

Reference soil CN 14, PEOPLE'S REPUBLIC OF CHINA

WRB (1998) : Petrosali-Sodic Solonchak (Nudiyermic and Sulphatic)
 FAO/UNESCO (1988) : Petri-Sodic Solonchak (Siltic), phreatic phase
 (1974) : Orthic Solonchak, phreatic phase
 USDA/SCS SOIL TAXONOMY (1999) : Coarse-silty, mixed, mesic Typic Haplosalid
 (1975) : Aquollic Salorthid
 LOCAL CLASSIFICATION : Salipanic brown desert soil

DIAGNOSTIC CRITERIA WRB (1998) : yermic horizon, salic horizon, aridic properties
 FAO (1988) : ochric A horizon, salic and sodic properties
 USDA/SCS (1992) : ochric epipedon, salic horizon
 Soil moisture regime : aridic
 Soil temperature regime : mesic

LOCATION : Xinjiang Autonomous Region, Turpan
 Latitude / Longitude : 42°50' 0"N / 89°30' 0"E Altitude : -80 m a.s.l.
 AUTHOR(S) : Kauffman, J. H. Date : August 1985

GENERAL LANDFORM : intermontane basin Topography : flat or almost flat
 PHYSIOGRAPHIC UNIT : Turpan depression
 SLOPE Gradient : 1%
 MICRO RELIEF Kind :
 SURFACE CHAR. Rock outcrop : nil Cracking : nil
 Stoniness : nil Salt : strong
 Slaking/crusting : capped Alkali : strong
 SLOPE PROCESSES Soil erosion :

PARENT MATERIAL Type, texture : colluvio-alluvial deposits

EFFECTIVE SOIL DEPTH : 65 cm
 WATER TABLE Kind, depth : groundwater table, 200 cm
 DRAINAGE : imperfect
 PERMEABILITY : high
 FLOODING Frequency : nil Run off : slow
 MOISTURE CONDITIONS PROFILE : 0-30 cm dry, 30-125 cm moist

LAND USE : semi-natural grassland, grazed, no irrigation
 VEGETATION Type : grassland
 Land use/vegetation remarks : incidentally grazed by camels

CLIMATE Köppen : Bwk

MET. STATIONS Name, Location : TURPAN, 42°56' N / 89°12' E, 35 m a.s.l.
 Distance to site (relevance) : TURPAN: 35 km WNW of the site (very good)

| TURPAN | No. years of record | No. years of record | | | | | | | | | | | | Annual |
|-----------------------------------|------------------------|---------------------|------|------|------|------|------|------|------|------|------|------|-------|--------|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | |
| EP Penman-Monteith mm | | 0 | 0 | 93 | 147 | 205 | 231 | 239 | 211 | 144 | 81 | 0 | 0 | 1351 |
| precipitation mm | | 2 | 0 | 1 | 0 | 1 | 3 | 2 | 3 | 1 | 1 | 0 | 1 | 16 |
| relative humidity % | | 59 | 46 | 33 | 27 | 27 | 29 | 31 | 36 | 41 | 49 | 53 | 62 | 41 |
| est. glob. rad. MJ/m ² | | 7.5 | 11.2 | 15.5 | 19.7 | 23.1 | 24.7 | 24.3 | 22.3 | 18.4 | 13.4 | 8.8 | 6.5 | 16.3 |
| T mean °C | | -9.5 | -2.1 | 9.3 | 18.9 | 25.7 | 31.0 | 32.7 | 30.4 | 23.3 | 12.6 | 1.8 | -7.2 | 13.9 |
| T max °C | | -3.1 | 5.1 | 16.6 | 26.1 | 33.1 | 38.2 | 39.9 | 38.2 | 32.0 | 21.8 | 9.4 | -1.0 | 21.4 |
| T min °C | | -14.5 | -8.2 | 2.2 | 11.3 | 17.5 | 22.9 | 25.1 | 22.6 | 15.5 | 5.9 | -3.5 | -11.7 | 7.1 |
| windspeed (at 2m) m/s | | 0.7 | 1.0 | 1.4 | 1.8 | 1.9 | 2.0 | 1.8 | 1.6 | 1.4 | 1.0 | 0.8 | 0.6 | 1.4 |
| bright sunshine h/d | | 5.8 | 7.3 | 7.9 | 8.7 | 9.7 | 10.3 | 10.3 | 10.2 | 9.6 | 8.5 | 6.8 | 5.3 | 8.4 |

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| CLAY MINERALOGY (1 = very weak → 8 = very strong) | EXTRACTABLE Fe, Al, Si, Mn by amm. oxal. (o), Na di th(d) & pyroph. (p) | | | | | | | | | | | | | | | | | | | | |
|---|---|----|----|----|----|----|----|----|----|----|----|----|-----|-------|-------|-------|-------|-------|-------|-------|------|
| | Hor. | MI | VE | CH | SM | KA | HA | ML | QU | FE | GI | GO | HE | Fe(o) | Al(o) | Si(o) | Fe(d) | Al(d) | Fe(p) | Al(p) | Pret |
| A | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | 0.2 | 0.7 | 0.1 | - | - | - | - |
| Azm | - | - | - | - | - | - | - | - | - | - | - | - | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | - | - | - | - |
| Cz1 | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.2 | 0.1 | 0.5 | 0.1 | - | - | - | - |
| Cz2 | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | 0.1 | 0.6 | 0.1 | - | - | - | - |
| Cz3 | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | 0.2 | 0.6 | 0.1 | - | - | - | - |

PARTICLE SIZE DISTRIBUTION: weight %. BULK DENS (bulk density): g cm⁻³. pF: volume %. CaCO₃, org. C, tot. N: weight %.
 EXCHANGEABLE BASES, CEC: NH₄OAc pH 7: cmol_c kg⁻¹ fine earth. EXCH. H+Al, Al: 1M KCl. WATER SOLUBLE SALTS: saturation extract, mmol_c l⁻¹. SAR: sodium adsorption ratio. EXTRACTABLE Fe, Al, Si, Mn: weight %.