

Proposed by P. Vijarnsorn, 1973
Revised by :
P. Vijarnsorn and staffs, 1988
W. Sirichuaychoo, 2004

RUESO SERIES

Field Symbol: Ro

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

Setting: Rueso soils are formed from alluvium and occurred on alluvial plain and river levee. Relief is nearly level to gently undulating. Slope ranges from 2 to 5 percent. Elevation ranges from 10 to 40 m above mean sea level. The climate is Tropical Rain Forest (Koppen 'Af') or Tropical Monsoon (Koppen 'Am'). Average annual precipitation is from 1,800 to 3,000 mm Average annual air temperature is from 26 °C to 28°C.

Drainage, Permeability and Runoff: Drainage is well drained, permeability is estimated to be rapid to moderate and surface runoff is moderate. Flooding may occur for short period during flash flood from the river. Ground water level lies below 1 meter throughout the year.

Vegetation and Land Use: Exclusively used for para rubber, fruit trees, coffee and vegetable growing.

Characteristic Profile Features: Rueso series is a member of the fine-silty, mixed, semiactive, isohyperthermic Typic Palehumults (soil taxonomy, 2003). They are very deep soils and are characterized by a dark brown to dark yellowish brown silt loam overlying a yellowish brown or strong brown silty loam to silty clay loam (18 to 35 percent clay) argillic B horizon. Mica flakes are usually present within the soil. Very strongly acid to strongly acid, reaction values range from 4.5 to 5.5.

Typifying Pedon: Rueso silt loam - para rubber plantation, Ban Tha Chin, Tambon Kling Kood, Amphoe Muang Changwat Satun, 2 to 3 percent slopes (sheet number 5022 III NW, coordinate: 787623).

Profile Code Number: S-67/42, described by Prasat Rimchala, 8 June 1973 (moist colors unless otherwise stated).

Horizon	Depth (cm)	Description
A	0-9	Dark brown (10YR3/3) silt loam; moderate fine and medium subangular blocky structure; firm, slightly sticky and slightly plastic; abundant fine and roots; moderately acid (field pH 6.0); clear smooth boundary.
Bw	9-21	Yellowish brown (10YR5/6) silt loam; moderate medium subangular blocky structure; slightly firm, sticky and slightly plastic; moderate cutan on ped faces; abundant fine roots; strongly acid (field pH 5.5); clear smooth boundary.
Bt1	21-38	Yellowish brown (10YR5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable, sticky and plastic; broken thick cutan on ped faces; many fine roots; strongly acid (field pH 5.5); gradual smooth boundary.
Bt2	38-80	Yellowish brown (10YR5/8) silty clay loam; moderate medium subangular blocky structure; friable, sticky and plastic; broken thick cutan on ped faces; common fine roots; very few iron stone nodule; strongly acid (field pH 5.5); gradual smooth boundary.
Bt3	80-150	Strong brown (7.5YR5/6) silty clay loam; moderate medium subangular blocky structure; friable, sticky and plastic; thick cutan on ped faces; few fine roots; very few fine iron stone nodule; strongly acid (field pH 5.5).

Type Location:

Name of district, Amphoe Rueso, Changwat Narathiwat.

Range of Profile Features:

The surface or A horizon loam, silt loam, ranges between 10 to 15 cm in thickness and has 10YR or 7.5YR hues, values 3 or 4 and chromas 2 to 4. Soil texture is sandy loam may occurred. Structure is moderate fine and medium subangular. Very strongly acid to moderately acid, reaction values range from 4.5 to 6.0.

The argillic B horizon has a texture of silty clay loam and has 7.5YR and 10YR hues, values 5 or 6 and chromas 6 or 8. The clay texture may occur in the deeper argillic B but usually below 80 cm of the soil surface. The soil structure is moderate fine and medium subangular blocky. Very strongly acid to moderately acid, reaction values range from 4.5 to 6.0.

Fine mica flakes are commonly present in the soil profile.

Similar Soil Series:

Lamphu La series (Ll): fine, mixed, semiactive, isohyperthermic Typic Palehumults.

Tha Sae series (Te): fine-loamy, kaolinitic, isohyperthermic Typic Kandiodults, higher in sand fraction.

Principal Associated Soils:

These include Lamphu La and Sai Buri series. Lamphu La soils have much higher in clay content and Sai Buri soils usually occur in the lower part of river levee extended to flood plain or low terrace.

Sai Buri series (Bu): fine-silty, kaolinitic, isohyperthermic Aquic Kandiodults.

ANALYSIS RESULTS (oven dry basis)

Profile code No.: S-67/42

Soil series: Rueso series (Ro)

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-1063	0-9	A	23.5	72.5	4.0							sil	sil	4.9	3.7	1.1	2.5	152
Pd-1064	9-21	Bw	17.0	68.0	15.0							sil	sil	5.0	3.7	0.3	2.0	85
Pd-1065	21-38	Bt1	13.5	61.0	25.5							sil	sicl	5.1	3.7	0.9	2.6	70
Pd-1066	38-80	Bt2	9.5	59.5	31.0							sicl	sicl	5.1	3.7	0.9	2.0	53
Pd-1067	80-150	Bt3	7.5	56.0	36.5							sicl	sicl	5.1	3.9	0.6	1.7	56

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 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)				
0-9	1.7	4.60		0.90	0.85	0.30	0.30	2.35	16.90	19.25	12.0	300.0	20	12			0.16	
9-21	1.4	2.70		0.20	0.30	0.10	0.30	0.90	14.20	15.10	9.6	64.0	9	6			0.03	
21-38	1.7	1.76		0.50	0.30	0.10	0.20	1.10	15.20	16.30	10.6	41.6	10	7			0.03	
38-80	1.7	1.03		0.50	0.20	0.10	0.30	1.10	13.80	14.90	9.0	29.0	12	7			0.01	
80-150	1.8	1.94		0.10	0.14	0.10	0.30	0.64	14.80	15.44	10.9	29.9	6	4			0.01	

Surveyor: P. Rimchala

Reported by: W. Sirichuychoo

Date: June 8, 1973

Date: Nov. 24, 1998