


Solonchak: sample profile

Profile description:

Profile (CN 14, China) described by J.H. Kauffman, ISRIC



Horizon	Depth (cm)	Description
A	0 - 8	Pale brown (10YR 6/3, moist) sandy loam; crumb; very friable, soft; many very fine to medium pores; common medium roots; slightly calcareous; abrupt wavy boundary to
Azm	8 - 25	Extremely hard salt pan; few medium roots in cracks; non calcareous; abrupt smooth boundary to
Cz1	25 - 44	Brown (10YR 5/3, moist) sandy loam; weakly coherent porous massive; slightly sticky, slightly plastic, very friable; few very fine to fine pores; few medium roots; slightly calcareous; clear smooth boundary to
Cz2	44 - 65	Brown (10YR 5/3, moist) sandy loam; weakly coherent porous massive; slightly sticky, slightly plastic, friable; few very fine to fine pores; few medium roots; slightly calcareous; diffuse smooth boundary to
Cz3	65 - 125	Brown (10YR 5/3, moist) sandy loam; weakly coherent porous massive; slightly sticky, slightly plastic, friable; few very fine to fine pores; no roots; slightly calcareous

Additional remarks:

Tin crust with “fluffy, crispy” crumbly structure. Vegetation: 10-20% covered by salt resistant herb and reed vegetation, consisting mainly of *Alhagi* and *Phragmites*.

Analytical data:

Horizon	Depth (cm)	Tot. sand (%)	Tot. silt (%)	Tot. clay (%)
A	0 - 8	18	66	16
Azm	8 - 25	-	-	-
Cz1	25 - 44	15	76	9
Cz2	44 - 65	14	74	12
Cz3	65 - 125	19	66	15

Horizon	Depth (cm)	pH H ₂ O	pH KCl	CaCO ₃ (%)	Org. C (%)	Org. N (%)	CEC soil*	CEC clay*
A	0 - 8	8.7	8.6	2.6	1.6	0.11	8.5	52
Azm	8 - 25	8.6	8.4	1.1	0.4	0.04	1.3	-
Cz1	25 - 44	8.5	8.2	2.9	0.5	0.06	8.4	95
Cz2	44 - 65	8.9	8.7	3.0	0.2	0.03	8.7	74
Cz3	65 - 125	8.5	8.2	3.0	0.3	0.03	9.5	65

* cmol(+)/kg



Horizon	Ca*	Mg*	K*	Na*	sum*	EC2.5 (dS/m)	ESP (%)
A	101	15.2	1.8	6.8	125	39.0	77
Azm	59.5	16.2	0.1	61.4	137	59.0	55
Cz1	154	19.1	0.8	2.9	176	14.0	43
Cz2	170	11.6	0.9	2.1	184	8.9	52
Cz3	202	11.9	0.7	2.8	217	6.0	21

* cmol(+)/kg

Futher information:

WRB classification: Petrosalic Solonchak

Location: Xinjiang Autonomous Region, Turpan, China

Landform: Intermontane basin, flat or almost flat

Parent material: Alluvial deposits

Landuse: Semi-natural grassland, grazed, no irrigation

