Engineering Interpretations

Chemical Properties

This table shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Properties

DEPTH to the upper and lower boundaries of each layer is indicated.

SOIL REACTION is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory.

SALINITY is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at typical sites of nonirrigated soils.

This subsection includes:

- **(a) Chemical Properties**

Adair County, Missouri
Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
14C2:								
Armstrong----------	0-6	20-25	---	5.6-7.3	---	---	---	---
	6-47	41-50	---	4.5-6.5	---	---	---	---
	47-60	30-35	---	5.1-7.8	---	---	---	---
14D2:								
Armstrong----------	0-7	30-35	---	5.6-7.3	---	---	---	---
	7-40	41-50	---	4.5-6.5	---	---	---	---
	40-60	30-35	---	5.1-7.8	---	---	---	---
16C:								
Bevier----------	0-7	25-30	---	5.6-7.3	---	---	---	---
	7-22	30-50	---	5.1-7.3	---	---	---	---
	22-37	25-35	---	5.1-7.3	---	---	---	---
	37-60	15-35	---	5.1-7.3	---	---	---	---
17E2:								
Purdin----------	0-6	15-22	---	4.5-7.3	---	---	---	---
	6-11	15-22	---	4.5-6.5	---	---	---	---
	11-27	18-24	---	4.5-7.3	---	---	---	---
	27-48	18-24	---	7.4-8.4	1-10	---	---	---
	48-60	14-20	---	7.4-8.4	1-10	---	---	---
17F2:								
Purdin----------	0-6	15-22	---	4.5-7.3	---	---	---	---
	6-46	18-24	---	4.5-7.3	---	---	---	---
	46-60	14-20	---	7.4-8.4	1-10	---	---	---

Adair County, Missouri
Chemical Properties of the Soils

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Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
19E:								
Vanmeter----------	0-6	20-25	---	6.1-8.4	0-30	0	0	0
	6-32	41-50	---	6.1-8.4	0-30	0	0	0
	32-60	---	---	---	---	---	---	---
19F:								
Vanmeter----------	0-4	25-30	---	6.1-8.4	0-30	0	0	0
	4-39	41-50	---	6.1-8.4	0-30	0	0	0
	39-60	---	---	---	---	---	---	---
22B:								
Adco----------	0-6	10-18	---	4.5-7.3	---	---	---	---
	6-13	10-18	---	4.5-6.5	---	---	---	---
	13-18	25-31	---	5.1-6.5	---	---	---	---
	18-50	18-25	---	5.1-7.3	---	---	---	---
	50-60	8.0-15	---	5.6-7.3	---	---	---	---
23D2:								
Gorin----------	0-6	6.0-16	---	4.5-7.3	0	0	0	0
	6-13	15-22	---	4.5-6.5	0	0	0	0
	13-33	---	18-30	4.5-6.0	0	0	0	0
	33-49	10-14	---	4.5-7.3	0	0	0	0
	49-60	18-30	---	4.5-7.3	0	0	0	0
Winnegan----------	0-5	10-15	---	4.5-7.3	---	---	---	---
	5-12	10-15	---	4.5-6.5	---	---	---	---
	12-27	18-24	---	4.5-6.5	---	---	---	---
	27-60	10-18	---	7.4-8.4	1-5	---	---	---

Adair County, Missouri
Chemical Properties of the Soils

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Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
24D2:								
Gara----------	0-6	25-30	---	5.6-7.3	0	0	0	0
	6-17	25-30	---	4.5-6.5	0	0	0	0
	17-60	25-30	---	5.6-8.4	0-25	0	0	0
24E2:								
Gara----------	0-5	15-20	---	5.6-7.3	0	0	0	0
	5-30	25-30	---	4.5-6.5	0	0	0	0
	30-60	25-30	---	5.6-8.4	0-25	0	0	0
24F2:								
Gara----------	0-6	15-20	---	5.6-7.3	0	0	0	0
	6-48	25-30	---	4.5-6.5	0	0	0	0
	48-60	25-30	---	5.6-8.4	0-25	0	0	0
26B2:								
Leonard----------	0-6	16-22	---	6.1-7.3	0	0	0	0
	6-14	20-26	---	4.5-6.5	0	0	0	0
	14-42	20-26	---	4.5-6.5	0	0	0	0
	42-60	18-26	---	5.1-7.8	0	0	0	0
28E2:								
Winnegan----------	0-5	10-15	---	4.5-7.3	---	---	---	---
	5-28	18-24	---	4.5-6.5	---	---	---	---
	28-39	18-24	---	7.4-8.4	1-5	---	---	---
	39-60	10-18	---	7.4-8.4	1-5	---	---	---

Adair County, Missouri
Chemical Properties of the Soils

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Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
28F:								
Winnegan----------	0-4	10-15	---	4.5-7.3	---	---	---	---
	4-26	18-24	---	4.5-6.5	---	---	---	---
	26-36	18-24	---	7.4-8.4	1-5	---	---	---
	36-60	10-18	---	7.4-8.4	1-5	---	---	---
31:								
Putnam----------	0-8	7.0-20	---	4.5-7.3	---	---	---	---
	8-15	7.0-18	---	4.5-6.5	---	---	---	---
	15-20	---	24-30	3.5-5.5	---	---	---	---
	20-47	---	18-24	3.6-5.5	---	---	---	---
	47-60	14-18	---	5.1-6.5	---	---	---	---
40:								
Arbela----------	0-10	16-22	---	5.6-7.3	0	0	0	0
	10-20	8.0-15	---	5.1-6.5	0	0	0	0
	20-54	11-17	---	4.5-7.3	0	0	0	0
	54-60	15-25	---	5.6-7.3	0	0	0	0
43:								
Chariton----------	0-9	10-18	---	5.1-7.3	---	---	---	---
	9-16	8.0-14	---	5.1-6.5	---	---	---	---
	16-37	24-30	---	5.1-7.3	---	---	---	---
	37-48	16-20	---	6.1-7.8	---	---	---	---
	48-60	8.0-19	---	6.1-7.8	---	---	---	---

Adair County, Missouri
Chemical Properties of the Soils

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Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
44B:								
Gifford	0-8	15-22	---	5.1-7.3	0	0	0	0
	8-11	15-22	---	5.1-6.5	0	0	0	0
	11-19	18-26	---	5.1-7.3	0	0	0	0
	19-60	15-22	---	5.6-7.3	0	0	0	0
44C2:								
Gifford	0-4	15-22	---	5.1-7.3	0	0	0	0
	4-60	18-26	---	5.1-7.3	0	0	0	0
46:								
Vesser	0-18	25-30	---	5.6-7.3	0	0	0	0
	18-41	20-25	---	5.1-6.0	0	0	0	0
	41-60	25-30	---	5.1-6.5	0	0	0	0
47:								
Zook	0-31	20-30	---	5.6-7.3	0	0	0	0
	31-60	20-30	---	5.6-7.3	0	0	0	0
49:								
Dockery	0-8	8.0-12	---	5.6-7.3	---	---	---	---
	8-55	8.0-14	---	5.6-7.8	---	---	---	---
	55-60	6.0-12	---	5.6-7.3	---	---	---	---
Tice	0-20	17-22	---	6.1-7.8	0	0	0	0
	20-30	16-23	---	5.6-7.8	0	0	0	0
	30-60	9.0-20	---	5.6-7.8	0-20	0	0	0

Adair County, Missouri
Chemical Properties of the Soils

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Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
54B:								
Vigar	0-19	10-18	---	5.6-7.3	---	---	---	---
	19-60	15-22	---	5.6-7.3	---	---	---	---
55B:								
Vigar	0-19	10-18	---	5.6-7.3	---	---	---	---
	19-60	15-22	---	5.6-7.3	---	---	---	---
Zook	0-30	20-30	---	5.6-7.3	0	0	0	0
	30-60	20-30	---	5.6-7.3	0	0	0	0
Excello	0-13	25-30	---	6.1-7.3	0	0	0	0
	13-47	20-40	---	6.1-7.3	0	0	0	0
	47-60	20-35	---	6.1-7.3	0	0	0	0
56:								
Wabash	0-10	20-30	---	5.1-7.3	0	0	0	0
	10-60	28-42	---	5.1-7.8	0	0	0	0
57:								
Floris	0-12	10-15	---	6.1-7.3	0	0	0	0
	12-24	5.0-10	---	6.1-7.3	0	0	0	0
	24-60	15-25	---	6.1-7.3	0	0	0	0
69:								
Floris	0-8	10-15	---	6.1-7.3	0	0	0	0
	8-32	10-15	---	6.1-7.3	0	0	0	0
	32-43	5.0-10	---	6.1-7.3	0	0	0	0
	43-60	15-25	---	6.1-7.3	0	0	0	0

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Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
71C:								
Plainfield----------	0-10	9.0-23	---	4.5-7.3	0	0	0	0
	10-40	1.0-12	---	4.5-7.3	0	0	0	0
	40-60	1.0-12	---	4.5-6.5	0	0	0	0
71F:								
Plainfield----------	0-2	9.0-23	---	4.5-7.3	0	0	0	0
	2-28	1.0-12	---	4.5-7.3	0	0	0	0
	28-60	1.0-12	---	4.5-6.5	0	0	0	0
AED:								
Orthent----------	---	---	---	---	---	---	---	---
M-W:								
Water----------	---	---	---	---	---	---	---	---
W:								
Water----------	---	---	---	---	---	---	---	---