CHD Chandada Land System

Area: 593.8 km^2

Landscape: Plains underlain by calcretes, mainly of the Bridgewater Formation, but also of the Ripon / Bakara Formations, extensively overlain by highly calcareous silty sands of the Woorinen Formation. There are minor deposits of highly calcareous sands.

Annual rainfall: 305 – 390 mm average

Main soils:

Wookata - **A1a** (Supravescent, Regolithic, Hypercalcic / Lithocalcic Calcarosol)
Highly calcareous (more than 40% $CaCO_3$) soft loamy sand to sandy loam grading to very highly calcareous sandy loam with variable rubble content.

Wookata (shallow) - **A1/B1** (Supravescent, Petrocalcic, Hypercalcic / Lithocalcic Calcarosol)
Highly calcareous (more than 40% $CaCO_3$) soft loamy sand to sandy loam grading to very highly calcareous sandy loam with variable rubble content, over calcrete at about 40 cm.

Chintumba - **B1** (Hypervescent, Petrocalcic, Lithocalcic Calcarosol)
Medium thickness highly calcareous sandy loam to sandy clay loam containing increasing amounts of rubble with depth, over sheet calcrete at less than 50 cm.

Minor soils:

Calcrete - **B2** (Petrocalcic, Lithocalcic Calcarosol)
Thin calcareous sandy loam to clay loam over hard calcrete, associated with abundant surface calcrete and sheet rock.

Haslam - **H1** (Supravescent, Regolithic, Hypercalcic Calcarosol / Shelly Calcarosol)
Thick highly calcareous sand, becoming more calcareous with depth and continuing below 100 cm. These soils may consist of up to 90% fine shell fragments.

Magarey - **A1b** (Supravescent, Regolithic, Hypercalcic / Lithocalcic Calcarosol)
Highly calcareous (more than 40% $CaCO_3$) soft sandy loam to light sandy clay loam grading to very highly calcareous light sandy clay loam with variable rubble content.

Summary: Plains with a 50:50 mix of shallow stony soils, and highly calcareous sandy loams. The shallow soils over calcrete are semi to non arable due to low water holding capacities and extent of surface stone and shallow sheet calcrete. The highly calcareous sandy loams are mostly fully arable although productivity is restricted by wind erosion potential, marginal fertility, limited waterholding capacity and subsoil salinity.

Soil Landscape Unit summary: 14 Soil Landscape Units (SLUs) mapped in the Chandada Land System:

SLU	% of area	Component	Main soils	Prop#	Notes
MaA	9.0	Stony flats	Chintumba	V	Flats formed on Bridgewater Formation calcretes. Soils are shallow stony sandy loams with severe (Chintumba) to moderate (Wookata) water holding capacity constraints. Most Chintumba soils are semi to non arable. The Wookata soils have marginal fertility and slight to moderate wind erosion potential.
		Sandy loam flats	Wookata	L	
MbA	15.3	Stony flats	Chintumba	V	
		Sandy loam flats	Wookata	C	
MeA	22.7	Stony flats	Chintumba	E	
		Sandy loam flats	Wookata	E	
Q-Ar	5.1	Very stony flats	Calcrete/ Chintumba	V	Flats formed on Ripon / Bakara calcretes. The dominant soils are too stony and shallow to allow cultivation. There are minor areas of deeper highly calcareous sandy loams to sands with marginal to low fertility and slight to moderately high wind erosion potential.
		Very stony ridges	Calcrete	L	
QPA	1.5	Very stony flats	Calcrete/ Chintumba	V	
		Sandy loam flats	Wookata	L	
		Sand spreads	Haslam	L	
QRA	5.2	Very stony flats	Calcrete/ Chintumba	D	
YAL	0.9	Sandy loam flats	Wookata/ Magarey	D	Flats formed on highly calcareous Woorinen Formation deposits, with mainly highly calcareous sandy loams. Main factors affecting productivity are wind erosion potential, marginal fertility, limited water holding capacity and subsoil salinity. Main soils: Wookata: Highly calcareous sandy loam with slightly limited water holding capacity, low fertility, subsoil boron and salt, and slight to moderate wind erosion potential. Magarey: Marginal fertility highly calcareous sandy loam with high subsoil boron and salt. Slight wind erosion potential. Shallow Wookata: As for Wookata, except that water holding capacity is reduced, and surface stone is increased to the point where it interferes with tillage. Haslam: Highly calcareous sand with very low fertility and high wind erosion potential.
YEL	1.2	Sandy loam flats	Wookata	V	
		Sand spreads	Haslam	C	
YFL	6.5	Sandy loam flats	Wookata	V	
		Stony flats	Shallow Wookata	L	
YIL	1.0	Sand spreads	Haslam	V	
		Sandy loam flats	Wookata	C	
YJK	7.3	Sandy loam flats	Wookata	V	
		Moderate sandhills	Haslam	L	
		Stony flats	Shallow Wookata	L	
YLL	1.7	Sandy loam flats	Wookata	E	
		Stony flats	Shallow Wookata	C	
		Sand spreads	Haslam	C	
YcL	18.1	Sandy loam flats	Wookata	V	
		Stony flats	Shallow Wookata	C	
YdL	4.5	Stony flats	Shallow Wookata	V	
		Sandy loam flats	Wookata	C	

PROPORTION codes assigned to Soil Landscape Unit (SLU) components:

- D Dominant in extent (>90% of SLU)
- V Very extensive in extent (60–90% of SLU)
- E Extensive in extent (30–60% of SLU)
- C Common in extent (20–30% of SLU)
- L Limited in extent (10–20% of SLU)
- M Minor in extent (<10% of SLU)

Further information: DEWNR Soil and Land Program