

BUNTCHARIK SERIES

Field Symbol: Bt

Distribution: Occupies small to moderate extent in Northeast Plateau.

Setting: Buntharik soils are formed from washed deposit of sandstone and occur on coalescing colluvial and alluvial fans. Relief is undulating to gentle rolling which range of slope is 2 to 8 percent. Elevation is 150 to 200 m above sea level. The climate is Tropical Savanna (Köppen 'Aw'). The average annual precipitation varies from 1,100 to 1,300 mm. The mean annual air temperature varies from 26 to 28°C.

Drainage, Permeability and Runoff: Somewhat poorly drained soils. Permeability is moderate. Runoff is rapid.

Vegetation and Land Use: Low open dipterocarp forest and spiny shrubs. Parts are cleared for mainly paddy field. Some are cleared for upland crops such as kenaf, corn and some banana.

Characteristic Profile Features: The Buntharik series is a member of the fine-loamy, mixed, active, isohyperthermic Aeric (Plinthic) Paleaquults. They are deep soils and are characterized by a very dark grayish brown or grayish brown loamy sand A horizon overlying a light gray or very pale brown loamy sand or sandy loam which in turn overlies a light brownish gray or very pale brown sandy clay loam or sandy clay with common to many prominent red mottled argillic B horizon. Scattered weathering sandstone fragments occur at some depth below 100 cm of the soil surface. Reaction is very strongly to strongly acid throughout the profile.

Typifying Pedon: Profile code no. is NE-S-24/2 (moist colors unless otherwise stated).

Location: approximately 100 m southeast of Ban Nong Saeng school, Amphoe Buntharik Changwat Ubon Ratchathani.

Sheet name: -

Sheet no.: 6055 II

Coordinate: -

Elevation: 160 m

Relief: gently undulating

Slope: 3-4%

Physiography: washed deposit from sandstone

Parent material: alluvium over sandstone

Drainage: somewhat poorly drained

Permeability: moderate

Runoff: rapid

Ground water depth: >2.0m

Flooding depth: 30-40

Duration: 3-4 month

Frequency: every year

Annual rainfall: 1,100-1,300 mm

Mean temp: 26-28 °C

Climate type: Tropical Savannah

Natural vegetation or land use: low open dipterocarp forest and spiny shrubs. Parts are clear for paddy field and some upland crops

Described by: C.Changprai

Date: 1968

Revised by:

Horizon	Depth(cm)	Description
A	0-15	Grayish brown (10YR 5/2) loamy sand; weak fine granular and weak fine subangular blocky structure; friable, nonsticky, nonplastic; common fine tubular pores and many fine interstitial pores; common fine roots; strongly acid (field pH 5.5); abrupt, smooth boundary.
BA	15-24	Very pale brown (10YR 7/3) loamy sand; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; bleached sand grains; common fine roots; common fine tubular and interstitial pores; strongly acid (field pH 5.5); clear, smooth boundary.
Bw1	24-35	Light gray (10YR 7/2) sandy loam; weak fine and medium subangular blocky structure; slightly firm, nonsticky, nonplastic; many fine interstitial pores and common fine tubular pores; few fine roots; some dark spots of humus accumulation; more compact than previous horizon; strongly acid

		(field pH 5.5); clear, wavy boundary.
Bw	235-47/63	Very pale brown (10YR 7/3) light sandy clay loam; few fine and medium distinct strong brown (7.5YR 5/8) and common medium prominent red (2.5YR 4/6) mottles; moderate medium and coarse subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; common fine interstitial pores; very strongly acid (field pH 5.0); clear, irregular boundary.
Bt	47/63-110+	Light brownish gray (10YR 6/2) sandy clay loam; many medium and coarse red (2.5YR 4/6) mottles; moderate medium and coarse subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; broken moderately thick clay coating on ped faces; common fine and medium interstitial pores; very strongly acid (field pH 5.0).

Type Location; The pedon met first at Ban Nong Sang Amphoe Buntharik Changwat Ubon Ratchathani

Range of Profile Feature:

The thickness of an Ap or A horizon varies from 5 to 20 cm and has 10YR hue, values of 3 to 5 and chromas of 2 to 4. Structure is weak fine granular or weak fine blocky and/or single grain. The pH values vary from 5.0 to 6.0.

The subsurface horizon has 10YR or 7.5YR hue, values of 5 to 7 and chromas of 2 or less. Structure is weak fine blocky and single grain. The pH values vary from 4.5 to 5.5.

The subsoil horizon has 10YR hues, values of 5 to 7 and chromas of 2 to 4. Structure is weak to moderate medium and/or coarse blocky. Some strong brown and/or yellowish brown mottles occur in this horizon. The pH values vary from 4.5 to 5.5.

Similar Soil Series:

Renu series (Rn): similar profile, but not contain weathering sandstone fragments and higher clay content.

Khorat series (Kt): is moderately well drained soils.

Principal Associated Soils: These include Khorat, Borabue, Borabue Complex soils.

Remark: The classification for Buntharik soils may be Aquic Paleustults.

ANALYSIS RESULTS

Profile code no.:NE-S-24/2

(oven dry basis)

Soil series : Buntharik (Bt)

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	85.6	5.8	8.6						sl	ls	5.0	3.9	0.1	2.2	56
	15-24	BA	85.9	7.5	6.6						sl	ls	5.0	4.2	0.1	1.2	21
	24-35	Bw1	84.6	2.8	12.6						sl	sl	4.9	4.1	0.0	1.8	60
	35-47/63	Bw2	80.3	3.1	16.6						sl	scl	4.9	4.1	0.1	1.3	50
	47/63-110+	Bt	68.1	8.3	23.6						scl	scl	4.9	3.9	-	0.8	56

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations (cmol _(c) kg ⁻¹)										Base satur ⁿ (%)		ECEC cmol _(c) kg ⁻¹ (B+D)	Al KCl extr. cmol _(c) kg ⁻¹ (D)	Electrical conduct ^y (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)			
0-15		0.45		0.44	0.22	0.24	1.22	2.12	0.40	2.52	6.30	73.4	34	84			0.01	
15-24		0.17		0.44	0.44	0.20	0.71	1.79	1.30	3.09	6.60	100.3	27	58			0.01	
24-35		0.15		0.33	0.55	0.14	0.87	1.89	2.10	3.99	7.00	55.6	27	47			0.01	
35-47/63		0.13		0.44	2.73	0.28	0.79	4.24	3.40	7.64	8.40	50.7	50	55			0.01	
47/63-110+		0.04		0.22	0.87	0.16	0.71	1.96	3.70	5.66	9.60	40.6	20	35			0.01	