

Kamphaeng Saen series (Ks): has finer textures with more silt and very fine sand (fine-silty family), a developed argillic B horizon, higher pH values and contains mica flakes.

**Principal Associated Soils:** Mainly associated with Doem Bang series which occurs on coalescing alluvial fan.



**ANALYSIS RESULTS**  
(oven dry basis)

Profile code No. : SW-51/49  
Soil series : Don Chedi (Dc)

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			
Pj 137	0-23/26	Ap	64.0	30.0	6.0						sl	sl	5.0	4.2		49.8	142
Pj 138	23/26-50	AB	58.1	35.8	6.1						sl	sl	5.0	3.9		35.8	76
Pj 139	50-84	Bw1	56.2	34.3	9.5						sl	sl	4.9	3.8		26.6	81
Pj 140	84-115	Bw2	54.9	38.6	6.5						sl	sl	4.9	3.9		8.8	70
Pj 141	115+	Bw3	58.5	35.0	6.5						sl	sl	5.1	3.9		4.6	57

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations (cmol <sub>(+)</sub> kg <sup>-1</sup> )								Base satur <sup>1</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>2</sup> (ECx10 <sup>6</sup> ) dS m <sup>-1</sup>	
				Ca Mg K Na				SUM	Extr.	SUM	CEC	CEC	B/Cx100				(Bx100)/
				(B)	(A)	(C)	(D)	(B+A)	NH <sub>4</sub> OAc	100g	Clay	(B+A)	(B+D)				
0-23/26	0.4	0.58		1.10	0.80	0.20	0.20	2.30	4.10	6.40	3.60	60.0	64	36			0.13
23/26-50	0.8	0.49		0.50	0.60	0.10	0.20	1.40	6.30	7.70	4.80	78.7	29	18			0.03
50-84	0.8	0.25		0.60	0.50	0.10	0.30	1.50	5.50	7.00	4.40	46.3	34	21			0.04
84-115	0.6	0.25		0.80	0.60	0.10	0.20	1.70	3.50	5.20	3.80	58.5	45	33			0.02
115+	0.6	0.14		1.40	0.80	0.10	0.20	2.50	3.00	5.50	3.40	52.3	74	45			0.03