

Table 4. Selected properties of representative soils from major agro-ecosystems

Depth (cm)	Horizon	Physical properties				Chemical properties					Biological properties				
		Clay (%)	pH (water)	BD (Mg m ⁻³)	sHC (mm h ⁻¹)	Organic C (%)	CaCO ₃ (%)	CEC cmol (+) kg ⁻¹	ESP	BS (%)	DHA (μTPFg ⁻¹ 24 h ⁻¹)	Urea (μNH ₄ Mg ⁻¹ soil 24 h ⁻¹)	Bacteria	Fungi (cfu g ⁻¹)	Actinomycetes
Coastal ecosystem: Sagar soils, West Bengal: Typic Haplaquept															
0–14	Ap	36	5.8	1.3	0.5	0.81	1.5	18.5	11.1	94.9	2.8	14.2	24	3	13
14–42	Bw1	40	8.6	1.5	0.4	0.27	2.8	19.1	12.5	105.2	2.3	9.9	20	4	12
42–75	Bw2	42	8.4	1.4	0.01	0.15	1.7	18.7	14.6	103.4	1.7	7.0	17	2	10
75–110	Bw3g	42	7.8	1.4	0.00	0.15	1.5	18.5	12.0	91.4	1.3	4.1	15	2	8
110–135	Bw4g	34	7.6	1.3	0.00	0.23	1.5	17.0	19.1	104.0	0.9	1.8	14	2	7
Hill and mountainous ecosystem: Haldi soils, Uttarakhand: Typic Hapludoll															
0–15	Ap	14	6.7	1.4	4.1	0.96	1.4	60.0	1.4	78.4	3.0	23.6	32	2	13
15–39	Bw1	22	7.7	1.4	0.9	0.77	2.3	62.6	1.8	84.5	2.7	20.2	28	2	12
39–64	Bw2	23	7.7	1.4	0.9	0.50	1.2	61.7	1.7	85.9	2.3	17.2	24	2	9
64–88	BC	10	7.3	1.3	3.9	0.27	1.9	46.0	2.5	48.0	1.9	13.5	19	2	8
88–108	C1	11	7.5	1.5	8.2	0.23	1.3	53.9	1.6	40.2	1.5	10.9	15	1	6
108–130	2C2	9	7.7	1.5	18.9	0.19	1.9	28.7	2.4	65.9	1.2	9.8	11	1	4
130–160	2C3	8	8.6	1.8	12.3	0.23	1.0	33.9	4.0	89.9	0.9	8.4	9	0	3
Arid ecosystem: Masitawali soils, Rajasthan: Typic Torrifluent															
0–28	Ap	6	8.9	1.5	1.6	0.39	4.7	24.3	41.5	107.3	2.5	18.4	19	1	11
28–44	A1	9	9.3	1.8	1.3	0.12	9.8	22.6	41.5	121.0	2.2	15.4	17	1	10
44–75	C1	16	9.0	1.7	0.05	0.07	21.1	31.3	49.8	120.3	1.7	12.9	14	1	8
75–105	C2	8	9.3	1.6	0.06	0.04	20.2	29.5	36.6	101.4	1.4	9.6	12	1	6
105–132	C3	6	9.2	1.5	4.5	0.04	12.4	19.1	23.1	81.3	1.0	6.5	9	0	5
132–160	C4	–	–	–	–	–	–	–	–	–	0.8	3.8	8	0	5
Irrigated ecosystem: Fatehpur soils, Punjab: Typic Haplustept															
0–15	Ap	9	7.5	1.3	13.7	0.69	1.1	4.3	4.5	96.6	2.5	15.5	22	2	17
15–37	B1	11	7.9	1.7	8.2	0.30	1.0	5.7	3.4	139.2	2.3	15.4	20	2	15
37–62	B2	13	8.0	1.7	8.2	0.15	1.4	6.5	2.5	135.8	2.1	15.5	18	2	13
62–90	B3	5	8.2	1.4	51.2	0.15	0.7	6.3	2.6	146.7	1.8	11.4	16	1	11
90–115	C1	9	8.0	1.5	16.6	0.11	2.2	7.0	2.1	130.6	1.4	10.7	14	1	9
115–140	C2	13	8.0	1.3	20.8	0.07	1.6	5.7	3.1	151.2	1.0	9.3	13	1	7
140–165	C3	12	8.0	1.5	19.3	0.03	0.5	4.3	3.8	156.7	0.8	8.3	11	0	6
Rainfed Ecosystem: Panjri soils, Nagpur: Typic Haplustert															
0–15	Ap	68	8.3	1.6	5.3	0.61	4.2	61.7	2.7	96.9	2.9	16.1	79	25	22
15–31	Bw	68	8.3	1.7	9.8	0.42	4.7	60.8	1.7	101.1	2.5	14.8	63	21	17
31–56	Bss1	67	8.4	1.8	6.4	0.34	4.4	61.7	1.4	96.7	2.0	10.0	50	16	14
56–78	Bss2	74	8.4	1.8	4.9	0.27	5.0	60.0	2.3	111.7	1.3	5.2	41	12	10
78–110	Bss3	74	8.4	1.8	4.5	0.12	5.1	65.2	2.3	109.4	1.0	3.0	28	9	6
110–150	Bss4	71	8.3	1.9	4.6	0.09	5.1	62.6	2.4		0.5	3.7	12	3	3

BD, Bulk density; sHC, Saturated hydraulic conductivity; CEC, Cation exchange capacity; ESP, Exchangeable sodium percentage; BS, Base saturation and DHA, Dehydrogenase enzyme.