LOAMY SAND OVER POORLY STRUCTURED CLAY

General Description: Thin to medium thickness loamy sand to light sandy loam over a reddish poorly structured clay, calcareous with depth

Landform: Gently undulating dunefield.

Substrate: Sandy light clay (clayey

phase of Tertiary Parilla

Sand Formation).

Vegetation:



Site No.: MM152 1:50 000 mapsheet: 6927-3 (Jabuk) **Type Site:**

Hundred: Price 427150 Easting: 6083950 Section: Northing: 16

Sampling date: 04/04/2002 Annual rainfall: 380 mm average

Depression in swale of dunefield. Soft surface with very few ironstone fragments.

Soil Description:

Depth (cm) Description

0-9 Dark brown loose light sandy loam. Sharp to:

9-10 Yellowish red loose loamy sand. Sharp to:

10-28 Yellowish red hard medium clay with coarse

prismatic structure breaking to subangular

blocky. Abrupt to:

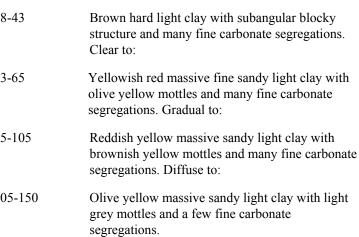
28-43

43-65

65-105

105-150

Classification: Sodic, Calcic, Red Chromosol; medium, non-gravelly, sandy /clayey, moderate









Summary of Properties

Drainage: Imperfectly drained. The clayey subsoil is only slowly permeable, and the landscape

setting is low-lying, so water is likely to perch on the subsoil clay for several weeks

following heavy or prolonged rainfall.

Fertility: Inherent fertility of the sandy topsoil is moderately low to low. The clayey subsoil

has moderate to high inherent fertility. Sulphur and copper levels are marginal, but

the data indicates that concentrations of other tested nutrient elements are

satisfactory.

pH: Acidic to neutral at the surface, strongly alkaline in the lower subsoil.

Rooting depth: Few roots below 43 cm in the pit.

Barriers to root growth:

Physical: The coarsely structured and slightly dispersive upper subsoil is a barrier to roots.

Chemical: High pH and low nutrient status, especially in the lower subsoil limit root growth.

Waterholding capacity: Topsoil: Approx. 110 mm/m over 0.1m = 11.0 mm

Subsoil: Approx. 180 mm/m over 0.33 m = 59.4 mm

Total Approx. 70 mm (moderately low to moderate) in effective rootzone.

Seedling emergence: Good.

Workability: Good.

Erosion potential:

Water: Low.

Wind: Moderate. The loose sandy surface is susceptible to wind erosion when bare.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	K	mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
Paddock	6.3	5.9	0.1	0.08	0.97	1.13	30	270	4.8	1.1	0.28	73	4.91	1.44	6.81	5.00	0.96	0.18	0.67	2.6
0-9	7.9	6.7	0.1	0.10	0.57	1.64	41	310	5.2	1.1	0.31	58	4.38	5.25	7.86	5.81	1.15	0.13	0.77	1.7
9-10	-	-	1	-	ı	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-
10-28	7.8	7.1	0.2	0.10	0.47	0.32	4	190	2.6	1.2	0.09	15	0.77	0.13	12.1	7.87	3.45	0.33	0.45	2.7
28-43	8.6	7.9	6.7	0.13	0.57	0.21	3	106	2.2	1.5	0.04	9.8	0.66	0.12	15.7	11.2	3.96	0.31	0.24	2.0
43-65	8.9	8.1	7.7	0.11	0.50	0.10	2	68	3.9	1.3	0.04	4.3	0.69	0.08	11.8	8.36	2.97	0.28	0.14	2.4
65-105	9.4	8.4	6.8	0.17	1.02	0.06	2	108	6.9	2.0	0.08	3.6	0.52	0.37	11.6	6.73	3.51	1.12	0.27	9.6
105-150	9.6	8.6	1.8	0.23	1.19	0.01	2	131	7.9	2.9	0.09	3.8	0.33	0.27	10.2	4.81	3.44	1.60	0.32	15.7

Note: Paddock sample bulked from cores (0-10 cm) taken around the pit.

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.

Further information: <u>DEWNR Soil and Land Program</u>



