

SHALLOW HIGHLY CALCAREOUS SANDY LOAM (Chintumba soil)

General Description: *Very highly calcareous loamy sand to sandy loam with variable rubble over calcrete at shallow depth*

Landform: Undulating low hills.

Substrate: Hard sheet Ripon Calcrete.

Vegetation: Stipa spp.

Type Site:	Site No.:	EF023	1:50,000 mapsheet:	5234-1 (Bice)
	Hundred:	Bice	Easting:	781250
	Section:	-	Northing:	6491700
	Sampling date:	27/10/1988	Annual rainfall:	290 mm average

Lower slope of 1% with a firm surface and 10-20% surface calcrete (60-200 mm).

Soil Description:

Depth (cm)	Description
0-15	Brown friable massive very highly calcareous sandy loam. Clear to:
15-25	Orange friable massive very highly calcareous sandy loam. Clear to:
25-35	Dark yellowish brown massive soft very highly calcareous light sandy clay loam with more than 50% laminar calcrete fragments. Sharp to:
35-	Laminar calcrete pan.



Classification: Supravescent, Petrocalcic, Lithocalcic Calcarosol; medium, gravelly, loamy / loamy, shallow



Summary of Properties

Drainage:	Well drained. Soil never remains wet for more than a day.
Fertility:	Exchangeable cation data indicates moderately low inherent fertility, and extremely high carbonate concentrations cause significant nutrient fixation. Consequently, nutrient release capacity is poor. No phosphorus data, but concentrations are likely to be low - regular applications are essential. The data indicate that zinc levels are low.
pH:	Alkaline throughout.
Rooting depth:	Not recorded. Estimate 35 cm in pit.
Barriers to root growth:	
Physical:	The calcrete is an impenetrable barrier to root growth.
Chemical:	There are no chemical barriers above the calcrete.
Waterholding capacity:	Approximately 40 mm in the rootzone.
Seedling emergence:	Satisfactory.
Workability:	Firm surface is easily worked, but calcrete stone interferes with and abrades implements.
Erosion Potential:	
Water:	Low.
Wind:	Moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-15	8.5	7.7	70	0.18	1.15	-	-	-	-	1.6	0.31	2.53	5.42	0.20	8.20	6.3	1.10	0.19	0.71	2
15-25	8.4	7.6	71	0.20	1.01	-	-	-	-	2.0	0.38	2.18	3.86	0.12	9.50	7.3	1.50	0.19	0.56	2
25-35	8.3	7.7	72	0.26	2.41	-	-	-	-	2.9	0.43	3.38	3.38	0.13	9.90	7.1	2.00	0.30	0.51	3

Note: CEC (cation exchange capacity) is a measure of the soil's capacity to store and release major nutrient elements. ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the CEC

* Exchangeable calcium values are estimated as laboratory procedure did not account for very high carbonate content of samples

Further information: [DEWNR Soil and Land Program](#)

