



PUBLICATIONS *of the* UNITED STATES SALINITY LABORATORY

FORWARD

This list includes *all* publications under the authorship or joint authorship of staff members of the U.S. Salinity Laboratory. In several instances, publications are based upon cooperative studies with agricultural experiment stations in the western states and have been issued as station bulletins under this imprint.

The U.S. Salinity Laboratory agreed to cooperate in the production of a book published by the Irrigation & Drainage Division of the American Civil Engineering Society that will serve as a replacement of Handbook 60 "*Diagnosis and Improvement of Saline and Alkali Soils*" (Pub. 180). This book can be purchased by calling 1-800-548-2723. The title is: "*Salinity Assessment & Management*", In: K. K. Tanji (ed.); ASCE Manuals & Reported on Engineering Practice No. 71, 1990.

A Web Electronic version of Handbook 60 "*Diagnosis and Improvement of Saline and Alkali Soils*" (Pub. 180). *ONLY* is available at:

<http://www.ussl.ars.usda.gov/hb60/hb60.htm>

For a limited time after publication, reprints may be obtained by addressing requests to the U.S. Salinity Laboratory, 450 West Big Springs Road, Riverside, CA 92507-4617.

If a publication is shown "NA" in this list of publications, it indicates that the supply of reprints has been exhausted. However, published papers are available for reference in agricultural libraries. Requested items may be specified by the serial numbers from the list.

**LIST OF PUBLICATIONS
U.S. Salinity Laboratory
Riverside, CA 92507-4617**

1. Ayers, A.D. and J.T. Hatcher. 1939. Quantities of boron and zinc found in salts used in the preparation of culture solutions. *Soil Sci. Soc. Amer. Proc.* 4:314-315. NA.
2. Eaton, F.M. 1940. Interrelations in the effects of boron and indoleacetic acid on plant growth. *Bot. Gaz.* 101:700-705. NA.
3. Richards, L.A. 1940. Concerning permeability units for soils. *Soil Sci. Soc. Amer. Proc.* 5:49-53. NA.
4. Eaton, F.M. and C.R. Horton. 1940. Effect of exchange sodium on the moisture equivalent and the wilting coefficient of soils. *J. Agr. Res.* 61:401-425. NA.
5. Richards, L.A. 1941. A pressure-membrane extraction apparatus for soil solution. *Soil Sci.* 51:377-386. NA.
6. Eaton, F.M. 1941. Plant culture equipment. *Plant Physiol.* 16:385-392. NA.
7. Eaton, F.M. 1941. Water uptake and root growth as influenced by inequalities in the concentration of the substrata. *Plant Physiol.* 6:545-564. NA.
8. Hayward, H.E. and E.M. Long. 1941. Anatomical and physiological responses of the tomato to varying concentrations of sodium chloride, sodium sulphate, and nutrient solutions. *Bot. Gaz.* 102:437-462. NA.
9. Magistad, O.C. 1941. The use of softened Colorado River water for home gardens. *J. Amer. Waterworks Assoc.* 33:883-893. NA.
10. Moore, R.E. and K.R. Goodwin. 1941. Hydraulic head measurements in soils with high water tables. *Agr. Eng.* 22:263-264. NA.
11. Eaton, F.M. 1941. Use of nitric acid in control of pH and nitrate levels in nutrient solution. *Plant Physiol.* 16:834-836. NA.
12. Richards, L.A. and M.R. Huberty. 1941. Moisture studies under citrus using tensiometers. *Proc. Amer. Soc. Hort. Sci.* 39:73-79.
13. Richards, L.A. 1941. Hydraulics of water in unsaturated soil. *Agr. Eng.* 22:325-326. NA.
14. Lyon, C.B. 1941. Responses of two species of tomatoes and the F1 generation to sodium sulphate in the nutrient medium. *Bot. Gaz.* 103:107-122. NA.
15. Richards, L.A. 1942. Soil moisture tensiometer materials and construction. *Soil Sci.* 53:241-248. NA.
16. Hayward, H.E. and E.M. Long. 1942. The anatomy of the seedling and roots of the Valencia orange. *U.S. Dept. Agr. Tech. Bull.* 786. 32p. NA.

17. Hayward, H.E. and W.M. Blair. 1942. Some responses of Valencia orange seedlings to varying concentrations of chloride and hydrogen ions. Amer. J. Bot. 29:148-155. NA.
18. Eaton, F.M. 1942. Toxicity and accumulation of chloride and sulfate salts in plants. J. Agr. Res. 64:357-399. NA.
19. Gauch, H.G. and F.M. Eaton. 1942. Effect of saline substrate on hourly levels of carbohydrates and inorganic constituents of barley plants. Plant Physiol. 17:347-365. NA.
20. Hayward, H.E., W.M. Blair and P.E. Skaling. 1942. Device for measuring entry of water into roots. Bot. Gaz. 104:152-160. NA.
21. Wadleigh, C.H. and H.G. Gauch. 1942. Assimilation in bean plants of nitrogen from saline solutions. Proc. Amer. Soc. Hort. Sci. 41:360-364. NA.
22. Gauch, H.G. and C.H. Wadleigh. 1942. The influence of saline substrates upon the absorption of nutrients by bean plants. Proc. Amer. Soc. Hort. Sci. 41:365-369. NA.
23. Ayers, A.D. 1942. Comparison of the calcium and sulphur content of plant fluids expressed from tissues killed by autoclaving and by freezing with solid carbon dioxide. Plant Physiol. 17:661-665. NA.
24. Hayward, H.E. and E.M. Long. 1942. Vegetative responses of the Elberta peach on Lovell and Shalil rootstocks to high chloride and sulfate solutions. Proc. Amer. Soc. Hort. Sci. 41:149-155. NA.
25. Magistad, O.C., A.D. Ayers, C.H. Wadleigh and H.G. Gauch. 1943. Effect of salt concentration, kind of salt, and climate on plant growth in sand cultures. Plant Physiol. 18:151-166. NA.
26. Wilcox, L.V. and O.C. Magistad. 1943. Interrelation of analyses of irrigation waters and the relative tolerance of crop plants. 8p. (Superseded by Publ. 107). NA.
27. Reitemeier, R.F. 1943. Semimicroanalysis of saline soil solutions. Anal. Ed., Ind. & Eng. Chem. 15:393-402. NA.
28. Magistad, O.C. and R.F. Reitemeier. 1943. Soil solution concentrations at the wilting point and their correlation with plant growth. Soil Sci. 55:351-361. NA.
29. Richards, L.A. and L.R. Weaver. 1944. Moisture retention by some irrigated soils as related soil-moisture tension. J. Agr. Res. 69:215-235. NA.
30. Ayers, A.D., C.H. Wadleigh and O.C. Magistad. 1943. The interrelationships of salt concentration and soil moisture content with the growth of beans. J. Amer. Soc. Agron. 35:796-810.
31. Hayward, H.E. and E.M. Long. 1943. Some effects of sodium salts on the growth of the tomato. 18:556-569. NA.
32. Gauch, H.G. and O.C. Magistad. 1943. Growth of strawberry clover varieties and of alfalfa and ladino clover as affected by salt. J. Amer. Soc. Agron. 35:871-880. NA.

33. Richards, L.A. and L.R. Weaver. 1943. The sorption-block soil moisture and hysteresis effects related to its operation. *J. Amer. Soc. Agron.* 35:1002-1011. NA.
34. Gauch, H.G. and C.H. Wadleigh. 1943. A new type of intermittently irrigated sand culture equipment. *Plant Physiol.* 18:543-547. NA.
35. Long, E.M. 1943. The effect of salt additions to the substrate on intake of water and nutrients by roots of approach-grafted tomato plants. *Amer. J. Bot.* 30:594-601. NA.
36. Magistad, O.C. and J.E. Christiansen. 1944. Saline soils, their nature and management. U.S. Dept. Agr. Circ. 707. 32p. NA.
37. Hayward, H.E. and W.B. Spurr. 1943. Effects of osmotic concentration of substrate on the entry of water into corn roots. *Bot. Gaz.* 105:152-164. NA.
38. Christiansen, J.E. 1943. Ground-water studies in relation to drainage. *Agr. Eng.* 24:339-342. NA.
39. Richards, L.A. and M. Fireman. 1943. Pressure-plate apparatus for measuring moisture sorption and transmission by soils. *Soil Sci.* 56:395-404. NA.
40. Richards, L.A. and L.R. Weaver. 1943. Fifteen-atmosphere percentage as related to the permanent wilting percentage. *Soil Sci.* 56:331-339. NA.
41. Hayward, H.E. and W. B. Spurr. 1944. The tolerance of flax to saline conditions: Effect of sodium chloride, calcium chloride, and sodium sulphate. *J. Amer. Soc. Agron.* 36:287-300. NA.
42. Wadleigh, C.H., H.G. Gauch and V. Davies. 1943. The trend of starch reserves in bean plants before and after irrigation a saline soil. *Proc. Amer. Soc. Hort. Sci.* 43:201-209. NA.
43. Reitemeier, R.F. and L.A. Richards. 1944. Reliability of the pressure-membrane method for extraction of soil. *Soil Sci.* 57:119-135. NA.
44. Gauch, H.G. and C.H. Wadleigh. 1944. Effects of high salt concentrations on growth of bean plants. *Bot. Gaz.* 105:379-387. NA.
45. Magistad, O.C., M. Fireman and B. Mabry. 1944. Comparison of base-exchange equations founded on the law of the mass action. *Soil Sci.* 57:371-379. NA.
46. Magistad, O.C., M. Fireman and L.V. Wilcox. 1944. Effect of sodium nitrate on permeability of Western soils. *Calif. Citrog.* 29:196-197. (See also Publ. 64). NA.
- 47a. Reitemeier, R.F. and M. Fireman. 1944. Prevention of calcium carbonate precipitation in soil solutions and waters by sodium hexametaphosphate. *Soil Sci.* 58:35-41. NA.
- 47b. Richards, L.A. 1944. Pressure-membrane extraction apparatus. U.S. Patent No. 2, 353, 760. NA.
48. Magistad, O.C., R.F. Reitemeier and L.V. Wilcox. 1945. Determination of soluble salts in

- soils. *Soil Sci.* 59:65-75. NA.
49. Wadleigh, C.H. and H.G. Gauch. 1944. The influence of high concentrations of sodium sulfate, sodium chloride, calcium chloride, and magnesium chloride on the growth of guayule in sand culture. *Soil Sci.* 58:399-403. NA.
50. Gauch, H.G. and C.H. Wadleigh. 1945. Effect of high concentrations of sodium sulfate, sodium chloride, calcium chloride, and sulfate on ionic absorption by bean plants. *Soil Sci.* 59:139-153.
51. Wadleigh, C.H. and A.D. Ayers. 1945. Growth and biochemical composition of bean plants as conditioned by soil moisture tension and salt concentration. *Plant Physiol.* 20:106-132. NA.
52. Fireman, M. 1944. Permeability measurements on disturbed soil samples. *Soil Sci.* 58:337-353. NA.
53. Christiansen, J.E. 1944. Effect of entrapped air upon the permeability of soils. *Soil Sci.* 58:355-365. NA.
54. Reitemeier, R.F. 1945. A centrifuge tube agitator. *Anal. Ed., Ind. & Eng. Chem.* 17:267. NA.
55. Hayward, H.E. and W.B. Spurr. 1944. Effects of isosmotic concentrations of inorganic and organic substrates on entry of water into corn roots. *Bot. Gaz.* 106:131-139. NA.
56. Gardner, R. 1945. Some soil properties related to the sodium salt problem in irrigated soils. *U.S. Dept. Agr. Tech. Bull.* 902. 28p. NA.
57. Donnan, W.W. and J.E. Christiansen. 1944. Ground water determinations. *Western Construction News.* 19:77-79. NA.
58. Magistad, O.C. 1945. Plant growth relations on saline and alkali soils. *Bot. Rev.* 11:181-230. NA.
59. Goode, W.E. and J.E. Christiansen. 1945. Obtaining soil cores for permeability tests. *Agr. Eng.* 26:153-155. NA.
60. Fireman, M. and O.C. Magistad. 1945. Permeability of five Western soils as affected by the percentage of sodium of the irrigation water. *Trans. Amer. Geophys. U.* 26:91-94. NA.
61. Reitemeier, R.F. and J.E. Christiansen. 1946. The effect of organic matter, gypsum, and drying on the infiltration rate and permeability of a soil irrigated with a high sodium water. *Trans. Amer. Geophys. U.* 27:181-186. NA.
62. Reitemeier, R.F. 1946. Effect of moisture content on the dissolved and exchangeable ions of soils of arid regions. *Soil Sci.* 61:195-214.
63. Reitemeier, R.F. and L.V. Wilcox. 1946. A critique of estimating soil solution concentration from the electric conductivity of saturated soils. *Soil Sci.* 61:281-293. NA.

64. Fireman, M., O.C. Magistad and L.V. Wilcox. 1945. Effect of sodium nitrate and ammonium fertilizers on the permeability of Western soils. *J. Amer. Soc. Agron.* 37:888-901. NA.
65. Wadleigh, C.H. 1946. The integrated soil moisture stress upon a root system in a large container of saline soil. *Soil Sci.* 61:225-238. NA.
66. Uhvits, R. 1946. Effect of osmotic pressure on water absorption and germination of alfalfa seeds. *Amer. J. Bot.* 33:278-285. NA.
67. Reitemeier, R.F., J.E. Christiansen, R.E. Moore and W.W. Aldrich. 1948. Effect of gypsum, organic matter, and drying on infiltration of water into a fine sandy loam. *U.S. Dept. Agr. Tech. Bull.* 37. 36p. NA.
68. Wadleigh, C.H., H.G. Gauch and O.C. Magistad. 1946. Growth and rubber accumulation in guayule as conditioned by soil salinity and irrigation regime. *U.S. Dept. Agr. Tech. Bull.* 925. 34p. NA.
69. Christiansen, J.E., M. Fireman and L.E. Allison. 1946. Displacement of soil-air by CO₂ for permeability tests. *Soil Sci.* 61:355-360. NA.
70. Cancelled.
71. Hayward, H.E., E.M. Long and R. Uhvits. 1946. Effect of chloride and sulfate salts on the growth and development of the Elberta peach on Shalil and Lovell rootstocks. *U.S. Dept. Agr. Tech. Bull.* 922. 48p. NA.
72. Hayward, H.E. and O.C. Magistad. 1946. The salt problem in irrigated agriculture. *U.S. Dept. Agr. Misc. Publ.* 607. 27p. NA.
73. Bower, C.A. and L.M. Turk. 1946. Calcium and magnesium deficiencies in alkali soils. *J. Amer. Soc. Agron.* 38:723-727. NA.
74. Wadleigh, C.H., H.G. Gauch and D.G. Strong. 1947. Root penetration and moisture extraction in saline soil by crop. *Soil Sci.* 63:341-349. NA.
75. Christiansen, J.E. 1947. Some permeability characteristics of saline and alkali soils. *Agr. Eng.* 28:147-150, 153. NA.
76. Pillsbury, A.F. and J.E. Christiansen. 1947. Installing ground-water piezometers by jetting for drainage. *Agr. Eng.* 28:409-410. NA.
77. Allison, L.E. 1947. Effect of microorganisms on permeability of soil under prolonged submergence. *Soil Sci.* 63:439-450. NA.
78. Marshall, C.E. and A.D. Ayers. 1946. Clay membrane electrodes for determining calcium activities. *Soil Sci. Soc. Amer. Proc.* 11:171-174. NA.
79. Reitemeier, R.F. and A.D. Ayers. 1947. Calcium ion activities in super-saturated solutions stabilized by sodium metaphosphate as determined by clay membrane electrodes. *J. Amer. Chem. Soc.* 69:2759-2761.

80. Richards, L.A. 1947. Pressure-membrane apparatus -- Construction and use. *Agr. Eng.* 28:451-454, 460. NA.
81. U.S. Regional Salinity Laboratory Staff. 1947. Diagnosis and improvement of saline and alkali soils. L.A. Richards (ed.), 157p. (Superseded by Publ. 180). NA.
82. Hayward, H.E. 1947. The control of salinity. *In: Science and Farming. Yearbook Agr.* (U.S. Dept. Agr.) p. 547-553. NA.
83. Ayers, A.D. 1948. Salt tolerance of birdfoot trefoil. *J. Amer. Soc. Agron.* 40:331-334. NA.
84. Wadleigh, C.H. and H.G. Gauch. 1948. Rate of leaf elongation as affected by the intensity of the total soil moisture. *Plant Physiol.* 23:485-495. NA.
85. Richards, L.A. and R.B. Campbell. 1948. Use of thermistors for measuring the freezing point of solutions and soils. *Soil Sci.* 65:429-436. NA.
86. Richards, L.A. 1948. Porous plate apparatus for measuring moisture retention and transmission by soil. *Soil Sci.* 66:105-110. NA.
87. Bower, C.A. and R.B. Huss. 1948. Rapid conductometric method for estimating gypsum in soils. *Soil Sci.* 66:199-204. NA.
88. Richards, L.A. and C.H. Wadleigh. 1952. Soil water and plant growth. *In: B.T. Shaw (ed.), Soil physical conditions and plant growth. Agronomy.* 2:73-251. NA.
89. Bower, C.A. 1948. Rapid tests for soluble and exchangeable sodium in saline and alkali soils. *J. Amer. Soc. Agron.* 40:1100-1105. NA.
90. Marshall, C.E. and A.D. Ayers. 1948. The electrochemical properties of mineral membranes. VI. Clay membranes for the determination of calcium. *J. Amer. Chem. Soc.* 70:1297-1302. NA.
91. Fireman, M. and R.C. Reeve. 1948. Some characteristics of saline and alkali soils in Gem County, Idaho. *Soil Sci. Soc. Amer. Proc.* 13:494-498. NA.
92. Campbell, R.B., C.A. Bower and L.A. Richards. 1948. Change of electrical conductivity with temperature and the relation of osmotic pressure to electrical conductivity and ion concentration for soil extracts. *Soil Sci. Soc. Amer. Proc.* 13:66-69. NA.
93. Wadleigh, C.H. and M. Fireman. 1948. Salt distribution under furrow and basin irrigated cotton and its effect on water removal. *Soil Sci. Soc. Amer. Proc.* 13:527-530. NA.
94. Ayers, A.D. and H.E. Hayward. 1948. A method for measuring the effects of soil salinity on seed germination with observations on several crop plants. *Soil Sci. Soc. Amer. Proc.* 13:224-226. NA.
95. Bower, C.A. and C.H. Wadleigh. 1948. Growth and cationic accumulation by four species of plants as influenced by various levels of exchangeable sodium. *Soil Sci. Soc. Amer. Proc.* 13:218-223. NA.

96. Richards, L.A. and R.B. Campbell. 1948. The freezing point of moisture in soil cores. *Soil Sci. Soc. Amer. Proc.* 13:70-74. NA.
97. Reeve, R.C., L.E. Allison and D.F. Peterson, Jr. 1948. Reclamation of saline-alkali soils by leaching -- Delta Area, Utah. *Utah Agr. Exp. Sta. Bull.* 335. 52p. NA.
98. Wadleigh, C.H. and C.A. Bower. 1950. The influence of calcium ion activity in water cultures on the intake of cations by bean plants. *Plant Physiol.* 25:1-12. NA.
99. Wadleigh, C.H. 1949. Mineral nutrition of plants. *Annu. Rev. Biochem.* pp. 655-678. NA.
100. Hayward, H.E. and C.H. Wadleigh. 1949. Plant growth on saline and alkali soils. *Adv. Agron.* 1:1-38. NA.
101. Reeve, R. and M.C. Jensen. 1949. Piezometers for ground-water flow studies and measurement of subsoil permeability. *Agr. Eng.* 30:435-438. NA.
102. Richards, L.A. 1949. Methods of measuring soil moisture tensions. *Soil Sci.* 68:95-112.
103. Richards, L.A. 1949. Filter funnels for soil extracts. *Agron. J.* 41:446. NA.
104. Richards, L.A. 1949. Methods for mounting porous plates used in soil moisture measurement. *Agron. J.* 41:489-490. NA.
105. Hatcher, J.T. and L.V. Wilcox. 1950. Colorimetric determination of boron using carmine. *Anal. Chem.* 22:567-569.
106. Wilcox, L.V. 1948. The quality of water for irrigation use. *U.S. Dept. Agr. Tech. Bull.* 962. 40p. NA.
107. Wilcox, L.V. 1948. Explanation and interpretation of analyses of irrigation waters. *U.S. Dept. Agr. Circ.* 784. 8p.
108. Wilcox, L.V. 1948. Agricultural uses of reclaimed sewage effluent. *Sewage Works J.* XX:24-35. NA.
109. Wilcox, L.V. 1948. Toxic effects of boron on plants. *Lower Rio Grande Valley Citrus and Vegetable Inst.* 3rd Annu. Proc. pp. 7-12. NA.
110. Fireman, M., C.A. Mogen and G.O. Baker. 1950. Characteristics of saline and alkali soils in the Emmett Valley Area, Idaho. *Idaho Agr. Exp. Sta. Res. Bull.* 17. 35p. NA.
111. Wadleigh, C.H. and L.A. Richards. 1951. Soil moisture and mineral nutrition of plants. In: Emil Truog (ed.), *Mineral Nutrition of Plants*. Univ. Wisconsin Press. pp. 411-450. NA.
112. Richards, L.A., R.B. Campbell and L.W. Healton. 1950. Some freezing point depression measurements on cores of soil in which cotton and sunflower plants were wilted. *Soil Sci. Soc. Amer. Proc.* 14:47-50. NA.
113. Bower, C.A. and R.K. Petersen. 1950. Technique for determining the permeability of soil

- cores obtained with the Lutz sampler. Agron. J. 42:55-56. NA.
114. Richards, L.A. and D.C. Moore. 1952. Influence of capillary conductivity and depth of wetting on moisture retention in soil. Trans. Amer. Geophys. U. 33:531-540. NA.
115. Richards, L.A. 1950. Laws of soil moisture. Trans. Amer. Geophys. U. 31:750-756. NA.
116. Chapman, H.D., L.V. Wilcox and H.E. Hayward. 1947. Water quality from an agricultural point of view. *In:* Report of Interim Fact-Finding Committee on Water Pollution. Assembly of State of California Publ. pp. 134-137. NA.
117. Richards, L.A. 1950. Chemical and physical characteristics of saline and alkali soils of Western United States. Int'l. Cong. Soil Sci. Trans. 4th (Amsterdam) I:1-6. NA.
118. Richards, L.A. 1950. Experimental demonstration of the hydraulic criterion for zero flow of water in unsaturated soil. Int'l. Cong. Soil Sci. Trans. 4th (Amsterdam) I:66-68. NA.
119. Wilcox, L.V. 1950. Electrical conductivity. J. Amer. Waterworks Assoc. 42:775-776. NA.
120. Campbell, R.B. and L.A. Richards. 1950. Some moisture and salinity relationships in peat soils. Agron. J. 42:582-585. NA.
121. Bower, C.A. 1950. Fixation of ammonium in difficulty exchangeable form under moist conditions by some soils of semiarid regions. Soil Sci. 70:375-383. NA.
122. Wilcox, L.V. 1950. Pressure-control unit for use with the pressure-plate apparatus for measuring moisture sorption and transmission by soils. Soil Sci. 70:427-430. NA.
123. Reger, J.S., A.F. Pillsbury, R.C. Reeve and R.K. Petersen. 1950. Techniques for drainage investigations in the Coachella Valley, Calif. Agr. Eng. 31:559-564.
124. Blair, G.Y., L.A. Richards and R.B. Campbell. 1950. The rate of elongation of sunflower plants and the freezing point of soil moisture in relation to permanent wilt. Soil Sci. 70:431-439. NA.
125. Allison, L.E. 1951. Vapor-phase sterilization of soil with ethylene oxide. Soil Sci. 72:341-352. NA.
126. Bernstein, L. and A.D. Ayers. 1951. Salt tolerance of six varieties of green beans. Proc. Amer. Soc. Hort. Sci. 57:243-248. NA.
127. Ayers, A.D., C.H. Wadleigh and L. Bernstein. 1951. Salt tolerance of six varieties of lettuce. Proc. Amer. Soc. Hort. Sci. 57:237-242. NA.
128. Bernstein, L., A.D. Ayers and C.H. Wadleigh. 1951. The salt tolerance of White Rose potatoes. Proc. Amer. Soc. Hort. Sci. 57:231-236. NA.
129. Reeve, R.C. and D. Kirkham. 1951. Soil anisotropy and some field methods for measuring permeability. Trans. Amer. Geophys. U. 32:582-590. NA.
130. Wadleigh, C.H., H.E. Hayward and A.D. Ayers. 1951. First year growth of stone fruits on

- saline substrates. Proc. Amer. Soc. Hort. Sci. 57:31-36. NA.
131. Fireman, M., C.W. Chang and L.W. Heaton. 1951. Soils investigations on the Tucumcari, N.M., Irrigation Project. N.M. Agr. Exp. Sta. Press Bull. 1054. 15p. and appendix. NA.
132. Fireman, M. and C.H. Wadleigh. 1951. A statistical study of the relation between pH and the exchangeable-sodium-percentage of Western soils. Soil Sci. 71:273-285. NA.
133. Wilcox, L.V. and J.T. Hatcher. 1950. Methods of analysis used in the Rubidoux Laboratory, Riverside, California, 6th ed., 67p. NA.
134. Gauch, H.G. and C.H. Wadleigh. 1951. Salt tolerance and chemical composition of Rhodes and Dallis grasses grown in sand cultures. Bot. Gaz. 112:259-271. NA.
135. Bower, C.A. 1951. Availability of ammonium fixed in difficultly exchangeable form by soils of semiarid regions. Soil Sci. Soc. Amer. Proc. 15:119-122. NA.
136. Ayers, A.D. 1950. Salt tolerance of avocado trees grown in culture solution. California Avocado Soc. Yearbook:139-148. NA.
137. Ayers, A.D. and R.B. Campbell. 1951. Freezing point of water in a soil as related to salt and moisture contents of the soil. Soil Sci. 72:201-206. NA.
138. Ayers, A.D. 1952. Seed germination as affected by soil moisture and salinity. Agron. J. 44:82-84. NA.
139. Peterson, D.F., Jr., R.C. Reeve and L.E. Allison. 1949. Removal of salts by leaching found feasible and economical at Delta. Farm and Home Sci. 10:10-11, 17. NA.
140. Israelson, O.W., D.F. Peterson, Jr. and R.C. Reeve. 1950. Effectiveness of gravity drains and experimental pumping for drainage, Delta Area, Utah. Utah Agr. Exp. Sta. Bull. 345. 64p. NA.
141. Wilcox, L.V. 1951. A method for calculating the saturation percentage from the weight of a known volume of saturated soil paste. Soil Sci. 72:233-237. NA.
142. Wadleigh, C.H., H.G. Gauch and M. Kolisch. 1951. Mineral composition of orchard grass grown on Pachappa loam salinized with various salts. Soil Sci. 72:275-282. NA.
143. Bower, C.A., R.F. Reitemeier and M. Fireman. 1952. Exchangeable cation analysis of saline and alkali soils. Soil Sci. 73:251-261.
144. Campbell, R.B. 1952. Freezing point of water in puddled and unpuddled soils at different soil moisture tension. Soil Sci. 73:221-229. NA.
145. Ayers, A.D., J.W. Brown and C.H. Wadleigh. 1952. Salt tolerance of barley and wheat in soil plots receiving several salinization regimes. Agron. J. 44:307-310. NA.
146. Wadleigh, C.H. and J.W. Brown. 1952. The chemical status of bean plants afflicted with bicarbonate-induced chlorosis. Bot. Gaz. 113:373-392. NA.

147. Wilcox, L.V., C.S. Scofield, C.S. Howard, C.A. Bower, C.H. Wadleigh and H.E. Hayward. 1951. Water for irrigation use. Eng. News. 29:990-993.
148. Ayers, A.D., D.G. Aldrich and J.J. Coony. 1951. Leaf burn of avocado. Calif. Agric. 5:7. NA.
149. Bodman, G.B. and M. Fireman. 1950. Changes in soil permeability and exchangeable cation status during flow of different irrigation waters. Int'l. Cong. Soil Sci. Trans. 4th (Amsterdam) I:397-400. NA.
150. Bower, C.A., L.R. Swarner, A.W. Marsh and F.M. Tileston. 1958. The improvement of an alkali soil by treatment with manure and chemical amendments. Oregon Agr. Exp. Sta. Tech. Bull. 22. 37p. NA.
151. Marsh, A.W., L.R. Swarner, F.M. Tileston, C.A. Bower and E.N. Hoffman. 1952. Irrigation management investigations on nonsaline soils. Oregon Agr. Exp. Sta. Tech. Bull. 23. 51p. NA.
152. Bowan, L.C., F. Turner, Jr., C.D. Moodie and C.A. Bower. 1952. Reclamation of a saline-alkali soil by Wadleigh, C.H. and J.W. Brown. 1952. Influence of sodium bicarbonate on mineral composition of red garden Beets. Proc. Amer. Soc. Sugar Beet Technol. pp. 54-57. NA.
153. Wadleigh, C.H. and J.W. Brown. 1952. Influence of sodium bicarbonate on mineral composition of red garden beets. Proc. Amer. Soc. Sugar Beet Technol. pp. 54-57. NA.
154. Wadleigh, C.H., A.D. Ayers and C.A. Bower. 1952. Effect of saline and alkali soil on growth of sugar beets. Proc. Amer. Soc. Sugar Beet Technol. pp. 50-53. NA.
155. Soil Science Society of America. 1952. Report of the subcommittee on permeability and infiltration, committee on terminology. Soil Sci. Soc. Amer. Proc. 16:85-88.
156. Richards, L.A. 1952. Water conducting and retaining properties of soils in relation to irrigation. Proc. Int'l. Symp. on Desert Research. pp. 1-22. NA.
157. Allison, L.E. 1952. Effect of synthetic polyelectrolytes on the structure of saline and alkali soils. Soil Sci. 73:443-454. NA.
158. Fireman, M. and H.E. Hayward. 1952. Indicator significance of some shrubs in the Escalante Desert. Utah Bot. Gaz. 114:143-155. NA.
159. Ayers, A.D. 1953. Germination and emergence of several varieties of barley in salinized soil cultures. Agron. J. 45:68-71. NA.
160. Bower, C.A. and F.B. Gschwend. 1952. Ethylene glycol retention by soils as a measure of surface area and interlayer swelling. Soil Sci. Soc. Amer. Proc. 16:342-245. NA.
161. Ayers, A.D., D.G. Aldrich and J.J. Coony. 1951. Sodium and chloride injury to Fuerte avocado leaves. California Avocado Soc. Yearbook. pp. 174-178. NA.
162. Hayward, H.E. 1952. Plant growth under saline conditions. UNESCO, Paris. Provisional

- reproduction without figures. 63p. (Superseded by Publ. 186). NA.
163. Brown, J.W., C.H. Wadleigh and H.E. Hayward. 1953. Foliar analysis of stone fruit and almond trees on saline substrates. Proc. Amer. Soc. Hort. Sci. 61:49-55. NA.
 164. Reeve, R.C. 1953. Factors influencing drainage design in irrigated areas. Agr. Eng. 34:88-90. NA.
 165. Cancelled.
 166. Pearson, G.A. and J.A. Goss. 1953. Observations on the effects of salinity and water table on young grapefruit. Proc. Annu. Rio Grande Valley Hort. Inst. 7th 1-6. NA.
 167. Bernstein, L. and A.D. Ayers. 1953. Salt tolerance of five varieties of carrots. Proc. Amer. Soc. Hort. Sci. 61:360-366. NA.
 168. Wilcox, L.V. 1953. Irrigation water quality as affected by use and reuse. Chem. and Eng. News. 31:3448-3454. NA.
 169. Bernstein, L. and A.D. Ayers. 1953. Salt tolerance of five varieties of onions. Proc. Amer. Soc. Hort. Sci. 62:367-370. NA.
 170. Hayward, H.E. 1953. Salinity in Western irrigated soils. Amer. Fruit Grower (West. Ed.). 73:12A -12B. NA.
 171. Richards, L.A. 1953. Modulus of rupture as an index of surface crusting of soil. Soil Sci. Soc. Amer. Proc. 17:321-323.
 172. Reeve, R.C. 1953. A method of determining the stability of soil structure based upon air and water permeability measurements. Soil Sci. Soc. Amer. Proc. 17:324-329. NA.
 173. Bernstein, L. and G.A. Pearson. 1954. Influence of integrated moisture stress achieved by varying the osmotic pressure of culture solutions on growth of tomato and pepper plants. Soil Sci. 77:355-368. NA.
 174. Richards, L.A. 1954. Multiple tensiometer for determining the vertical component of the hydraulic gradient in soil. Soil Sci. Soc. Amer. Proc. 18:7-9. NA.
 175. Reeve, R.C. and R.H. Brooks. 1953. Equipment for subsampling and packing fragmented soil samples for air and water permeability tests. Soil Sci. Soc. Amer. Proc. 17:333-336. NA.
 176. Wadleigh, C.H. and M. Fireman. 1954. Multiple regression analysis of soil data. Soil Sci. 78:127-139. NA.
 177. Bower, C.A., C.D. Moodie, P. Orth and F.B. Gschwend. 1954. Correlation of sugar beet yields with chemical properties of a saline-alkali soil. Soil Sci. 77:443-451. NA.
 178. Wilcox, L.V., G.Y. Blair and C.A. Bower. 1954. Effect of bicarbonate on suitability of water for irrigation. Soil Sci. 77:259-266. NA.

179. Reeve, R.C., C.A. Bower, R.H. Brooks and F.B. Gschwend. 1954. A comparison of the effects of exchangeable sodium and potassium upon the physical condition of soils. *Soil Sci. Soc. Amer. Proc.* 18:130-132. NA.
180. United States Salinity Laboratory Staff. 1954. Diagnosis and improvement of saline and alkali soils. U.S. Dept. Agr. Handbook 60. 160p. NA.
181. Bower, C.A. 1955. Determination of exchangeable magnesium in soils containing dolomite. *Soil Sci. Soc. Amer.* 19:40-42. NA.
182. Richards, L.A. 1954. The measurement of soil water in relation to plant requirements. *Sci. Monthly.* 78:307-313. NA.
183. Cancelled.
184. Brown, J.W. and C.H. Wadleigh. 1955. Influence of sodium bicarbonate on the growth and chlorosis of garden beets. *Bot. Gaz.* 116:201-209. NA.
185. Bernstein, L., A.J. MacKenzie and B.A. Krantz. 1955. The interaction of salinity and planting practice on the germination of irrigated row crops. *Soil Sci. Soc. Amer. Proc.* 19:240-243. NA.
186. Hayward, H.E. 1954. Plant growth under saline conditions. *In:* Reviews of research on problems of utilization of saline water. Arid Zone Programme, UNESCO, Paris. pp. 37-71. NA.
187. Hayward, H.E. 1954. Sodium hazard in Western irrigated soils. *Amer. Fruit Grower (West. Ed.)* 74:12A-12C. NA.
188. Hayward, H.E. Saline and alkali soils -- their diagnosis and improvement. *Soil Conservation.* 20:75-81. NA.
189. Reeve, R.C., A.F. Pillsbury and L.V. Wilcox. 1955. Reclamation of a saline and high boron soil in the Coachella Valley of California. *Hilgardia.* 24:69-91. NA.
190. Bower, C.A. and J.O. Goertzen. 1955. Negative adsorption of salts by soils. *Soil Sci. Soc. Amer. Proc.* 19:147-151. NA.
191. Allison, L.E. and R.C. Reeve. 1955. Lysimeters for studying effects of salinity, leaching, and position of water table on plant growth. *Soil Sci.* 79:81-91. NA.
192. Wilcox, L.V. 1955. Classification and use of irrigation waters. U.S. Dept. Agr. Circ. 969. 19p.
193. Fireman, M. and H.E. Hayward. 1955. Irrigation water and saline and alkali soils. *Yearbook Agr. (U.S. Dept. Agr.).* pp. 321-327. NA.
194. Bernstein, L. 1955. The needs and uses of water by plants. *Yearbook Agr. (U.S. Dept. Agr.).* pp. 18-25.
195. Richards, L.A. 1955. Retention and transmission of water in soil. *Yearbook Agr. (U.S.*

- Dept. Agr.). pp. 144-151.
196. Gardner, W.R. 1956. Representation of soil aggregate-size distribution by a logarithmic-normal distribution. *Soil Sci. Soc. Amer. Proc.* 20:151-153. NA.
 197. Allison, L.E. and D.C. Moore. 1956. Effect of VAMA and HPAN soil conditioners on aggregation, surface crusting, and moisture retention in alkali soils. *Soil Sci. Soc. Amer. Proc.* 20:143-146.
 198. Richards, L.A. 1955. A portable vacuum filter. *Soil Sci.* 79:423-425.
 199. Richards, L.A. 1955. Portable conductivity bridge and cells for salinity appraisal. *Soil Sci.* 80:55-59. NA.
 200. Allison, L.E. 1956. Soil and plant responses to VAMA and HPAN soil conditioners in the presence of high exchangeable sodium. *Soil Sci. Soc. Amer. Proc.* 20:147-151. NA.
 201. Hayward, H.E. 1956. The salinity factor in the reuse of waste waters. *In: The Future of Arid Lands, Amer. Assoc. Advance. Sci. Publ.* 43:279-290. NA.
 202. Richards, L.A. 1956. Agricultural use of water under saline conditions. *In: The Future of Arid Lands, Amer. Assoc. Advance. Sci. Publ.* 43:221-225. NA.
 203. Wilcox, L.V. 1957. Analyses of salt balance and salt-burden data on the Rio Grande. *Symp. on Problems of the Rio Grande.* Albuquerque, NM, NM State Eng. Office. pp. 39-44. NA.
 204. Hayward, H.E. 1955. Factors affecting the salt tolerance of horticultural crops. *Int'l. Hort. Congr. Rep.* 14 (Netherlands) I:385-399. NA.
 205. Richards, L.A. 1956. Sample retainers for measuring water retention by soil. *Soil Sci. Soc. Amer. Proc.* 20:301-303. NA.
 206. Richards, L.A. and G. Ogata. 1956. Materials for retainer plates and their use for retentivity measurements. *Soil Sci. Soc. Amer. Proc.* 20:303-306. NA.
 207. Brown, J.W. and H.E. Hayward. 1956. Salt tolerance of alfalfa varieties. *Agron. J.* 48:18-20. NA.
 208. Bernstein, L. and R.S. Ayers. 1955. Sloping seedbeds. *California Agr.* 9:8. NA.
 209. Richards, L.A., W.R. Gardner and G. Ogata. 1956. Physical processes determining water loss from soil. *Soil Sci. Soc. Amer. Proc.* 20:310-314. NA.
 210. Bower, C.A., W.R. Gardner and J.O. Goertzen. 1957. Dynamics of cation exchange in soil columns. *Soil Sci. Soc. Amer. Proc.* 21:20-24. NA.
 211. Brooks, R.H., C.A. Bower and R.C. Reeve. 1956. The effect of various exchangeable cations upon the physical condition of soils. *Soil Sci. Soc. Amer. Proc.* 20:325-327. NA.
 212. Allison, L.E. 1956. A study of synthetic aggregate breakdown using logarithmic normal

- distribution analysis. *Soil Sci. Soc. Amer. Proc.* 20:314-316. NA.
213. Gardner, W.R. 1956. Calculation of capillary conductivity from pressure plate outflow data. *Soil Sci. Soc. Amer. Proc.* 20:317-320.
214. Bernstein, L., M. Fireman and R.C. Reeve. 1955. Control of salinity in the Imperial Valley, California. U.S. Dept. Agr. ARS-41-4. 16p.
215. Richards, L.A., C.A. Bower and M. Fireman. 1956. Tests for salinity and sodium status of soil and of irrigation water. U.S. Dept. Agr. Circ. 982. 19p.
216. Bernstein, L. and G.A. Pearson. 1956. Influence of exchangeable sodium on the yield and chemical composition of plants. I. Green beans, garden beets, clover, and alfalfa. *Soil Sci.* 82:247-258.
217. Richards, L.A. 1955. Water content changes following the wetting of bare soil in the field. *Soil Sci. Soc. Florida Proc.* 15:142-148. NA.
218. Bower, C.A. and W.C. Cooper. 1956. The sodium-adsorption ratio and its significance in irrigation agriculture. *J. Rio Grande Valley Hort. Soc.* 10:49-52. NA.
219. Wadleigh, C.H., L.V. Wilcox and M.H. Gallatin. 1956. Quantity of irrigated water. *J. Soil and Water Conserv.* 11:31-33. NA.
220. Cancelled.
221. Bernstein, L., J.W. Brown and H.E. Hayward. 1956. The influence of rootstock on growth and salt accumulation in stone-fruit trees and almonds. *Proc. Amer. Soc. Hort. Sci.* 68:86-95.
222. Bernstein, L. and M. Fireman. 1957. Laboratory studies on salt distribution in furrow-irrigated soil with special reference to the pre-emergence period. *Soil Sci.* 83:249-263. NA.
223. Brooks, R.H., J.O. Goertzen and C.A. Bower. 1958. Prediction of changes in the compositions of the dissolved and exchangeable cations in soils upon irrigation with high-sodium waters. *Soil Sci. Soc. Amer. Proc.* 22:122-124.
224. Ogata, G. and L.A. Richards. 1957. Water content changes following irrigation of bare-field soil that is protected from evaporation. *Soil Sci. Soc. Amer. Proc.* 21:355-356. NA.
225. Pearson, G.A., J.A. Goss and H.E. Hayward. 1957. The influence of salinity and water table on the growth and mineral composition of young grapefruit trees. *Proc. Amer. Soc. Hort. Sci.* 69:197-203. NA.
226. Gardner, W.R. and R.H. Brooks. 1957. A descriptive theory of leaching. *Soil Sci.* 83:295-304. NA.
227. Bower, C.A. and M. Fireman. 1957. Saline and alkali soils. *In: Soil. Yearbook Agr. (U.S. Dept. Agr.).* pp. 282-290.

228. Richards, L.A. and S.J. Richards. 1957. Soil moisture. *In: Soil Yearbook Agr. (U.S. Dept. Agr.)*, pp. 49-60.
229. Reeve, R.C., et al. 1957. The design of a gravel envelope for tile drains and methods of measuring soil permeability. *In: J.N. Luthin (ed.), Drainage of agricultural land. Agronomy*. 7:339-344 and 395-445. NA.
230. U.S. Salinity Staff. 1958. Salt problems in irrigated soils. U.S. Dept. Agr. Inf. Bull. 190. 12p.
231. Bower, C.A. 1959. Cation-exchange equilibria in soils affected by sodium salts. *Soil Sci.* 88:32-35. NA.
232. Allison, L.E. 1957. Effect of soil-conditioned polymers on the cation-exchange capacity. *Soil Sci.* 83:391-397. NA.
233. Pillsbury, A.F., L.O. Weeks, J.R. Spencer and R.C. Reeve. 1956. Discharge of tile drainage systems in an irrigated area of California. *Trans. Amer. Geophys. U.* 37:474-476. NA.
234. Richards, L.A. 1955. Instrument for measuring electrical conductivity of tests solutions. U.S. Patent No. 2,722,658. NA.
235. Richards, L.A. 1956. Vacuum filter. U.S. Patent No. 2,755,935. NA.
236. Reeve, R.C. 1957. The relation of salinity to irrigation and drainage requirements. 3rd Congr. Int. Comm. Irrigation and Drainage (San Francisco, Calif.) Question 10R. 10:10.175-10.187.
237. Cancelled.
238. Cancelled.
239. Bower, C.A. 1959. Chemical amendments for improving sodium soils. U.S. Dept. Agr. Inf. Bull. 195. 9p.
240. Bernstein, L. 1958. Salt tolerance of grasses and forage legumes. U.S. Dept. Agr. Inf. Bull. 194. 7p.
241. Wilcox, L.V. 1958. Determining the quality of irrigation water. U.S. Dept. Agr. Inf. Bull. 197. 6p.
242. Edminster, T.W. and R.C. Reeve. 1957. Drainage problems and methods. *In: Soil Yearbook Agr. (U.S. Dept. Agr.)* pp. 378-385. NA.
243. Gardner, W.R. 1958. Some steady-state solutions of the unsaturated moisture flow equation with application to evaporation from a water table. *Soil Sci.* 85:228-232. NA.
244. Gardner, W.R. and M. Fireman. 1958. Laboratory studies of evaporation from soil columns in the presence of a water table. *Soil Sci.* 85:244-249. NA.

245. Bower, C.A. and J.O. Goertzen. 1958. Replacement of adsorbed sodium in soils by hydrolysis of calcium carbonate. *Soil Sci. Soc. Amer. Proc.* 22:33-35.
246. Reeve, R.C. 1957. Drainage of irrigated lands. *Soil Conservation.* 23:12-15. NA.
247. Goertzen, J.O. and C.A. Bower. 1958. Carbon dioxide from plant roots as a factor in the replacement of adsorbed sodium in calcareous soils. *Soil Sci. Soc. Amer. Proc.* 22:36-37.
248. Hatcher, J.T. and C.A. Bower. 1958. Equilibria and dynamics of boron adsorption by soils. *Soil Sci.* 85:319-323.
249. Gardner, W.R. and M.S. Mayhugh. 1958. Solutions and tests of the diffusion equation for the movement of water in soil. *Soil Sci. Soc. Amer. Proc.* 22:197-201. NA.
250. Hayward, H.E. and L. Bernstein. 1958. Plant-growth relationships on salt-affected soils. *Bot. Rev.* 24:584-635. NA.
251. Richards, L.A. 1957. Water retention and transmission in soil. *Hawaiian Sugar Technol.* pp. 43-46. NA.
252. Lagerwerff, J.V. 1958. Comparable effects of adsorbed and dissolved cations on plant growth. *Soil Sci.* 86:63-69. NA.
253. Bernstein, L. and H.E. Hayward. 1958. Physiology of salt tolerance. *Annu. Rev. Plant Physiol.* 9:25-46. NA.
254. Pearson, G.A. and L. Bernstein. 1958. Influence of exchangeable sodium on yield and chemical composition of plants: II. Wheat, barley, oats, rice, tall fescue, and tall wheatgrass. *Soil Sci.* 86:254-261.
255. Miljkovic, N., A.D. Ayers and D.L. Eberhard. 1959. Salt-affected soils of Yugoslavia. *Soil Sci.* 88:51-55. NA.
256. Gardner, W.R. 1958. Mathematics of isothermal water conduction in unsaturated soils. In: *Water and Conduction in Soils.* Highway Res. Board Spec. Rep. 40. pp. 78-87. NA.
257. Wilcox, L.V. 1958. Water quality from the standpoint of irrigation. *J. Amer. Waterworks Assoc.* 50:650-654. NA.
258. Richards, L.A. and H.E. Hayward. 1959. Salinity hazards. *Intersociety Conf. Irrigation and Drainage, Proc. 1st.* pp. 93-96. NA.
259. Ehlig, C.F. and L. Bernstein. 1958. Salt tolerance of strawberries. *Proc. Amer. Soc. Hort. Sci.* 72:198-206.
260. Richards, L.A. 1959. Availability of water to crops on saline soils. *U.S. Dept. Agr. Inf. Bull.* 210. 10p.
261. Reeve, R.C. 1958. Reclamation of salt-affected soils (Abstr.). *Agr. Eng.* 39:475. NA.
262. Ehrler, W. and L. Bernstein. 1958. Effects of root temperature, mineral nutrition, and

- salinity on the growth and composition of rice. Bot. Gaz. 120:76-74. NA.
263. Pearson, G.A. 1959. Factors influencing salinity of submerged glass electrode. Soil Sci. Soc. Amer. Proc. 23:29-31.
264. Bower, C.A. 1959. Determination of sodium in saline solutions with a glass electrode. Soil Sci. Soc. Amer. Proc. 23:29-31.
265. Richards, L.A. and G. Ogata. 1958. Thermocouple for vapor pressure measurement in biological and soil systems at high humidity. Sci. 128:1089-1090.
266. Bower, C.A. and J.O. Goertzen. 1959. Surface area of soils and clays by an equilibrium ethylene glycol method. Soil Sci. 87:289-292.
267. Gardner, W.R. 1959. Solutions of the flow equation for the drying of soils and other porous media. Soil Sci. Soc. Amer. Proc. 23:183-187.
268. Reeve, R.C. 1960. The transmission of water by soils as influenced by chemical and physical properties. Int. Congr. Agr. Eng., Trans. 5th:21-32. NA.
269. Wilcox, L.V. 1959. Salinity - a hidden danger. Cotton Trade J. 26th Int. Yearbook:58, 64. NA.
270. Bower, C.A. 1960. Prediction of the effects of irrigation waters on soils. In: Salinity Problems in the Arid Zones. Proc. UNESCO Arid Zone Symp. (Tehran, Iran). 14:215-222. NA.
271. Hatcher, J.T., G.Y. Blair and C.A. Bower. 1959. Response of beans to dissolved and adsorbed boron. Soil Sci. 88:98-100.
272. Bernstein, L. 1959. Salt tolerance of vegetable crops in the West. U.S. Dept. Agr. Inf. Bull. 205. 5p.
273. Allison, L.E. 1959. A convenient apparatus for the quantitative estimation of carbon dioxide in a carrier stream. Soil Sci. Soc. Amer. Proc. 23:324-325.
274. Wilcox, L.V. 1960. Boron injury to plants. U.S. Dept. Agr. Inf. Bull. 211. 7p.
275. Cancelled.
276. Gardner, W.R. 1959. Soil Water relations in arid and semi-arid conditions. In: Plant-water relationships in arid and semi-arid conditions. Rev. of Res. (UNESCO) 15:37-61. NA.
277. Ehlig, C.F. and L. Bernstein. 1959. Foliar absorption of sodium and chloride as a factor in sprinkler irrigation. Proc. Amer. Soc. Hort. Sci. 74:661-670. NA.
278. Gardner, W.R., M.S. Mayhugh, J.O. Goertzen and C.A. Bower. 1959. Effect of electrolyte concentration and exchangeable-sodium percentage on diffusivity of water in soils. Soil Sci. 88:270-274. NA.
279. Pearson, G.A. and L. Bernstein. 1959. Salinity effects at several growth stages of rice.

- Agron. J. 51:654-657. NA.
280. Gardner, W.R. 1959. Diffusivity of soil water during sorption as affected by temperature. Soil Sci. Soc. Amer. Proc. 23:406-407.
281. Nieman, R.H. and L. Bernstein. 1959. Interactive effects of gibberellic acid and salinity on the growth of beans. Amer. J. Bot. 45:667-670. NA.
282. Wilcox, L.V. 1959. Effect of industrial wastes on water for irrigation use. Amer. Soc. Testing Materials, Spec. Tech. Publ. 273:58-64.
283. Gardner, W.R. 1960. Dynamic aspects of water availability to plants. Soil Sci. 89:63-73. NA.
284. Ayers, A.D., A. Vazquez, J. de la Rubia, F. Blasco and S. Samplon. 1960. Saline and sodic soils of Spain. Soil Sci. 90:133-138.
285. Richards, L.A. and H.T. Stumpf. 1960. Volumetric soil sampler. Soil Sci. 89:108-110. NA.
286. Allison, L.E. 1960. Wet-combustion apparatus and procedure for organic and inorganic carbon in soil. Soil Sci. Soc. Amer. Proc. 24:36-40. NA.
287. Ayers, A.D. and D.L. Eberhard. 1960. Response of edible broadbean to several levels of salinity. Agron. J. 52:110-111.
288. Pearson, G.A. 1960. Tolerance of crops to exchangeable sodium. U.S. Dept. Agr. Inf. Bull. 216. 4p.
289. Ogata, G., L.A. Richards and W.R. Gardner. 1960. Transpiration of alfalfa determined from soil water content changes. Soil Sci. 89:179-182. NA.
290. Bernstein, L. 1960. Salt tolerance of field crops. U.S. Dept. Agr. Inf. Bull. 217. 6p.
291. Bernstein, L. and R.H. Nieman. 1960. Apparent free space of plant roots. Plant Physiol. 35:589-598.
292. Pearson, G.A. and A.D. Ayers. 1960. Rice as a crop for salt-affected soil in process of reclamation. U.S. Dept. Agr. Prod. Res. Rep. 43. 13p.
293. Bower, C.A. 1961. Studies on the suspension effect with a sodium electrode. Soil Sci. Soc. Amer. Proc. 25:18-21.
294. Hatcher, J.T. 1960. Wet digestion of plant material gives low boron values. Anal. Chem. 32:726.
295. Brooks, R.H. and R.C. Reeve. 1959. Measurement of air and water permeability of soils. Trans. ASAE. 2:125, 16, and 128. NA.
296. Lagerwerff, J.V. 1960. The contact-exchange theory amended. Plant & Soil. 13:253-264.
297. Ehlig, C.F. 1960. Effects of salinity of four varieties of table grapes grown in sand culture.

- Proc. Amer. Soc. Hort. Sci. 76:323-331.
298. Lagerwerff, J.V. and J.P. Holland. 1960. Growth and mineral content of carrots and beans as related to varying osmotic and ionic composition effects in saline-sodic sand cultures. Agron. J. 52:603-608.
299. Richards, L.A. and G. Ogata. 1960. Vapor pressure depression at a tensiometer cup. Int. Congr. Soil Sci., Trans. 7th (Madison, WI). I:279-283.
300. Wills, W.O. 1960. Evaporation from layered soils in the presence of a water table. Soil Sci. Soc. Amer. Proc. 24:239-242.
301. Wilcox, L.V. 1962. Salinity caused by irrigation. J. Amer. Waterworks Assoc. 54:217-222. NA.
302. Bernstein, L. 1962. Salt-affected soils and plants. In: The Problems of the Arid Zones Proc. UNESCO Symp. (Paris, France). 18th:139-174. NA.
303. Richards, L.A. 1960. Advances in soil physics. Int. Congr. Soil Sci., Trans. 7th (Madison, WI). I:67-79. NA.
304. Derderian, M.D. 1961. Determination of calcium and magnesium in plant material with EDTA. Anal. Chem. 33:1796-1797. NA.
305. Ehlig, C.F. 1961. Salt tolerance of strawberries under sprinkler irrigation. Proc. Amer. Soc. Hort. Sci. 77:376-379.
306. Reeve, R.C. and C.A. Bower. 1960. Use of high-salt waters as a flocculent and source of divalent cations for reclaiming sodic soils. Soil Sci. 90:139-144.
307. Ehrler, W. 1960. Some effects of salinity on rice. Bot. Gaz. 122:102-104.
308. Lunin, J., M.H. Gallatin, C.A. Bower and L.V. Wilcox. 1960. Use of brackish water for irrigation in humid regions. U.S. Dept. Agr. Inf. Bull. 213. 5p.
309. Bower, C.A. 1960. Sodium electrode and its use for salinity investigations. Int. Congr. Soil Sci., Trans. 7th (Madison, WI). II:16-21. NA.
310. Bernstein, L. 1961. Tolerance of plants to salinity. Proc. Amer. Soc. Civil Eng. 87:1-12. Discussion and closure, Trans. Amer. Soc. Civil Eng. 128:561-579. NA.
311. Lagerwerff, J.V. and H.E. Eagle. 1961. Osmotic and specific effects of excess salts on beans. Plant Physiol. 36:472-477. NA.
312. Lagerwerff, J.V. and G. Ogata. 1960. Plant growth as a function of inter-acting activities of water and ions under saline conditions. Int. Congr. Soil Sci., Trans. 7th (Madison, WI). III:475-480. NA.
313. Gardner, W.R. 1960. Measurement of capillary conductivity and diffusivity with a tensiometer. Int. Congr. Soil Sci., Trans. 7th (Madison, WI). I:300-305. NA.

314. Lagerwerff, J.V., G. Ogata and H.E. Eagle. 1961. Control of osmotic pressure of culture solutions with polyethylene glycol. *Sci.* 133:1486-1487. NA.
315. Pearson, G.A. 1961. The salt tolerance of rice. *Int. Rice Comm. Newsletter.* 10:1-4.
316. Wilcox, L.V. 1961. The effect of irrigation on stream water quality. *Proc. Conf. on Water Quality in the Columbia Basin.* pp. 137-141.
317. Richards, L.A. and G. Ogata. 1961. Psychrometric measurements of soil samples equilibrated on pressure membranes. *Soil Sci. Soc. Amer. Proc.* 25:456-459.
318. Pearson, G.A. 1961. A technique for determining the salt tolerance of rice. *Int. Rice Comm. Newsletter.* 10:5-7.
319. Bernstein, L. and W.R. Gardner. 1961. Perspective on function of free pace in ion uptake by roots. *Sci.* 133:1482-1483.
320. Cancelled.
321. Reeve, R.C. 1965. Modulus of rupture. *In:* C.A. Black (ed.), *Methods of soil analysis.* Agronomy. 9:466-471. NA.
322. Reeve, R.C. 1965. Air-to-water permeability ratio. *In:* C.A. Black (ed.), *Methods of soil analysis.* Agronomy. 9:520-531. NA.
323. Gardner, W.R. 1961. Water movement and availability to plants. *Mededelingen van de Landbouwhogeschool, Ghent, Belgium.* 26:647-657. NA.
324. Bower, C.A. and L.V. Wilcox. 1965. Soluble salts. *In:* C.A. Black (ed.), *Methods of soil analysis.* Agronomy. 9:933-951. NA.
325. Bernstein, L. 1961. Osmotic adjustment of plants to saline media, I. Steady state. *Amer. J. Bot.* 48:909-918. NA.
326. Richards, L.A. 1965. Physical condition of water in soil. *In:* C.A. Black (ed.), *Methods of soil analysis.* Agronomy. 9:128-151. NA.
327. Gardner, W.R. 1962. Approximate solution of a non-steady-state drainage problem. *Soil Sci. Soc. Amer. Proc.* 26:129-132.
328. Klute, A. and W.R. Gardner. 1962. Tensiometer response time. *Soil Sci.* 93:204-207.
329. Bower, C.A. and J.T. Hatcher. 1962. Characterization of salt affected soils with respect to sodium. *Soil Sci.* 93:275-280.
330. Lagerwerff, J.V. and H.E. Eagle. 1962. Transpiration related to ion uptake by beans from saline substrates. *Soil Sci.* 93:420-430.
331. Bernstein, L. 1961. Salt tolerance of plants and the potential use of saline waters for irrigation. *Desalination Res. Conf., Nat. Acad. Sci., Nat. Res. Council Publ.* 942:273-283.

332. Gardner, W.R. and F.J. Miklich. 1962. Unsaturated conductivity and diffusivity measurements by a constant flux. *Soil Sci.* 93:271-274.
333. Klute, A. and L.A. Richards. 1962. Effect of temperature on relative vapor pressure of water in soil: Apparatus and preliminary measurements. *Soil Sci.* 93:391-396.
334. Ehlig, C.F. 1962. Measurement of energy status of water in plants with a thermocouple psychrometer. *Plant Physiol.* 37:288-290.
335. Richards, L.A. and C.A. Bower. 1962. Salt in soil. *In: After a hundred years. Yearbook Agr. (U.S. Dept. Agr.).* pp. 202-208.
336. Hatcher, J.T., G.Y. Blair and C.A. Bower. 1962. Adjusting soil solutions to specified boron concentrations. *Soil Sci.* 94:55-57.
337. Nieman, R.H. 1962. Some effects of sodium chloride on growth, photosynthesis, and respiration of twelve crop plants. *Bot. Gaz.* 123:279-285.
338. Bower, C.A., H.R. Haise, J. Legg, R.C. Reeve, R. Carlson, H.E. Dregne and R.S. Whitney. 1962. Soil salinity and irrigation in the Soviet Union. (U.S. Dept. Agr.) ARS Rep. of a Tech. Study Group. 41p.
339. Richards, L.A. and P.L. Richards. 1962. Radial-flow cell for soil-water measurements. *Soil Sci. Soc. Amer. Proc.* 26:515-518.
340. Gardner, W.R. and C.F. Ehlig. 1962. Some observations on the movement of water to plant roots. *Agron. J.* 54:453-456. NA.
341. Gardner, W.R. 1962. Note on the separation and solution of diffusion type equations. *Soil Sci. Soc. Amer. Proc.* 26:404.
342. Ehlig, C.F. and W.R. Gardner. 1962. Movement of water to plant roots studied. *Crops & Soils.* 14:24-25. NA.
343. Youngs, E.G. and W.R. Gardner. 1963. A problem of diffusion in the infinite hollow cylinder. *Soil Sci. Soc. Amer. Proc.* 27:475-476.
344. Allison, L.E. W.B. Bollen and C.D. Moodie. 1965. Total carbon. *In: C.A. Black (ed.), Methods of soil analysis.* Agronomy 9:1346-1365. NA.
- 344a. Allison, L.E. 1965. Organic carbon. *In: C.A. Black (ed.), Methods of soil analysis.* Agronomy 9:1367-1368. NA.
- 344b. Allison, L.E. and C.D. Moodie. 1965. Carbonate. *In: C.A. Black (ed.), Methods of soil analysis.* Agronomy 9:1379-1396. NA.
345. Bower, C.A. 1963. Adsorption of o-phenanthroline by clay minerals and soils. *Soil Sci.* 95:192-195.
346. Wilcox, L.V. and W.F. Resch. 1963. Salt balance and leaching requirement in irrigated lands. U.S. Dept. Agr. Tech. Bull. 1290. 23p.

347. Gardner, W.R. and D.I. Hillel. 1962. The relation of external evaporative conditions to the drying of soils. *J. Geophys. Res.* 67:4319-4325.
348. Nieman, R.H. and L.L. Poulsen. 1963. Spectrophotometric estimation of nucleic acid of plant leaves. *Plant Physiol.* 38:31-35.
349. Wilcox, L.V. 1963. Water quality requirements for agriculture. *Proc. Int. Seminar, Soil and Water Utilization (Brookings, SD)* pp. 197-198. NA.
350. Gardner, W.R. and C.F. Ehlig. 1962. Impedance to water movement in soil and plant. *Sci.* 138:522-523.
351. Bower, C.A. 1963. Diagnosing soil salinity. *U.S. Dept. Agr. Inf. Bull.* 279. 11p.
352. Akin, G.W. and J.V. Lagerwerff. 1965. Calcium carbonate equilibria in aqueous solutions open to the air. I. The solubility of calcite in relation to ionic strength. *Geochimica et Cosmochimica Acta.* 29:343-352.
353. Akin, G.W. and J.V. Lagerwerff. 1965. Calcium carbonate equilibria in solutions open to the air. II. Enhanced solubility of CaCO_3 in the presence of Mg^{2+} and SO_4^{2-} . *Geochimica et Cosmochimica Acta.* 29:353-360. NA.
354. Bernstein, L. 1964. Effects of salinity on mineral composition and growth of plants. *Plant Anal. & Fertilizer Problems.* 4:25-45.
355. Bernstein, L. 1963. Osmotic adjustment of plants to saline media. II. Dynamic phase. *Amer. J. Bot.* 50:360-370.
356. Doering, E.J. 1963. A direct method for measuring the upward flow of water from the water table. *Soil Sci.* 96:191-195.
357. Bernstein, L. 1965. Salt tolerance of fruit crops. *U.S. Dept. Agr. Inf. Bull.* 292. 8p.
358. Bernstein, L. 1964. Salt tolerance of plants. *U.S. Dept. Agr. Inf. Bull.* 283. 23p.
359. Richards, L.A. and D.L. Decker. 1963. Difficulties with electrolytic-resistance hygrometers at high humidity. *Soil Sci. Soc. Amer. Proc.* 27:481.
360. Bernstein, L. 1964. Reducing salt injury to ornamental shrubs in the West. *U.S. Dept. Agr. Home and Garden Bull.* 95. 6p.
361. Bower, C.A. and M. Maasland. 1963. Sodium hazard of Punjab ground waters. *In: Symp. on Waterlogging and Salinity in West Pakistan. West Pakistan Eng. Congr.* 50:49-61.
362. McNeal, B.L. 1964. Effect of exchangeable cations on glycol retention by clay minerals. *Soil Sci.* 97:96-102.
363. Reeve, R.C. 1965. Hydraulic head. *In: C.A. Black (ed.), Methods of soil analysis. Agronomy.* 9:180-196. NA.
364. Richards, L.A., P.F. Low and D.L. Decker. 1964. Pressure dependence of the relative

- vapor pressure of water in soil. *Soil Sci. Soc. Amer. Proc.* 28:5-8.
365. Yermaos, D.M. and L.E. Francois. 1963. Differences among seed samples from primary, secondary, and tertiary heads of safflower. *Crop Sci.* 3:560-561.
366. Francois, L.E. and L. Bernstein. 1964. Salt tolerance of safflower. *Agron. J.* 56:38-40.
367. Yermaos, D.M., L.E. Francois and L. Bernstein. 1964. Soil salinity effects on the chemical composition of the oil and the oil content of safflower seed. *Agron. J.* 56:35-37.
368. Bower, C.A. 1963. Effect of water quality on seepage through soil. *Proc. U.S. Water Conservation Lab. Seepage Symp.*, U.S. Dept. Agr. ARS-41-90. pp. 76-77. NA.
369. Gardner, W.R. 1964. Relation of root distribution to water uptake and availability. *Agron. J.* 56:41-45.
370. Ehlig, C.F. and W.R. Gardner. 1964. Relationship between transpiration and the internal water relations of plants. *Agron. J.* 56:127-130.
371. Richards, L.A. 1964. A thermocouple psychrometer for measuring the relative vapor pressure of water in liquids or porous materials. *Int. Symp. on Humidity and Moisture* (Washington, DC). *Proc.* :13-18. NA.
372. Gardner, W.R. and C.F. Ehlig. 1963. The influence of soil water on transpiration by plants. *J. Geophys. Res.* 68:5719-5724.
373. Doering, E.J., R.C. Reeve and K.R. Stockinger. 1964. Salt accumulation and salt distribution as an indicator of evaporation from fallow soils. *Soil Sci.* 97:312-319.
374. McNeal, B.L. and T. Sansoterra. 1964. The mineralogical examination of arid-land soils. *Soil Sci.* 97:367-375.
375. Bernstein, L. 1964. Salinity and roses. *Amer. Rose Annu.* pp. 120-124.
376. Bower, C.A., W.G. Harper, C.D. Moodie, R. Overstreet and L.A. Richards. 1958. Rep. of the nomenclature committee appointed by the Board of Collaborators of the U.S. Salinity Lab. *Soil Sci. Soc. Amer. Proc.* 22:270. NA.
377. Gardner, W.R. 1965. Movement of nitrogen in soil. *In:* W.V. Bartholomew and F.E. Clark (ed.), *Soil nitrogen*. *Agronomy* 10:550-570. NA.
378. Wilcox, L.V. and W.H. Durum. 1967. Quality of irrigation water. *In:* R.M. Hagan (ed.), *Irrigation of Agricultural lands*. *Agronomy* 11:104-122. NA.
379. Doering, E.J. and D.L. Decker. 1964. Apparatus for measuring low rates of water flow. *Soil Sci. Soc. Amer. Proc.* 28:716-718.
380. Bower, C.A. and J. Lunin. 1964. Problems of soil water. *In:* Farmer's world. *Yearbook Agr.* (U.S. Dept. Agr.). pp. 535-542.
381. Lagerwerff, J.V. 1964. Extraction of clay-water systems. *Soil Sci. Soc. Amer. Proc.*

- 28:502-506.
382. Gardner, W.R. 1965. Rainfall, runoff, and return. *In:* Paul L. Waggoner (ed.), Agricultural meteorology. Meteorology. 6:138-148.
383. Gardner, W.R. and R.H. Nieman. 1964. The lower limit of water availability to plants. Science. 143:1460-1462.
384. Allison, L.E. 1964. Salinity in relation to irrigation. Advance. Agron. 16:139-180. NA.
385. Bower, C.A. and L.V. Wilcox. 1965. Precipitation and solution of calcium carbonate in irrigation operations. Soil Sci. Soc. Amer. Proc. 29:93-94.
386. Bower, C.A., L.V. Wilcox, G.W. Akin and M.G. Keyes. 1965. An index of the tendency of CaCO_3 to precipitate from irrigation waters. Soil Sci. Soc. Amer. Proc. 29:91-92. (See Soil Sci. Soc. Amer. J. 42:378 for comment).
387. Ehlig, C.F. 1964. Salt tolerance of raspberry, boysenberry, and blackberry. Proc. Amer. Soc. Hort. Sci. 85:318-324.
388. Pearson, G.A. 1967. Adsorption and translocation of sodium in beans and cotton. Plant Physiol. 42:1171-1175.
389. McNeal, B.L. and R.C. Reeve. 1964. Elimination of boundary-flow errors in laboratory hydraulic conductivity measurements. Soil Sci. Soc. Amer. Proc. 28:713-714.
390. Gardner, W.R. 1964. Water movement below the root zone. Int. Congr. Soil Sci. Trans. 8th (Bucharest, Romania) II: 63-68.
391. Nieman, R.H. 1965. Expansion of bean leaves and its suppression by salinity. Plant Physiol. 40:156-161.
392. Ogata, F. and C.A. Bower. 1965. Significance of biological sulfate reduction in soil salinity. Soil Sci. Soc. Amer. Proc. 29:23-25.
393. Reeve, R.C. and Gh. Tamaddoni. 1965. Effect of electrolyte concentration on laboratory permeability and field intake rate of a sodic soil. Soil Sci. 99:261-266.
394. Reeve, R.C. and E.J. Doering. 1965. Sampling the soil solution for salinity appraisal. Soil Sci. 99:339-344. NA.
395. Bolt, G.H. and J.V. Lagerwerff. 1965. Consequences of electrolyte redistribution during pressure-membrane equilibration of clays. Soil Sci. 99:147-153. NA.
396. Reeve, R.C. and M. Fireman. 1967. Salt problems in relation to irrigation. *In:* R.M. Hagan (ed.), Irrigation of agricultural lands. Agronomy. 11:988-1008. NA.
397. Doering, E.J. 1965. Soil-water diffusivity by the one-step method. Soil Sci. 99:322-326.
398. Richards, L.A. 1965. Metallic conduction for cooling a thermocouple psychrometer bath. Soil Sci. 100:20-24.

399. Gardner, W.R. and C.F. Ehlig. 1965. Physical aspects of the internal water relations of plant leaves. *Plant. Physiol.* 40:705-710. NA.
400. Francois, L.E., D.M. Yermanos and L. Bernstein. 1964. Salt tolerance of safflower. *Calif. Agric.* 18:12, 13, 14.
401. Lagerwerff, J.V. 1965. Multiple-rate effect in ion transfer. *Soil Sci.* 100:25-33.
402. Slather, R.R. and W.R. Gardner. 1964. Overall aspects of water movement in plants and soils. *In: The state and movement of water in living organisms. Symp. Soc. ESP Biology (Swansea, Wales).* 19:113-129. NA.
403. Gardner, W.R. 1965. Dynamic aspects of soil-water availability to plants. *Annu. Rev. Plant Physiol.* 16:323-342.
404. Bower, C.A. 1965. Salinity control in irrigation agriculture. *In: FAO Report on Seminar on waterlogging in relation to irrigation and salinity problems (Lahore, Pakistan) No. 1932.* 9p. NA.
405. Lagerwerff, J.V., G.W. Akin and S.R. Moses. 1965. Detection and determination of gypsum in soils. *Soil Sci. Soc. Amer. Proc.* 29:535-540.
406. Reeve, R.C. and E.J. Doering. 1966. Field comparison of the high-salt-water dilution method and conventional methods for reclaiming sodic soils. *6th Cong. Comm. Irrigation and Drainage (New Delhi, India) Question 19R1:19.1-19.14.*
407. Bernstein, L. 1965. Salinity and citrus. *California Citrograph*, May 1965.
408. Miklich, F.J. and L.A. Richards. 1965. Radial-flow cell -- Further tests. *Soil Sci. Soc. Amer. Proc.* 29:485-487.
409. Rawlins, S.L. 1966. Theory for thermocouple psychrometers used to measure water potential in soil and plant samples. *Agr. Meterol.* 3:293-310. NA.
410. Swartzendruber, D. 1966. Variables-separable solution of the horizontal flow equation with nonconstant diffusivity. *Soil Sci. Soc. Amer. Proc.* 30:7-11. NA.
411. Doering, E.J. and R.C. Reeve. 1965. Engineering aspects of the reclamation of sodic soils with high-salt waters. *J. Irrigation and Drainage Div., Proc. Amer. Soc. Civil Eng.* 91:59-72.
412. Bower, C.A. 1966. Soil salinity. *In: Yearbook of Science and Technology.* McGraw-Hill, New York. p. 374. NA.
413. McNeal, B.L. 1966. Clay mineral variability in some Punjab soils. *Soil Sci.* 102:53-58.
414. McNeal, B.L., G.A. Pearson, J.T. Hatcher and C.A. Bower. 1966. Effect of rice culture on the reclamation of sodic soils. *Agron. J.* 58:238-240. NA.
415. Gardner, W.R. 1966. Water movement. *In: Yearbook of Science and Technology.* McGraw-Hill, New York. p. 371. NA.

416. Reeve, R.C. and E.J. Doering. 1966. The high-salt-water dilution method for reclaiming sodic soils. *Soil Sci. Soc. Amer. Proc.* 30:498-504. NA.
417. Bernstein, L. and G. Ogata. 1966. Effects of salinity on nodulation, nitrogen fixation, and growth of soybeans and alfalfa. *Agron. J.* 58:202-203. NA.
418. Pearson, G.A., A.D. Ayers and D.L. Eberhard. 1966. Relative salt tolerance of rice during germination and early seedling development. *Soil Sci.* 102:151-156.
419. Richards, L.A. 1966. A soil salinity sensor of improved design. *Soil Sci. Soc. Amer. Proc.* 30:333-337.
420. Richards, L.A. and H.T. Stumpf. 1966. Graphical recorder for a pan evaporimeter. *Water Resour. Res.* 2:209-212.
421. McNeal, B.L. and N.T. Coleman. 1966. Effect of solution composition on soil hydraulic conductivity. *Soil Sci. Soc. Amer. Proc.* 30:308-312. NA.
422. McNeal, B.L., W.A. Norvell and N.T. Coleman. 1966. Effect of solution composition on the swelling of extracted soil clays. *Soil Sci. Soc. Amer. Proc.* 30:313-317. NA.
423. Gardner, W.R. 1967. Development of modern infiltration theory and application in hydrology. *Trans. ASAE*, 10:379-381 and 390.
424. Nieman, R.H. and L.L. Poulsen. 1967. Interactive effects of salinity and atmospheric humidity on the growth of bean and cotton plants. *Bot. Gaz.* 128:69-73.
425. Bernstein, L., L.E. Francois and R.A. Clark. 1966. Salt tolerance of N. Co. varieties of sugar cane. I. Sprouting, growth, and yield. *Agron. J.* 58:489-493. NA.
426. Bernstein, L., R.A. Clark, L.E. Francois and M.D. Derderian. 1966. Salt tolerance of N, Co, varieties of sugar cane. II. Effects of soil salinity and sprinkling on chemical composition. *Agron. J.* 58:503-507. NA.
427. Gardner, W.R. 1966. Soil water movement and root absorption. *Proc. 1965 Symp. on "Plant environment and efficient water use"*. pp. 127-149. NA.
428. Bower, C.A. and J.T. Hatcher. 1966. Simultaneous determination of surface area and cation-exchange-capacity. *Soil Sci. Soc. Amer. Proc.* 30:525-527.
429. McNeal, B.L. and C.A. Bower. 1970. Evaporites in soils. *In: Encyclopedia of Soil Science*. Springer Verlag, Germany. NA.
430. Bower, C.A. and J.T. Hatcher. 1967. Adsorption of fluoride by soils and minerals. *Soil Sci.* 103:151-154.
431. Gardner, W.R. 1967. Present knowledge of the interrelationships between soil moisture, irrigation, drainage, and water-use efficiency. *In: Soil-moisture and irrigation studies*. Int. Atomic Energy Agency (Vienna, Austria) STI/PUB/137:77-82. NA.
432. Gardner, W.R. 1967. Beta-ray gauging techniques for measuring leaf-water-content

- changes and moisture state of plants. *In: Soil-moisture and irrigation studies.* Int. Atomic Energy Agency (Vienna, Austria) STI/PUB/137:54-56. NA.
433. Bernstein, L. 1967. Quantitative assessment of irrigation water quality. Amer. Soc. Testing and Materials Spec. Tech. Publ. 416. pp. 51-65.
434. Ehlig, C.F., W.R. Gardner and M. Clark. 1968. Effect of soil salinity on water potentials and transpiration in pepper (Capsicum frutescens). Agron. J. 60:249-253. NA.
435. Rawlins, S.L. and F.N. Dalton. 1967. Psychrometric measurement of water potential without precise temperature control. Soil Sci. Soc. Amer. Proc. 31:297-301. NA.
436. Rhoades, J.D. 1967. Cation exchange reactions of soil and specimen vermiculites. Soil Sci. Soc. Amer. Proc. 31:361-365.
437. Gardner, W.H. and S.L. Rawlins. 1973. Hydro-physics of arid and irrigated soils. *In: Int. Source book on Irrigation and Drainage of Arid Lands in Relation to Salinity and Alkalinity.* FAO/UNESCO. NA.
438. Dalton, F.N. and S.L. Rawlins. 1968. Design criteria for Peltier-effect thermocouple psychrometers. Soil Sci. 105:12-17.
439. Weimberg, R. 1967. Effect of sodium chloride on the activity of a soluble malate dehydrogenase from pea seeds. J. Biol. Chem. 242:3000-3006. NA.
440. Bernstein, L. 1967. Plants and the super saline habitat. Contrib. Marine Sci. 12:242-248.
441. Rhoades, J.D. and D.B. Krueger. 1968. Extraction of cations from silicate minerals during the determination of exchangeable cations in soils. Soil Sci. Soc. Amer. Proc. 32:488-492.
442. Hatcher, J.T., C.A. Bower and M. Clark. 1967. Adsorption of boron by soils as influenced by hydroxy aluminum and surface area. Soil Sci. 104:422-426.
443. Oster, J.D. and R.D. Ingvalson. 1967. *In Situ* measurement of soil salinity with a sensor. Soil Sci. Soc. Amer. Proc. 31:572-574.
444. Nieman, R.H. and L.L. Poulsen. 1967. Growth and synthesis of nucleic acid and protein by excised radish cotyledons. Plant Physiol. 42:946-952.
445. Bower, C.A., G. Ogata and J.M. Tucker. 1968. Sodium hazard of irrigation waters as influenced by leaching fraction and by precipitation or solution of calcium carbonate. Soil Sci. 106:29-34.
446. McNeal, B.L. 1968. Limitations of quantitative soil clay mineralogy. Soil Sci. Soc. Amer. Proc. 32:119-121.
447. McNeal, B.L., D.A. Layfield, W.A. Norvell and J.D. Rhoades. 1968. Factors influencing hydraulic conductivity of soils in the presence of mixed-salt solutions. Soil Sci. Soc. Amer. Proc. 32:187-190.
448. Shalhevett, J. and L. Bernstein. 1968. Effects of vertically heterogeneous soil salinity on

- plant growth and water. *Soil Sci.* 106:85-93. NA.
449. McNeal, B.L. 1968. Prediction of the effect of mixed-salt solutions on soil hydraulic conductivity. *Soil Sci. Soc. Amer. Proc.* 32:190-193.
450. Gardner, W.R. 1967. Water uptake and salt-distribution patterns in saline soils. *In:* Isotope and radiation techniques in soil physics and irrigation studies. Int. Atomic Energy Agency (Vienna, Austria) SM-94/24:335-341. NA.
451. Weimberg, R. 1968. An electrophoretic analysis of the isozymes of malate dehydrogenase in several different plants. *Plant Physiol.* 43:622-628. NA.
452. Rhoades, J.D., D.B. Krueger and M.J. Reed. 1968. The effect of soil-mineral weathering on the sodium hazard of irrigation waters. *Soil Sci. Soc. Amer. Proc.* 32:643-647. NA.
453. Rhoades, J.D. 1968. Mineral-weathering correction for estimating the sodium hazard of irrigation waters. *Soil Sci. Soc. Amer. Proc.* 32:648-652.
454. Rhoades, J.D. 1968. Leaching requirement for exchangeable-sodium control. *Soil Sci. Soc. Amer. Proc.* 32:652-656. NA.
455. Rawlins, S.L., W.R. Gardner and F.N. Dalton. 1968. *In Situ* measurement of soil and plant leaf water potential. *Soil Sci. Soc. Amer. Proc.* 32:468-470. NA.
456. Bower, C.A., J.R. Spencer and L.O. Weeks. 1969. Salt and water balance, Coachella Valley, California. *J. Irrig. & Drainage Div., ASCE*, 95(IR1), Proc. Paper 6437, pp. 55-64.
457. Oster, J.D. 1968. Measuring soil salinity. *California Citrograph*, May 1968. NA.
458. Hoffman, G.J. and W.N. Herkelrath. 1968. Design features of intact leaf thermocouple psychrometers for measuring water potential. *Trans. ASAE*, 11:631-634.
459. Bernstein, L. 1969. Salinity factors and their limits for citrus culture. *Int. Citrus Symp.*, Proc. 1st (Univ. California, Riverside) III:1779-1782.
460. Kuiper, P.J.C. 1968. Lipids in grape roots in relation to chloride transport. *Plant Physiol.* 43:1367-1371. NA.
461. Kuiper, P.J.C. 1968. Ion transport characteristics of grape root lipids in relation to chloride transport. *Plant Physiol.* 43:1372-1374.
462. Nieman, R.H. and L.L. Poulsen. 1971. Plant growth suppression on saline media: Interactions with light. *Bot. Gaz.* 132:14-19. NA.
463. Oster, J.D., S.L. Rawlins and R.D. Ingvalson. 1969. Independent measurement of matric and osmotic potential of soil water. *Soil Sci. Soc. Amer. Proc.* 33:188-192. NA.
464. Rawlins, S.L., G.J. Hoffman and H.T. Stumpf. 1968. A multiple temperature water bath. *Agr. Eng.* 49:672-673.
465. Rhoades, J.D. and L. Bernstein. 1971. Chemical, physical, and biological characteristics

- of irrigation and soil water. *In:* Leonard L. Ciaccio (ed.), Water and Water Pollution Handbook, Marcel Dekker, Inc., NY. Vol. I:141-222. NA.
466. Hoffman, G.J., C.J. Phene and S.L. Rawlins. 1969. Microchamber for studying plant response to environmental factors. *Trans. ASAE*, 12:598-601.
467. Watson, C.L., B.L. McNeal and J. Letey. 1969. The effect of surfactants on the hydraulic conductivity of salt-affected soils. *Soil Sci.* 108:58-63. NA.
468. Rhoades, J.D., R.D. Ingvalson and H.T. Stumpf. 1969. Interlayer spacings of expanded clay minerals at various swelling pressures: An X-ray diffraction technique for direct determination. *Soil Sci. Soc. Amer. Proc.* 33:473-475.
469. Rhoades, J.D. and R.D. Ingvalson. 1969. Macroscopic swelling and hydraulic conductivity properties of four vermiculitic soils. *Soil Sci. Soc. Amer. Proc.* 33:364-369.
470. Muhammed, S., B.L. McNeal, C.A. Bower and P.F. Pratt. 1969. Modification of the high-salt water method for reclaiming sodic soils. *Soil Sci.* 108:249-256. NA.
471. Hoffman, G.J., W.N. Herkelrath and R.S. Austin. 1969. Simultaneous cycling of Peltier thermocouple psychrometers for rapid water potential measurements. *Agron. J.* 61:597-601. NA.
472. Phene, C.J., R.S. Austin, G.J. Hoffman and S.L. Rawlins. 1969. Measuring temperatures with P-N junction diodes. *Agr. Eng.* 50:684-685. NA.
473. Bower, C.A., G. Ogata and J.M. Tucker. 1969. Rootzone salt profiles and alfalfa growth as influenced by irrigation water salinity and leaching fraction. *Agron. J.* 61:783-785.
474. Bernstein, L., C.F. Ehlig and R.A. Clark. 1969. Effect of grape root-stocks on chloride accumulation in leaves. *J. Amer. Soc. Hort. Sci.* 94:584-590.
475. Weimberg, R. 1970. Effect of potassium chloride on the uptake and storage of phosphate by *Saccharomyces mellis*. *J. Bacterial.* 103:37-48.
476. Weimberg, R. 1971. Recovery of exocellular acid phosphatase activity on *Saccharomyces mellis* after treatment of the organism with reagents that affect the cell surface. *J. Bacterial.* 108:1097-1106.
477. McNeal, B.L. 1970. Prediction of interlayer swelling of clays in mixed-salt solution. *Soil Sci. Soc. Amer. Proc.* 34:201-206.
478. Bower, C.A. and L.V. Wilcox. 1969. Nitrate content of the Upper Rio Grande as influenced by nitrogen fertilization of adjacent irrigated lands. *Soil Sci. Soc. Amer. Proc.* 33:971-973.
479. Hoffman, G.J. and C.J. Phene. 1971. Effect of constant salinity levels on water use efficiency of bean and cotton. *Trans. ASAE.* 14:1103-1106.
480. Gardner, H.R. and W.R. Gardner. 1969. Relation of water application to evaporation and storage of soil water. *Soil Sci. Soc. Amer. Proc.* 33:192-196. NA.

481. Hoffman, G.J. and S.L. Rawlins. 1970. Design and performance of sunlit climate chambers. *Trans. ASAE.* 13:656-660.
482. Ingvalson, R.D., J.D. Oster, S.L. Rawlins and G.J. Hoffman. 1970. Measurement of water potential and osmotic potential in soil with a combined thermocouple psychrometer and salinity sensor. *Soil Sci. Soc. Amer. Proc.* 34:570-574. NA.
483. Rhoades, J.D., R.D. Ingvalson and J.T. Hatcher. 1970. Laboratory determination of leachable soil boron. *Soil Sci. Soc. Amer. Proc.* 34:871-875. NA.
484. Rhoades, J.D., R.D. Ingvalson and J.T. Hatcher. 1970. Adsorption of boron by ferromagnesian minerals and magnesium hydroxide. *Soil Sci. Soc. Amer. Proc.* 34:938-941.
485. McNeal, B.L., J.D. Oster and J.T. Hatcher. 1970. Calculation of electrical conductivity from solution composition data as an aid to in-situ estimation of soil salinity. *Soil Sci.* 110:405-414. NA.
486. Weimberg, R. 1970. Enzyme levels in pea seedlings grown on highly salinized media. *Plant Physiol.* 46:466-470.

487. Bower, C.A., G. Ogata and J.M. Tucker. 1970. Growth of Sudan and tall fescue grasses as influenced by irrigation water salinity and leaching fraction. *Agron. J.* 62:793-794.
488. Phene, C.J., G.J. Hoffman and S.L. Rawlins. 1971. Measuring soil matric potential *in situ* by sensing heat dissipation within a porous body: I. Theory and sensor construction. *Soil Sci. Soc. Amer. Proc.* 35:27-33. NA.
489. Rhoades, J.D. and R.D. Ingvalson. 1971. Determining salinity in field soils with soil resistance measurements. *Soil Sci. Soc. Amer. Proc.* 35:54-60. NA.
490. Bernstein, L. 1971. Method for determining solutes in the cell walls of leaves. *Plant Physiol.* 47:361-365.
491. Phene, C.J., S.L. Rawlins and G.J. Hoffman. 1971. Measuring soil matric potential *in situ* by sensing heat dissipation within a porous body. II. Experimental results. *Soil Sci. Soc. Amer. Proc.* 35:225-229. NA.
492. Hoffman, G.J. and S.L. Rawlins. 1970. Infertility of cotton flowers at both high and low relative humidities. *Crop Sci.* 10:721-723.
493. Hoffman, G.J., S.L. Rawlins, M.J. Garber and E.M. Cullen. 1971. Water relations and growth of cotton as influenced by salinity and relative humidity. *Agron. J.* 63:822-826. NA.
494. Phene, C.J., G.J. Hoffman and R.S. Austin. 1973. Controlling automated irrigation with soil matric potential sensor. *Trans ASAE.* 16:773-776. NA.
495. Maas, E.V. and G. Ogata. 1971. Absorption of magnesium and chloride by excised corn roots. *Plant Physiol.* 47:357-360.

496. Oster, J.D. and L.S. Willardson. 1971. Reliability of salinity sensors for the management of soil salinity. *Agron. J.* 63:695-698. NA.
497. Oster, J.D. and B.L. McNeal. 1971. Computation of soil solution composition variation with water content for desaturated soils. *Soil Sci. Soc. Amer. Proc.* 35:436-442. NA.
498. Rawlins, S.L. 1973. Principles of managing high frequency irrigation. *Soil Sci. Soc. Amer. Proc.* 37:626-629.
499. Hoffman, G.J. 1971. Estimating leaf area from length measurements for hybrid Granex onion: Influence of salinity and relative humidity. *Agron. J.* 63:948-949.
500. Rawlins, S.L. 1971. Some new methods for measuring the components of water potential. *Soil Sci.* 112:8-16. NA.
501. Bower, C.A. 1974. Salinity of drainage waters. *In:* Jan van Schilfgaarde (ed.), Drainage for Agriculture. Agronomy 17, pp. 471-487. NA.
502. Nieman, R. and C. Willis. 1971. Correlation between the suppression of glucose and phosphate uptake and the release of protein from viable carrot root cells treated with monovalent cations. *Plant Physiol.* 28:287-293.
503. Merrill, S.D. and S.L. Rawlins. 1971. Field measurement of soil water potential with thermocouple psychrometers. *Soil Sci.* 113:102-109. NA.
504. Bernstein, L. 1974. Crop growth and salinity. *In:* Jan van Schilfgaarde (ed.), Drainage for Agriculture. Agronomy. 17:39-54. NA.
505. Hoffman, G.J. and S.L. Rawlins. 1971. Growth and water potential of root crops as influenced by salinity and relative humidity. *Agron. J.* 63:877-880. NA.
506. Hoffman, G.J., J.D. Oster and S.D. Merrill. 1972. Automated measurement of water potential and its components using thermocouple psychrometers. *In:* R.W. Brown and B.P. van Haveren (eds.), Psychrometry in Water Relations Research. Utah Agric. Expt. Station. NA.
507. Rawlins, S.L. 1972. Theory of thermocouple psychrometers for measuring plant and soil water potential. *In:* R.W. Brown and B.P. van Haveren (eds.), Psychrometry in Water Relations Research. Utah Agric. Expt. Station. NA.
508. Rhoades, J.D. 1974. Drainage for salinity control. *In:* Jan van Schilfgaarde (ed.), Drainage for Agriculture. Agronomy. 17:433-461. NA.
509. Heggestad, H.E., F.S. Santamour, Jr. and L. Bernstein. 1972. Plants that will withstand pollution and reduce it. *In:* Landscape for Living. Yearbook Agr. (U.S. Dept. Agr.). pp. 16-22.
510. Bower, C.A. and J.D. Rhoades. 1972. Fractionation of cation exchange capacity for assessing soil and water sodicity. *Soil Sci. Soc. Amer. Proc.* 36:174-175.
511. Francois, L.E. and J.R. Goodin. 1972. Interaction of temperature and salinity on

- sugarbeet germination. *Agron. J.* 64:272-273.
512. Lagerwerff, J.V. 1969. Osmotic growth inhibition and electrometric salt-tolerance evaluation of plants. *Plant & Soil.* 31:77-96. NA.
513. Rhoades, J.D. 1972. Quality of water for irrigation. *Soil Sci.* 113:277-284. NA.
514. Willardson, L.S., J.D. Oster and G.J. Hoffman. 1972. Intermittent flooding best for leaching saline soils. *Calif. Farmer.* 236:239. NA.
515. Maas, E.V. and G. Ogata. 1972. Radial transport of sodium and chloride into tomato root xylem. *Plant Physiol.* 50:64-68. NA.
516. Bower, C.A. 1972. Colorimetric, semi-quantitative test for soil salinity. *Soil Sci. Soc. Amer. Proc.* 36:527-528.
517. Bernstein, L. and L.E. Francois. 1973. Comparisons of drip, furrow, and sprinkler irrigation. *Soil Sci.* 115:73-86. NA.
518. Hoffman, G.J. 1973. Humidity effects on yield and water relations of nine crops. *Trans. ASAE.* 16:164-167.
519. Goertzen, J.O. and J.D. Oster. 1972. Potentiometric titration of sulfate in water and soil extracts using a lead electrode. *Soil Sci. Soc. Amer. Proc.* 36:691-693.
520. Maas, E.V., G. Ogata and M.J. Garber. 1972. Influence of salinity on Fe, Mn and Zn uptake by plants. *Agron. J.* 64:793-795. NA.
521. Bernstein, L., L.E. Francois and R.A. Clark. 1972. Salt tolerance of ornamental shrubs and ground covers. *J. Amer. Soc. Hort. Sci.* 97:550-556. NA.
522. Hoffman, G.J., E.V. Maas and S.L. Rawlins. 1973. Salinity-ozone interactive effects on yield and water relations of pinto bean. *J. Environ. Qual.* 2:148-152.
523. Oster, J.D., L.S. Willardson and G.J. Hoffman. 1972. Sprinkling and ponding techniques for reclaiming saline soils. *Trans ASAE.* 15:1115-1117.
524. Hoffman, G.J. and S.L. Rawlins. 1972. Silver-foil psychrometer for measuring leaf water potential in situ. *Sci.* 177:802-804.
525. Austin, R.S. and J.D. Oster. 1973. An oscillator circuit for automated salinity sensor measurements. *Soil Sci. Soc. Amer. Proc.* 37:327-329.
526. Maas, E.V., G.J. Hoffman, S.L. Rawlins and G. Ogata. 1973. Salinity-ozone interactions on pinto beans: Integrated response to ozone concentration and duration. *J. Environ. Qual.* 2:400-404.
527. Rhoades, J.D. 1975. Secondary mineral formations and weathering reactions in salt-affected soils. *Proc. Int'l Symp. on New Developments in the Field of Salt-Affected Soils*, Ministry of Agric., UAR, pp. 788-801. NA.

528. Wesseling, J. and J.D. Oster. 1973. Response of salinity sensors to rapidly changing salinity. *Soil Sci. Soc. Amer. Proc.* 37:553-557.
529. Cancelled.
530. Willardson, L.S. and J.D. Oster. 1974. Salinity sensor control of drip irrigation water application. *Proc. 2nd Int'l Drip Irrig. Congress*, San Diego, CA, pp. 335-774. NA.
531. Wesseling, J. 1974. Hydraulic conductivity of natural Pachappa soil columns. *Soil Sci.* 118:6-10.
532. Rhoades, J.D., R.D. Ingvalson, J.M. Tucker and M. Clark. 1973. Salts in irrigation drainage waters. I. Effects of irrigation water composition, leaching fraction, and time of year on the salt compositions of irrigation drainage waters. *Soil Sci. Soc. Amer. Proc.* 37:770-774. NA.
533. Weimberg, R. 1975. Polyphosphate levels in non-growing cells of Saccharomyces mellis as determined by magnesium ion and the phenomenon of überkompensation. *J. Bacterial.* 121:1122-1130.
534. Weimberg, R. 1976. Repression of the acid phosphatase of Saccharomyces bisporus in relation to the polyphosphate content of the cells. *Can. J. Microbiol.* 22:867-872.
535. Ogata, G. and E.V. Maas. 1974. Interactive effects of salinity and ozone on growth and yield of garden beet. *J. Environ. Qual.* 2:518-520.
536. Bernstein, L. and L.E. Francois. 1973. Leaching requirement studies: Sensitivity of alfalfa to salinity of irrigation and drainage waters. *Soil Sci. Soc. Amer. Proc.* 37:931-943.
537. van Schilfgaarde, J., L. Bernstein, J.D. Rhoades and S.L. Rawlins. 1974. Irrigation management for salt. *J. Irrig. and Drainage Div., ASCE*, 100(IR3):321-338. Closure: 102(IR4):467-469.
538. Halvorson, A.D. and J.D. Rhoades. 1974. Assessing soil salinity and identifying potential saline-seep areas with field soil resistance measurements. *Soil Sci. Soc. Amer. Proc.* 38:576-581. NA.
539. Bernstein, L., L.E. Francois and R.A. Clark. 1974. Interactive effects of salinity and fertility on yields of grains and vegetables. *Agron. J.* 66:412-421. NA.
540. Rhoades, J.D., J.D. Oster, R.D. Ingvalson, J.M. Tucker and M. Clark. 1974. Minimizing the salt burdens of irrigation drainage waters. *J. Environ. Qual.* 3:311-316. NA.
541. Oster, J.D. and J.D. Rhoades. 1975. Calculated drainage water compositions and salt burdens resulting from irrigation with river waters in the western United States. *J. Environ. Qual.* 4:73-79. NA.
542. Raats, P.A.C. 1974. Steady flows of water and salt in uniform soil profiles with plant roots. *Soil Sci. Soc. Amer. Proc.* 38:717-722. NA.
543. Bernstein, L. and L.E. Francois. 1975. Effects of frequency of sprinkling with saline waters

- compares with daily drip irrigation. *Agron. J.* 67:185-190. NA.
544. Branson, R.L., P.F. Pratt, J.D. Rhoades and J.D. Oster. 1975. Water quality in irrigated watersheds. *J. Environ. Qual.* 4:33-40. NA.
545. Raats, P.A.C. 1975. Transformation of fluxes and forces describing the simultaneous transport of water and heat in unsaturated porous media. *Water Resour. Res.* 11:938-942.
546. Dirksen, C. 1975. Determination of soil water diffusivity by sorptivity measurements. *Soil Sci. Soc. Amer. Proc.* 39:22-27.
547. Bernstein, L., L.E. Francois and R.A. Clark. 1975. Minimal leaching with varying root depths of alfalfa. *Soil Sci. Soc. Amer. Proc.* 39:12-115.
548. Weimberg, R. 1975. Effect of growth in highly salinized media on the enzymes of the photosynthetic apparatus in pea seedlings. *Plant Physiol.* 56:8-12.
549. Raats, P.A.C. 1974. Movement of water and salts under high frequency irrigation. *Proc. 2nd Int'l Drip Irrig. Congress*, San Diego, CA, pp. 222-227. NA.
550. Rawlins, S.L. 1974. Reverse flushing techniques for bi-wall drip tubing. *Proc. 2nd Int'l Drip Irrig. Congress*, San Diego, CA, pp. 209-211. NA.
551. Rawlins, S.L., G.J. Hoffman and S.D. Merrill. 1974. Traveling trickle system. *Proc. 2nd Int'l Drip Irrig. Congress*, San Diego, CA, pp. 184-187. NA.
552. Hoffman, G.J., S.L. Rawlins, J.D. Oster and S.D. Merrill. 1974. Salinity management for high frequency irrigation. *Proc. 2nd Int'l Drip Irrig. Congr.*, San Diego, CA, pp. 372-375. NA.
553. Nieman, R.H. and R.A. Clark. 1976. Interactive effects of salinity and phosphorous nutrition on the concentrations of phosphate and phosphate esters in mature photosynthesizing corn leaves. *Plant Physiol.* 57:157-161.
554. Hoffman, G.J., E.V. Maas and S.L. Rawlins. 1975. Salinity-ozone interactive effects on alfalfa yield and water relations. *J. Environ. Qual.* 4:326-331.
555. Dirksen, C. 1974. Field test of soil water flux meters. *Trans. ASAE.* 17:1038-1042.
556. Bernstein, L. 1975. Effects of salinity and sodicity on plant growth. *Ann. Rev. of Phytopathol.* 13:295-312. NA.
557. Raats, P.A.C. 1975. Distribution of salts in the root zone. *J. Hydrology.* 27:237-248. NA.
558. van Schilfgaarde, J. 1975. Water conservation and management. *Proc. Calif. Chap. ASA*, Anaheim, January 1975. pp. 3-10. NA.
559. Ingvalson, R.D., J.D. Rhoades and A.L. Page. 1976. Correlation of alfalfa yield with various indices of salinity. *Soil Sci.* 122:145-153.
560. Rawlins, S.L. and P.A.C. Raats. 1975. Prospects for high frequency irrigation. *Sci.*

- 188:604-610. NA.
561. Oster, J.D., L.S. Willardson, J. van Schilfgaarde and J.O. Goertzen. 1976. Irrigation control using tensiometers and salinity sensors. Trans. ASAE. 19:294-298. NA.
562. Rawlins, S.L. 1976. Measurement of water content and the state of water in soils. In: T.T. Kozlowski (ed.), Water Deficits and Plant Growth. Vol. IV:1-55. Academic Press. NA.
563. Raats, P.A.C. 1977. Laterally confined, steady flows of water from sources and to sinks in unsaturated soils. Soil Sci. Soc. Am. J. 41:294-304.
564. van Schilfgaarde, J. 1976. Water management and salinity. FAO Soils Bulletin. 31:53-67. NA.
565. Rhoades, J.D. and S.D. Merrill. 1976. Assessing the suitability of water for irrigation: Theoretical and empirical approaches. FAO Soils Bulletin. 31:69-109. NA.
566. Rhoades, J.D. 1976. Measuring, mapping and monitoring field salinity and water table depths with soil resistance measurements. FAO Soils Bulletin. 31:159-186. NA.
567. Francois, L.E. 1976. Salt tolerance of prostrate summer cypress (Kochia prostrata). Agron. J. 68:455-456.
568. Hoffman, G.J. and A.E. Hall. 1976. Performance of silver-foil psychrometer for measuring leaf water potential In Situ. Agron. J. 68:872-875.
569. Hall, A.E. and G.J. Hoffman. 1976. Leaf conductance response to humidity and water transport in plants. Agron. J. 68:876-881. NA.
570. van Schilfgaarde, J. 1976. Drainage means survival on irrigated land. Drainage Contractor. 1:106-108. NA.
571. Raats, P.A.C. 1976. Analytical solutions of simplified flow equation. Trans. ASAE. 19:683-689.
572. Maas, E.V. and G.J. Hoffman. 1977. Crop salt tolerance - current assessment. J. Irrig. & Drng. Div., ASCE 103(IR2):115-1314. NA.
573. Shalhevett, J., E.V. Maas, G.J. Hoffman and G. Ogata. 1976. Salinity and the hydraulic conductance of roots. Physiol. Plant. 38:224-232. NA.
574. Kaddah, M.T. and J.D. Rhoades. 1976. Salt and water balance in Imperial Valley, California. Soil Sci. Soc. Am. J. 40:93-100. NA.
575. Hoffman, G.J. 1975. Salinity management with drip irrigation. Drip/Trickle Irrig. J. 1:14-18, 22. NA.
576. Rhoades, J.D. and J. van Schilfgaarde. 1976. An electrical conductivity probe for determining soil salinity. Soil Sci. Soc. Am. J. 40:647-651. NA.
577. Rhoades, J.D. and A.D. Halvorson. 1976. Detecting and delineating saline seeps with soil

- resistance measurements. Proc. Saline Seep Control Symp., Montana State Univ., Bozeman, Bulletin 1132:19-34. NA.
578. Maas, E.V. and G.J. Hoffman. 1976. Evaluation and use of crop salt tolerance data. Proc. Saline Seep Control Symp., Montana State Univ., Bozeman, Bull. 1132:245-252. NA.
579. Rhoades, J.D., M.T. Kaddah, A.D. Halvorson and R.J. Prather. 1977. Establishing soil electrical conductivity-salinity calibrations using four-electrode cells containing undisturbed soil cores. Soil Sci. 123:137-141. NA.
580. van Schilfgaarde, J. 1976. Some observations pertinent to irrigation management. In Efficiency of Water and Fertilizer Use in Semi-Arid Regions, IAEA Tech. Doc. 192:243-248. NA.
581. Suarez, D.L. 1977. Ion activity products of calcium carbonate in waters below the root zone. Soil Sci. Soc. Am. J. 41:310-315.
582. Rhoades, J.D., P.A.C. Raats and R.J. Prather. 1976. Effects of liquid-phase electrical conductivity on bulk soil electrical conductivity. Soil Sci. Soc. Am. J. 40:651-655. NA.
583. Adams, J.A., F.T. Bingham, M.R. Kaufman, G.J. Hoffman and D.M. Yermanos. 1978. Responses of stomata and water, osmotic, and turgor potentials of Jojoba to water and salt stress. Agron. J. 70:381-387. NA.
584. Halvorson, A.D. and J.D. Rhoades. 1976. Field mapping soil conductivity to delineate dryland saline seeps with four-electrode technique. Soil Sci. Soc. Am. J. 40:571-575. NA.
585. Shannon, M.C. and L.E. Francois. 1977. Influence of seed pretreatments on salt tolerance of cotton during germination. Agron. J. 69:619-622.
586. Rawlins, S.L. 1976. Minimized leaching for reducing water quality degradation -- Advantages and limitations. Presented at annual meeting, Calif. Chap. ASA, Sacramento, January 1976. NA.
587. Rawlins, S.L. 1977. Irrigation and the energy economics of water management for hydrologic basins. In: William Lockeretz (ed.), Agriculture and Energy. Academic Press, NY. pp. 131-147. NA.
588. Maas, E.V. and G.J. Hoffman. 1977. Crop salt tolerance: Evaluation of existing data. Proc. Int'l Salinity Conf., Texas Tech. Univ., Lubbock, August 1976. pp. 187-198. NA.
589. Suarez, D.L. and J.D. Rhoades. 1977. Effect of leaching fraction on river salinity. J. Irrig. & Drng. Div., ASAE 103(IR2):245-257.
590. Oster, J.D. and J.D. Rhoades. 1977. Various indices for evaluating the effective salinity and sodicity of irrigation waters. Proc. Int'l Salinity Conf., Texas Tech. Univ., Lubbock, August 1976. pp. 1-14. NA.
591. Raats, P.A.C. 1977. Convective transport of solutes in and below the root zone. Proc. Int'l Salinity Conf., Texas Tech. Univ., Lubbock, August 1976. pp. 290-298. NA.

592. Raats, P.A.C. 1978. Convective transport of solutes by steady flows. I. General theory, and II. Specific flow problems. *Agric. Water Mgmt.* 1:201-218 and 219-232.
593. Rhoades, J.D. and A.D. Halvorson. 1977. Electrical conductivity methods for detecting and delineating saline seeps and measuring salinity in Northern Great Plains soils. *ARS W-42.* 45p.
594. Polemio, M. and J.D. Rhoades. 1977. Determining cation-exchange-capacity: A new procedure for calcareous and gypsiferous soils. *Soil Sci. Soc. Am. J.* 41:524-528. NA.
595. Austin, R.S. and S.L. Rawlins. 1977. Optoelectronic level detector for mercury manometer. *Agric. Engr.* 58:29-30. NA.
596. Rhoades, J.D. and D.L. Suarez. 1976. Benefits and limitation of reduced leaching. *Proc. Conf. on salt and salinity management, Santa Barbara, CA. Calif. Water Resour. Ctr., Rpt. No. 38:93-110.* NA.
597. Cerda, A., F.T. Bingham and G.J. Hoffman. 1977. Interactive effect of salinity and phosphorus on sesame. *Soil Sci. Soc. Am. J.* 41:915-918. NA.
598. Frenkel, H. and J.D. Rhoades. 1978. Effects of dispersion and swelling on soil hydraulic conductivity. *J. Testing and Evaluation, ASTM* 6:60-65.
599. Nieman, R.H. and M.C. Shannon. 1977. Screening plants for salinity. *In: M.J. Wright (ed.), Plant Adaptation to Mineral Stress in Problem Soils. Proc. Workshop at Natl. Agric. Library, Beltsville, MD 1976:359-367.* NA.
600. Maas, E.V. and R.H. Nieman. 1978. Physiology of plant tolerances to salinity. *In: G.A. Jung (ed.), Crop Tolerance to Suboptimal Land Conditions, Chap. 13, ASA Spec. Pub. 32:277-299.* NA.
601. Prather, R.J. 1977. Sulfuric acid as an amendment for reclaiming soils high in boron. *Soil Sci. Soc. Am. J.* 41:1098-1101.
602. Rawlins, S.L. 1977. Uniform irrigation with a low-head bubbler system. *Agric. Water Mgmt.* 1:167-178. NA.
603. van Schilfgaarde, J. and G.J. Hoffman. 1977. Managing salt by drainage in irrigated agriculture. *Proc. 3rd Natl. Drainage Symp., ASAE Pub. 1-77:84-86.* NA.
604. Rawlins, S.L. 1977. High-frequency irrigation and green revolution food production. *Annals of the New York Acad. of Sciences.* 300:121-128.
605. Hoffman, G.J. and J.A. Jobes. 1978. Growth and water relations of cereal crops as influenced by salinity and relative humidity. *Agron. J.* 70:765-769.
606. Suarez, D.L. and J.D. Rhoades. 1982. The apparent solubility of calcium carbonate in soils. *Soil Sci. Soc. Am. J.* 46:716-722.
607. Hoffman, G.J., C. Dirksen, R.D. Ingvalson, E.V. Maas, J.D. Oster, S.L. Rawlins, J.D. Rhoades and J. van Schilfgaarde. 1978. Minimizing salt in drain water by irrigation

- management - Design and initial results of Arizona field studies. *Agric. Water Mgmt.* 1:233-252.
608. van Schilfgaarde, J. and J.D. Oster. 1977. Irrigation management conserves water. *Calif. Agric.* 31:15-16. NA.
609. Frenkel, H. and D.L. Suarez. 1977. Hydrolysis and decomposition of calcium montmorillonite. *Soil Sci. Soc. Am. J.* 41:887-891.
610. Halvorson, A.D., J.D. Rhoades and C.A. Ruele. 1977. Soil salinity-four-electrode conductivity relationships for soils of the Northern Great Plains. *Soil Sci. Soc. Am. J.* 41:966-971. NA.
611. Rhoades, J.D. 1977. Potential for using saline agricultural drainage waters for irrigation. *Proc. Water Mgmt. for Irrigation and Drainage, ASCE/Reno, NV, July 1977:*85-116. NA.
612. Frenkel, H., J.O. Goertzen and J.D. Rhoades. 1978. Effects of clay type and content, exchangeable sodium percentage, and electrolyte concentration on clay dispersion and soil hydraulic conductivity. *Soil Sci. Soc. Am. J.* 42:32-39.
613. U.S. Salinity Laboratory Staff. 1977. Minimizing salt in return flow through irrigation management. *EPA Interagency Proj. No. IAG-D4-0370. EPA-600/2/77/134.* 111 p. NA.
614. van Schilfgaarde, J. 1977. Minimizing salt in return flow by improving irrigation efficiency. *Proc. Natl. Conf. on Irrigation Return Flow Quality Management, Ft. Collins, CO, May 1977:*81-98. NA.
615. Dirksen, C. 1977. Comment on the "Concise Formulation of Diffusive Absorption of Water in a Dry Soil: by Wilfried Brutsaert. *Water Resour. Res.* 13:1019-1020.
616. Oster, J.D. and J.D. Wood. 1977. Hydro-salinity models: Sensitivity to input variables. *Proc. Natl. Conf. on Irrigation Return Flow Quality Management, Ft. Collins, CO, May 1977:*253-259. NA.
617. Wood, J.D. 1978. Calibration stability and response time for salinity sensors. *Soil Sci. Soc. Am. J.* 42:248-250.
618. Cancelled.
619. Hoffman, G.J., J.A. Jobes, Z. Hanscom and E.V. Maas. 1978. Timing of environmental stress affects growth, water relations and salt tolerance of pinto bean. *Trans. ASAE.* 21:713-718, 722.
620. Shannon, M.C. and L.E. Francois. 1978. Salt tolerance of three muskmelon cultivars. *J. Am. Soc. Hort. Sci.* 103:127-130.
621. Rhoades, J.D. and D.L. Suarez. 1977. Reducing water quality degradation through minimized leaching management. *Agric. Water Mgmt.* 1:127-142. NA.
622. Francois, L.E. and R.A. Clark. 1978. Salt tolerance of ornamental shrubs, trees, and iceplant. *J. Am. Soc. Hort. Sci.* 103:280-283.

623. Dirksen, C. and M.J. Huber. 1978. Soil water flow model with two-dimensional automatic gamma ray attenuation scanner. *Water Resour. Res.* 14:611-614.
624. van Schilfgaarde, J. 1976. Using our natural resources for man's benefit. *Proc. 32nd An. Mtg., Soil Conserv. Soc. Am., Minneapolis, MN.*, August 1976:63-67.
625. Nassery, H., G. Ogata, R.H. Nieman and E.V. Maas. 1978. Growth, phosphate pools, and phosphate mobilization of salt stressed sesame and pepper. *Plant. Physiol.* 62:229-231.
626. Nassery, H., G. Ogata and E.V. Maas. 1979. Sensitivity of sesame to various salts. *Agron. J.* 71:595-597.
627. Dirksen, C. 1978. Transient and steady flow from subsurface line sources at constant hydraulic head in an isotropic soil. *Trans. ASAE.* 21:913-919.
628. Shannon, M.C. 1978. Testing salt tolerance variability among tall wheatgrass lines. *Agron. J.* 70:719-722.
629. van Schilfgaarde, J. 1977. Discussion: Enhancing natural resource use to increase world food production. *Am. J. Agr. Econ.* 59:851-852.
630. Rawlins, S.L. 1978. Low-head bubbler irrigation uses plastic. *Drainage Contractor.* 4:84-85. NA.
631. Huber, M.J. and C. Dirksen. 1978. Multiple tensiometer flushing system. *Soil Sci. Soc. Am. J.* 42:168-170.
632. Hoffman, G.J., R.S. Ayers, E.J. Doering and B.L. McNeal. 1980. Salinity in irrigated agriculture. *In: M.E. Jensen (ed.), Chap. 5, Design and Operation of Farm Irrigation Systems.* ASAE Monograph:145-185. NA.
633. Nieman, R.H., D.L. Pap and R.A. Clark. 1978. Rapid purification of plant nucleotide extracts with XAD-2, polyvinylpolypyrrolidone and charcoal. *J. Chromatogr.* 161:137-146. NA.
634. Merrill, S.D., P.A.C. Raats and C. Dirksen. 1978. Laterally confined flow from a point source at the surface of an inhomogeneous soil column. *Soil Sci. Soc. Am. J.* 42:851-857.
635. van Schilfgaarde, J. 1978. On-farm water management for minimal leaching. *Proc. Calif. Chap. Am. Soc. Agron., Fresno, January 1978.* Abstract Only:78. NA.
636. Oster, J.D. and I. Shainberg. 1979. Exchangeable cation hydrolysis and soil weathering as affected by exchangeable sodium. *Soil Sci. Soc. Am. J.* 43:70-75.
637. van Schilfgaarde, J. 1979. Progress and problems in drainage design. *Proc. Int'l Drainage Workshop, The Netherlands, May 1978.* Publ. 25, Int'l Inst. for Land Reclamation and Improvement: 633-644. NA.
638. Merrill, S.D. and S.L. Rawlins. 1979. Distribution and growth of sorghum roots in response to irrigation frequency. *Agron. J.* 71:738-745.
639. Prather, R.J., J.O. Goertzen, J.D. Rhoades and H. Frenkel. 1978. Efficient amendment use

- in sodic soil reclamation. *Soil Sci. Soc. Am. J.* 42:782-786.
640. Rhoades, J.D. and M. Clark. 1978. Sampling procedures and chemical methods in use at the U.S. Salinity Laboratory for characterizing salt-affected soils and waters. p. 116-151. *In: Proc. Soil, Water and Plant Analyses Workshop, Riyadh* (ed.), Mansur Aba-Hussayn, Ministry of Agric. & Water Riyadh, Saudi Arabia, October 1977.
641. Francois, L.E. and R.A. Clark. 1979. Accumulation of sodium and chloride in leaves of sprinkler--irrigated grapes. *J. Amer. Soc. Hort. Sci.* 104:11-13.
642. Shannon, M.C. and M. Akbar. 1980. Breeding plants for salt tolerance. *In: Workshop/seminar on Membrane Biophysics and Development of Salt Tolerance in Plants. Proc. Faisalabad, Pakistan, March 11-21, 1978.* pp. 222-243. NA.
643. van Schilfgaarde, J. 1979. Environmental and institutional aspects of irrigation agriculture. *Trans. ASAE.* 22:344-250.
644. Oster, J.D. and A.D. Halvorson. 1978. Saline seep chemistry. *Proc. Dryland-Saline-Seep Control Mtg. at 11th ISSS Congress, Edmonton, Canada, June 1978.* 2-7 and 2-9.
645. Suarez, D.L. 1978. Comment on "The solubilities of carbonates and phosphates in calcareous soil suspensions" by Marion and Babcock. *Soil Sci. Soc. Am. J.* 42:988-989.
646. Cerda, A., F.T. Bingham, G.J. Hoffman and C.K. Huszar. 1979. Leaf water potential and gaseous exchange of wheat and tomato as affected by NaCl and P levels in the root medium. *Agron. J.* 71:27-31. NA.
647. Merrill, S.D. and S.L. Rawlins. 1979. Observation of root growth through ports covered with polyethylene sheeting as compared with other methods. *Soil Sci.* 127:351-357.
648. Fereres, E., G. Cruz-Romero, G.J. Hoffman and S.L. Rawlins. 1979. Recovery of orange trees following severe water stress. *J. Appl. Ecology.* 16:833-842. NA.
649. Hoffman, G.J., S.L. Rawlins, J.D. Oster, J.A. Jobes and S.D. Merrill. 1979. Leaching requirement for salinity control. I. Wheat, sorghum, and lettuce. *Agric. Water Mgmt.* 2:177-192.
650. Oster, J.D. and F.W. Schroer. 1979. Infiltration as influenced by irrigation water quality. *Soil Sci. Soc. Am. J.* 43:444-447.
651. Francois, L.E. and E.V. Maas. 1978. Plant responses to salinity: An indexed bibliography. USDA, ARM-W-6.
652. Rhoades, J.D. 1978. Monitoring soil salinity: A review of methods. *Establishment of water quality monitoring programs, L.G. Everett, K.D. Schmidt (eds.). Am. Water Resour. Assoc., San Francisco, CA., June 1978.* 2:150-165. NA.
653. Austin, R.S. and J.D. Rhoades. 1979. A compact, low-cost circuit for reading four-electrode salinity sensors. *Soil Sci. Soc. Am. J.* 43:808-810.
654. Rhoades, J.D. 1979. Inexpensive four-electrode probe for monitoring soil salinity. *Soil Sci.*

- Soc. Am. J. 43:817-818.
655. Suarez, D.L. 1983. Calcite supersaturation and precipitation kinetics in the lower Colorado River, All-American Canal and East Highline Canal. *Water Resour. Res.* 19:652-661.
656. Suarez, D.L. and H. Frenkel. 1981. Cation release from sodium and calcium-saturated clay-sized soil fractions. *Soil Sci. Soc. Am. J.* 45:716-722.
657. Shannon, M.C. 1979. In quest of rapid screening techniques for plant salt tolerance. *HortScience.* 14:587-589.
658. Francois, L.E. and R.A. Clark. 1979. Boron tolerance of twenty-five ornamental shrub species. *J. Amer. Soc. Hort. Sci.* 104:319-322.
659. Dirksen, C., J.D. Oster and P.A.C. Raats. 1979. Water and salt transport, water uptake, and leaf water potentials during regular and suspended high frequency irrigation of citrus. *Agric. Water Mgmt.* 2:241-256.
660. Dirksen, C. 1979. Flux-controlled sorptivity measurements to determine soil hydraulic property functions. *Soil Sci. Soc. Am. J.* 43:827-834.
661. Maas, E.V., G. Ogata and M.H. Finkel. 1979. Salt-induced inhibition of phosphate transport and release of membrane proteins from barley roots. *Plant Physiol.* 64:139-143.
662. Rhoades, J.D. 1982. Cation exchange capacity. (ed.) *Methods of Soil Analysis, Part 2, Chemical and Microbiological Properties.* Agron. Monogr. 9:149-157.
663. Kleijn, W.B., J.D. Oster and N. Cook. 1979. A rainfall simulator with nonrepetitious movement of drop outlets. *Soil Sci. Soc. Am. J.* 43:1248-1251.
664. Oster, J.D. and H. Frenkel. 1980. The chemistry of the reclamation of sodic soils with gypsum and lime. *Soil Sci. Soc. Am. J.* 44:41-45.
665. van Schilfgaarde, J. and S.L. Rawlins. 1980. Water resources management in a growing society. *In:* T.R. Sinclair (ed.), *Efficient Water Use in Crop Production.* Amer. Soc. Agron. 12:517-530.
666. Hoffman, G.J. 1979. Humidity. *In:* T.W. Tibbitts and T.T. Kozlowski (eds.), *Controlled Environment Guidelines for Plant Research.* Academic Press, NY pp. 141-172. NA.
667. Rawlins, S.L. 1979. Watering. *In:* T.W. Tibbitts and T.T. Kozlowski (eds.), *Controlled Environment Guidelines for Plant Research.* Academic Press, NY pp. 271-289. NA.
668. Hoffman, G.J., J. Shalhavet and A. Meiri. 1980. Leaf age and salinity influence water relations of pepper leaves. *Physiol. Plantarium.* 48:463-469.
669. van Genuchten, M.Th. 1978. Mass transport in saturated-unsaturated media: One-dimensional solutions. *Water Resour. Program, Dept. of Civil Engineering, Princeton Univ., Princeton, NJ Res. Rept. 78-WR-11,* 118 p.
670. van Genuchten, M.Th. 1978. Numerical solutions of the one-dimensional saturated-

- unsaturated flow equation. Water Resour. Program, Dept. of Civil Engineering, Princeton Univ., Princeton, NJ Res. Rpt. 78-WR-9, 91p.
671. van Genuchten, M.Th. 1978. Calculating the unsaturated hydraulic conductivity with a new closed-form analytical model. Water Resour. Program, Dept. of Civil Engineering, Princeton Univ., Princeton, NJ Res. Rpt. 78-WR-8, 63p.
672. Oster, J.D. and G. Sposito. 1980. The Gapon coefficient and the exchangeable sodium percentage-sodium adsorption ratio relation. *Soil Sci. Soc. Am. J.* 44:258-260.
673. Rhoades, J.D. 1982. Soluble salts. In: A.L. Page, R.H. Miller and D.R. Kenney (eds.), "Methods of Soil Analysis. Part 2, Chemical and Microbiological Properties", Agron. Monogr. 9:167-178.
674. Francois, L.E. 1980. Salt injury to ornamental shrubs and ground covers. *Home & Garden Bull.* No. 231, July 1980. (Supersedes Home & Garden Bull. No. 95, Reducing Salt Injury to Ornamental Shrubs in the West, May 1964).
675. Shainberg, I., J.D. Rhoades and R.J. Prather. 1980. Effect of exchangeable sodium percentage, cation exchange capacity, and soil solution concentration on soil electrical conductivity. *Soil Sci. Soc. Am. J.* 44:469-473.
676. Maas, E.V. and M. Finkel. 1979. Origin of proteins released from barley roots by osmotic shock. *Plant Sci. Lett.* 17:7-12.
677. Francois, L.E. and R.A. Clark. 1980. Salinity effects on yield and fruit quality of "Valencia" orange. *J. Amer. Soc. Hort. Sci.* 105:199-202.
678. van Schilfgaarde, J. 1979. Salinity management for soybean production. Proc. Conf. "Irrigated Soybeans Production in Arid and Semi-Arid Regions", Cairo, Egypt, September 1979. INTSOY Ser. No. 20. pp. 105-110.
679. van Schilfgaarde, J. 1979. Water conservation potential in irrigated agriculture. Proc. Soil Conserv. Soc. of America's 34th Annual Mtg., Ottawa, Canada, July-August 1979. NA.
680. Oster, J.D. and I. Shainberg. 1980. Predicting the hydraulic properties of sodic soils. Proc. Symp. on Principles and Practices for Reclamation of Salt-Affected Soils. Central Soil Salinity Res. Inst., Karnal, India. February 1980. pp. 195-201. NA.
681. Hoffman, G.J. 1980. Leaching requirement for salinity control in agriculture. Proc. Symp. on Principles and Practices for Reclamation of Salt-Affected Soils. Central Soil Salinity Res. Inst., Karnal, India. February 1980. pp. 227-282. NA.
682. van Genuchten, M.Th. 1980. A closed-form equation for predicting the hydraulic conductivity of unsaturated soils. *Soil Sci. Soc. Am. J.* 44:892-898.
683. Shainberg, I., J.D. Oster and J.D. Wood. 1982. Electrical conductivity of Na/Ca montmorillonite gels. *Clays & Clay Miner.* 30:55-62.
684. Oster, J.D., I. Shainberg and J.D. Wood. 1980. Flocculation value and gel structure of Na/Ca montmorillonite and illite suspension. *Soil Sci. Soc. Am. J.* 44:955-959.

685. Hoffman, G.J., E.V. Maas, J.L. Meyer, T.L. Prichard and D.R. Lancaster. 1979. Salt tolerance of corn in the Delta. Calif. Agric. 33:11-12. NA.
686. Rhoades, J.D. 1979. Salinity management and monitoring. Proc. 12th Biennial Conf. on Ground Water. Sacramento, CA., September 1979. Calif. Water Resour. Ctr. Rpt. 45:73-87. NA.
687. Hoffman, G.J. 1979. Knowing evapotranspiration of orange trees essential. Calif-Ariz. Farm Press. 1:32.
688. Suarez, D.L. and M.Th. van Genuchten. 1981. Leaching and water-type effects on ground water quality. J. Irrig. & Drainage Div., ASAE. 107(IR1):35-52.
689. Hoffman, G.J. 1982. Alleviating salinity stress. In: G.F. Arkin and H.M. Taylor (eds.), "Modifying the Root Environment to Reduce Crop Stress". Amer. Soc. Agr. Eng. Monogr. pp. 305-343. NA.
690. Maas, E.V. 1979. Sprinkler system with saline water can damage your crops. Calif-Ariz. Farm Press. 1:18. NA.
691. Rawlins, S.L. 1979. Energy economics of irrigation. Calif-Ariz. Farm Press. 11:7, 42. NA.
692. Babu, D.K. and M.Th. van Genuchten. 1980. A perturbation solution of the nonlinear Boussinesq equation: The case of constant injection into a radial aquifer. J. Hydrol. 48:269-280.
693. Suarez, D.L. 1981. Relationship between pH and SAR and an alternative method of estimating SAR of soil or drainage water. Soil Sci. Soc. Am. J. 45:469-475.
694. Rawlins, S.L. 1980. Irrigation in a future short of energy. Editor's Forum, Crops and Soils Magazine, February 1980. pp. 5-7.
695. Shainberg, I., J.D. Oster and J.D. Wood. 1980. Sodium/calcium exchange in montmorillonite and illite suspensions. Soil Sci. Soc. Am. J. 44:960-964.
696. van Genuchten, M.Th. 1981. Analytical solutions for chemical transport with simultaneous adsorption, zero-order production and first-order decay. J. Hydrol. 49:213-233.
697. Rawlins, S.L. 1980. Irrigation to minimize salt problems. Proc. 9th Calif. Alfalfa Symp. NA.
698. van Schilfgaarde, J. and J.D. Rhoades. 1979. Benefits from reuse of drainage water for irrigation. ASAE Paper 79-2552. Presented at the 1979 Winter Meeting ASAE, New Orleans, LA., December 11-14, 1979.
699. van Schilfgaarde, J. 1982. The Wellton-Mohawk Dilemma. Int'l. J. of Water Supply and Mgmt. 6:115-127.
700. Adeoye, K.B. and S.L. Rawlins. 1980. A split-root technique for measuring root water potential. Plant Physiol. 68:44-47.
701. Hoffman, G.J. and M.Th. van Genuchten. 1983. Soil properties and efficient water use:

- Water management for salinity control. *In:* H.M. Taylor, W. Jordan, and T. Sinclair (eds.), Limitations to Efficient Water Use in Crop Production. Am. Soc. Agron., Madison, WI. pp. 73-85.
702. Rhoades, J.D., S.L. Rawlins, and C.J. Phene. 1980. Irrigation of cotton with saline drainage water. ASCE Conf. and Exposition, Portland, OR., April 1980. Preprint 80-119.
703. Shannon, M.C. 1980. Crop breeding efforts toward improved salt tolerance. Proc. Inter-American Conf. on Salinity and Water Mgmt. Tech., El Paso, TX., December 1979. pp. 53-59. NA.
704. Weimberg, R., H.R. Lerner and A. Poljakoff-Mayber. 1981. Kinetics of toluene-induced leakage of low molecular weight solutes from excised sorghum tissues. Plant Physiol. 68:1433-1438.
705. Weimberg, R., H.R. Lerner and A. Poljakoff-Mayber. 1975. A relationship between potassium and proline accumulation in salt stressed sorghum bicolor. Plant Physiol. 55:5-10.
706. Shainberg, I., J.D. Rhoades and R.J. Prather. 1981. Effect of low electrolyte concentration on clay dispersion and hydraulic conductivity of a sodic soil. Soil Sci. Soc. Am. J. 45:273-277.
707. Shainberg, I., J.D. Rhoades, D.L. Suarez and R.J. Prather. 1981. Effect of mineral weathering on clay dispersion and hydraulic conductivity of sodic soils. Soil Sci. Soc. Am. J. 45:287-291.
- 708a. van Genuchten, M.Th. 1980. A comparison of numerical solutions of the one-dimensional unsaturated-saturated flow and mass transport equations. *In:* S.Y. Wang et al. (eds.), Finite Elements in Water Resources. Univ. Mississippi, pp. 3.49-3.66.
- 708b. van Genuchten, M.Th. 1982. A comparison of numerical solutions of the one-dimensional unsaturated-saturated flow and mass transport equations. Advances in Water Resour. 5:47-55.
709. Shannon, M.C., E.L. Wheeler and R.M. Saunders. 1981. Salt tolerance of Australian channel millet. Agron. J. 73:830-832.
710. Rawlins, S.L. 1980. Principles of salinity control in irrigated agriculture. Proc. Kuwait Symp. on Food Production. 1980. NA.
711. Shannon, M.C. 1980. Differences in salt tolerance within "Empire" lettuce. J. Am. Soc. Hort Sci. 105:944-947.
712. Rhoades, J.D. 1980. Determining leaching fraction from field measurements of soil electrical conductivity. Agric. Water Mgmt. 3:205-215.
713. Rhoades, J.D. 1981. Predicting bulk soil electrical conductivity vs saturation paste extract electrical conductivity calibrations from soil properties. Soil Sci. Soc. Am. J. 45:42-44.
714. van Schilfgaarde, J. 1980. The interaction between irrigation management and return flow

- quality. Proc. Irrigation Return Flow Symp., Denver, CO., June 1980. NA.
715. Rhoades, J.D. and D.L. Corwin. 1981. Determining soil electrical conductivity - depth relations using an inductive electromagnetic soil conductivity meter. *Soil Sci. Soc. Am. J.* 45:255-260.
716. Oster, J.D. 1980. The chemistry of deep percolation. Proc. of the Deep Percolation Symp. Arizona Dept. of Water Resources, Scottsdale, AZ., May 1980. pp. 70-73. NA.
717. van Schilfgaarde, J. 1980. Earth and water. *In: Our Hungry World. The Antioch Review.* 38:421-435. Fall 1980.
718. Jobes, J.A., G.J. Hoffman and J.D. Wood. 1981. Leaching requirement for salinity control. II. Oat, tomato, and cauliflower. *Agric. Water Mgmt.* 4:393-407.
719. Suarez, D.L. 1982. Graphical calculation of ion concentrations in CaCO_3 and/or gypsum soil solutions. *J. Environ. Qual.* 11:302-308.
720. Lerner, H.R., G.L. Reinhold, A. Poljakoff-Mayber and R. Weimberg. 1979. Induction of membrane leakage in plant cells. *Acta Hortic.* 89:147-149. NA.
721. Cancelled.
722. Rhoades, J.D. and J.D. Oster. 1986. Solute content. *In: A. Klute (ed.), Methods of Soil Analysis, Part 1, (2nd ed.) Physical and Mineralogical Methods, Agron. Monogr.* 9:985-1006. NA.
723. Grattan, S.R., E.V. Maas and G. Ogata. 1981. Foliar uptake and injury from saline aerosol. *J. Environ. Qual.* 10:406-409.
724. van Schilfgaarde, J. 1980. Dryland management for salinity control. Proc. of Land & Stream Salinity Seminar & Workshop, Perth, Western Australia: 18.1-18.4. [Also *Agric. Water Mgmt.* 4]:383-391.
725. Francois, L.E. 1981. Alfalfa management under saline conditions with zero leaching. *Agron. J.* 73:1042-1046. NA.
726. Hoffman, G.J. 1980. Irrigation management-salinity control. Proc. ASAE Second National Irrigation Symp., Lincoln, NE, October 20-23, 1980. pp. 166-172. NA.
727. Maas, E.V., R.A. Clark and L.E. Francois. 1982. Sprinkling-induced foliar injury to pepper plants: Effects of irrigation frequency duration, and water composition. *Irrig. Sci.* 3:101-109.
728. Maas, E.V. and S.R. Grattan. 1980. Hazards posed by salt drifts from sprinklers. Calif-Arizona Farm Press. 2:7. NA.
729. van Schilfgaarde, J. and G.J. Hoffman. 1980. Future sources of water. Proc. ASAE Second National Irrigation Symp., Lincoln, NE., October 20-23, 1980. pp. 222-232. NA.
730. Maas, E.V. 1981. Salinity and crop productivity. Proc. Calif. Plant Soil Conf. Sacramento,

- CA., January 28-30, 1981. NA.
731. Shannon, M.C. 1982. Genetics of salt tolerance: New challenges. In: Anthony San Pietro (ed.), *Biosaline Research: A Look into the Future*. Plenum Publ. Corp. pp. 271-282.
732. Oster, J.D. 1980. Gypsum usage in irrigated agriculture. Int'l Symp. on Phosphogypsum, Florida Inst. Phosphate Res., Lake Buena Vista, FL. November 1980. pp. 177-204. [Also In: *A Review Fertilizer Res.* 3:73-89].
733. van Schilfgaarde, J. 1980. Salinity problems in USA. Proc. of Inter-American Salinity and Water Mgmt. Tech. Conf., Juarez, Mexico, December 11-12, 1980. pp. 1-9. NA.
734. Hoffman, G.J. 1980. Guidelines for reclamation of salt-affected soils. Proc. of Inter-American Salinity and Water Mgmt. Tech. Conf., Juarez, Mexico, December 11-12, 1980. pp. 49-64. NA.
735. Suarez, D.L. 1980. Estimating soil solution composition for reduced leaching management and efficient reclamation. Proc. of Inter-American Salinity and Water Mgmt. Tech. Conf., Juarez, Mexico, December 11-12, 1980. pp. 134-148. NA.
736. Sisson, J.B., A.H. Ferguson and M.Th. van Genuchten. 1980. Simple method for predicting drainage from field plots. *Soil Sci. Soc. Am. J.* 44:1147-1152.
737. Ramos, C., G.J. Hoffman and A.E. Hall. 1982. Evaluation of a dual-radioisotope instrument for measuring leaf conductance and photosynthesis. *Agron. J.* 74:709-715.
738. Francois, L.E. 1982. Salt tolerance of eight ornamental tree species. *J. Am. Soc. Hort. Sci.* 107:66-68.
739. Hoffman, G.J. 1982. Irrigation Water Quality. CRC Press Handbook of Agriculture, Chapter 6a, Section F, Engineering Vol. 1, Production of Agriculture Products. NA.
740. Campbell, G.S. and J. van Schilfgaarde. 1981. Use of SI units in soil physics. *J. of Agronomic Educ.* 10:73-74.
741. Bingham, F.T., F.J. Peryea and J.D. Rhoades. 1981. Boron tolerance character of wheat. Proc. of Inter-American Salinity and Water Management Technology, pp. 208-216, Juarez, Mexico, December 11-12, 1980. NA.
742. Kleijn, W.B. and J.D. Oster. 1982. A model of clay swelling and tactoid formation. *Clay & Clay Miner.* 30:383-390.
743. Thien, S. J. and J.D. Oster. 1981. The international system of units and its particular application to soil. *J. Agronomic Education.* 10:62-70.
744. USSL Staff. 1981. Minimizing salt in return flow through irrigation management--final report. Interagency Project No. EPA-IAG-D6-0370: 160 p.
745. El-Mowelhi, N.M. and J. van Schilfgaarde. 1982. Computation of soil hydrological constants from field drainage experiments in some soils of Egypt. *Trans ASAE.* 25:984-986.

746. Corwin, D.L. and J.D. Rhoades. 1982. An improved technique for determining soil electrical conductivity--depth relations from above-ground electromagnetic measurements. *Soil Sci. Soc. Am. J.* 46:517-520.
747. van Schilfgaarde, J. 1982. Plentiful water for food production. *Engineering. Accreditation Board for Engineering and Technology, Inc.* pp. 14-17. NA.
748. Rhoades, J.D., D.L. Corwin and G.J. Hoffman. 1981. Scheduling and controlling irrigations from measurements of soil electrical conductivity. *Proc. ASAE, Irrigation Scheduling Conf., Chicago, IL., December 14, 1981.* pp. 106-115.
749. Hoffman, G.J., J.D. Oster and W.J. Alves. 1982. Evapotranspiration of mature orange trees under drip irrigation in an arid climate. *Trans ASAE.* 25:992-996.
750. Hoffman, G.J. and J.L. Meyer. 1982. Reclamation of salt-affected soils in California. *proc. Int'l. Symp. on Remote Sensing of Arid and Semi-Arid Lands, Cairo, Egypt, January 1982.* pp. 147-159.
751. Werker, E., H.R. Lerner, R. Weimberg and A. Poljakoff-Mayber. 1983. Structural changes occurring in nuclei of barley root cells in response to a combined effect of salinity and ageing. *Am. J. Bot.* 70:222-225. NA.
752. Maas, E.V., S.R. Grattan and G. Ogata. 1982. Foliar salt accumulation and injury in crops sprinkled with saline water. *Irrig. Sci.* 3:157-168.
753. van Genuchten, M.Th. and W.J. Alves. 1982. Analytical solutions of the one-dimensional convective-dispersive solute transport equation. *USDA, ARS, Tech. Bull. 1661,* 151p.
754. Francois, L.E. 1982. Narrow row cotton (*Gossypium hirsutum L.*) under saline conditions. *Irrig. Sci.* 3:149-156.
755. Migliaccio, F., E.V. Maas and G. Ogata. 1984. Phosphate absorption, fluxes, and symplasmic transport in osmotically-shocked *Zea mays* roots. *J. Exp. Bot.* 35:8-17.
756. Meiri, A., G.J. Hoffman, M.C. Shannon and J.A. Poss. 1982. Salt tolerance of two muskmelon cultivars under two radiation levels. *J. Am. Hort. Sci.* 107:1168-1172.
757. Kleijn, W.B. and J.D. Oster. 1983. Effects of permanent charge on the electrical double-layer properties of clays and oxides. *Soil Sci. Soc. Am. J.* 47:821-827.
758. Taleisnik-Gertel, E., M. Tal and M.C. Shannon. 1983. The response to NaCl of excised fully differentiated and differentiating tissues of the cultivated tomato, *Lycopersicon esculentum*, and its wild relatives, *L. peruvianum* and *Solanum pennellii*. *Physiol. Plant.* 59:659-663.
759. Francois, L.E. and D.W. West. 1982. Reduction in yield and market quality of celery caused by soil salinity. *J. Am. Soc. Hort. Sci.* 107:952-954.
760. West, D.W. and L.E. Francois. 1982. Effects of salinity on germination, growth and yield of cowpea. *Irrig. Sci.* 3:169-175.

761. Dirksen, C. and M.J. Huber. 1982. Interaction of alfalfa with transient water and salt transport in rootzone. I. Experimental. NA.
762. Dirksen, C., P.A.C. Raats and J. Shalhev. 1982. Interaction of alfalfa with transient water and salt transport in rootzone. II. Daily Irrigation. NA.
763. Dirksen, C. and J. van Schilfgaarde. 1982. Interaction of alfalfa with transient water and salt transport in the rootzone. III. Non-daily Irrigation. IV. Plant Aspects. NA.
764. Dirksen, C. 1985. Relationship between root uptake-weighted mean soil water salinity and total leaf water potentials of alfalfa. *Irrig. Sci.* 6:39-50.
765. Dirksen, C. and P.A.C. Raats. 1985. Water uptake and release by alfalfa roots. *Agron. J.* 77:621-626. NA.
766. Nkedi-Kizza, P., J.W. Biggar, M.Th. van Genuchten, P.J. Wierenga, H.M. Selim, J.M. Davidson and D.R. Nielsen. 1983. Modeling tritium and chloride 36 transport through an aggregated oxisol. *Water Resour. Res.* 19:691-700.
767. Nkedi-Kizza, P., J.W. Biggar, H.M. Selim, M.Th. van Genuchten, P.J. Wierenga, J.M. Davidson and D.R. Nielsen. 1984. On the equivalence of two conceptual models for describing ion exchange during transport through an aggregated oxisol. *Water Resour. Res.* 20:1123-1130.
768. van Genuchten. M.Th. 1980. Determining transport parameters from solute displacement experiments. USSL Research Report No. 118, Riverside, CA. 37p.
769. van Genuchten, M.Th. 1981. Non-equilibrium transport parameters from miscible displacement experiments. USSL Research Report No. 119, Riverside, CA. 88p. NA.
770. Hoffman, G.J. and J.A. Jobes. 1983. Leaching requirement for salinity control. III. Barley, cowpea, and celery. *Agric. Water Manage.* 6:1-14.
771. van Genuchten, M.Th. 1983. An Hermitian finite element solution of the two-dimensional saturated-unsaturated flow equation. *Advances in Water Resources.* 6:106-111.
772. van Genuchten, M.Th. 1982. One-dimensional analytical transport modeling. In: E.M. Arnold, G.W. Gee and R.W. Nelson (eds.), *Proc. of the Symp. on Unsaturated Flow and Transport Modeling.* Pacific Northwest Laboratories, NUREG/CP-0030, pp. 231-246.
773. Hoffman, G.J. 1982. Irrigation requirement for salinity control. Proc. Workshop on Agricultural Water Conservation, Fresno, CA., November 6, 1980. pp. 79-90. NA.
774. van Genuchten, M.Th. and P.J. Wierenga. 1986. Solute dispersion coefficients and retardation factors. In: A. Klute (ed.), *Methods of Soil Analysis, Part 1, 2nd Ed.* Am. Soc. of Agron., Madison, WI. 9:1025-1054.
775. Grieve, C.M. and S.R. Grattan. 1983. Rapid assay for determination of water soluble quaternary ammonium compounds. *Plant & Soil.* 70:303-307.
776. Shannon, M.C., J.D. McCreight and J.H. Draper. 1983. Screening tests for salt tolerance

- in lettuce. J. Am. Soc. Hort. Sci. 108:225-230.
777. Hoffman, G.J., E.V. Maas, T. Prichard and J.L. Meyer. 1983. Salt tolerance of corn in the Sacramento-San Joaquin Delta of California. Irrig. Sci. 4:31-44.
778. van Schilfgaarde, J. and J.D. Rhoades. 1984. Coping with Salinity. In: E.A. Engelbert (ed.), "Water Scarcity, Impacts in Western Agriculture", Univ. Calif. Press. 6:157-179.
779. van Schilfgaarde, J. 1982. Increased resource productivity through drainage. Proc. of ASAE 4th National Drainage Symp. "Advances in Drainage", Chicago, IL., December 13-14, 1982. NA.
780. Maas, E.V., G.J. Hoffman, G.D. Chaba, J.A. Poss and M.C. Shannon. 1983. Salt sensitivity of corn at various growth stages. Irrig. Sci. 4:45-57.
781. Prichard, T.L., G.J. Hoffman and J.L. Meyer. 1983. Salination of organic soils in the Sacramento-San Joaquin Delta of California. Irrig. Sci. 4:71-80.
782. Francois, L.E. 1982. Managing alfalfa under saline conditions. Proc. Twelfth Calif. Alfalfa Symp. December 8-9, Fresno, CA. 53:57. NA.
783. Weimberg, R. 1983. Elution of low molecular weight solutes from viable cells of *Saccharomyces bisporus*. Arch. Microbiol. 134:329-334.
784. Weimberg, R., H.R. Lerner and A. Poljakoff-Mayber. 1983. Induction of solute release from *Nicotiana tabacum* tissue cell suspensions by polymyxin and EDTA. J. Exp. Bot. 34:1333-1346.
785. Suarez, D.L., J.D. Rhoades, R. Lavado and C.M. Grieve. 1984. Effect of pH on saturated hydraulic conductivity and soil dispersion. Soil Sci. Soc. Am. J. 48:50-55.
786. Rhoades, J.D. 1982. Reclamation and management of salt-affected soils after drainage. Proc. of the First Annual Western Provincial Conf. Rationalization of Water and Soil Res. and Management. Lethbridge, Alberta, Canada. 1982. pp. 123-197. NA.
787. Maas, E.V. 1984. Salt tolerance of plants. In: Handbook of Plant Science in Agriculture. B.R. Christie (ed.) -- CRC Press Inc. Vol. II. pp. 57-75. NA.
788. Nieman, R.H. 1984. Bioenergetics of osmoregulation in relation to agriculture in poor quality (saline) water and soils. Proc. ARS Long Range Planning Seminary on Bioregulation. NA.
789. Nieman, R.H. 1983. Energetics of salt stressed plants. Proc. Plant and Soil Conf., California Chapter of American Society of Agronomy, January 26-28, 1983. pp. 83-89. NA.
790. van Schilfgaarde, J. 1983. Managing limited water supplies. AAAS Symp., "Whatever Happened to Desertification?", Detroit, MI., May 25-31, 1983. Abstract. NA.
791. Hoffman, G.J., J.D. Oster, E.V. Maas, J.D. Rhoades and J. van Schilfgaarde. 1984. Minimizing salt in drain water by irrigation management -- Arizona field studies with citrus. Agric. Water Manage. 9:61-78.

792. Cancelled.
793. Corwin, D.L. and J.D. Rhoades. 1984. Measurement of inverted electrical conductivity profiles using electromagnetic induction. *Soil Sci. Soc. Am. J.* 48:288-291.
794. Tal, M. and M.C. Shannon. 1983. Effects of dehydration and high temperature on the stability of leaf membranes of *Lycopersicon esculentum*, *L. cheesmanii*, *L. peruvianum* and *Solanum pennellii*. *Z. Pflanzenphysiol. Bd.* 112:411-416. NA.
795. Rhoades, J.D. 1983. Salt problems from increasing irrigation efficiency. Proc. ASCE Speciality Conf. "Advances in Irrigation and Drainage: Surviving External Pressures", Jackson, WY., July 20-22, 1983. pp. 427-433.
796. El-Mowelhi, N.M. and L.F. Hermsmeier. 1982. Tile drainage performance compared to theory. *Trans. ASAE.* 25:981-983. NA.
797. Hoffman, G.J., J.A. Jobes and W.J. Alves. 1983. Response to tall fescue to irrigation water salinity, leaching fraction, and irrigation frequency. *Agric. Water Manage.* 7:439-456.
798. Suarez, D.L. and J.D. Wood. 1984. Simultaneous determination of calcite surface area and content in soils. *Soil Sci. Soc. Am. J.* 48:1232-1235.
799. Bresler, E., D. Yaron and A. Segev. 1983. Evaluation of irrigation water quality for a spatially variable field. *Water Resour. Res.* 19:1613-1621.
800. Shannon, M.C. 1984. Breeding, selection, and the genetics of salt tolerance. In: R. Staples and G.H. Toenniessen (eds.), *Salinity Tolerance in Plant Strategies for Crop Improvement*. Wiley Int'l, NY. 13:231-254.
801. Hoffman, G.J., E.V. Maas, T.L. Prichard, J.L. Meyer and R. Roberts. 1983. Salt tolerance of corn in the Delta. *Calif. Agric.* 37:10-11.
802. Prichard, T.L., J.L. Meyer, G.J. Hoffman, F. Kegel and R. Roberts. 1983. Relationship of irrigation water salinity and soil water salinity. *Calif. Agric.* 37:11-14.
803. Maas, E.V. and G.J. Hoffman. 1983. Salt sensitivity of corn at various growth stages. *Calif. Agric.* 37:14-15.
804. Francois, L.E. 1984. Salinity effects on germination, growth, and yield of turnips. *HortScience.* 19:82-84.
805. Hoffman, G.J. 1983. Leaching requirements for managing salinity. Proc. ASAE Irrigation and Specialty Conf. Jackson, WY. pp. 409-416.
806. Dalton, F.N. 1984. Dual pattern of potassium transport in plant cells: A physical artifact of a single uptake mechanism. *J. of Exper. Bot.* 35:1723-1732.
807. Willardson, L.S., G.J. Hoffman and R.J. Hanks. 1985. Water Management (Drainage): Soil Salinity and Corn Production. In: *National Corn Handbook*, NCH-9, a publication of the National Corn Handbook Project, H.A. Wadsworth, Director, Purdue Univ., West Lafayette, IN. pp. 1-4. NA.

808. Spencer, W.F., W.A. Jury and W.J. Farmer. 1984. Importance of volatilization as a pathway for pesticide loss from forest soils. *In:* Chemical and Biological Controls in Forestry. ACS Symp. Series 238. Amer. Chemical Soc., Washington, DC pp. 193-210.
809. van Schilfgaarde, J. 1984. Drainage design for salinity control. *In:* "Soil Salinity and Irrigation - Processes and Management", Springer Verlag, Berlin. 6:190-197.
810. Wood, J.D. and J.D. Oster. 1985. The effect of cellulose xanthate and polyvinyl alcohol on infiltration, erosion, and crusting at different sodium levels. *Soil Sci.* 139:243-249.
811. van Schilfgaarde, J. 1983. The Colorado River: Life stream of the West. 1983 Yearbook of Agriculture. pp. 290-297.
812. Francois, L.E., T. Donovan and E.V. Maas. 1984. Salinity effects on seed yield, growth, and germination of grain sorghum. *Agron. J.* 76:741-744.
813. Suarez, D.L. 1984. Determining irrigation efficiency in the absence of water budget data. Proc. Int'l Workshop on Salt-Affected Soils, Maracay, Venezuela, October 22-30, 1983. pp. 133-145.
814. Rhoades, J.D. 1984. Reusing saline drainage waters for irrigation: A strategy to reduce salt loading of rivers. *In:* R.H. French (ed.) "Salinity in Watercourses and Reservoirs", Ch. 43, Butterworth Publishers, London, pp. 455-464. Proc. 1983 Int. Symp. on State-of-the-Art Control of Salinity, Salt Lake City, UT, July 13-15, 1983.
815. van Genuchten, M.Th. 1983. Analyzing crop salt tolerance data: Model description and user's manual. USSL Research Report No. 120, Riverside, CA 50p. NA.
816. Howell, T.A., J.L. Hatfield, J.D. Rhoades and M. Meron. 1984. Response of cotton crop water stress indicator to soil salinity. *Irrig. Sci.* 5:25-36.
817. van Genuchten, M.Th. and G.J. Hoffman. 1984. Analysis of crop salt tolerance data. *In:* I. Shainberg and J. Shalheveth (eds.), Soil Salinity under Irrigation. Springer Verlag, Berlin, Ecological Studies. 51:258-271.
818. Hoffman, G.J., J.D. Oster, E.V. Maas, J.D. Rhoades and J. van Schilfgaarde. 1984. Minimizing salt in drain water by irrigation management: Leaching studies with alfalfa. *Agric. Water Mgmt.* 9:89-104.
819. Rhoades, J.D. and D.L. Corwin. 1984. Monitoring soil salinity. *J. Soil & Water Conservation.* 39:172-175.
820. West, D.W., G.J. Hoffman and M.J. Fisher. 1986. Photosynthesis, leaf conductance, and water relations of cowpea under saline conditions. *Irrig. Sci.* 7:183-193.
821. Hoffman, G.J. 1984. Optimal crop production with saline irrigation waters. State-of-the-Art Publication No. 3 for Int. Commission on Irrigation & Drainage. Book. NA.
822. Donovan, T.J. and B.D. Meek. 1983. Alfalfa responses to irrigation treatment and environment. *Agron. J.* 75:461-464.

823. Francois, L.E. 1984. Effect of excess boron on tomato yield, fruit size, & vegetative growth. *J. Am. Soc. Hort. Sci.* 109:322-324.
824. Grattan, S.R. and E.V. Maas. 1984. Interactive effects of salinity and substrate phosphate on soybean. *Agron. J.* 76:668-676.
825. van Schilfgaarde, J. 1983. Agricultural water use. Governor's Commission on Arizona Environment, Summer Conf., Sedona, AZ, August 1983.
826. Tal, M. and M.C. Shannon. 1983. Salt tolerance in the wild relatives of the cultivated tomato: Responses of *Lycopersicon esculentum*, *L. cheesmanii*, *L. peruvianum*, *Solanum pennellii* and F₁ hybrids to high salinity. *Aust. J. Plant Physiol.* 10:109-117. NA.
827. Weimberg, R., H.R. Lerner and A. Poljakoff-Mayber. 1984. Changes in growth and water-soluble solute concentrations in *Sorghum bicolor* stressed with sodium and potassium salts. *Physiol. Plant.* 62:472-480.
828. Grieve, C.M. and E.V. Maas. 1984. Betaine accumulation in salt-stressed sorghum. *Physiol. Plant.* 61:167-171.
829. Rhoades, J.D. 1984. Using saline waters for irrigation. Proc. Int'l Workshop on Salt Affected Soils of Latin America, Maracay, Venezuela, October 23-30, 1983. pp. 22-52. Publ. in Scientific Review on Arid Zone Research. Vol. 2:233-264.
830. Rhoades, J.D. 1984. Principles and methods of monitoring soil salinity. In: "Soil Salinity and Irrigation - Processes and Management", Springer Verlag, Berlin. 5:130-142.
831. Suarez, D.L. 1985. Predictions of major ion concentrations in arid land soils using equilibrium and kinetic theories. ARS Modeling symposium, (Donn G. DeCoursey, ed.) USDA-ARS-30:170-175.
832. Rhoades, J.D. 1985. Salt problems from increased irrigation efficiency. *ASCE J. Irrig. & Drainage Div.* 111:218-229.
833. Roberts, J., K.M. Carey, S. Linder, A.G. Benoit, O. Jardetzky and R.H. Nieman. 1984. Salt stimulations of phosphate uptake in maize root tips studied by ³¹P nuclear magnetic resonance. *Plant Physiol.* 75:947-950.
834. Farmer, W.J., W.A. Jury and W.F. Spencer. 1984. Using field measurements to assess herbicide movement in soil. 1984 Annual Meeting of Weed Science Society of America, Miami, FL, February 8-10, 1984. NA.
835. Shannon, M.C. 1984. Salt tolerance of lettuce introductions. *HortScience.* 19:673-675.
836. Suarez, D.L. 1985. Chemical effects on infiltration. Proc. of the 1983 ARS Modeling Symposium, (Donn G. DeCoursey, ed.) USDA-ARS-30:416-420.
837. Solomon, K.H. 1983. Coefficient of uniformity. Proc. Irrigation Association Tech. Conf., December 4-7, 1983, Denver, CO, pp. 194-199.
838. Oster, J.D., G.J. Hoffman and F. Robinson. 1984. Management alternatives: Crop, Water

- and Soil. Calif. Agric. 38:29-32.
839. Mayer, J.L. and J. van Schilfgaarde. 1984. Case History -- Salton Basin. Calif. Agric. 38:13-16.
840. Shannon, M.C., G.W. Bohn and J.D. McCreight. 1984. Salt tolerance among muskmelon genotypes during seed emergence and seedling growth. HortScience. 19:828-830.
841. Dalton, F.N., W.N. Herkelrath, D.S. Rawlins and J.D. Rhoades. 1984. Time-domain reflectometry: Simultaneous measurement of soil water content and electrical conductivity with a single probe. Science. 224:989-990.
842. Rhoades, J.D. 1984. Use of saline water for irrigation. Calif. Agric. 38:42-43.
843. Oster, J.D. and J.D. Rhoades. 1984. Water management for salinity and sodicity control. Chap. 7, *In: G. Stuart Pettygrove in Takashi Asanao (eds.), UC and Calif. State Water Resources Control Board. A Guidance Manual*, pp. 7.1-7.20.
844. van Genuchten, M.Th. 1985. Convective-dispersive transport of solutes involved in sequential first-order decay reactions. Computers & Geosciences. 11:129-147. NA.
845. van Genuchten, M.Th., D.H. Tang and R. Guennelon. 1984. Some exact solutions for solute transport through soils containing large cylindrical macropores. Water Resour. Res. 20:335-346.
846. van Genuchten, M.Th. and J.C. Parker. 1984. Boundary conditions for displacement experiments through short laboratory soil columns. Soil Sci. Soc. Am. J. 48:703-708.
847. Parker, J.C. and M.Th. van Genuchten. 1984. Flux-averaged and volume-averaged concentrations in continuum approaches to solute transport. Water Resour. Res. 20:866-872. NA.
848. Goldberg, S. and G. Sposito. 1984. A chemical model of phosphate adsorption by soils. I. Reference oxide minerals. Soil Sci. Soc. Am. J. 48:772-778.
849. Corwin, D.L. and W.J. Farmer. 1984. Nonsingle-valued adsorption-desorption of bromacil and diquat by freshwater sediments. Environ. Sci. & Tech. 18:507-514.
850. Corwin, D.L. and W.J. Farmer. 1984. An assessment of the significant physicochemical interactions involved in pesticide diffusion within a pesticide-sediment-water system. Chemosphere. 13:1295-1317.
851. Francois, L.E. 1986. Salinity effects on four arid zone plants. J. of Arid Environ. 11:103-109.
852. Solomon, K.H. 1984. Yield related interpretations of irrigation uniformity and efficiency measures. Irrig. Sci. 5:161-172.
853. Parker, J.C. and M.Th. van Genuchten. 1984. Determining transport parameters from laboratory and field tracer experiments. Bulletin 84-3, Virginia Agric. Exp. Station, Blacksburg, VA, 91p.

854. van Genuchten, M.Th. 1983. Solute transport through structured soils. Proc. Symposia 186th Annual Meeting, American Chemical Soc. Div. of Environ. Chemistry, Washington, DC 23:489-492. NA.
855. Goldberg, S. and G. Sposito. 1984. A chemical model of phosphate adsorption by soils: II. Noncalcareous soils. *Soil Sci. Soc. Am. J.* 48:779-783.
856. Rhoades, J.D. 1985. New strategy for using saline waters for irrigation. In: J.A. Replode & K.G. Renard (eds.), *Proc. ASCE Irrigation & Drain. Spec. Conf.: Water Today and Tomorrow*, July 24-26, 1984, Flagstaff, AZ. ASCE, NY, pp. 231-236.
857. Dasberg, S. and F.N. Dalton. 1984. Time domain reflectometry field measurements of soil water content and electrical conductivity. *Soil Sci. Soc. Am. J.* 49:293-297.
858. Maas, E.V. 1984. Crop Tolerance. *Calif. Agri.* 38:20-21.
859. Corwin, D.L. and W.J. Farmer. 1984. A mathematical model of diffusion under saturated conditions to assess the pollution potential of herbicides to aquatic systems. *Hilgardia*. 53:1-35. NA.
860. Jury, W.A., W.F. Spencer and W.J. Farmer. 1983. Behavior assessment model for trace organics in soil: I. Model description. *J. Environ. Qual.* 12:558-564.
861. Jury, W.A., W.J. Farmer and W.F. Spencer. 1984. Behavior assessment model for trace organics in soil: II. Chemical classification and parameter sensitivity. *J. Environ. Qual.* 13:567-572. NA.
862. Jury, W.A., W.F. Spencer and W.J. Farmer. 1984. Behavior assessment model for trace organics in soil: III. Application of screening model. *J. Environ. Qual.* 13:573-579. NA.
863. Spencer, W.F. 1985. Pesticides in surface irrigation runoff water. Proc., of the 1983 Natural Resour. Modeling Symposium. Donn G. DeCoursey, (ed.) USDA-ARS-30:188-191.
864. Spencer, W.F. and M.M. Cliath. 1983. Measurement of pesticide vapor pressures. *Residue Reviews*. 85:57-71.
865. Spencer, W.F., M.M. Cliath, J.W. Blair and R.A. LeMert. 1985. Transport of pesticides from irrigated fields in surface runoff and tile drain waters. USDA-ARS Conservation Res. Report No. 31. 72p.
866. Grattan, S.R. and C.M. Grieve. 1985. Betaine status in wheat in relation to nitrogen stress and to transient salinity stress. *Plant & Soil.* 85:3-9.
867. Corwin, D.L. 1986. A one-dimensional model of chemical diffusion and sorption in saturated soil and aquatic systems. *J. Environ. Qual.* 15:173-182.
868. Jury, W.A., W.F. Spencer and W.J. Farmer. 1983. Use of models for assessing relative volatility, mobility, and persistence of pesticides and other trace organics in soil systems. *Hazard Assessment of Chemicals*. 2:1-43. NA.
869. Maas, E.V. 1985. Crop tolerance to saline sprinkling waters. *Plant and Soil.* 89: 273-284.

- (Also *In*: D. Pasternak and A. San Pietro (eds.) Biosalinity in Action: Bioproduction with Saline Water. Martinus Nijhoff, Dordrecht pp. 273-284). NA.
870. Jury, W.A., W.F. Spencer and W.J. Farmer. 1984. Behavior assessment model for trace organics in soil: IV. Review of experimental evidence. *J. Environ. Qual.* 13:580-586.
871. van Genuchten, M.Th. and D.R. Nielsen. 1984. On describing and predicting the hydraulic properties of unsaturated soils. *Annales Geophysicae.* 3:615-627.
872. Nieman, R.H. and R.A. Clark. 1984. Measurement of plant nucleotides by high-performance liquid chromatography. *J. of Chromatogr.* 317:271-281.
873. Hoffman, G.J., M.C. Shannon and J.A. Jobes. 1985. Influence of rain on soil and lettuce yield. p. 659-665. *In*: Drip/Trickle Irrigation in Action. Proc. Third Int'l Drip/Trickle Irrigation Congress, Fresno, CA, November 18-21, 1985. ASAE No. 10-85. NA.
874. Shannon, M.C. 1985. Principles and strategies in breeding for higher salt tolerance. *Plant and Soil.* 89: 227-241. (Also *In*: D. Pasternak and A. San Pietro (eds.) Biosalinity in Action: Bioproduction with Saline Water. Martinus Nijhoff, Dordrecht 17: 227-241).
875. Jensen, M.E., D.D. Fangmeier, S.F. Scott, J.N. Christopher, R.H. Cuenca, R.W. Hill, P.E. Schleusener, K.H. Solomon and R.W. Skagg. 1984. Status of irrigation and drainage research in the United States. *ASCE J.* 110:55-75.
876. von Bernuth, R.D. and K.H. Solomon. 1985. "Emitter Construction". *In*: F.S. Nakayama and D.A. Bucks (eds.), Trickle Irrigation for Crop Production - Design, Operation and Management, Elsevier Science Publishers, Amsterdam, The Netherlands. NA.
877. Gitlin, W.I., K.H. Solomon and C.A. Saruwatari. 1985. Systems Design. *In*: F.S. Nakayama and D.A. Bucks (eds.), Trickle Irrigation for Crop Production - Design, Operation and Management, Elsevier Science Publishers, Amsterdam, The Netherlands, pp. 53-92. NA.
878. Goldberg, S. 1985. Chemical modeling of anion competition on goethite using the constant capacitance model. *Soil Sci. Soc. Am. J.* 49:851-856.
879. Bezdek, J.C. and K.H. Solomon. 1984. Shape prototypes and class memberships. *In*: J.K. Beddow (ed.), Particle Characterization in Technology. Volume II: Morphological Analysis. CRC Press, Inc., Boca Raton, FL. 2:114-125.
880. Solomon, K.H. 1984. Global uniformity of trickle irrigation systems. *Trans. ASAE.* 28:1151-1158.
881. van Genuchten, M.Th. and J.C. Parker. 1985. Reply to "Comments on boundary conditions for displacement experiments through short laboratory soil columns". *Soil Sci. Soc. Am. J.* 49:1325-1326.
882. Francois, L.E. 1985. Salinity effects on germination, growth, and yield of two squash cultivars. *HortScience.* 20:1102-1104.
883. Prichard, T.L., G.J. Hoffman and J.D. Oster. 1984. Reclamation of saline organic soil. *Irrig. Sci.* 6:211-220. NA.

884. Grattan, S.R. and E.V. Maas. 1985. Root control of leaf P and Cl accumulation in soybean under salinity stress. *Agron. J.* 77:890-895.
885. El-Ashry, M.T., J. van Schilfgaarde and S. Schiffman. 1985. Salinity pollution from irrigated agriculture. *J. of Soil & Water Conservation.* 40:48-52.
886. Yaron, B., Z. Gerstl and W.F. Spencer. 1985. Behavior of herbicides in irrigated soils. *Advanced Soil Sci.* 3:121-211. NA.
887. van Genuchten, M.Th. 1985. A general approach for modeling solute transport in structured soils. *In: Proc. 17th Congress, Int'l Assoc. of Hydrogeologists, "Hydrogeology of Rocks of Low Permeability", Tucson, AZ.* Memoires, IAH, Vol. 17:513-526. NA.
888. Botraud, Jean-Christophe and J.D. Rhoades. 1985. Referencing water content effects on soil electrical conductivity - salinity calibrations. *Soil Sci. Soc. Am. J.* 49:1579-1581.
889. Shannon, M.C. and C.O. Qualset. 1984. Benefits and limitations in breeding salt-tolerant crops. *Calif. Agric.* 38:33-34.
890. Poss, J.A., E. Pond, J.A. Menge and W.M. Jarrell. 1985. Effect of salinity on mycorrhizal onion and tomato in soil with and without additional phosphate. *Plant & Soil.* 88:307-319. NA.
891. Botraud, Jean-Christophe and J.D. Rhoades. 1985. Effect of exchangeable sodium on soil electrical conductivity-salinity calibrations. *Soil Sci. Soc. Am. J.* 49:1110-1113.
892. Rhoades, J.D. 1985. Cyclic strategy for use of saline water for irrigation. Summary for the 1985 California Plant and Soil Conf. to be published in the Proceedings. NA.
893. Kool, J.B., J.C. Parker and M.Th. van Genuchten. 1985. ONESTEP: A nonlinear parameter estimation program for evaluating soil hydraulic properties from one-step outflow experiments. *Bull. 85-3, Virginia Agric. Exp. Sta., Blacksburg, VA.* 43p.
894. Kool, J.B., J.C. Parker and M.Th. van Genuchten. 1985. Determining soil hydraulic properties from one-step outflow experiments by parameter estimation. I. Theory and numerical studies. *Soil Sci. Soc. Am. J.* 49:1348-1353. NA.
895. Parker, J.C., J.B. Kool and M.Th. van Genuchten. 1985. Determining soil hydraulic properties from one-step outflow experiments by parameter estimation. II. Experimental studies. *Soil Sci. Soc. Am. J.* 49:1354-1359. NA.
896. Cancelled
897. Peryea, F.J., F.T. Bingham and J.D. Rhoades. 1985. Regeneration of soluble boron by reclaimed high boron soils. *Soil Sci. Soc. Am. J.* 49:313-316.
898. Peryea, F.J., F.T. Bingham and J.D. Rhoades. 1985. Mechanisms for boron regeneration. *Soil Sci. Soc. Am. J.* 49:840-843.
899. Keren, R., F.T. Bingham and J.D. Rhoades. 1985. Plant uptake of boron as affected by boron distribution between liquid and solid phases in soil. *Soil Sci. Soc. Am. J.* 49:297-

- 302.
- 900. Peryea, F.J., F.T. Bingham and J.D. Rhoades. 1985. Kinetics of post-reclamation boron dissolution. *Soil Sci. Soc. Am. J.* 49:836-839.
 - 901. Keren, R., F.T. Bingham and J.D. Rhoades. 1985. Effect of clay content in soil on boron uptake and yield of wheat. *Soil Sci. Soc. Am. J.* 49:1466-1469.
 - 902. Bingham, F.T., J.E. Strong, J.D. Rhoades and R. Keren. 1987. Effects of salinity and varying boron concentrations on boron uptake and growth of wheat. *Plant & Soil.* 97:345-351. NA.
 - 903. Bingham, F.T., J.D. Rhoades and R. Keren. 1985. An application of the Mass-Hoffman salinity response model for boron toxicity. *Soil Sci. Soc. Am. J.* 49:672-674.
 - 904. van Genuchten, M.Th. 1985. Solute transport processes in structured soils. *In:* H.J. Morel-Seytoux and D.O. Doehring (eds.), *Joint Proc. 5th Annual AGU Front Range Branch Hydrology Days & 14th Annual Rocky Mountain Groundwater Conference*, April 16-20, 1985, *Hydrology Days Publ.*, Ft. Collins, CO. pp. 169-180.
 - 905. Goldberg, S. and G. Sposito. 1985. On the mechanism of specific phosphate adsorption by hydroxylated mineral surfaces: A review. *Commun. Soil Sci. & Plant. Anal.* 16:801-821. NA.
 - 906. Suarez, D.L. 1986. A soil water extractor that minimizes CO₂ degassing and pH errors. *Water Resour. Res.* 22:876-880.
 - 907. Solomon, K.H. 1985. Water-salinity-production functions. *Trans. ASAE.* 28:1975-1980.
 - 908. Francois, L.E. 1986. Effect of excess boron on broccoli, cauliflower, and radish. *J. Am. Soc. Hort. Sci.* 111:494-498.
 - 909. Goldberg, S. and R.A. Glaubig. 1985. Boron adsorption on aluminum and iron oxide minerals. *Soil Sci. Soc. Am. J.* 49:1374-1379.
 - 910. Rhoades, J.D. 1985. Management practices for the control of soil and water salinity. *Int'l Symposium on Reclamation of Salt-Affected Soils.* China, May 8-26, 1985. NA.
 - 911. Alperovitch, N., I. Shainberg and J.D. Rhoades. 1985. Effect of mineral weathering on the response of sodic soils to exchangeable magnesium. *Soil Sci. Soc. Am. J.* 50:901-904.
 - 912. Grattan, S.R. and E.V. Maas. 1988. Effect of salinity on phosphate accumulation and injury in soybean. I. Influence of CaCl₂/NaCl ratios. *Plant & Soil.* 105:25-32.
 - 913. Grattan, S.R. and E.V. Maas. 1988. Effect of salinity on phosphate accumulation and injury in soybean. II. Role of substrate Cl and Na. *Plant & Soil.* 109:65-71.
 - 914. van Genuchten, M.Th. and F.N. Dalton. 1986. Models for simulating salt movement in aggregated field soils. *Geoderma.* 38:165-183. NA.
 - 915. Solomon, K.H., D.C. Kincaid and J.C. Bezdek. 1985. Drop size distributions for irrigation

- spray nozzles. Trans. ASAE. 28:1966-1974.
916. Dalton, F.N. and M.Th. van Genuchten. 1985. The time-domain reflectometry method for measuring soil water content and salinity. Geoderma. 38:237-250. NA.
917. Rhoades, J.D. 1987. Principles of salinity control on food production in North America. In: Wayne R. Jordan (ed.), Water and Water Policy in World Food Supplies: Proc. of the Conference, May 26-30, 1985. Publ. by Texas A&M Univ. Press., pp. 141-151. NA.
918. Ali, O.M., M. Yousaf and J.D. Rhoades. 1987. Effect of exchangeable cation and electrolyte concentration on mineralogy of clay dispersed from aggregates. Soil Sci. Soc. Am. J. 51:896-900.
919. Yousaf, M., O.M. Ali and J.D. Rhoades. 1987. Clay dispersion and hydraulic conductivity of some salt-affected arid land soils. Soil Sci. Soc. Am. J. 51:905-907.
920. Yousaf, M., O.M. Ali and J.D. Rhoades. 1987. Dispersion of clay from some salt-affected, arid land soil aggregates. Soil Sci. Soc. Am. J. 51:920-924.
921. Maas, E.V., J.A. Poss and G.J. Hoffman. 1986. Salinity sensitivity of sorghum at three growth stages. Irrig. Sci. 7:1-11.
922. Goldberg, S. and R.A. Glaubig. 1986. Boron adsorption and silicon release by the clay minerals kaolinite, montmorillonite, and illite. Soil Sci. Soc. Am. J. 50:1442-1448.
923. Francois, L.E. and E.V. Maas. 1985. Plant responses to salinity: A supplement to an indexed bibliography. U.S. Dept. of Agriculture, Agri. Res. Service ARS-24, 174p.
924. Maas, E.V. 1986. Salt tolerance of plants. Applied Agricultural Research. 1:12-26.
925. Holtzclaw, K.M., G. Sposito and J.D. Rhoades. 1986. Improved selective dissolution method for determining calcite and dolomite in soils. Soil Sci. 142:63-68. NA.
926. Roberts, J.K.M., A.N. Lane, R.A. Clark and R.H. Nieman. 1985. Relationships between the rate of synthesis of ATP and the concentrations of reactants and products of ATP hydrolysis in maize root tips, determined by ^{31}P nuclear magnetic resonance. Arch. Biochem. & Biophys. 240:712-722.
927. Maas, E.V. 1986. Physiological response of plants to chloride. In: T.L. Jackson (ed.), Chloride and Crop Production, Proc. Amer. Soc. Agron. Symp. Spec. Bull. 2:4-20. NA.
928. Maas, E.V. 1986. Crop tolerance to saline soil and water. In: R. Ahmad and A. San Pietro (eds.), Prospects for Biosaline Research, Univ. Karachi, Pakistan. pp. 205-219.
929. Weimberg, R. 1986. Growth and solute accumulation in 3-week-old seedlings of *Agropyron elongatum* stressed with sodium and potassium salts. Physiol. Plant. 67:129-135.
930. Spencer, W.F. 1987. Volatilization of pesticide residue. In: J. Biggar and J.N. Seiber (eds.), Fate of Pesticide in the Environment. Univ. Calif. Publ. 3320, pp. 61-68. NA.
931. Goldberg, S. 1986. Chemical modeling of arsenate adsorption on aluminum and iron oxide

- minerals. *Soil Sci. Soc. Am. J.* 50:1154-1157.
932. Rosenthal, W.D., G.G. Arkin and P.J. Shouse. 1985. Water deficit effects on sorghum transpiration. *Proc. of the National Conf. on Advances in Evapotranspiration*, Chicago, IL, December 16-17, 1985. NA.
933. Suarez, D.L. 1987. Prediction of pH errors in soil-water extractors due to degassing. *Soil Sci. Soc. Am. J.* 51:64-67.
934. Solomon, K.H. 1985. Adjusting water-production functions to account for salinity. *Proc., Arid Lands: Today and Tomorrow Research and Development Conf.*, Tucson, AZ, October 21-25, 1985. NA.
935. Dinar, A., K.C. Knapp and J.D. Rhoades. 1986. Production function for cotton with dated irrigation water quantities and qualities. *Water Resour. Res.* 22:1519-1525.
936. Plaut, Z. and C.M. Grieve. 1988. Photosynthesis of salt-stressed maize as influenced by Ca:Na ratios in the nutrient solution. *Plant & Soil.* 105:283-286.
937. Nielsen, D.R., M.Th. van Genuchten and J.W. Biggar. 1986. Water flow and solute transport processes in the unsaturated zone. *Water Resour. Res.* 22:89S-108S.
938. Francois, L.E., E.V. Maas, T.J. Donovan and V.L. Youngs. 1986. Effect of salinity on grain yield and quality, vegetative growth, and germination of semi-dwarf and durum wheat. *Agron. J.* 78:1053-1058.
939. Maas, E.V. 1987. Chloride. 1987 McGraw-Hill Yearbook of Science and Technology. pp. 371-373. NA.
940. Maas, E.V., T.J. Donovan, L.E. Francois and G.E. Hamerstrand. 1986. Salt tolerance of Guayule. *Proc. of the Fourth Int'l Conf. on Guayule Research and Development*. Univ. Arizona, Tucson. pp. 101-107.
941. Goldberg, S. and R.A. Glaubig. 1986. Boron adsorption on California soils. *Soil Sci. Soc. Am. J.* 50:1173-1176.
942. Cancelled
943. Kool, J.B., J.C. Parker and M.Th. van Genuchten. 1986. The inverse problem for hysteretic unsaturated flow. *In: A. Sa da Costa, A. Melo Baptista, W.G. Gray, C.A. Brebbia, and G.F. Pinder (eds.), Finite Elements in Water Resources*, Springer Verlag, NY, pp. 337-346.
944. Mitchell, A.R. 1986. Polyacrylamide application in irrigation water to increase infiltration. *Soil Sci.* 141:353-358.
945. Goldberg, S. and R.A. Glaubig. 1987. Effect of saturating cation, pH, and aluminum and iron oxide on the flocculation of kaolinite and montmorillonite. *Clays & Clay Minerals.* 35:220-227.
946. Rhoades, J.D. 1987. Use of saline water for irrigation. *Water Quality Bulletin.* 12:14-20.

- NA.
947. Cancelled.
948. Hoffman, G.J., T.L. Prichard, E.V. Maas and J.L. Meyer. 1986. Irrigation water quality options for corn on saline, organic soils. *Irrig. Sci.* 7:265-275.
949. Shannon, M.C., J.W. Gronwald and M. Tal. 1987. Effects of salinity on growth and accumulation of organic and inorganic ions in cultivated and wild tomato species. *J. Am. Soc. Hort. Sci.* 112:416-423.
950. Kool, J.B., J.C. Parker and M.Th. van Genuchten. 1987. Parameter estimation for unsaturated flow and transport models - a review. *J. Hydrol.* 91:255-293. NA.
951. Francois, L.E. 1987. Salinity effects on asparagus yield and vegetative growth. *J. Amer. Soc. Hort. Sci.* 112:432-436.
952. Mitchell, A.R. 1986. Infiltration and aggregate stability as influenced by application of dilute polymer solution. Proc. of the International Conference on Infiltration Development and Application, Honolulu, HI, January 5-9, 1986.
953. Amrhein, C. and D.L. Suarez. 1987. Magnesite equilibrium from dissolution and precipitation. Has it been done? *Soil Sci. Soc. Am. J.* 51:839.
954. Cancelled.
955. Rhoades, J.D. 1986. Use of saline drainage water for irrigation. Am. Soc. Agric. Eng. Summer Mtg, 1986. NA.
956. Meek, B.D., T.J. Donovan and L.E. Graham. 1986. Alfalfa stand losses from irrigation: Influence of soil temperature, texture, and aeration status. *Soil Sci. Soc. Am. J.* 50:651-655.
957. Weimberg, R. 1987. Solute adjustments in leaves of two species of wheat at two different stages of growth in response to salinity. *Physiol. Plant.* 70:381-388.
958. Dalton, F.N. 1986. Simultaneous measurement of soil water content and soil salinity using time-domain reflectometry technique. Proceedings of the California Plant & Soil Conf. Calif. Chapter of ASA, pp. 48-53. NA.
959. Maas, E.V. and C.M. Grieve. 1987. Sodium-induced calcium deficiency in salt-stressed corn. *Plant, Cell & Environment.* 10:559-564.
960. Goldberg, S. 1986. Chemical modeling of specific anion adsorption on oxides, clay minerals, and soil. ENVIROSOFT 86 Conference, Los Angeles, Nov. 86. CML Publications, Ashurst, Southampton, UK. pp. 671-688.
961. Hoffman, G.J. and M.C. Shannon. 1986. Relating plant performance and soil salinity. *Reclamation & Revegetation Research*, Elsevier Science Pub. 5:211-225. NA.
962. Shouse, P.J. 1988. A simple pump for extracting water from neutron access tubes and

- mini-rhizotrons. Agron. J. 80:269-270.
963. Grieve, C.M. and H. Fujiyama. 1987. The response of two rice cultivars to external Na/Ca ratio. Plant & Soil. 103:245-250.
964. Goldberg, S. and S.J. Traina. 1987. Chemical modeling of anion competition on oxides using the constant capacitance model-mixed-ligand approach. Soil Sci. Soc. Am. J. 51:929-932.
965. Goldberg, S. and R.A. Glaubig. 1988. Boron and silicon adsorption on an aluminum oxide. Soil Sci. Soc. Am. J. 52:87-91. NA.
966. Amrhein, C. and D.L. Suarez. 1987. Calcite supersaturation in soils as a result of organic matter mineralization. Soil Sci. Soc. Am. J. 51:932-937.
967. Bresler, E. and G.J. Hoffman. 1986. Irrigation management for soil salinity control: Theories and tests. Soil Sci. Soc. Am. J. 50:1552-1560.
968. Jury, W.A., A.M. Winer, W.F. Spencer and D.D. Focht. 1987. Transport and transformations of organic chemicals in the soil-air-water ecosystem. Reviews Environ. Contam. Toxicol. 99:119-164. NA.
969. Rhoades, J.D. 1987. The problem of salt in agriculture. Yearbook of Science & the Future Encyclopedia Britannica. pp. 118-135. NA.
970. Wierenga, P.J. and M.Th. van Genuchten. 1989. Solute transport through small and large unsaturated soil columns. Ground Water. 27:35-42.
971. van Genuchten, M.Th. and W.A. Jury. 1987. Progress in unsaturated flow and transport modeling. Reviews of Geophysics. 25:135-140. NA.
972. Rosenthal, W.D., G.F. Arkin, P.J. Shouse and W.R. Jordan. 1987. Water deficit effects on transpiration and leaf growth. Agron. J. 79:1019-1026.
973. Schulin, R., M.Th. van Genuchten, H. Fluhler and P. Ferlin. 1987. An experimental study of solute transport in a stony field soil. Water Resour. Res. 23:1785-1794.
974. Parker, J.C. and M.Th. van Genuchten. 1986. Replies to "Comments on flux-averaged and volume-averaged concentrations in continuum approaches to solute transport". Water Resour. Res. 21:1301-1302 & Water Resour. Res. 22:1159-1160.
975. Cancelled.
976. van Genuchten, M.Th. and R. Schulin. 1987. Modeling solute transport processes in the unsaturated zone. Transactions XIII Congress, Int'l Soc. Soil Sci., ISSS, Hamburg, West Germany, Vol. IV, pp. 523-532.
977. Peterson, T.A., R.H. Nieman and R.A. Clark. 1987. Nucleotide metabolism in salt-stressed *zea mays* L. root tips. I. Adenine and uridine nucleotides. Plant Physiol. 85:984-989.
978. Nielsen, D.R., M.Th. van Genuchten and W.A. Jury. 1987. Monitoring and analyzing water

- and solute transport in the vadose zone. Proc. Int'l Symp. on "Groundwater Monitoring and Management", Institute of Water Manage., Berlin, GDR, No. 16, 24p. NA.
979. Mitchell, A.R. 1987. Field elevation changes to estimate profile soil water. Proc. Int'l Conf. on Measurement of Soil & Plant Water Status, Logan, UT, July 6-10, 1987, pp. 67-71.
980. Abu-Sharar, T.M., F.T. Bingham and J.D. Rhoades. 1987. Reduction in hydraulic conductivity in relation to clay dispersion and disaggregation. Soil Sci. Soc. Am. J. 51:342-345.
981. Cancelled.
982. Peterson, T.A., C.J. Lovatt and R.H. Nieman. 1988. Salt stress causes acceleration of purine catabolism and inhibition of pyrimidine salvage in *Zea mays* root tips. J. Exp. Bot. 39:1389-1395.
983. Cancelled.
984. Cancelled.
985. Abu-Sharar, T.M., F.T. Bingham and J.D. Rhoades. 1987. Stability of soil aggregates as affected by electrolyte concentration. Soil Sci. Soc. Am. J. 51:309-314.
986. Plaut, Z., C.M. Grieve and E.V. Maas. 1990. Salinity effects on CO₂ assimilation and diffusive conductance of cowpea leaves. Physiol. Plant. 79:31-38.
987. Amrhein, C. and D.L. Suarez. 1988. The use of a surface complexation model to describe the kinetics of ligand-promoted dissolution of anorthite. Geochim. Cosmochim. Acta. 52:2785-2793.
988. Francois, L.E. 1988. Salinity effects on three turf bermudagrasses. HortSci. 23:706-708.
989. Taylor, A.W. and W.F. Spencer. 1990. Volatilization and vapor transport processes. In: Pesticides in the Soil Environment: Processes, Impacts, and Modeling. Soil Sci. Soc. Am. Book Series, No. 2, pp. 213-270.
990. Wallach, R., W.A. Jury and W.F. Spencer. 1988. Modeling the losses of soil-applied chemicals in runoff: Lateral irrigation versus precipitation. Soil Sci. Soc. Am. J. 52:605-612.
991. Wallach, R., W.A. Jury and W.F. Spencer. 1988. Transfer of chemicals from soil solution to surface runoff: A diffusion-based soil model. Soil Sci. Soc. Am. J. 52:612-618.
992. Nieman, R.H., R.A. Clark, D. Pap, G. Ogata and E.V. Maas. 1988. Effects of salt stress on adenine and uridine nucleotide pools, sugar and acid-soluble phosphate in shoots of pepper and safflower. J. Exp. Bot. 39:301-309.
993. van Genuchten, M.Th., J.B. Kool and J.C. Parker. 1987. Parameter estimation for various contaminant transport models. In: C.A. Brebbia and G.A. Keramidas (eds.), Reliability and Robustness of Engineering Software, Elsevier, NY, pp. 273-295.

994. Cancelled
995. van Genuchten, M.Th., J.C. Parker and J.B. Kool. 1987. Analysis and prediction of water and solute transport in a large lysimeter. In: E.P. Springer and H.R. Fuentes (eds.), "Modeling Study of Solute Transport in the Unsaturated Zone", Los Alamos Nat'l Lab., NUREG/CR-4615, Vol. 2, pp. 4-31, U.S. Nuclear Regulatory Comm., Washington, DC.
996. Corwin, D.L., M. Sorensen and J.D. Rhoades. 1989. Field-testing of models which identify soils susceptible to salinity development. *Geoderma*. 45:31-64. NA.
997. Corwin, D.L., J.W. Werle and J.D. Rhoades. 1988. The use of computer-assisted mapping techniques to delineate potential areas of salinity development in soils: I. A conceptual introduction. *Hilgardia*. 56:1-17.
998. Corwin, D.L. and J.D. Rhoades. 1988. The use of computer-assisted mapping techniques to delineate potential areas of salinity development in soils: II. Field verification of the threshold model approach. *Hilgardia*. 56:18-32.
999. Glaubig, R.A. and S. Goldberg. 1988. Determination of inorganic arsenic(III) and arsenic (III plus V) using automated hydride-generation atomic-absorption spectrometry. *Soil Sci. Soc. Am. J.* 52:536-537.
1000. Hooks, M.A., R.A. Clark, R.H. Nieman and J.K.M. Roberts. 1989. Compartmentation of nucleotides in corn root tips studied by ^{31}P -NMP and HPLC¹. *Plant Physiol.* 89:963-969.
1001. Weimberg, R. and M.C. Shannon. 1987. Vigor and salt tolerance in 3 lines of tall wheatgrass. *Physiol. Plantarum*. 73:232-237.
1002. Grieve, C.M. and E.V. Maas. 1988. Differential effects of sodium/calcium ratio on sorghum genotypes. *Crop Sci.* 28:659-665.
1003. Spencer, W.F., M.M. Cliath, W.A. Jury and Lian-Zhong Zhang. 1988. Volatilization of organic chemicals from soil as related to their Henry's Law constants. *J. Environ. Qual.* 17:504-509.
1004. Goldberg, S., D.L. Suarez and R.A. Glaubig. 1988. Factors affecting clay dispersion and aggregate stability of arid-zone soils. *Soil Sci.* 146:317-325.
1005. Francois, L.E., T.J. Donovan, E.V. Maas and G.L. Rubenthaler. 1988. Effect of salinity on grain yield and quality, vegetative growth, and germination of triticale. *Agron. J.* 80:642-647.
1006. Shannon, M.C. 1987. Salinity - An environmental constraint on crop productivity. 4th Australian Agron. Soc. Conf., La Trobe Univ., Melbourne, Australia, August 24-27, 1987.
1007. Maas, E.V., T.J. Donovan and L.E. Francois. 1988. Salt Tolerance of irrigated guayule. *Irrig. Sci.* 9:199-211.
1008. Hoffman, G.J., M.C. Shannon, E.V. Maas and L. Grass. 1988. Rubber production of salt-stressed guayule at various plant populations. *Irrig. Sci.* 9:213-226.

1009. Olszyk, D., E.V. Maas, G. Kats and L.E. Francois. 1988. Soil salinity and ambient ozone: Lack of stress interaction for field-grown alfalfa. *J. Environ. Qual.* 17:299-304.
1010. Goldberg, S. and R.A. Glaubig. 1988. Anion sorption on a calcareous, montmorillonitic soil -- selenium. *Soil Sci. Soc. Am. J.* 52:954-958.
1011. Yates, S.R. 1988. Three-dimensional radial dispersion in a variable velocity flow field. *Water Resour. Res.* 24:1083-1090.
1012. Suarez, D.L. 1988. The salt of the earth. *Science of Food & Agri.* 1:6-7.
1013. Suarez, D.L. and C.M. Grieve. 1988. Predicting cation ratios in corn from saline solution composition. *J. Exp. Bot.* 39:605-612.
1014. Rhoades, J.D., F.T. Bingham, J. Letey, G.J. Hoffman, A.R. Dedrick, P.J. Pinter and J.A. Replogle. 1989. Use of saline drainage water for irrigation: Imperial Valley study. *Agri. Water Mgt.* 16:25-36.
1015. Mitchell, A.R., P.J. Pinter Jr., J.N. Guerrero, C.B. Hernandez and V.L. Marble. 1990. Spectral reflectance measurements of alfalfa under sheep grazing. *Agron. J.* 82:1098-1103.
1016. Rhoades, J.D., F.T. Bingham, J. Letey, A.R. Dedrick, M. Bean, G.J. Hoffman, W.J. Alves, R.V. Swain, P.G. Pacheco and R.D. LeMert. 1988. Reuse of drainage water for irrigation: Results of Imperial Valley study. I. Hypothesis, experimental procedures, and cropping results. *Hilgardia.* 56:1-16.
1017. Rhoades, J.D., F.T. Bingham, J. Letey, P.J. Pinter, Jr., R.D. LeMert, W.J. Alves, G.J. Hoffman, J.A. Replogle, R.V. Swain and P.G. Pacheco. 1988. Reuse of drainage water for irrigation: Results of Imperial Valley Study. II. Soil salinity and water balance. *Hilgardia.* 56:17-44.
1018. Wallach, R., W.A. Jury and W.F. Spencer. 1989. The concept of convective mass transfer for prediction of surface-runoff pollution by soil surface applied chemicals. *Trans. ASAE.* 32:906-912.
1019. Suarez, D.L. and M.F. Zahow. 1989. Calcium-magnesium exchange selectivity of Wyoming montmorillonite in chloride, sulfate and perchlorate solutions. *Soil Sci. Soc. Am. J.* 53:52-57.
1020. Weimberg, R. 1988. Modification of foliar solute concentrations by calcium in two species of wheat stressed with sodium chloride and/or potassium chloride. *Physiol. Plant.* 73:418-425.
1021. Gronwald, J.W., C.G. Suhayda, M. Tal and M.C. Shannon. 1990. Reduction in plasma membrane ATPase activity of tomato roots by salt stress. *Plant Sci.* 66:145-153.
1022. Irving, D.W., M.C. Shannon, V.A. Breda and B.E. Mackey. 1988. Salinity effects on yield and soil quality of high-linoleate and high-oleate cultivars of safflower (*Carthamus tinctorius* L.). *J. Agri. Food Chem.* 36:37-42.

1023. Francois, L.E. 1988. Yield and quality responses of celery and crisphead lettuce to excess boron. *J. Amer. Soc. Hort. Sci.* 113:538-542.
1024. Goldberg, S. and R.A. Glaubig. 1988. Anion sorption on a calcareous, montmorillonitic soil-arsenic. *Soil Sci. Soc. Am. J.* 52:1297-1300.
1025. Yates, S.R. 1988. Seepage in a saturated-stratified aquifer with recharge. *Soil Sci. Soc. Am. J.* 52:356-363. NA.
1026. Yates, M.V. and S.R. Yates. 1987. Modeling microbial fate in the subsurface environment. CRC Critical Reviews in Environ. Control. 17:307-344.
1027. Chen, C.-S. and S.R. Yates. 1989. Approximate and analytical solutions to radio-nuclide from an injection well into a single fracture. *Ground Water.* 27:77-86.
1028. Dalton, F.N. 1989. Plant root water extraction studies using stable isotopes. *Plant and Soil* 111: 217-221, and *Structure & Functional Aspects of Transport in Roots*, B.C. Laughman (ed), pp. 151-155.
1029. Mantell, A., R.M. Mead, G.J. Hoffman and L.E. Francois. 1989. Foliar and yield response of santa rosa plum to saline water spray. *Irrig. Sci.* 10:19-27. NA.
1030. Dalton, F.N. 1987. Measurement of soil water content and electrical conductivity using time domain reflectometry. *Int'l Conf. on Measurement of Soil & Plant Water Status*, Vol. 1, Centennial of Utah State Univ., July 6-10, 1987, pp. 95-98.
1031. Yates, S.R. and C.G. Enfield. 1988. Decay of dissolved substances by second-order reaction. Problems description and batch-reactor solutions. *J. Environ. Sci. Health.* A23:59-84. NA.
1032. Yates, M.V. and S.R. Yates. 1988. Virus survival and transport in ground water. *J. Water Sci. Tech.* 20:301-307.
1033. Dalton, F.N. 1987. In-situ measurement of plant root area and mass. *Int'l Conf. on Measurement of Soil & Plant Water Status*. Centennial of Utah State Univ., July 6-10, 1987. V. 2:213-216.
1034. Mitchell, A.R. and R.V. Swain. 1987. Controlled traffic on alfalfa in the Imperial Valley - a whole new ballgame? *Proc. 17th Calif.-Arizona Alfalfa Symp.*, El Centro, CA, pp. 71-76.
1035. Yates, S.R. and C.G. Enfield. 1989. Transport of dissolved substances with second-order reaction. *Water Resour. Res.* 25:1757-1762.
1036. Rhoades, J.D. 1988. Evidence of the potential to use saline water for irrigation. *In:* R. Bouchet (ed.); *Reuse of Low Quality Water for Irrigation*, Proc. Symp., Water Res. Center, Egypt. pp. 133-146.
1037. Rhoades, J.D., N.A. Manteghi, P.J. Shouse and W.J. Alves. 1989. Soil electrical conductivity and soil salinity: New formulations and calibrations. *Soil Sci. Soc. Am. J.* 53:433-439.

1038. Rhoades, J.D. and J. Loveday. 1990. Salinity in irrigated agriculture. In: B.A. Stewart & D.R. Nielsen (eds.), Irrigation of Agricultural Crops. Agron. Monogr. No. 30, pp. 1089-1142.
1039. Rhoades, J.D. 1990. Soil salinity - Causes and controls, In: A.S. Goudie (ed.), Techniques for Desert Reclamation. John Wiley & Sons, pp. 109-134.
1040. Wosten, J.H.M. and M.Th. van Genuchten. 1988. Using texture and other soil properties to predict the unsaturated soil hydraulic functions. *Soil Sci. Soc. Am. J.* 52:1762-1770.
1041. van Genuchten, M.Th. 1988. Solute transport in soils. 1989 Mc-Graw-Hill Yearbook of Sci. & Tech. pp. 360-362.
1042. Nielsen, D.R., M.Th. van Genuchten and W.A. Jury. 1988. Elements of groundwater management: The unsaturated zone. In: J.J. Devries (ed.); Proc. 16th Biennial Conf. on Ground Water, Report No. 66, California Water Resources Center, Univ. California, Riverside, pp. 23-31. NA.
1043. Suarez, D.L. 1989. Impact of agricultural practices on groundwater salinity. *Agric., Ecosystems & Environ.* 26:215-227.
1044. Rhoades, J.D., D.L. Corwin and P.J. Shouse. 1988. Use of instrumental and computer assisted techniques to assess soil salinity. Proc. of Int'l Symp. in Solonetz Soils, Osijek, Yugoslavia. pp. 50-103.
1045. Rhoades, J.D. 1989. Intercepting, isolating and reusing drainage waters for irrigation to conserve water and protect water quality. *Agri. Water Mgt.* 16:37-52.
1046. Maas, E.V. and J.A. Poss. 1989. Salt sensitivity of wheat at various growth stages. *Irrig. Sci.* 10:29-40.
1047. Wallach, R., M.Th. van Genuchten and W.F. Spencer. 1989. Modeling solute transfer from soil to surface runoff: The concept of effective depth of transfer. *J. Hydrol.* 109:307-317.
1048. Yates, S.R. and M.V. Yates. 1989. Disjunctive kriging as an approach to management decision making. *Soil Sci. Soc. Am. J.* 52:1554-1558.
1049. Yates, M.V. and S.R. Yates. 1989. Septic tank setback distances: A way to minimize virus contamination of drinking water. *Ground Water.* 27:202-208.
1050. Yates, S.R. 1988. An analytical solution to saturated flow in a finite stratified aquifer. *Ground Water.* 26:199-206.
1051. Lafolie, F., R. Guennelon and M.Th. van Genuchten. 1989. Analysis of water flow under trickle irrigation. I. Theory and numerical solution. *Soil Sci. Soc. Am. J.* 53:1310-1318.
1052. Lafolie, F., R. Guennelon and M.Th. van Genuchten. 1989. Analysis of water flow under trickle irrigation. II. Experimental evaluation. *Soil Sci. Soc. Am. J.* 53:1318-1323.
1053. Rhoades, J.D., S.M. Lesch, P.J. Shouse and W.J. Alves. 1989. New calibrations for determining soil electrical conductivity - depth relations from electromagnetic

- measurements. *Soil Sci. Soc. Am. J.* 53:74-79.
1054. Francois, L.E. 1989. Boron tolerance of snap bean and cowpea. *J. Am. Soc. Hort. Sci.* 114:615-619.
1055. van Ommen, H.C., M.Th. van Genuchten, W.H. van der Molen, R. Dyksma and J. Hulshof. 1989. Experimental and theoretical analysis of solute transport from a diffuse source of pollution. *J. Hydrol.* 105:225-251.
1056. van Genuchten, M.Th., S.M. Gorelick and W.W-G, Yeh. 1990. Application of parameter estimation techniques to solute transport studies. *In:* Donn G. DeCoursey (ed.), *Proc. Int'l. Symp. on Water Quality Modeling of Agricultural Non-Point Sources*, Part 2, pp. 731-753, June 19-23, 1988, Utah State Univ., Logan, UT.
1057. Yates, S.R., A.W. Warrick, A.D. Matthias and S. Musil. 1988. Spatial variability of remotely sensed surface temperatures at field scale. *Soil Sci. Soc. Am. J.* 52:40-45.
1058. Rhoades, J.D., N.A. Manteghi, P.J. Shouse and W.J. Alves. 1989. Estimating soil salinity from saturated soil-paste electrical conductivity. *Soil Sci. Soc. Am. J.* 53:428-433.
1059. Maas, E.V. and J.A. Poss. 1989. Salt sensitivity of cowpea at various growth stages. *Irrig. Sci.* 10:313-320.
1060. van Genuchten, M.Th. and R.J. Wagenet. 1989. Two-site/two-region models for pesticide transport and degradation: Theoretical development and analytical solutions. *Soil Sci. Soc. Am. J.* 53:1303-1309.
1061. Gumerding, A.P., R.J. Wagenet and M.Th. van Genuchten. 1990. Application of two-site/two-region models for studying simultaneous nonequilibrium transport and degradation of pesticides. *Soil Sci. Soc. Am. J.* 54:957-963.
1062. Shouse, P.J., T.J. Gerik, W.B. Russell and K.D. Cassel. 1990. Spatial distribution of soil particle size and aggregate stability index in clay soil. *Soil Sci.* 149:351-360.
1063. Rhoades, J.D., B.L. Waggoner, P.J. Shouse and W.J. Alves. 1989. Determining soil salinity from soil and soil-paste electrical conductivities: Sensitivity analysis of models. *Soil Sci. Soc. Am. J.* 53:1368-1374.
1064. Noble, C.L. and M.C. Shannon. 1988. Salt tolerance selection of forage legumes using physiological criteria. *In:* S.K. Sharma, P.V. Sabe, S.C. Bhargava and P.K. Agrawal (eds.), *Proc. Int'l Congress of Plant Physiol. Soc. Pl. Physiol. Biochem.*, New Delhi, India, pp. 989-994. NA.
1065. Francois, L.E., T.J. Donovan, K. Lorenz and E.V. Maas. 1989. Salinity effects on rye grain yield, quality, vegetative growth, and emergence. *Agron. J.* 81:707-712.
1066. van Genuchten, M.Th. and P.J. Shouse. 1989. Solute transport in heterogeneous field soils. *In:* D.T. Allen, Y. Cohen and I. Kaplan (eds.), "Intermedia Pollutant Transport, Modeling and Field Measurements", Plenum Press, NY, pp. 177-187.
1067. Rhoades, J.D., P.J. Shouse, W.J. Alves, N.A. Manteghi and S.M. Lesch. 1990. Determining

- soil salinity from soil electrical conductivity using different models and estimates. *Soil Sci. Soc. Am. J.* 54:46-54.
1068. Rhoades, J.D. and S. Miyamoto. 1990. Testing soils for salinity and sodicity, Chapter 12. *In:* R.L. Westerman (ed.), *Soil Testing & Plant Analysis*, 3rd ed. - SSSA Book Series, No. 3, pp. 299-336.
1069. Spencer, W.F. and M.M. Cliath. 1990. Movement of pesticides from soil to the atmosphere. *In:* D.A. Kurtz,(ed.), *Long Range Transport of Pesticides*, ACS Symp. Lewis Publishers. pp. 1-16.
1070. Francois, L.E., T.J. Donovan and E.V. Maas. 1990. Salt tolerance of kenaf. pp. 300-301. *In:* J. Janick and J.E. Simon (eds.), *Advances in New Crops*, Timber Press, Portland, OR.
1071. Goldberg, S. 1989. Interaction of aluminum and iron oxides and clay minerals and their effect on soil physical properties: A review. *Commun. Soil Sci. Plant Anal.* 20:1181-1207.
1072. Pratt, P.F. and D.L. Suarez. 1990. Chapter II, Irrigation water quality assessments. *In:* K.K. Tanji (ed.); *Agri. Salinity Assessment & Management*, ACE Manuals & Reports on Engineering Practices No. 71, ASCE, NY, pp. 220-236.
1073. van Genuchten, M.Th., F. Kaveh, W.B. Russell and S.R. Yates. 1989. Direct and indirect methods for estimating the hydraulic properties of unsaturated soils. *In:* J. Bouma and A.K. Bregt, (eds.), "Land Qualities in Space and Time", Pudoc, Wageningen, The Netherlands, pp. 61-72.
1074. Batu, V. and M.Th. van Genuchten. 1990. First- and third-type boundary conditions in two-dimensional solute transport modeling. *Water Resour. Res.* 26:339-350.
1075. Cancelled.
1076. Rhoades, J.D. 1989. Effects of salts on soils and plants. Proc. Speciality Conf. sponsored by Irrig. & Drainage Div. Water Resour. Planning & Manage. Div., ASCE, Univ. of Delaware, Newark, DE. July 17-20, 1989, pp. 39-48.
1077. Suarez, D.L. 1989. Water quality criteria for irrigation. Proc. Nat. Water Conf., Newark, DE, ASCE, IR, WR Divs., pp. 57-66.
1078. Jurinak, J.J. and D.L. Suarez. 1990. Chapter 3, The chemistry of salt-affected soils and waters. *In:* K.K. Tanji (ed.); *Agri. Salinity Assessment and Management*, ASCE Manuals & Reports on Eng. Practice No. 71, pp. 42-63.
1079. Francois, L.E., T.J. Donovan and E.V. Maas. 1990. Salinity effects on emergence, vegetative growth, and seed yield of guar. *Agron. J.* 82:587-591.
1080. Rhoades, J.D. and D.L. Corwin. 1990. Soil electrical conductivity: Effects of soil properties and application to soil salinity appraisal. *Commun. Soil Sci. & Plant Anal.* 21:837-860. NA.
1081. Corwin, D.L. and J.D. Rhoades. 1990. Establishing soil electrical conductivity - depth relations from electromagnetic induction measurement. *Commun. Soil Sci. & Plant Anal.* 21:861-901.

1082. Yates, S.R., Member-ASCE Task Comm. Geostat. Techn. Geohydrol. 1990. Review of geostatistics in geohydrology. 1. Basic concepts. ASCE J. Hydraul. Eng. 116:633-658.
1083. Yates, S.R., Member-ASCE Task Comm. Geostat. Techn. Geohydrol. 1990. Review of geostatistics in geohydrology. 2. Applications. ASCE, J. Hydraul. Eng. 116:633-658.
1084. Yates, S.R. 1990. An analytical solution for one-dimensional transport in heterogeneous porous media. Water Resour. Res. 26:2331-2338.
1085. Rhoades, J.D. 1990. Determining soil salinity from measurements of electrical conductivity. Commun. Soil Sci. & Plant Anal. 21:1887-1926. NA.
1086. Hinedi, Z.R., S. Goldberg, A.C. Chang and J.P. Yesinowski. 1992. ^{31}P and ^1H MAS NMR study of phosphate sorption onto calcium carbonate. J. Colloid & Interface Sci. 152:141-160. NA.
1087. Rhoades, J.D. 1989. Overview: Diagnosis of salinity problems and selection of control practices. ASCE Salinity Handbook. In: K.K. Tanji (ed.), Agri. Salinity Assessment & Management, ASCE Manuals & Reports on Eng., No. 71, ASCE, NY, pp. 18-41.
1088. Thellier, C., K.M. Holtzclaw, J.D. Rhoades and G. Sposito. 1989. Chemical effects of saline irrigation water on a San Joaquin Valley soil: II. Field soil samples. J. Environ. Qual. 19:50-60.
1089. Nielsen, D.R., M.Th. van Genuchten and W.A. Jury. 1989. Transport processes from soil surfaces to groundwaters. In: L.M. Abriola (ed.). Groundwater Contamination, Publ. 185, Int'l Assoc. of Hydrological Sciences, IARS Press, Wallingford, United Kingdom, pp. 99-108.
1090. Luckner, L., M.Th. van Genuchten and D.R. Nielsen. 1989. A consistent set of parametric models for the two-phase flow of immiscible fluids in the subsurface. Water Resour. Res. 25:2187-2193.
1091. Wallach, R. and M.Th. van Genuchten. 1990. A physically-based model for predicting solute transfer from soil solution to rainfall-induced runoff water. Water Resour. Res. 26:2119-2126.
1092. Sisson, J.B. and M.Th. van Genuchten. 1991. An improved analysis of gravity drainage experiments for estimating the unsaturated soil hydraulic functions. Water Resour. Res. 27:569-575.
1093. Suarez, D.L. 1989. Calidad y uso de aguas bicarbonatadas y sodicas en la agricultura. Colegio Oficial de Ingenieros Agronomos de Centro y Canarias, Delegacion Provincial de Santa Cruz de Tenerife, pp. 1-36.
1094. Corwin, D.L., M. Sorensen and J.D. Rhoades. 1989. Delineating areas of salinity development on irrigated agricultural land using ARC/INFO. Proc. for the 9th Annual ESRI Users' Conf., Palm Springs, May 22-26, 1989, pp. 1-11.
1095. Goldberg, S. and H.S. Forster. 1990. Flocculation of reference clays and arid zone soil clays. Soil Sci. Soc. Am. J. 54:714-718.

1096. Spencer, W.F. and M.M. Cliath. 1991. Pesticide losses in surface runoff from irrigated fields. *In: L. Pawlowski, et al. (eds.), Chemistry for Protection of the Environment*, Plenum Publishing Corp., NY, pp. 277-289.
1097. Yates, S.R. 1989. GEOPACK: A geostatistical software system. Proc. of the ASCE Nat'l Conf. on Hydraulic Engineering & Int'l Symp. on Sediment Transport Modeling, New Orleans, LA, August 14-18, 1989. pp. 693-698.
1098. Hoffman, G.J., J.D. Rhoades, J. Letey and F. Sheng. 1990. Salinity management. *In: G.J. Hoffman, T.A. Howell, K.H. Solomon (eds.); Management of farm irrigation systems*, ASAE Monograph 18. pp. 667-715.
1099. Grattan, S.R. and J.D. Rhoades. 1990. Chapter 20, Irrigation with saline ground water and drainage water. *In: K.K. Tanji (ed.); Agri. Salinity Assessment & Management*, ASCE Manuals & Reports on Engineering No. 71, ASCE, NY, pp. 432-449. NA.
1100. Cancelled.
1101. Oster, J.D. and J.D. Rhoades. 1990. Chapter 22, Steady-state root zone salt balance. *In: K.K. Tanji (ed.); Agri. Salinity Assessment & Management*, ASCE Manuals & Reports on Engineering No. 71, ASCE, NY, pp. 469-481.
1102. Maas, E.V. and C.M. Grieve. 1990. Spike and leaf development in salt-stressed wheat. *Crop Sci.* 30:1309-1313.
1103. Goldberg, S., B.S. Kapoor and J.D. Rhoades. 1990. Effect of aluminum and iron oxides and organic matter on flocculation-dispersion behavior of arid zone soils. *Soil Sci.* 150:588-593.
1104. Singh, G., W.F. Spencer, M.M. Cliath and M.Th. van Genuchten. 1990. Sorption behavior of s-triazine and Thiocarbamate herbicides on soils. *J. Environ. Qual.* 19:520-525.
1105. Suhayda, C.G., J.L. Giannini, D.P. Briskin and M.C. Shannon. 1990. Electrostatic changes in *Lycopersicon esculentum* root plasma membrane resulting from salt stress. *Plant Physiol.* 93:471-478.
1106. Amrhein, C. and D.L. Suarez. 1990. Procedure for determining sodium-calcium selectivity in calcareous and gypsiferous soils. *Soil Sci. Soc. Am. J.* 54:999-1007.
1107. Hoffman, G.J., P.B. Catlin, R.M. Mead, R.S. Johnson, L.E. Francois and D. Goldhamer. 1989. Yield and foliar injury responses of mature plum trees to salinity. *Irrig. Sci.* 10:215-229.
1108. Goldberg, S. and H.S. Forster. 1991. Boron sorption on calcareous soils and reference calcites. *Soil Sci.* 152:304-310.
1109. Francois, L.E. and R. Kleiman. 1990. Salinity effects on vegetative growth, seed yield, and fatty acid composition of crambe. *Agron. J.* 82:1110-1114.
1110. Maas, E.V. 1990. Crop salt tolerance. *In: Agri. Salinity Assessment & Management*, K.K. Tanji (ed.); ASCE Manuals & Reports on Engineering No. 71, ASCE, NY, pp. 262-304.

1111. Dinar, A., J.D. Rhoades, P. Nash and B.L. Waggoner. 1991. Production functions relating crop yield, water quality and quantity, soil salinity and drainage volume. *Agric. Water Manage.* 19:51-66.
1112. Shannon, M.C. and C.L. Noble. 1990. Chapter 8, Genetic approaches for developing economic salt-tolerant crops. *In:* K.K. Tanji (ed.); *Agri. Salinity Assessment & Management*, ASCE Manuals & Reports on Engineering No. 71, ASCE, NY, pp. 161-185.
1113. Plaut, Z., C.M. Grieve and E. Federman. 1989. Salinity effects on photosynthesis in isolated mesophyll cells of cowpea leaves. *Plant Physiol.* 91:493-499.
1114. Rhoades, J.D., S.M. Lesch, P.J. Shouse and W.J. Alves. 1990. Locating sampling sites for salinity mapping. *Soil Sci. Soc. Am. J.* 54:1799-1803.
1115. Corwin, D.L., B.L. Waggoner and J.D. Rhoades. 1991. A functional model of solute transport that accounts for bypass. *J. Environ. Qual.* 20:647-658.
1116. Mitchell, A.R., P.J. Shouse and E.A. Rechel. 1993. Using acetic acid to wash roots from calcareous soil. *Commun. Soil Sci. Plant Anal.* 24:1845-1848. NA.
1117. Singh, G., W.F. Spencer, M.M. Cliath and M.Th. van Genuchten. 1990. Dissipation of s-Triazines and Thiocarbamate as related to soil moisture content. *Environ. Pollut.* 66:253-262.
1118. Amrhein, C. and D.L. Suarez. 1991. Sodium-calcium exchange with anion exclusion and weathering corrections. *Soil Sci. Soc. Am. J.* 55:698-706.
1119. Shouse, P.J., J.B. Sisson, G. de Rooij, J.A. Jobes and M.Th. van Genuchten. 1992. Application of fixed-gradient methods for estimating soil hydraulic conductivity. *Int'l Workshop Proc.*, UC, Riverside, CA.
1120. Corwin, D.L., B.L. Waggoner and J.D. Rhoades. 1992. Simulating the movement of a reactive solute through a soil lysimeter column using a functional transport model. *Environ. Sci. & Health.* A27:1875-1913.
1121. Mitchell, A.R. 1991. Soil surface shrinkage to estimate profile soil water. *Irrig. Sci.* 12:1-6.
1122. Ellsworth, T.R., W.A. Jury, F.F. Ernst and P.J. Shouse. 1991. A three-dimensional field study of solute transport through unsaturated, layered, porous media: 1. Methodology, mass recovery, and mean transport. *Water Resour. Res.* 27:951-965. NA.
1123. Ellsworth, T.R. and W.A. Jury. 1991. A three-dimensional field study of solute transport through unsaturated, layered, porous media: 2. Characterization of vertical dispersion. *Water Resour. Res.* 27:967-981.
1124. Rhoades, J.D. 1990. Blending saline and non-saline waters reduces water usable for crop production. *In:* S.C. Harris (ed.); *Proc. 1990 Conf. Irrig. & Drng.*, July 11-13, 1990, Durango, CO, pp. 442-452. NA.
1125. Shouse, P.J., J.B. Sisson, T.R. Ellsworth and J.A. Jobes. 1992. Estimating in situ unsaturated hydraulic properties of vertically heterogeneous soils. *Soil Sci. Soc. Am. J.*

- 1673-1679.
1126. Corwin, D.L. and B.L. Waggoner. 1990. TETRANS: Solute transport modeling software user's guide (Macintosh Version 1.4). USSL Report No. 121. 92p. NA.
1127. Rhoades, J.D. 1990. Sensing soil salinity problems: New technology. *In:* R.L. Elliott (ed.), Proc. 3rd National Irrigation Symp. Irrigation Association and ASCE, October 28 - November 1, 1990, Phoenix, AZ, pp. 422-428.
1128. Leij, F.J., J.H. Dane and M.Th. van Genuchten. 1991. Mathematical analysis of one-dimensional solute transport in a layered soil profile. *Soil Sci. Soc. Am.* 55:944-953.
1129. Ellsworth, T.R., C.E. Clapp and G.R. Blake. 1991. Temporal variations in soil structural properties under corn and soybean cropping. *Soil Sci.* 151:405-416.
1130. Rhoades, J.D. and A. Dinar. 1991. Reuse of agricultural drainage water to maximize the beneficial use of multiple water supplies for irrigation. Chap. 6. *In:* A. Dinar and D. Zilberman (eds.), "The Economics and Management of Water and Drainage in Agriculture", pp. 99-115, Kluwer Academic Publ.
1131. Maas, E.V. and C.M. Grieve. 1992. Salt tolerance of plants at different stages of growth. Proc. Int'l Conf., "Current Development in Salinity & Drought Tolerance of Plants", Tando Jam, Pakistan, January 7-11, 1990. NA.
1132. Mitchell, A.R. and T.J. Donovan. 1991. Field infiltration of a salt-loaded soil: evidence of a permeability hysteresis. *Soil Sci. Soc. Am. J.* 55:706-710.
1133. van Genuchten, M.Th., D.E. Rolston and P.F. Germann (eds). 1990. Transport of water and solutes in macropores. *Geoderma.* 46:1-297.
1134. van Dam, J.C., J.M.H. Hendrick, H.C. van Ommen and M.Th. van Genuchten. 1990. Water and solute movement in a coarse-textured water-repellent field soil. *J. of Hydrol.* 120:359-379.
1135. Kool, J.B. and M.Th. van Genuchten. 1989. HYDRUS: One-dimensional variable saturated flow and transport model, including hysteresis and root water uptake. Ver. 3.2. User Manual. Hydrogeologic Inc., Herndon, VA 116p. (See Pub. #1191 for update). NA.
1136. Sardin, M., D. Schweich, F.J. Leij and M.Th. van Genuchten. 1991. Modeling the nonequilibrium transport of linearly interacting solutes in porous media: A review. *Water Resour. Res.* 27:2287-2307. NA.
1137. Francois, L.E. 1991. Yield and quality responses of garlic and onion to excess boron. *Hort Science.* 26:547-549.
1138. Shannon, M.C. 1990. The potential for improved salt tolerance of the cultivated soybean. Proc. Int'l Conf., Tando Jam, Pakistan, pp. 9-18. NA.
1139. Dalton, F.N. and J.A. Poss. 1990. Water transport and salt loading: A unified concept of plant response to salinity. *Acta Horticulturae,* 278:187-193.

1140. Bleam, W.F., P.E. Pfeffer, S. Goldberg, R.W. Taylor and R. Dudley. 1991. A ^{31}P solid-state nuclear magnetic resonance study of phosphate adsorption at the Boehmite/aqueous-solution interface. *Langmuir*. 7:1702-1712.
1141. Dalton, F.N. and J.A. Poss. 1990. Soil water content and salinity assessment for irrigation scheduling using time-domain reflectometry: Principles and applications. *Acta Horticulturae*. 278:381-393.
1142. Suarez, D.L. and J.D. Rhoades. 1991. Soil Salinity. *In: Encyclopedia of Earth System Science*. 4:251-258.
1143. Goldberg, S., H.S. Forster and E.L. Heick. 1991. Flocculation of illite/kaolinite and illite/montmorillonite mixtures as affected by sodium adsorption ratio and pH. *Clays & Clay Minerals*. 39:375-380. NA.
1144. Grieve, C.M., S.M. Lesch, L.E. Francois and E.V. Maas. 1992. Analysis of main-spike yield components in salt-stressed wheat. *Crop Sci.* 32:697-703.
1145. Francois, L.E., T.J. Donovan and E.V. Maas. 1991. Calcium deficiency of artichoke buds in relation to salinity. *HortScience*. 26:549-553.
1146. Goldberg, S. 1991. Sensitivity of surface complexation modeling to the surface site density parameter. *J. Colloid & Interface Sci.* 145:1-9.
1147. Yates, S.R., M.Th. van Genuchten, A.W. Warrick and F.J. Leij. 1992. Analysis of measured, predicted, and estimated hydraulic conductivity using the RETC computer program. *Soil Sci. Soc. Am. J.* 56:347-354. NA.
1148. Dalton, F.N., J.A. Poss, T.J. Heimovaara, R.S. Austin, W.J. Alves and W.B. Russell. 1990. Principles, techniques, and design considerations for measuring soil water content and salinity using time-domain reflectometry. *USSL Research Report No. 122*. NA.
1149. Corwin, D.L. and B.L. Waggoner. 1990. TETRANS: Solute modeling transport software user's guide (IBM Compatible Version 1.5). *USSL Research Report No. 123*, 120p. NA.
1150. Maas, E.V. 1993. Plant growth response to salt stress. Vol. 1:279-291. *In: Towards the Rational Use of High Salinity Tolerant Plants*, H. Lieth and A. Al Masoom (eds.), Kluwer Academic Pub. Netherlands.
1151. Corwin, D.L. and B.L. Waggoner. 1990. TETRANS: A user-friendly, functional model of solute transport. *J. Water Sci. & Tech.* 24:57-66. NA.
1152. Luckner, L., M.Th. van Genuchten and D.R. Nielsen. 1991. Reply to comment on "A consistent set of parametric models for the two-phase flow of immiscible fluids in the subsurface" by J.R. Nimmo. *Water Resour. Res.* 27:663-664.
1153. Baker, J.M., J.M. Wraith and F.N. Dalton. 1992. Root function in water transport. ASA Monograph "Advances in Soil Sciences". 19:53-72.
1154. Lesch, S.M., J.D. Rhoades, L.J. Lund and D.L. Corwin. 1992. Mapping soil salinity using calibrated electromagnetic measurements. *Soil Sci. Soc. Am. J.* 56:540-548.

1155. Lesch, S.M., C.M. Grieve, E.V. Maas and L.E. Francois. 1992. Kernel distributions in main spikes of salt-stressed wheat: A probabilistic modeling approach. *Crop Sci.* 32:704-712.
1156. Feher, J., M.Th. van Genuchten, W.J. Alves and D.W. Joyce. 1991. Solute transport modeling assisted by a knowledge-based system. In: C.A. Brebbia and A.J. Ferrante (eds.), "Reliability and Robustness of Engineering Software II", Elsevier Applied Science, NY, pp. 243-252.
1157. Corwin, D.L. 1991. A user-friendly, functional model of contaminant transport through the vadose zone. 1990 Int'l Winter Meeting of the Amer. Soc. Agri. Engineers. Paper no. 902547, St. Joseph, MI, pp. 1-9. NA.
1158. Rhoades, J.D. 1993. Practices to control salinity in irrigated soils. In: H. Lieth and A. Al Masoom (eds.), Towards the Rational Use of High Salinity Tolerant Plants. Vol. 1. Deliberations About High Salinity Tolerant Plants and Ecosystems. Kluwer Acad. Pub. Dordrecht, pp. 379-387. NA.
1159. Spencer, W.F. 1991. Volatilization of pesticides from soil: processes and measurement. *Pesticide Res. J.* 3:1-14. NA.
1160. Mitchell, A.R. and M.Th. van Genuchten. 1992. Shrinkage of bare and cultivated soil. *Soil Sci. Soc. Am. J.* 56:1036-1042.
1161. Dalton, F.N. 1992. Development of time-domain reflectometry for measuring soil water content and bulk soil electrical conductivity. ASA Monograph. In: Advances in Measurement of Soil Physical Properties: Bringing Theory into Practice. SSSA Special Publ. No. 30, pp. 143-167.
1162. van Genuchten, M.Th. 1991. Progress and opportunities in hydrologic research, 1987-1990. *Reviews of Geophysics*, Supplement, (U.S. National Report for Hydrology to Int'l Union of Geodesy & Geophysics), pp. 189-192.
1163. Grattan, S.R. and C.M. Grieve. 1992. Mineral element acquisition and growth response of plants grown in saline environments. *Agri., Ecosystems & Environ.* 38:275-300.
1164. Sharpley, A.N., J.J. Meisinger, J.F. Power and D.L. Suarez. 1992. Root extraction of nutrients associated with long-term soil management. In: J. Hatfield, B. Stewart (eds.), "Advances in Soil Science", Vol. 19, pp. 151-217.
1165. Shannon, M.C., F.N. Dalton and F.S. El-Sayed. 1993. Physiological responses of crops to sea water: minimizing constraints that limit yield. In: H. Lieth and A. Al Masoom (eds.), Towards the Rational Use of High Salinity Tolerant Plants. Vol. 1. Deliberations About High Salinity Tolerant Plants and Ecosystems. Kluwer Acad. Pub. Dordrecht, pp. 3-12.
1166. Leij, F.J., T.H. Skaggs and M.Th. van Genuchten. 1991. Analytical solutions for solute transport in three-dimensional semi-infinite porous media. *Water Resour. Res.* 27:2719-2733.
1167. Lebron, I. and D.L. Suarez. 1992. Electrophoretic mobility of illite and micaceous soil clays. *Soil Sci. Soc. Am. J.* 56:1106-1115.

1168. Mitchell, A.R. and M.Th. van Genuchten. 1991. Deterministic modeling of preferential flow in a cracked soil during flood irrigation. Proc. Nat'l Symp. December 16-17, 1991, Am. Soc. Eng., pp. 278-287. NA.
1169. Feher, J., M.Th. van Genuchten, G. Kienitz, T. Nemeth, G.Y. Biczok and G.J. Kovacs. 1991. DISNIT2, A root zone water and nitrogen management model. In: G. Kienitz, P.C.D. Milly, M.Th. van Genuchten, D. Rosbjerg and W.J. Shuttleworth (eds.), Hydrological Interactions Between Atmosphere, Soil and Vegetation, Publ. No. 204, Int'l Assoc. of Hydrological Sciences, IAHS Press, Wallingford, UK pp. 197-205. NA.
1170. van Genuchten, M.Th. 1991. Recent progress in modelling water flow and chemical transport in the unsaturated zone. In: G. Kienitz, P.C.D. Milly, M.Th. van Genuchten, D. Rosbjerg and W.J. Shuttleworth (eds.), Hydrological Interactions Between Atmosphere, Soil and Vegetation, Publ. No. 204, Int'l Association of Hydrological Sciences, IAHS Press, Wallingford, UK. pp. 169-183. NA.
1171. Mitchell, A.R. and M.Th. van Genuchten. 1993. Flood irrigation of a cracked Soil. Soil Sci. Soc. Am. J. 57:490-497. NA.
1172. Lebron, I. and D.L. Suarez. 1992. Variations in soil stability within and among soil types. Soil Sci. Soc. Am. J. 56:1412-1421.
1173. Yates, M.V. and S.R. Yates. 1991. Predicting microbial contamination of ground water. ASCE Int'l Symp. on Groundwater Proceedings, Nashville, TN, July 29 - August 2, 1991, pp. 220-225. NA.
1174. Goldberg, S. 1992. Use of surface complexation models in soil chemical systems. Advances in Agronomy. 47:234-329. NA.
1175. Goldberg, S. 1993. Chemistry and mineralogy of boron in soils. In: Chapter 2 U.C. Gupta (ed.) "Boron and Its Role in Crop Production". CRC Press, pp. 3-44.
1176. Wilson, C., R.A. Clark and R.H. Nieman. 1992. Effects of salinity, diurnal cycle and age on nucleotide pools of bean leaves. J. Exper. Botany. 43:1009-1014. NA.
1177. Rhoades, J.D., D.L. Corwin and S.M. Lesch. 1991. Effect of soil EC_a - depth profile pattern on electromagnetic induction measurements. USSL Research Report No. 125, 108p.
1178. Suarez, D.L., J.D. Wood and I. Ibrahim. 1992. Reevaluation of calcite supersaturation in soils. Soil Sci. Soc. Am. J. 56:1776-1784.
1179. Grieve, C.M., S.M. Lesch, E.V. Maas and L.E. Francois. 1993. Leaf and spikelet primordia initiation in salt-stressed wheat. Crop Sci. 33:1286-1294.
1180. Francois, L.E., T.J. Donovan and E.V. Maas. 1992. Yield, vegetative growth, and fiber length of kenaf grown on saline soil. Agron. J. 84:592-598.
1181. Zhang, R., D. Myers and A.W. Warrick. 1992. Estimating the spatial distribution of soil chemicals using pseudo-cross-variograms. Soil Sci. Soc. Am. J. 56:1444-1452. NA.
1182. Shannon, M.C., F.N. Dalton and S.F. El-Sayed. 1993. Salt tolerance of tomato cultivars as

- affected by irrigation time. *In:* H. Lieth and A. Al Masoom (eds.), Towards the Rational Use of High Salinity Tolerant Plants. Vol. 1. Deliberations About High Salinity Tolerant Plants and Ecosystems. Kluwer Acad. Pub. Dordrecht, pp. 185-192.
1183. Corwin, D.L. 1991. Spatial and temporal estimates of hydraulic bypass in soil using chloride distributions. *In:* Preferential flow. Proc. Natl. Symp. on Preferential Flow. ASAE, St. Joseph, MI, pp. 202-213. NA.
1184. Rhoades, J.D. 1992. Instrumental field methods of salinity appraisal. *In:* G.C. Topp, W.D. Reynolds and R.E. Green (eds.); Advances in Measurement of Soil Physical Properties: Bringing Theory into Practice. SSSA Special Pub. No. 30, pp. 231-248.
1185. Wilson, C. and M.A. Madore. 1995. Effect of mannose on the plasma membrane ATPase from sugar beet (*Beta vulgaris* L.) leaves. *Plant Sci.* 104:153-160. NA.
1186. Suarez, D.L. and I. Lebron. 1993. Water quality criteria for irrigation with highly saline water. *In:* H. Lieth and A. Al Masoom (eds.), Towards the Rational Use of High Salinity Tolerant Plants. Vol. 1. Deliberations About High Salinity Tolerant Plants and Ecosystems. Kluwer Acad. Pub. Dordrecht, pp. 389-397. NA.
1187. Feher, J., M.Th. van Genuchten and T. Nemeth. 1991. Nitrogen leaching from agricultural soils - A comparison of measured and computer-simulated results. *In:* L.C. Wrobel and C.A. Brebbia (eds.), Water Pollution: Modelling, Measuring and Prediction, Elsevier Applied Science, NY., pp. 27-41. NA.
1188. Kamra, S.K., S.R. Singh, K.V.G.K. Rao and M.Th. van Genuchten. 1991. A semi-discrete model for water and solute movement in tile-drained soils. I. Governing equations and solutions. *Water Resour. Res.* 27:2439-2447. NA.
1189. Kamra, S.K., S.R. Singh, K.V.G.K. Rao and M.Th. van Genuchten. 1991. A semi-discrete model for water and solute movement in tile-drained soils. II. Field validation and applications. *Water Resour. Res.* 27:2449-2456. NA.
1190. Feher, J. and M.Th. van Genuchten. 1989. A PC-based expert system for modeling solute transport in soil and aquifer systems. *Hydro. Sci. & Tech.* 5:183-189. NA.
1191. Kool, J.B. and M.Th. van Genuchten. 1991. HYDRUS: One-dimensional variably-saturated flow and transport model, including hysteresis and root water uptake. USSL Research Report No. 124, Riverside, CA. NA.
1192. Wrona, A.F. 1993. Biocontrol rescues salinity research. *SCS Tech. Trans. Notes.* pp. 1-2. NA.
1193. Wrona, A.F. 1993. A new alternative for pest control. *SCS Tech. Trans. Notes.* pp. 1-3. NA.
1194. Wrona, A.F. 1993. Propagation in hydroponic culture. *SCS Tech. Trans. Notes.* pp. 20-22. NA.
1195. Shannon, M.C., C.M. Grieve and L. E. Francois. 1994. Whole-Plant response to salinity. *In:* R.E. Wilkinson (ed), "Plant-Environment Interactions", Marcel Dekker, Inc., pp.199-244.

1196. Shouse, P.J., M.Th. van Genuchten and J. B. Sisson. 1991. A gravity-drainage/ scaling method for estimating the hydraulic properties of heterogeneous soils. *In:* G. Kienitz, P.C.D. Milly, M.Th. van Genuchten, D. Rosbjerg and W.J. Shuttleworth (eds.), Hydrological Interactions Between Atmosphere, Soil and Vegetation, Publ. No. 204, Int'l Assoc. of Hydrological Sciences, IAHS Press, Wallingford, UK. pp. 281-291. NA.
1197. Dirksen, C., J.B. Kool, P. Koorevaar and M.Th. van Genuchten. 1993. HYSWASOR - Simulation model of hysteretic water and solute transport in the root zone. *In:* D. Russo and G. Dagan (eds.), Water Flow & Solute Transport in Soils. Springer-Verlag, NY. pp. 99-122.
1198. Rains, D.W. and E.V. Maas. 1994. Salinity stress terminology. *In:* Units, Symbols, and Terminology for Plant Physiology. F.B. Salisbury (ed.), Int'l Assoc. for Plant Physiologists. (In Press).
1199. Grieve, C.M. and L.E. Francois. 1992. The importance of initial seed size in wheat plant response to salinity. *Plant & Soil.* 147:197-205.
1200. Maas, E.V. 1992. Plant growth stages and salinity. 1992. Proc. Calif. Plant & Soil Conference, January 28-29, 1992. Fresno, CA, pp. 106-110 Calif. Chap. ASA. NA.
1201. Corwin, D.L. 1992. A user-friendly, contaminant transport software package for the preliminary assessment of soil and groundwater contamination: An overview of TETrans. *In:* Superfund Risk Assessment in Soil Contamination Studies. ASTM STP1158, Keith B. Hoddinott & G. David Knowles (eds.). Amer. Soc. Test. & Materials, Philadelphia, PA., pp. 65-80. NA.
1202. Amrhein, C. and D.L. Suarez. 1992. Some factors affecting the dissolution kinetics of anorthite at 25EC. *Geochimica et Cosmochimica Acta.* 56:1815-1826.
1203. Yates, S.R. 1992. An analytical solution for one-dimensional transport in porous media with an dispersion function. *Water Resour. Res.* 28:2149-2154.
1204. Rhoades, J.D. 1992. Recent advances in the methodology for measuring and mapping soil salinity. Proc. Int'l Symp. on Strategies for Utilizing Salt Affected Lands, Bangkok, Thailand, February 17-25, 1992, pp. 39-58.
1205. Suarez, D.L. and J. Simunek. 1995. Dynamic model for transport of water and salt (SP) in lecture series: Book 2. Book Chapter. pp. 59-82.
1206. Maas, E.V. 1992. Salinity and citriculture. Proc. Int'l Soc. Citriculture. Vol. 3. pp. 1290-1301.
1207. Petrie, C.L., Z.J. Kabala, A.E. Hall and J. Šimčnek. 1992. Water transport in an unsaturated medium to roots with differing local geometries. *Soil Sci. Soc. Am. J.* 56:1686-1694.
1208. Gerke, H.H. and M.Th. van Genuchten. 1993. A dual-porosity model for simulating the preferential movement of water and solutes in structured porous media. *Water Resour. Res.* 29:305-319.

1209. Corwin, D.L., M. Sorensen and J.D. Rhoades. 1992. Using GIS to locate salinity on irrigated soils. Proc. 8th Conf. Computing in Civil Engineering in conjunction with A/E/C System '92, TCCP/ASCE - Dallas, TX, June 7-9, 1992, pp. 468-485.
1210. Corwin, D.L. 1992. Use of the TETrans model in predicting ET effects on groundwater quality. ASCE Water Forum '92 Proceedings, pp. 152-157.
1211. Francois, L.E. 1992. Effect of excess boron on summer and winter squash. Plant & Soil. 147:163-170.
1212. Yates, M.V., S.R. Yates and Y. Ouyang. 1992. A model of virus transport in unsaturated soil. Project Report Int. Agency Agreement #DW12933820, R.S. Kerr Environ. Res. Lab., Ada, OK 74820. EPA 600/2-91/062, 137p.
1213. Corwin, D.L. 1995. Sensitivity analysis of a simple layer-equilibrium model for the one-dimensional leaching of solutes. J. Environ. Sci. & Health. A30:201-238.
1214. Šimčnek, J. and D.L. Suarez. 1993. Modeling of carbon dioxide transport and production in soil. 1. Model development. Water Resour. Res. 29:487-497.
1215. Suarez, D.L. and J. Šimčnek. 1993. Modeling of carbon dioxide transport and production in soil: 2. Parameter selection, sensitivity analysis and comparison of model predictions to field data. Water Resour. Res. 29:499-513.
1216. Cancelled.
1217. Goldberg, S. 1993. Constant capacitance model: Chemical surface complexation model for describing adsorption of toxic trace elements on soil minerals. In: D.W. Tedder & F.G. Pohland (eds.), "Emerging Technologies in Hazardous Waste Management III", Am. Chem. Soc. Symp. Ser. 518, pp. 278-307.
1218. Toride, N., F.J. Leij and M.Th. van Genuchten. 1993. A comprehensive set of analytical solutions for nonequilibrium solute transport with first-order decay and zero-order production. Water Resour. Res. 29:2167-2182.
1219. van Genuchten, M.Th. and H.H. Gerke. 1992. Dual-porosity models for simulating solute transport in structured media. In: Proc. Sci. Colloquium "Porous or Fractured Unsaturated Media: Transports and Behavior", October 5-9, 1992, Monte Verita, Ascona. pp. 182-205. Swiss Federal Institute of Tech. of Lausanne (EPFL) and Univ. Neuchatel, Switzerland.
1220. Gerke, H.H. and M.Th. van Genuchten. 1993. Evaluation of a first-order water transfer term for variably saturated dual-porosity flow models. Water Resour. Res. 29:1225-1238.
1221. Šimčnek, J., T. Vogel and M.Th. van Genuchten. 1992. The SWMS_2D code for simulating water flow and solute transport in two-dimensional variably saturated media - Version 1.1. USSL Research Report No. 126, Riverside, CA. 169p.
1222. Singh, G., W.F. Spencer, M.Th. van Genuchten and R.S. Kookana. 1992. Predicting pesticide transport in soil. Pesticide Res. J. 4:1-10.
1223. van Genuchten, M.Th., F.J. Leij and S.R. Yates. 1992. The RETC code for quantifying the

- hydraulic functions of unsaturated soils. EPA Project Summary 600/S2-91/065, 10p.
1224. Gerba, C.P., M.V. Yates and S.R. Yates. 1992. Quantitation of factors controlling viral and bacterial transport in the subsurface. *In:* Christon J. Hurst (ed.), Chapter 4, "Modeling the Environmental Fate of Microorganisms", Washington, DC, pp. 77-88.
 1225. Goldberg, S., H.S. Forster and E.L. Heick. 1993. Boron adsorption mechanisms on oxides, clay minerals, and soils inferred from ionic strength effects. *Soil Sci. Soc. Am. J.* 57:704-708.
 1226. Rhoades, J.D. and L.M. Carter. 1993. New soil salinity mapping techniques. VIII Int'l Soil Management Workshop, Portland, OR, July 11-24, 1992. pp. 201-209.
 1227. Francois, L.E. and E.V. Maas. 1994. Crop response and management of salt-affected soils. pp. 149-181. *In:* M. Pessarakli (ed.), Handbook of Crop Stress, Marcel Dekker, NY.
 1228. van Genuchten, M.Th., F.J. Leij and S.R. Yates. 1991. The RETC code for quantifying the hydraulic functions of unsaturated soils - Report. EPA/600/2-91/065, December 1991. pp. 1-85.
 1229. Mead, R.M., G.J. Hoffman, P.B. Catlin, R.S. Johnson and L.E. Francois. 1991. A continued salt tolerance study of mature plum trees. *Visions of the Future: Proc. 3rd National Irrigation Symp.* October 28 - November 1, 1990, Phoenix, AZ, pp. 625-630.
 1230. Kandiah, A. and J.D. Rhoades. 1990. Saline water: Sources, usage, problems and prospects. *In:* A. Kandiah (ed.), FAO (AGL) Misc. series publication 16/90 "Water, Soil & Crop Management Relating to the Use of Saline Water", Food & Agriculture Organization of the United Nations, Rome, pp. 9-18.
 1231. Rhoades, J.D. 1990. Principal effects of salts on soils and plants. *In:* A. Kandiah (ed.), FAO (AGL) Misc. series publication 16/90 "Water, Soil & Crop Management Relating to the Use of Saline Water", Food & Agriculture Organization of the United Nations, Rome, pp. 19-33.
 1232. Rhoades, J.D. 1990. Assessing suitability of water quality for irrigation. *In:* A. Kandiah (ed.), FAO (AGL) Misc. series publication 16/90 "Water, Soil & Crop Management Relating to the Use of Saline Water", Food & Agriculture Organization of the United Nations, Rome, pp. 52-70.
 1233. Rhoades, J.D. 1990. Measuring and monitoring soil salinity. *In:* A. Kandiah (ed.), FAO (AGL) Misc. series publication 16/90 "Water, Soil & Crop Management Relating to the Use of Saline Water", Food & Agriculture Organization of the United Nations, Rome, pp. 71-88.
 1234. Rhoades, J.D. 1990. Strategies to facilitate the use of saline water for irrigation. *In:* A. Kandiah (ed.), FAO (AGL) Misc. series publication 16/90 "Water, Soil & Crop Management Relating to the Use of Saline Water", Food & Agriculture Organization of the United Nations, Rome, pp. 125-136.
 1235. Zhang, R., A.W. Warrick and D.E. Myers. 1994. Heterogeneity, plot shape effect and optimum plot size. *Geoderma.* 62:183-197.

1236. Maas, E.V. 1994. Tolerance and responses of tropical crops to salinity stress. *In: Proc. Plant Stress in the Tropical Environment*, T.L. Davenport and H.M. Harrington (eds.), Kailua-Kona, HI, September 20-25, 1992. Univ. Florida, Homestead, FL. pp. 47-56.
1237. Jacobsen, O.H., F.J. Leij and M.Th. van Genuchten. 1992. Lysimeter study of anion transport during steady flow through layered coarse-textured soil profiles. *Soil Sci.* 154:196-205.
1238. Parlange, J.-Y., J.L. Starr, M.Th. van Genuchten, D.A. Barry and J.C. Parker. 1992. Exit condition for miscible displacement experiments. *Soil Sci.* 153:165-171.
1239. Lebron, I., D.L. Suarez, C. Amrhein and J.E. Strong. 1993. Size of mica domains and distribution of the adsorbed Na-Ca ions. *Clays & Clay Minerals.* 41:380-388.
1240. Bohne, K., C. Roth, F.J. Leij and M.Th. van Genuchten. 1993. Rapid method for estimating the unsaturated hydraulic conductivity from infiltration measurements. *Soil Sci.* 55:237-244.
1241. Yates, M.V. and S.R. Yates. 1991. Modeling microbial transport in the subsurface: A mathematical discussion. *In: Christon J. Hurst (ed.) Chapter 3, "Modeling the Environmental Fate of Microorganisms". Am. Soc. for Microbiology, Washington, DC*, pp. 48-76.
1242. Yates, M.V. and S.R. Yates. 1993. Pathogens. *In: William M. Alley (ed.) Regional Ground-Water Quality*, Van Nostrand Reinhold, pp. 382-404.
1243. Jacobsen, O.J., F.J. Leij and M.Th. van Genuchten. 1992. Parameter determination for chloride and tritium transport in undisturbed lysimeters during steady flow. *Nordic Hydrology.* 23:89-104.
1244. Cancelled
1245. Vogel, T.N., R. Zhang, H.H. Gerke and M.Th. van Genuchten. 1992. Modeling two-dimensional water flow and solute transport in heterogeneous soil systems. *Second USA/CIS joint Conf. on Environ. Hydrology and Hydrogeology. Proc.* pp. 279-302.
1246. Rhoades, J.D. 1992. Reducción de la salinización del suelo y del agua mediante el mejoramiento del manejo del riego y drenaje. *In: Prevención de La Contaminación del Agua por la Agricultura y Actividades Afines, Anales de la Consulta de Expertos Organizada por la FAO*, Santiago, Chile, October 20-23, 1992. pp. 313-344.
1247. Wilson, C., R.A. Clark and G.C. Shearer. 1994. Effect of salinity on the plasma membrane ATPase from tomato (*Lycopersicon esculentum* Mill.) leaves. *Plant Sci.* 103:1-9.
1248. Wiegand, C.L., J.D. Rhoades, J.H. Everitt and D.E. Escobar. 1992. Comparison of photography, videography and SPOT-1 HRV digital observations for salinity assessment in the San Joaquin Valley of California. *In: T. Younos et al. (eds.) "Land Reclamation: Advances in research & technology", Proc. ASAE Int'l Land Reclamation Symp., Nashville, TN, December 14-15, 1992*, pp. 268-282.
1249. Suarez, D.L. 1992. Perspective on irrigation management and salinity. *Outlook on*

Agriculture. 21:287-291.

1250. Rhoades, J.D. 1993. Electrical conductivity methods for measuring and mapping soil salinity. *In:* D.L. Sparks (ed.), Advances in Agronomy. Vol. 49:201-251.
1251. Francois, L.E., C.M. Grieve, E.V. Maas and S.M. Lesch. 1994. Time of salt stress affects growth and yield components of irrigated wheat. *Agron. J.* 86:100-107.
1252. van Genuchten, M.Th. and F.J. Leij. 1992. On estimating the hydraulic properties of unsaturated soils. *Proc. of the Int'l Workshop*. pp. 1-14.
1253. Spencer, W.F., M.M. Cliath and S.R. Yates. 1995. Soil-pesticide interactions and their impact on the volatilization process. *In:* P.M. Huang, J. Berthelin, J.-M. Bollag, W.B. McGill and A.L. Page (eds.), Environmental Impact of Soil Component Interactions, Natural and Anthropogenic Organics. Lewis Publ., CRC Press, Inc. pp. 369-379.
1254. Maas, E.V. 1993. Salinity and citriculture. *Tree Physiology.* 12:195-216.
1255. Goldberg, S., H.S. Forster and E.L. Heick. 1993. Temperature effects on boron adsorption by reference minerals and soils. *Soil Sci.* 156(5):316-321.
1256. Yates, S.R., R. Zhang, P.J. Shouse and M.Th. van Genuchten. 1993. Use of geostatistics in the description of salt-affected lands. *In:* B. Yaron and D. Russo (eds.), Water Flow and Solute Transport in Soils: Developments and applications. Advanced Series in Agricultural Science, Ser. 20. Springer Verlag, NY, pp. 283-304.
1257. Rhoades, J.D. 1996. Salinity: Electrical conductivity and total dissolved solids. Chap. 14. *In:* D.L. Sparks, A.L. Page, P.A. Helmke, R.H. Loepert, P.N. Soltanpour, M.A. Tabatabai, C.T. Johnson and M.E. Sumner (eds.), Methods of Soil Analysis Part 3 Chemical Methods. Soil Science Society of America, Madison, WI., pp. 417-435.
1258. Toride, N., F.J. Leij and M.Th. van Genuchten. 1993. Flux-averaged concentrations for transport in soils having nonuniform initial solute distributions. *Soil Sci. Soc. Am.* 56:1406-1409.
1259. Šimčnek, J. and D.L. Suarez. 1994. Two-dimensional transport model for variably saturated porous media with major ion chemistry. *Water Resour. Res.* 30(4):1115-1133.
1260. Šimčnek, J. and D.L. Suarez. 1994. The SOILCO₂ code for simulating one-dimensional carbon dioxide production and transport in variably saturated porous media, Version 1.2. USSL Research Report No. 127, 162p.
1261. Corwin, D.L. 1993. Chapter 16. A contaminant transport software package for the preliminary assessment of soil contamination and solute loading to the groundwater. *In:* P.T. Kostecki & E.J. Calabrese (eds.); Hydrocarbon Contaminated Soils & Groundwater, Lewis Publ. Inc., Vol. 3, pp. 237-250.
1262. Corwin, D.L., M. Sorensen and J.D. Rhoades. 1993. Using GIS to locate areas of salinity development on irrigated, agricultural soils. *Proc. Canadian Conf. on GIS., Ottawa, Canada, March 23-26, 1992*, pp. 1-11.

1263. Corwin, D.L., P.J. Vaughan, H. Wang, J.D. Rhoades and D.G. Cone. 1993. Coupling a solute transport model to a GIS to predict solute loading to the groundwater for a non-point source pollutant. Proc. ASAE Application of Advanced Information Technologies: Effective Management of Natural Resources Conf., Spokane, WA, June 18-19, 1993, pp. 485-492.
1264. Kaveh, F. and M.Th. van Genuchten. 1992. A further look at a new unsaturated hydraulic conductivity equation. *Iranian J. Agric. Sci.* 23(3&4):24-32.
1265. Shannon, M.C. 1994. The effects of salinity on cellular and biochemical processes associated with salt tolerance in tropical plants. *In:* T.L. Davenport and H.M. Harrington (eds.), Proc. Plant Stress in the Tropical Environment, Kailua-Kona, HI, September 20-25, 1992. Univ. Florida, Homestead, FL. pp. 56-63.
1266. Wiegand, C.L., J.D. Rhoades, D.E. Escobar and J.H. Everitt. 1994. Photographic and videographic observations for determining and mapping the response of cotton to soil salinity. *Remote Sens. Environ.* 49:212-223.
1267. Shouse, P.J., T.R. Ellsworth and J.A. Jobes. 1994. Steady-state infiltration as a function of measurement scale. *Soil Sci.* 157:129-136.
1268. Grattan, S.R. and C.M. Grieve. 1993. Mineral nutrient acquisition and response by plants grown in saline environments. p. 203-226. *In:* Handbook of Plant & Crop Stress. M. Pessarakli, (ed.). Marcel Dekker, Inc. NY.
1269. Karlen, D.L., M.C. Shannon, S.M. Schneider and C.R. Amerman. 1994. Using systems engineering and reductionist approaches to design integrated farm management research programs. *J. Production Agric.* 7:144-150.
1270. Corwin, D.L. and R.D. LeMert. 1994. Construction and evaluation of an inexpensive weighing lysimeter for studying contaminant transport. *J. Contaminant Hydrology.* 15:107-123.
1271. Leij, F.J., N. Toride and M.Th. van Genuchten. 1993. Analytical solutions for nonequilibrium solute transport in three-dimensional porous media. *J. Hydrology.* 151:193-228.
1272. Loepert, R.H. and D.L. Suarez. 1996. Carbonate and gypsum, *In:* D.L. Sparks, A.L. Page, P.A. Helmke, R.H. Loepert, P.N. Soltanpour, M.A. Tabatabai, C.T. Johnson and M.E. Sumner (eds.), Methods of Soil Analysis Part 3 Chemical Methods. Chap. 15, SSSA Special Pub. No. 5. Madison, WI., pp. 437-474.
1273. Vaughan, P.J. and D.L. Corwin. 1994. A method of modeling vertical fluid flow and solute transport in a GIS content. *Geoderma.* 64:139-154.
1274. Huang, K., R. Zhang and M.Th. van Genuchten. 1994. An Eulerian-Lagrangian approach with an adaptively corrected method of characteristics to simulate variably saturated water flow. *Water Resour. Res.* 30:499-507.
1275. Lesch, S.M., J.D. Rhoades and D.L. Corwin. 1993. Statistical modeling and prediction methodologies for large scale spatial soil salinity characterization: A case study using calibrated electromagnetic measurements within the Broadview Water District. USSL

Research Report No. 131, Riverside, CA 44p.

- 1276. Vaughan, P.J., D.L. Corwin and H. Wang. 1993. Coupling a chemical transport model to a GIS database for assessment of non-point source pollution in irrigated agricultural areas. Proc. 13th Annual ESRI User's Conf., Palm Springs, CA., May 24-28, pp.127-138.
- 1277. Burrough, P.A., J. Bouma and S.R. Yates. 1994. The state of the art in pedometrics. Geoderma. 62:311-326.
- 1278. Yates, S.R., W.F. Spencer and M.M. Cliath. 1993. Comparison between measured and predicted rates of pesticide volatilization from an agricultural field. *In:* Y. Eckstein and A. Zaporozec (eds.), Industrial and Agricultural Impacts on the Hydrologic Environment. Second USA/CIS Joint. Conf. on Environ. Hydrology & Hydrogeology, pp. 1-14.
- 1279. Yates, S.R. 1993. Determining off-site concentrations of volatile pesticides using the trajectory-simulation model. J. of Environ. Qual. 22:481-486.
- 1280. Francois, L.E. 1994. Growth, seed yield, and oil content of canola grown under saline conditions. Agron. J. 86:233-237.
- 1281. Sisson, J.B. and M.Th. van Genuchten. 1993. Estimation of hydraulic conductivity without computing fluxes. *In:* M.Th. van Genuchten, F.J. Leij, and L.J. Lund (eds.), Proc. Int'l Workshop, "Indirect Methods for Estimating the Hydraulic Properties of Unsaturated Soils", pp. 665-674
- 1282. Németh, T., J. Molnár, J. Csillag, K. Bujtás, A. Lukács, G. Pártay, J. Fehér and M.Th. van Genuchten. 1993. Mobility of some heavy metals in soil-plant systems studied on soil monoliths. Wat. Sci. Tech. 28:389-398.
- 1283. Lebron, I., D.L. Suarez and F. Alberto. 1994. Stability of a calcareous saline-sodic soil during reclamation. Soil Sci. Soc. Am. J. 58:1753-1762.
- 1284. Zhang, R., K. Huang and M.Th. van Genuchten. 1993. An efficient Eulerian-Lagrangian method for solving solute transport problems in steady and transient flow fields. Water Resour. Res. 29:4131-4138.
- 1285. Bohne, K., C. Nitsche and F.J. Leij. 1993. Requirements and use of indirect methods for estimating the hydraulic functions of unsaturated soils. Proc. Int'l Workshop "Indirect Methods for Estimating the Hydraulic Properties of Unsaturated Soils". pp. 359-368.
- 1286. Suarez, D.L. and S. Goldberg. 1994. Modeling soil solution, mineral formation and weathering. *In:* R.B. Bryant and R.W. Arnold (eds.) Quantitative modeling of soil forming processes. SSSA Special Pub. No. 39, pp. 37-60.
- 1287. Maas, E.V. 1994. Testing crops for salinity tolerance. *In:* Proc. Workshop on Adaption of Plants to Soil Stresses, J.W. Maranville, B.V. Baligar, R.R. Duncan and J.M. Yohe (eds.), Lincoln, NE. August 1-4, 1993. INTSORMIL Pub. No. 94-2, Univ. Nebraska. pp. 234-247.
- 1288. Nitsche, C., L. Luckner and M.Th. van Genuchten. 1993. An expert system for planning, controlling, and analyzing laboratory measurements of the soil hydraulic properties. *In:* "Indirect Methods for Estimating the Hydraulic Properties of Unsaturated Soils". pp. 621-

- 632.
1289. Leij, F.J., M.Th. van Genuchten, S.R. Yates, W.B. Russell and F. Kaveh. 1993. RETC: A computer program for analyzing soil water retention and hydraulic conductivity data. *In:* "Indirect Methods for Estimating the Hydraulic Properties of Unsaturated Soils". pp. 263-272.
1290. Goldberg, S. 1995. Adsorption models incorporated into chemical equilibrium models. *In:* R.H. Loeppert, A.P. Schwab and S. Goldberg (eds.), Chemical Equilibrium & Reaction Models. SSSA Special Publ. 42. pp. 75-95.
1291. Ulery, A.L., R.C. Graham, O.A. Chadwick and H.B. Wood. 1995. Decade-scale changes of soil carbon, nitrogen and exchangeable cations under chaparral and pine. *Geoderma.* 65:121-134.
1292. Huang, K., N. Toride and M.Th. van Genuchten. 1995. Experimental investigation of solute transport in large, homogeneous and heterogeneous, saturated soil columns. *Transport in Porous Media.* 18:283-302.
1293. Dalton, F.N. 1995. In situ root measurements by electrical capacitance methods. *Plant & Soil.* 173:157-165.
1294. Shannon, M.C. 1994. Development of salt stress tolerance - screening and selection systems for genetic improvement. *In:* J.W. Maranville, B.V. Baligar, R.R. Duncan and J.M. Yohe (eds.), Proc. Workshop on Adaption of Plants to Soil Stresses, Lincoln, NE. August 1-4, 1993. INTSORMIL Pub. No. 94-2, Univ. Nebraska. pp. 117-132.
1295. van Genuchten, M.Th. and S.K. Gupta. 1993. A reassessment of the crop tolerance response function. *J. Indian Soc. Soil Sci.* 41:730-737.
1296. Singh, G., M.Th. van Genuchten, W.F. Spencer, M.M. Cliath and S.R. Yates. 1996. Measured and predicted transport of two S-triazine herbicides through soil columns. *Water, Air & Soil Pollution.* 86:137-149.
1297. Šimčnek, J. and M.Th. van Genuchten. 1996. The CHAIN_2D code for simulating two-dimensional movement of water flow, heat, and multiple solutes in variably-saturated porous media, Version 1.1. USSL Research Report No. 136. 205p.
1298. Zhang, P. and M.Th. van Genuchten. 1994. New models for unsaturated soil hydraulic properties. *Soil Sci.* 158:77-85.
1299. Suarez, D.L. 1995. Carbonate chemistry in computer programs and application to soil chemistry. *In:* SSSA Special Publications 42 "Chemical Equilibrium and Reactions Models". pp. 53-73.
1300. Grieve, C.M., L.E. Francois and E.V. Maas. 1993. Salinity affects the timing of phasic development in spring wheat. *Crop Sci.* 34:1544-1549.
1301. Maas, E.V., S.M. Lesch, L.E. Francois and C.M. Grieve. 1994. Tiller development in salt-stressed wheat. *Crop. Sci.* 34:1594-1603.

1302. Corwin, D.L., P.J. Vaughan, H. Wang, J.D. Rhoades and D.G. Cone. 1993. Predicting areal distributions of salt-loading to the groundwater. 1993 ASAE Winter Meeting, Chicago, IL, December 12-17, 1993. Paper No. 932566.
1303. Šimčnek, J. and D.L. Suarez. 1994. Modeling unsaturated water flow, and CO₂ and solute transport with major ion chemistry. Trans. 15th World Congress of Soil Science, Vol. 2a, Commission I: Symposia, pp. 127-145, Acapulco, Mexico.
1304. Amrhein, C., M.F. Zahow and D.L. Suarez. 1993. Calcite supersaturation in soil suspensions. *Soil Sci.* 156:163-170.
1305. Carter, L.M., J.D. Rhoades and J.H. Chesson. 1994. Mechanization of soil salinity assessment for mapping. 1993 ASAE Winter Meeting, Chicago, IL., December 12-17, 1993. (Submitted).
1306. Lesch, S.M., D.J. Strauss and J.D. Rhoades. 1995. Spatial prediction of soil salinity using electromagnetic induction techniques: 1. Statistical prediction models: A comparison of multiple linear regression and cokriging. *Water Resour. Res.* 31:373-386.
1307. Lesch, S.M., D.J. Strauss and J.D. Rhoades. 1995. Spatial prediction of soil salinity using electromagnetic induction techniques: 2. An efficient spatial sampling algorithm suitable for multiple linear regression model identification and estimation. *Water Resour. Res.* 31:387-398.
1308. Rhoades, J.D. 1994. Soil salinity assessment: Recent advances and findings. ISSS Sub-Commission A Meeting, Acapulco, Mexico, July 10-16, 1994. (Submitted).
1309. Maas, E.V. 1994. Salt tolerance at different stages of plant growth. Proc. Dryland Salinity Workshop, "Causes to Cures", Lethbridge, Alberta, Canada, February 8-9, 1994. (Submitted).
1310. van Genuchten, M.Th. 1995. Advances in porous media - Book review, Volume 2. *J. Hydrology.* 171:209-211.
1311. Wilson, C. and M.C. Shannon. 1995. Salt-induced Na⁺/H⁺ antiport in root plasma membrane of a glycophytic and halophytic species of tomato. *Plant Sci.* 107:147-157.
1312. van Genuchten, M.Th. 1994. New issues and challenges in soil physics research. Volume 1: Inaugural and State of the Art Conferences, pp. 5-27. Trans. 15th World Congress of Soil Science, Acapulco, Mexico.
1313. Rhoades, J.D., A. Kandiah and A.M. Mashali. 1992. The use of saline waters for crop production. FAO Irrigation & Drainage Paper 48, FAO, Rome, Italy. 133p.
1314. Rhoades, J.D. 1994. Use of saline drainage water for irrigation. ASA Drainage Monograph. (Submitted).
1315. Gan, J., S.R. Yates and W.F. Spencer. 1995. Optimization of analysis of methyl bromide on charcoal sampling tubes. *J. Agric. Food Chem.* 43:960-966.
1316. Ellsworth, T.R., P.J. Shouse, T.H. Skaggs, J.A. Jobes and J. Fargerlund. 1996. Solute

- Transport in Unsaturated Soil: Experimental Design, Parameter Estimation, and Model Discrimination. *Soil Sci. Soc. Am. J.* 60:397-407.
- 1317. Shouse, P.J., W.B. Russell, D.S. Burden, H.M. Selim, J.B. Sisson and M.Th. van Genuchten. 1995. Spatial variability of soil water retention functions in a silt loam soil. *Soil Sci.* 159:1-12.
 - 1318. Francois, L.E. 1994. Yield and quality response of salt-stressed garlic. *HortScience.* 49:1314-1317.
 - 1319. Šimčnek, J., T. Vogel and M.Th. van Genuchten. 1994. The SWMS_2D code for simulating water flow and solute transport in two-dimensional variably saturated media. *USSL Research Report No. 132*, 196p.
 - 1320. Vaughan, P.J., S.M. Lesch and D.L. Corwin. 1994. Interfacing the GSLIB geostatistics package with grid: ESRI Conference, May 23-27, Palm Springs, CA. Proc. Vol. on CD-ROM.
 - 1321. Karlson, U., W.T. Frankenberger, Jr. and W.F. Spencer. 1994. Physicochemical properties of dimethyl selenide and dimethyl diselenide. *J. Chem. & Eng. Data.* 39:608-610.
 - 1322. Vaughan, P.J., S.M. Lesch, D.L. Corwin and D.G. Cone. 1995. Water content effect on soil salinity prediction: A geostatistical study using cokriging. *Soil Sci. Soc. Am. J.* 59:1146-1156.
 - 1323. Lebron, I. and D.L. Suarez. 1996. Calcite nucleation and precipitation kinetics as affected by dissolved organic matter at 25EC and pH > 7.5. *Geochimica et Cosmochimica Acta.* 60:2765-2776.
 - 1324. Goldberg, S., H.S. Forster and C.L. Godfrey. 1996. Molybdenum adsorption on oxides, clay minerals, and soils. *Soil Sci. Soc. Am. J.* 60:425-432.
 - 1325. Su, C. and D.L. Suarez. 1995. Coordination of adsorbed boron: A FTIR spectroscopic study. *Environ. Sci. & Technol.* 29:302-311.
 - 1326. Shannon, M.C. and C.L. Noble. 1995. Variation in salt tolerance and ion accumulation among subterranean clover subspecies. *Crop Sci.* 35:798-804.
 - 1327. Huang, K., R. Zhang and M.Th. van Genuchten. 1992. A simple particle tracking technique for solving the convection-dispersion equation. In: T.F. Russell, R.E. Ewing, C.A. Brebbia, W.G. Gray and G.F. Pinder (eds.), *Computational methods in water resources IX Vol. 1: Numerical methods in water resources*. Elsevier Applied Sci., pp. 86-96.
 - 1328. Francois, L.E. 1995. Salinity effects on bud yield and vegetative growth of artichoke (*Cynara scolymus* L.). *HortScience.* 30:69-71
 - 1329. Leij, F.J. and S. Bradford. 1994. 3DADE: A computer program for evaluating three-dimensional equilibrium solute transport in porous media. *USSL Research Report No. 134*, 81p.

1330. Gan, J., S.R. Yates, M.A. Anderson, W.F. Spencer and F.F. Ernst. 1994. Effect of soil properties on degradation and sorption of methyl bromide in soil. *Chemosphere.* 29:2685-2700.
1331. Gan, J., S.R. Yates, W.F. Spencer and M.V. Yates. 1994. Automated headspace analysis of fumigants 1, 3-Dichloropropene and methyl isothiocyanate on charcoal sampling tubes. *J. Chromatography A.* 684:121-131.
1332. Bradford, S.A. and F.J. Leij. 1994. Wettability effects on scaling two- and three-fluid capillary pressure saturation relations. *Environ. Sci. & Tech.* 29:1446-1455.
1333. Maas, E.V., S.M. Lesch, L.E. Francois and C.M. Grieve. 1996. Contribution of individual culms to yield of salt-stressed wheat. *Crop Sci.* 36:142-149.
1334. Gerke, H.H. and M.Th. van Genuchten. 1996. Macroscopic representation of structural geometry for simulating water and solute movement in dual-porosity media. *Adv. in Water Resour.* 19:343-357.
1335. Morel-Seytoux, H.J., P.D. Meyer, M. Nachabe, J. Touma, M.Th. van Genuchten and R.J. Lenard. 1996. Parameter equivalence for the Brooks-Corey and van Genuchten soil characteristics: Preserving the effective capillary drive. *Water Resour. Res.* 32:1251-1258.
1336. Rajkai, K., S. Kabos, M.Th. van Genuchten and P.E. Jansson. 1996. Estimation of water-retention characteristics from the bulk density and particle-size distribution of Swedish soils. *Soil Sci.* 161:832-845.
1337. Yates, S.R., M.Th. van Genuchten and F.J. Leij. 1994. Analysis of predicted hydraulic conductivities using RETC. In: M.Th. van Genuchten, F.J. Leij and L.J. Lund (eds.), "Indirect Methods for Estimating the Hydraulic Properties of Unsaturated Soils", Proc. Int'l Workshop, Riverside, CA, October 11-13, 1989. pp. 273-283.
1338. van Genuchten, M.Th. and J.C. Parker. 1994. Reply to "Comments on 'boundary conditions for displacement experiments through short laboratory columns'". *Soil Sci. Soc. Am. J.* 58:991-993.
1339. Šimčnek, J., M.Th. van Genuchten and D.L. Suarez. 1995. Modeling multiple solute transport in variably-saturated soils. In: K. Kovar and J. Krásný (eds.), *Groundwater Quality: Remediation and Protection (GQ '95)*, Publ. No. 225, Int. Assoc. Hydrol. Sci. pp. 311-318.
1340. Yates, S.R. and M.V. Yates. 1994. Ground water. *Encyclopedia of Agricultural Sci.* Vol. 2:489-499.
1341. Gao, F., S.R. Yates, M.A. Anderson and M.V. Yates. 1994. Theory and laboratory study of a tall passive chamber for measuring gas fluxes from soil to atmosphere. *J. Environ. Qual.* (In Press).
1342. Huang, K. and M.Th. van Genuchten. 1994. A comparative study of particle tracking techniques for numerically solving the convection-dispersion equation. In: A. Peters, G. Wittum, B. Herrling, U. Meissner, C.A. Brebbia, W.G. Gray and G.F. Pinder (eds.),

- "Computation methods in water resources X", Kluwer Acad. Press, Vol. 1, pp. 281-290.
1343. Bradford, S.A. and F.J. Leij. 1994. Fractional wettability effects on two- and three-fluid capillary pressure-saturation relations. *J. Contam. Hydrol.* 28:89-109.
1344. Yates, S.R., F.F. Ernst, J. Gan and W.F. Spencer. 1994. Design of a sampling mast for measuring volatile organic compounds in the near-surface atmosphere. *J. Environ. Qual.* 24:1027-1033.
1345. Suarez, D.L. and J. Šimčnek. 1995. Modeling equilibrium and kinetic major ion chemistry with CO₂ production/transport coupled to unsaturated water flow. In: G.W. Gee and N.R. Wing (eds.), *In-situ remediation: Scientific basis for current and future technologies. Part 2*, pp. 1215-1246. Pasco, WA. 33rd Hanford Symp. on Health & the Environment.
1346. Enfield, C.G. and S.R. Yates. 1990. Organic chemical transport in groundwater. In: *Pesticides in the soil environment*. Soil Sci. Soc. Am. Book, Chap. 8, pp. 271-302.
1347. Yates, M.V. and S.R. Yates. 1990. Modeling microbial transport in soil and groundwater. *ASM News.* 56:324-327.
1348. Yates, S.R. and C.V. Chrysikopoulos. 1991. Comment on "An analytical solution for one-dimensional transport in heterogeneous porous media". *Water Resour. Res.* 27:2163-2167.
1349. Yates, S.R. and M.V. Yates. 1990. Geostatistics for waste management: A user's manual for the geopack (version 1.0) geostatistical software system. EPA Report 600/8-90/004. 70p.
1350. Maas, E.V. 1994. Saline environments of plants-salt tolerance. McGraw Hill Yearbook of Sci. Tech. (Submitted).
1351. Dirksen, C., M.J. Huber, P.A.C. Raats, S.L. Rawlins, J. van Schilfgaarde, J. Shalhev et al. 1994. Interaction of alfalfa with transient water and salt transport in the rootzone. USSL Research Report No. 135, 127p.
1352. Suarez, D.L. 1994. Use of secondary waters in drip irrigation systems and avoidance of emitter plugging (Spanish). Seventh Int'l Course on Drip Irrigation. Center for Agri. Res. & Tech., Canary Islands, pp. 1-31.
1353. Corwin, D.L., J.D. Rhoades, P.J. Vaughan and S.M. Lesch. 1995. Salt-loading assessment methodology for managing soil salinity. USDA Clean Water - Clean Environment - 21st Century Conf. Proc. - Vol. II: Nutrients, Kansas City, MO., March 5-8, 1995. pp. 35-38.
1354. Maas, E.V. and S.R. Grattan. 1999. Crop yields as affected by salinity. ASA Drainage Monograph, Chapt. 3. (In Press).
1355. Gan, J., M.A. Anderson, M.V. Yates, W.F. Spencer and S.R. Yates. 1995. Sampling and stability of methyl bromide on activated charcoal. *J. Agric. Food Chem.* 43:1361-1367.
1356. Tseng, P.H., M.Th. van Genuchten and W.A. Jury. 1995. Simulating the performance of a vacuum solution extraction device for measuring solute flux concentrations in field soils.

- Proc. of a Boulder Symp. "Models for Assessing and Monitoring Groundwater Quality", IAHS Publ. No. 227. pp. 133-140.
- 1357. Manning, B.A. and S. Goldberg. 1996. Modeling competitive adsorption of arsenate with phosphate and molybdate on oxide minerals. *Soil Sci. Soc. Am. J.* 60:121-131.
 - 1358. Yates, S.R., F.F. Ernst, J. Gan and W.F. Spencer. 1995. Quantifying methyl bromide losses from agricultural fields. *Proc. Trans. ASAE, Kansas City, MO, March 5-8, 1995.* Vol. I:183-186.
 - 1359. Tseng, P.H., A. Sciortino and M.Th. van Genuchten. 1995. A partitioned solution procedure for simulating water flow in a variably-saturated dual-porosity medium. *Adv. in Water Resour.* 18(6):335-343.
 - 1360. Lebron, I. and D.L. Suarez. 1996. Colloid chemistry of micaceous clays (Spanish). *Cicle de Seminarios, Canary Islands*, pp. 163-183.
 - 1361. Bradford, S.A. and F.J. Leij. 1995. Predicting two-and three-fluid capillary pressure-saturation relationships in mixed wettability media. *Water Resour. Res.* 32:251-259.
 - 1362. Huang, K. and M.Th. van Genuchten. 1995. An analytical solution for predicting solute transport during ponded infiltration. *Soil Sci.* 159:217-223.
 - 1363. Huang, K., B.P. Mohanty and M.Th. van Genuchten. 1995. A new convergence criterion for the modified Picard iteration method to solve variably saturated flow equation. *J. of Hydrology.* 178:69-91.
 - 1364. Francois, L.E. 1996. Salinity effects on four sunflower hybrids. *Agron. J.* 88:215-219.
 - 1365. Wessolek, G., R. Plagge, F.J. Leij and M.Th. van Genuchten. 1994. Analyzing problems in describing field and laboratory measured soil hydraulic properties. *Geoderma.* 64:93-110.
 - 1366. Corwin, D.L., J.D. Rhoades and P.J. Vaughan. 1994. Predicting the areal distribution of a non-point source pollutant at a regional scale. 1994 ASAE Int'l. Winter Mtg., Atlanta, GA, December 13-16, 1994, ASAE Paper No. 942568.
 - 1367. Lesch, S.M., J.D. Rhoades, D.J. Strauss, K. Lin and M.A.A. Co. 1995. The ESAP user manual and tutorial guide version 1.0. USSL Research Report No. 138. 108p.
 - 1368. Su, C. And D.L. Suarez. 1997. Boron sorption and release by allophane. *Soil Sci. Soc. Am. J.* 61:69-77.
 - 1369. Suarez, D.L. 1996. Beryllium, magnesium, calcium, strontium, and barium. Book Chapter V.22. In: D.L. Sparks (ed.), SSSA Method in Soil Analysis. pp. 575-601.
 - 1370. Suarez, D.L. and J.D. Wood. 1996. Short and long term weathering rates of a feldspar fraction isolated from an arid zone soil. *Chemical Geology.* 132:143-150.
 - 1371. Goldberg, S., H.S. Forster, S.M. Lesch and E.L. Heick. 1995. Influence of anion competition on boron adsorption by clays and soils. *Soil Sci.* 161:99-103.

1372. Yates, S.R., J. Gan, F.F. Ernst, A. Mutziger and M.V. Yates. 1995. Methyl bromide emissions from a covered field. I. Experimental conditions and degradation in soil. *J. Environ. Qual.* 25:184-192.
1373. Yates, S.R., F.F. Ernst, J. Gan, F. Gao and M.V. Yates. 1995. Methyl bromide emissions from a covered field. II. Volatilization. *J. Environ. Qual.* 25:192-202.
1374. Yates, S.R., J. Gan, F.F. Ernst and D. Wang. 1996. Methyl bromide emissions from a covered field. III. Correcting chamber flux for temperature. *J. Environ. Qual.* 25:892-898.
1375. Bradford, S.A. and F.J. Leij. 1995. Estimating interfacial areas for multi-fluid soil systems. *J. Contaminant Hydrology.* (In Press).
1376. Shannon, M.C. 1996. New insights in plant breeding efforts for improved salt tolerance. *Am. Soc. Hortscience J.* 6:96-99.
1377. Manning, B.A. and S. Goldberg. 1996. Modeling arsenate competitive adsorption on kaolinite, montmorillonite and illite. *Clays and Clay Minerals.* 44:609-623.
1378. Corwin, D.L., P.J. Vaughan, J.D. Rhoades and D.G. Cone. 1995. Basin-scale assessment of a non-point source pollutant in the vadose zone. *Computer Applications in Water Management.* GPAC Publication No. 154. pp. 66-69.
1379. Vaughan, P.J., J. Šimčnek, D.L. Suarez, D.L. Corwin and J.D. Rhoades. 1996. Unsatchemgeo: Modeling water flow and multicomponent solute transport in a GIS context. Chap. 14, SSSA Special Publication No. 48, "Applications of GIS to the Modeling of Non-Point Source Pollutants in the Vadose Zone", pp. 235-246.
1380. Suarez, D.L., J. Šimčnek and M. Šejna. 1995. Using UNSATCHEM with user friendly interface, as a water management tool. *In:* L. Ahuja, J. Leppert, K. Rojas and E. Seely (eds.), *Computer Applications in Water Management*, workshop proceedings, May 23-25, 1995, Ft. Collins, CO., pp. 162-166.
1381. Goldberg, S., J.A. Davis, J.D. Hem. 1995. The surface chemistry of aluminum oxides and hydroxides. Chap. 7. *In:* The Environ. Chemistry of Aluminum, 2nd Ed., Cat. #L1030, Lewis Publ./CRC Press, pp. 271-331.
1382. Leij, F.J. and M.Th. van Genuchten. 1995. Approximate analytical solutions for solute transport in two-layer porous media. *Transport in Porous Media.* 18:65-85.
1383. Šimčnek, J., M. Šejna, M.Th. van Genuchten and D.L. Suarez. 1995. The SWMS_2D code with a user-friendly interface in a windows environment. *In:* L. Ahuja, J. Leppert, K. Rojas and E. Seely (eds.), *Computer Applications in Water Management*, workshop proceedings, May 23-25, 1995, Ft. Collins, CO., pp. 157-161.
1384. Spencer, W.F., G. Singh, C.D. Taylor, R.A. LeMert, M.M. Cliath and W.J. Farmer. 1996. DDT persistence and volatility as affected by management practices after 23 years. *J. Environ. Qual.* 28:815-821.
1385. Yates, S.R., J. Gan, W.A. Jury, M.V. Yates, F. Gao, Y. Jin, D. Wang, F.F. Ernst, A. Mutziger and W.F. Spencer. 1996. Determination of the environmental fate and transport of methyl

- bromide used as a soil fumigant - final report. USDA, Coop. State Research Service - Nat'l. Agric. Pest. Impact Assessment Program, Agreement No. 92-34050-8152. 259p.
- 1386. Šimčnek, J. and M.Th. van Genuchten. 1995. Numerical model for simulating multiple solute transport in variably-saturated media. *In:* L.C. Wrobel and P. Latinopoulos (eds.), Water Pollution III: Modelling, Measuring, and Prediction, Computation Mechanics Publ., Southampton, UK, pp. 21-30.
 - 1387. Spurlock, F.C., K. Huang and M.Th. van Genuchten. 1995. Isotherm nonlinearity and nonequilibrium sorption effects on transport of fenuron and monuron in soil columns. *Environ. Sci. Technol.* 29:1000-1007.
 - 1388. Nemeth, T., E. Molnar, J. Csillag, A. Lukács, K. Bujtás and M.Th. van Genuchten. 1994. Model experiments to assess the fate of heavy metals in soils. *Environ. Geochemistry & Health.* 16:505-514.
 - 1389. Gao, S., K.K. Tanji and S.R. Goldberg. 1998. Reactivity and transformation of arsenic. AAAS Book Chapter, In: L. Dudley and J. Guitjens (eds), "Agroecosystems and the Environment: Sources, Control, and Remediation of Potentially Toxic, Trace Element Oxyanions", American Asso. For the Advancement of Science-Pacific Division, San Francisco State University, June 19-24, 1994, pp. 17-38.
 - 1390. Gan, J., S.R. Yates, F.F. Ernst, M.V. Yates and W.A. Jury. 1997. Laboratory-scale measurements and simulations of effect of application methods on soil methyl bromide emission. *J. Environ. Qual.* 26:310-317.
 - 1391. Rhoades, J.D. 1997. Salinization of soil and water: A review of causes, issues and control-principles. ISSS Int'l Symp. on Salt-Affected Lagoon Ecosystems, Valencia, Spain, September 95. (In Press).
 - 1392. Grossl, P.R., M. Eick, D.L. Sparks, S.R. Goldberg and C.C. Ainsworth. 1997. Arsenate and chromate retention mechanisms on goethite. 2. Kinetic evaluation using a pressure-jump relaxation technique. *Environ. Sci. & Tech.* 31(2):321-326.
 - 1393. Martens, D.A. and D.L. Suarez. 1997. Selenium speciation of soil/sediment determined with sequential extractions and hydride generation atomic adsorption spectrophotometry. *Environ. Sci. & Tech.* 31:133-139.
 - 1394. Suarez, D.L. and J. Šimčnek. 1996. Solute transport modeling under variably saturated water flow conditions, Chapter 15, pp. 229-268. *In:* P. Lichtenr, et al. (eds.), Reactive transport in porous media, Reviews in Mineralogy Vol. 24, MSA, Washington, DC.
 - 1395. Singh, G., W.F. Spencer and S.R. Yates. 1995. Pesticide leaching under different irrigation systems. Clean Water - Clean Environment 21st Century Conf. Proc., March 5-8, Kansas City, MO. pp. 215-218.
 - 1396. Corwin, D.L., J.D. Rhoades, P.J. Vaughan and S.M. Lesch. 1995. An integrated methodology for assessing soil salinity and salt-loading to the groundwater at a regional scale. 1995 ASA-CSSA-SSSA Bouyoucos Conf., Riverside, CA, pp. 356-370

1397. Corwin, D.L. and R.J. Wagenet. 1996. Applications of GIS to the modeling of non-point source pollutants in the vadose zone: A conference overview. *J. Environ. Qual.* 25:403-411.
1398. Schneider, S.M., M.C. Shannon, D.L. Karlen and C.R. Amerman. 1994. Applications of Systems Engineering Methodology to the Design of an Agricultural Research Program. *In:* "Systems Engineering: A Competitive Edge in a Changing World", 4th Ann. Int'l. Symp. Of the Nat. Coun. On Systems Engineering, Vol. 1, San Francisco, CA, pp. 851-858.
1399. Grattan, S.R. and J.D. Rhoades. 1996. Long-term consequences of recycling drainage water for irrigation. *Proc. ASCE North Amer. Water and Environ. Congr. '96.* (In Press).
1400. Suarez, D.L. and L. Dudley. 1997. Hydrochemical considerations in modeling water quality within the vadose zone. AAAS Book Chapter, In: L. Dudley and J. Guitjens (eds), "Agroecosystems and the Environment: Sources, Control, and Remediation of Potentially Toxic, Trace Element Oxyanions", American Asso. For the Advancement of Science-Pacific Division, San Francisco State University, June 19-24, 1994, pp. 113-136.
1401. Šimčnek, J., D.L. Suarez and M. Šejna. 1995. An interactive graphics-based user interface for the UNSATCHEM model. *In:* L. Ahuja, J. Leppert, K. Rojas and E. Seely (eds.), Computer Applications in Water Management, workshop proc., May 23-25, 1995, Ft. Collins, CO., pp. 280-282.
1402. Guzy, M.R., C.M. Grieve and M.C. Shannon. 1995. A morphological-mechanistic plant model formalized in an object-oriented parametric L-system. *Ecological Modelling.* (Submitted).
1403. Dalton, F.N., G. Piccinni and A. Maggio. 1994. Validation of the concept of a dynamic salinity stress index. Third Congress of the European Society for Agronomy, Padova Univ., pp. 468-469.
1404. Shannon, M.C. 1997. Chapter 3, Section II.A: Reuse for crops. *Irrigation and Drainage Int'l Symp. Proc.* (In Press).
1405. Corwin, D.L. and K.M. Loague. 1996. Preface: Applications of GIS to the modeling of non-point source pollutants in the vadose zone. *In:* Applications of GIS to the modeling of non-point source pollutants in the vadose zone. SSSA Special Publ. #48, pp. IX-XIV.
1406. Corwin, D.L. 1996. GIS applications of deterministic solute transport models for regional-scale assessment of non-point source pollutants in the vadose zone. *In:* Applications of GIS to the modeling of non-point source pollutants in the vadose zone. Chap. 5, SSSA Special Publ. #48, pp. 69-100.
1407. Shannon, M.C. and L.E. Francois. 1996. Sustainable management practices related to salinity control in tree and vine crops. Southwest Agric. and Landscape Tech. Seminar Proc., November 28-30, 1995, Indio, CA.
1408. Grattan, S.R., M.C. Shannon, C.M. Grieve, J.D. Rhoades, D.L. Suarez, L.E. Francois, R. Sachs and J. Oster. 1996. Production functions of eucalyptus for the design of saline-drainage water reuse systems. *Proc. Agritech Spring 96, 7th Int'l Conf. on Water and Irrigation,* Tel Aviv, Israel, May 13-16, 1996, 8p.

1409. Šimčnek, J. and D.L. Suarez. 1996. UNSATCHEM-2D code for simulating two-dimensional variably saturated water flow, heat transport, carbon dioxide production transport, and multicomponent solute transport with major ion equilibrium and kinetic chemistry, Version 1.1. USSL Research Report No. 128, Riverside, CA, 218p.
1410. Bourgault, G., A.G. Journel, J.D. Rhoades, D.L. Corwin and S.M. Lesch. 1996. Geostatistical analysis of a soil salinity data set. *In:* D.L. Sparks (ed.), *Adv. in Agron.*, Academic Press, San Diego, CA., Vol. 58, pp. 241-292.
1411. Wang, H., D.L. Corwin, L.J. Lund, J.D. Rhoades, P.J. Vaughan and D.G. Cone. 1996. Applications of GIS and logistic regression in evaluating salinity development in irrigated lands. *J. Environ. Qual.* (Submitted).
1412. Corwin, D.L., J.D. Rhoades and P.J. Vaughan. 1996. GIS applications to the basin-scale assessment of soil salinity and salt-loading to the groundwater. Chapter 18, SSSA Special Publication No. 48, "Applications of GIS to the Modeling of Non-Point Source Pollutants in the Vadose Zone", pp. 295-313.
1413. Su, C. and D.L. Suarez. 1997. In situ infrared speciation of adsorbed carbonate on aluminum and iron oxides. *Clays & Clay Minerals.* 45(6): 814-825.
1414. Suarez, D.L. and J.D. Rhoades. 1997. Salinization. *ENCARTA'97 Multimedia Encyclopedia.* (In Press).
1415. Manning, B.A. and D. A. Martens. 1997. Speciation of arsenic (III) and arsenic (V) in sediment extracts by high-performance liquid chromatography-hydride generation atomic absorption spectrophotometry. *J. Environ. Sci. & Tech.* 31:171-177.
1416. Vaughan, P., J. Šimčnek, D.L. Suarez and D.L. Corwin. 1996. Mapping CO₂ surface flux in an irrigated agricultural area. *Third Int'l Conf./Workshop on Integrating GIS and Environ. Modelling*, published on CD ROM, Nat'l Centrum for Geographic for Geographic Info. Sys., Univ. Calif., Santa Barbara, CA, 10p.
1417. Loague, K. and D.L. Corwin. 1996. Uncertainty in regional-scale assessments of non-point source pollutants. *In:* Applications of GIS to the modeling of non-point source pollutants in the vadose zone. *SSSA Spec. Publ. #48*, pp. 131-152.
1418. Martens, D. and D.L. Suarez. 1997. Mineralization of selenium-containing amino acids in two California soils. *Soil Sci. Soc. Am. J.* 61(6):1685-1694.
1419. Rhoades, J.D., S.M. Lesch, R.D. LeMert and W.J. Alves. 1997. Assessing irrigation/drainage/salinity management using spatially referenced salinity measurements. *Agr. Water Mgmt.* 35:147-165.
1420. Rhoades, J.D., S.M. Lesch, S.L. Burch, J. Letey, R.D. LeMert, P.J. Shouse, J.D. Oster and T. O'Halloran. 1997. Salt distributions in cracking soils and salt pickup by runoff waters. *J. Irrig. & Drainage Engn.* 123:323-328.
1421. Shouse, P.J., J. Letey, J. Jobes, J. Fargerlund, S.L. Burch, J.D. Oster, J.D. Rhoades and T. O'Halloran. 1997. Salt transport in cracking soils: Bromide tracer study. *J. Irrig. & Drainage Engn.* 123:329-335.

1422. Maas, E.V. 1996. Plant response to soil salinity. Proc. 4th. Nat'l. Conf. and Workshop on the "Productive Use and Rehabilitation of Saline Lands", Albany, Western Australia, pp. 385-391. Also printed in: Australian J. Soil & Water Conserv. 9:25-28.
1423. Huang, K., M.Th. van Genuchten and R. Zhang. 1996. Exact solutions for one-dimensional transport with asymptotic scale-dependent dispersion. Applied Mathematical Modeling. 20:298-308.
1424. Dalton, F.N., A. Maggio and G. Piccinni. 1997. Effect of root temperature on plant response functions for tomato: comparison of static and dynamic salinity stress indices. Plant & Soil. 192:307-319.
1425. Singh, G., J. Letey, P. Hanson, P. Osterli and W.F. Spencer. 1996. Soil erosion and pesticide transport from an irrigated field. J. Environ. Sci. Health. B31:25-41.
1426. Martens, D.A. and D.L. Suarez. 1997. Selenium speciation of marine shales, alluvial soils, and evaporation basin soils of California. J. Environ. Qual. 26:424-432.
1427. Shannon, M.C. 1997. Genetics of salt tolerance in higher plants. In: P.K. Jaiwal, R.P. Singh and A. Gulati (eds.), "Strategies for improving salt tolerance in higher plants", Ch. 13, pp. 265-289, Oxford & IBH Publ. Co.
1428. Swartz, C.H., A.L. Ulery and P.M. Gschwend. 1997. An aem-tem study of nanometer-scale mineral associations in an aquifer sand: Implications for colloid mobilization. Geochim. et Cosmochim. Acta. 61(4): 707-718.
1429. Gan, J., S.R. Yates, D. Wang and W.F. Spencer. 1996. Effect of soil factors on methyl bromide volatilization after soil application. Environ. Sci. & Technol. 30:1629-1636.
1430. Toride, N. and F.J. Leij. 1996. Convective-dispersive stream tube model for field-scale solute transport: I. Moment Analysis. Soil Sci. Soc. Am. J. 60:342-352.
1431. Toride, N. and F.J. Leij. 1996. Convective-dispersive stream tube model for field-scale solute transport: II. Examples and Calibration. Soil Sci. Soc. Am. J. 60:352-361.
1432. Ulery, A.L. and F.F. Ernst. 1997. Sorghum response to saline industrial cooling water applied at three growth stages. Agron. J. 89:392-396.
1433. Shannon, M.C., S.M. Schneider and C.R. Amerman. 1996. Systems engineering - A bridge between customer needs and the establishment of research priorities. Agron. J. (Submitted).
1434. Mohanty, B.P., R.S. Kanwar and C.J. Everts. 1994. Comparison of saturated hydraulic conductivity measurement methods for a glacial-till soil. Soil Sci. Soc. Am. J. 58:672-677.
1435. Mohanty, B.P. and M.Th. van Genuchten. 1996. An integrated approach for modeling water flow and solute transport in the vadose zone. In: Application of GIS to the Modeling of Non-Point Source Pollutants in the Vadose Zone, SSSA Spec. Publ., Chap. 13, pp. 217-233.
1436. Mohanty, B.P., W.M. Klittich, R. Horton and M.Th. van Genuchten. 1995. Spatio-temporal

- variability of soil temperature within three land areas exposed to different tillage systems. *Soil Sci. Soc. Am. J.* 59:752-759.
- 1437. Mohanty, B.P., R. Horton and M.D. Ankeny. 1996. Infiltration and macroporosity under a row crop agricultural field in a glacial till soil. *Soil Sci.* 161:205-213.
 - 1438. Mallants, D., B.P. Mohanty, D. Jacques and J. Feyen. 1996. Spatial variability of hydraulic properties in a multi-layered soil profile. *Soil Sci.* 161:167-181.
 - 1439. Mohanty, B.P., M.D. Ankeny, R. Horton and R.S. Kanwar. 1994. Spatial analysis of hydraulic conductivity measured during disc infiltrometers. *Water Resour. Res.* 30:2489-2498.
 - 1440. Mohanty, B.P. and R.S. Kanwar. 1994. Spatial variability of residual nitrate-nitrogen under two tillage systems in central Iowa: A composite three-dimensional resistant and exploratory approach. *Water Resour. Res.* 30:237-251.
 - 1441. Mallants, D., B.P. Mohanty, V. Vervoort and J. Feyen. 1997. Spatial analysis of the saturated hydraulic conductivity of a soil with macropores. *Soil Tech.* 10: 115-131.
 - 1442. Mohanty, B.P., U.S. Tim, C.E. Anderson and T. Woestman. 1994. Impacts of agricultural drainage well closure on crop production: A watershed case study. *Water Resour. Bull.* 30:687-703.
 - 1443. Grieve, C.M. and D.L. Suarez. 1997. Purslane (*Portulaca Oleracea L.*): A halophytic crop for drainage water reuse systems. *Plant & Soil.* 192:277-283.
 - 1444. Toride, N., F.J. Leij and M.Th. van Genuchten. 1995. The CXTFIT code for estimating transport parameters from laboratory or field tracer experiments, Version 2.0. USSL Research Report No. 137, Riverside, CA, 121p.
 - 1445. Mohanty, B.P. and R.S. Kanwar. 1997. A relative-flux-correction scheme for analyzing three dimensional data of a tile-drained agricultural plot. *J. Hydrology.* 194:107-125.
 - 1446. Yates, S.R., J. Gan, F.F. Ernst, D. Wang and M.V. Yates. 1996. Emissions of methyl bromide from agricultural fields: Rate estimates and methods of reduction. *Proc. ACS Nat'l Mtg*, Fall 1995, pp. 116-134.
 - 1447. Šimčnek, J. and M.Th. van Genuchten. 1996. Estimating unsaturated soil hydraulic properties from tension disc infiltrometer data by numerical inversion. *Water Resour. Res.* 32:2683-2696.
 - 1448. Leij, F.J. and N. Toride. 1995. Discrete time- and length-averaged solutions of the advection-dispersion equation. *Water Resour. Res.* 31:1713-1724.
 - 1449. Ulery, A.L., J.A. Teed, M.Th. van Genuchten and M.C. Shannon. 1998. SALTDATA: A database of plant yield response to salinity. *Agron. J.* 90(4): 556-562.
 - 1450. Huang, K., B.P. Mohanty, F.J. Leij and M.Th. van Genuchten. 1998. Solution of the nonlinear transport equation using modified picard iteration. *Adv. in Water Resour.* 21: 237-249.

1451. Huang, K., J. Šimčnek and M.Th. van Genuchten. 1996. A third-order numerical scheme with upwind weighting for solving the solute transport equation. Int'l. Journal for Numerical Methods in Engineering. (In Press).
1452. Gan, J. and S.R. Yates. 1996. Degradation and phase-partition of methyl iodide in soil. J. Agric. & Food Chemistry. 44:4001-4008.
1453. Jacques, D., J. Vanderborght, D. Mallants, B.P. Mohanty and J. Feyen. 1997. Analysis of solute redistribution in heterogeneous soil: I. Geostatistical approach to describe the spatial scaling factors.
In: A. Soares et al., (eds), Geo Environ. I - Geostatistics for Environmental Applications, Kluwer Academic Publishers, netherlands, pp. 271-282.
1454. Leij, F. and M.Th. van Genuchten. 1996. Principles of solute transport - Chapter 9. Drainage in Agriculture. (Submitted).
1455. Leij, F.J., J. Šimčnek, N. Toride and T. Vogel. 1996. Mathematical solutions of the convection-dispersion equation - Chapter 10. Drainage in Agriculture. (Submitted).
1456. Leij, F.J., J. Šimčnek, D.L. Suarez and M.Th. van Genuchten. 1996. Nonequilibrium and multicomponent transport models - Chapter 11. Drainage in Agriculture. (Submitted).
1457. Leij, F.J., N. Toride and P.H. Tseng. 1996. Alternative approaches for modeling solute transport - Chapter 12. Drainage in Agriculture. (Submitted).
1458. Leij, F.J., W.B. Russell and S.M. Lesch. 1996. Closed-form expressions for water retention and conductivity data. Ground Water. (Submitted).
1459. Rhoades, J.D., N.A. Manteghi, S.M. Lesch and D. Slovacek. 1997. Determining soil and water sodicity from electrode measurements. Comm. Soil Sci. & Plant Anal. 28(19&20):1737-1765.
1460. Goldberg, S., C. Su and H.S. Forster. 1998. Sorption of molybdenum on oxides, clay minerals, and soils: Mechanisms and models. In: E.A. Jenne (ed.), Adsorption of metals by geomedia; Variables, Mechanisms, and Model Applications, Proc. Am. Chem. Soc. Symp., Chapter 19, Academic Press, San Diego, CA, pp. 401-426.
1461. Yates, S.R. 1996. Pesticide volatilization from agricultural fields: Mechanisms, measurement and modeling. Water Symp. Proc. (Submitted).
1462. Shannon, M.C. 1997. Adaptation of plants to salinity. Adv. in Agron. 60:76-120.
1463. Goldberg, S. 1998. Ion adsorption at the soil particle-solution interface: Modeling and mechanisms. In: P.M. Huang, N. Senesi, and J. Buffle (eds.), IUPAC Series on Analytical and Physical Chemistry of Environmental Systems: Vol. 4, "Structure and Surface Reactions of Soil Particles", Chapter 10, John Wiley & Sons, Ltd. pp. 378-411.
1464. Yates, S.R., D. Wang, F.F. Ernst and J. Gan. 1997. Methyl bromide emissions from agricultural fields. Bare-soil, deep injection. Environ. Sci. & Tech. 31:1136-1143.
1465. Goldberg, S. 1996. Mechanisms of ion adsorption in soils: General characteristics and

- models employed. 13th Latin American Soil Science Congress. Book Chapter. Solo-Suelo 96. (CD-ROM).
1466. Suarez, D.L., J. Šimčnek and M. Guzy. 1996. Practical model for predicting soil salinity and sodicity under transient conditions. Proc. Int'l Workshop on Integrated Soil Management for Sustainable use of Salt Affected Soils, Bureau of Soils & Water Management, Diliman, Quezon City, Manila, The Philippines, November 8-10, 1995, pp. 39-54.
1467. Corwin, D.L., P.J. Vaughan and K. Loague. 1997. Modeling nonpoint source pollutants in the vadose zone with GIS. Environ. Sci. & Tech. 31:2157-2175.
1468. Manning, B.A. and S. Goldberg. 1997. Adsorption and stability of arsenic (III) at the clay mineral-water interface. Environ. Sci. & Tech. 31:2005-2011.
1469. Rhoades, J.D., S. Lesch, R.D. LeMert and W.J. Alves. 1996. Improving salinity management using enhanced measurement techniques. Regional SWCS Conf., Temecula, CA. (In Press).
1470. Suarez, D.L. 1998. Thermodynamics of the soil solution. In: D.L. Sparks (ed.), Soil Physical Chemistry, Chap. 3, CRC Press, Boca Raton, FL. pp. 97-134.
1471. Mallants, D., M. Vanclooster, N. Toride, J. Vanderborght, M.Th. van Genuchten and J. Feyen. 1996. Comparison of three methods to calibrate TDR for monitoring solute movement in undisturbed soil. Soil Sci. Soc. Am. J. 60:747-754.
1472. Suarez, D.L. and J. Šimčnek. 1997. UNSATCHEM: Unsaturated water and solute transport model with equilibrium and kinetic chemistry. Soil Sci. Soc. Am. J. 61:1633-1646.
1473. Martens, D. and D.L. Suarez. 1999. Selenium in water management wetlands in the semi-arid west. HortScience. Proc. of the Workshop "Wetlands & Horticulture: Problems and Solutions", 93rd ASHS Annual Meeting, Lexington, Kentucky, 7 Oct. 1996., HortSci. 34(1) 34-39.
1474. Šimčnek, J. and M.Th. van Genuchten. 1996. Using the HYDRUS-2D for estimating unsaturated soil-hydraulic parameters. In: ModelCARE'96: Poster session volume, Intern. Conf. on Calibration and Reliability in Groundwater Modelling, P. van der Heijde, K. Kovar and L. Konikow (eds.), Intern. Ground Water Modeling Center, Golden, CO, pp. 263-272.
1475. Šimčnek, J., M. Šejna and M.Th. van Genuchten. 1996. The HYDRUS-2D software package. Int'l. Ground Water Modeling Center, Colorado School of Mines, Golden, CO. (Submitted).
1476. van Genuchten, M.Th. and J. Šimčnek. 1996. Evaluation of pollutant transport in the unsaturated zone. In: P.E. Rijtema and V. Eliáš (eds.), Regional Approaches to Water Pollution in the Environment, NATO ASI Series: 2. Environment. Kluwer, Dordrecht, The Netherlands, pp. 139-172.
1477. Šimčnek, J., K. Huang and M.Th. van Genuchten. 1996. The SWMS_3D code for simulating water flow and solute transport in three-dimensional variability saturated media. Version 1.0. USSL Research Report No. 139, Riverside, CA, 155p.

1478. Lesch, S.M., J. Herrero and J.D. Rhoades. 1998. Monitoring for temporal changes in soil salinity using electromagnetic techniques. *Soil Sci. Soc. Am. J.* 62:232-242.
1479. Boland, A.-M., E.V. Maas and P. Jerie. 1997. Long-term effects of salinity on fruit trees. *Int'l. Symp. on Irrigation of Horticultural Crops*, Crete, September 8-13, 1996. Also published in *Acta Hort.* 449:599-605.
1480. Rhoades, J.D. 1996. New assessment technology for the diagnosis and control of salinity in irrigated lands. *Proc. Int'l. Symp. on Develop. of Basic Technology for Sustainable Agric. Under Saline Conditions*, December 12, 1996, Tottori, Japan. pp.1-9.
1481. Scardaci, S.C., A.U. Eke, J.E. Hill, M.C. Shannon and J.D. Rhoades. 1996. Water and soil salinity studies on California rice. UC Cooperative Extension Rice Publ. No. 2, 9p.
1482. Martens, D.A. and D.L. Suarez. 1998. Sequential extraction of selenium oxidation states. In: W.T. Frankenberger, Jr. and R.A. Engberg (eds.), "Environmental Chemistry of Selenium", Marcel Dekker, Inc., Chap. 4, pp. 61-79.
1483. Manning, B.A. and S.R. Goldberg. 1998. Arsenic (III) and arsenic (V) adsorption on three California soils. *Soil Sci.* 162:886-895.
1484. Suarez, D.L. 1997. The chemistry of boron in arid zone soils (Spanish). Chapter VIII, Int'l Course on Localized Irrigation, seminar series. (In Press).
1485. Martens, D.A. and D.L. Suarez. 1997. Changes in the distribution of selenium oxidation states with sample storage. *J. Environ. Qual.* 26:1711-1714.
1486. Lebrón, I. and D.L. Suárez. 1998. Kinetics and mechanisms of precipitation of calcite as affected by P_{CO_2} and organic ligands at 25EC. *Geochimica et Cosmochimica Acta.* 62:405-416.
1487. Vogel, T., K. Huang, R. Zhang and M.Th. van Genuchten. 1996. The HYDRUS code for simulating water flow, solute transport, and heat movement in variably-saturated porous media, Version 5.0. USSL Research Report No. 140, Riverside, CA, 131p.
1488. Shannon, M.C., J.D. Rhoades, J.H. Draper, S.C. Scardaci and M.D. Spyres. 1998. Assessment of salt tolerance in rice cultivars in response to salinity problems in California. *Crop Science.* 38:394-398.
1489. Grieve, C.M., J.A. Poss, T.J. Donovan and L.E. Francois. 1997. Salinity effects on growth, leaf-ion content and seed production of *Lesquerella fendleri* (Gray) S. Wats. *Industrial Crops and Products.* 7:69-76.
1490. Dalton, F.N., A. Maggio and G. Piccinni. 1997. Simulation of shoot chloride accumulation: Separation of physical and biochemical processes governing plant salt tolerance. *Plant & Soil J.* (Submitted).
1491. Goldberg, S. and H.S. Forster. 1998. Factors affecting molybdenum adsorption by soils and minerals. *Soil Sci.* 163:109-114.
1492. Yates, S.R. 1997. Geostatistics - Chapter 40. Drainage Monograph. (Submitted).

1493. Wang, D., S.R. Yates, J. Šimčnek and M.Th. van Genuchten. 1997. Solute transport in simulated conductivity fields under different irrigations. *J. Irrig. Drng. Engn.* 123:336-343.
1494. Carrillo, M.L.K., J. Letey and S.R. Yates. 1997. Characterizing water-repellent sands. *Soil Sci. Soc. Am. J.* (Submitted).
1495. Gan, J., S.R. Yates, D. Crowley and J.O. Becker. 1998. Acceleration of 1,3-dichloropropene degradation by organic amendments and potential application for emissions reduction. *J. Environ. Qual.* 27:408-414.
1496. Gan, J., S.R. Yates, H.D. Ohr and J.J. Sims. 1997. Volatilization and distribution of methyl iodide and methyl bromide after subsoil application. *J. Environ. Qual.* (Submitted).
1497. Gan, J. and S.R. Yates. 1998. Recapturing and decomposing methyl bromide in fumigation effluents. *J. Hazardous Materials.* 57:249-258.
1498. Wang, D., S.R. Yates, J. Gan and W.A. Jury. 1998. Temperature effect on methyl bromide volatilization: Permeability of plastic cover films. *J. Environ. Qual.* 27(4): 821-827.
1499. Gao, F. and S.R. Yates. 1997. Analysis of flux chambers for measuring voc emissions at soil and water surface. Proc. of the Control of Odors and Volatile Organic Compounds Emissions, Houston, TX., pp. 7-39-49.
1500. Gao, F., S.R. Yates, M.V. Yates, J. Gan and F.F. Ernst. 1997. Design, fabrication and application of a dynamic chamber for measuring gas emissions from soil. *Environ. Sci. & Tech.* 31:148-153.
1501. Skaggs, T.H., Z.J. Kabala and W.A. Jury. 1998. Deconvolution of a nonparametric transfer function for solute transport in soils. *J. Hydrology.* (In Press).
1502. Wang, D., S.R. Yates and F.F. Ernst. 1997. Calibration and testing of a dynamic flow-through chamber for field determination of methyl bromide volatilization flux. *Atmospheric Environ.* 31(24):4119-4123.
1503. Wang, D., S.R. Yates, F.F. Ernst, J. Gan, F. Gao and J.O. Becker. 1997. Methyl bromide emission reduction with optimized field management practices. *Environ. Sci. & Tech.* 31:3017-3022.
1504. Vaughan, P., D.L. Suarez, J. Šimčnek, D.L. Corwin and J.D. Rhoades. 1997. UnsatchemGeo geographic information system software package for simulating one-dimensional water flow, heat transport, carbon dioxide production and transport, and multicomponent solute transport in a geographic area. USSL Research Report No. 142, Riverside, CA, 71p.
1505. Loague, K., D.L. Corwin and T.R. Ellsworth. 1998. The challenge of predicting nonpoint source pollution. In: "Modeling Nonpoint Source Pollutants with GIS Data", *Environ. Sci. & Tech./News & Research Notes*, Amer. Chem. Soc., March 1998. (Available on the web: <http://pubs.asc.org>).
1506. Rhoades, J.D. 1997. Sustainability of irrigation: An overview of salinity problems and control strategies. CWRA 1997 Annual Conf. "Footprints of Humanity: Reflections on Fifty

Years of Water Resource Developments", Lethbridge, Alberta, Canada, June 3-6, 1997, pp. 1-42.

1507. Corwin, D.L., K. Loague and T.R. Ellsworth. 1997. GIS-based modeling of nonpoint source pollutants in the vadose zone. *J. Soil & Water Conserv.* 53(1):34-38.
1508. Loague, K. and D.L. Corwin. 1998. Regional-scale assessment of non-point source pollution: An application of GIS. *Hydrological Processes.* 12:957:965.
1509. Dalton, F.N., A. Maggio and G. Piccinni. 1997. Effect of solar radiation on plant salt tolerance: Comparison of static and dynamic indices. *Science.* (Submitted).
1510. Goldberg, S. 1997. Reactions of boron with soils. In: "Boron in Soils & Plants. B. Dell (ed.), Proc. Boron97 Int. Symp. on Boron in Soils and Plants, Kluwer Academic Publishers. *Plant & Soil.* 193:35-48.
1511. Su, C. and D.L. Suarez. 1997. In Situ ATR-FTIR spectroscopic & electrophoretic study of surface complexes: Selenate and selenite on amorphous iron oxide and goethite. *J. Environ. Sci. & Tech.* (Submitted).
1512. Bradford, S.A., F.J. Leij, J.W. Hopmans, P.J. Shouse and M.Th. van Genuchten. 1995. Retention and permeability of multi-fluid soil systems, Annual Report, 1993-1994. In: D. Silva (ed.), 1993-1994 Annual Report, *Reactions of Toxic Pollutants in Soil Systems*, pp. 245-268, Kearney Foundation of Soil Science, Univ. Calif., Riverside.
1513. Hopmans, J.W., F.J. Leij, P.J. Shouse and M.Th. van Genuchten. 1996. Retention and permeability of multi-fluid soil systems, Annual Report, 1994-1995. In: D. Silva (ed.), 1994-1995 Annual Report, *Reactions of Toxic Pollutants in Soil Systems*, pp. 259-270, Kearney Foundation of Soil Science, Univ. Calif., Riverside.
1514. Leij, F.J. and N. Toride. 1997. N3DADE: A computer program for evaluating nonequilibrium three-dimensional solute transport in porous media. *USSL Research Report No. 143.* 116p.
1515. Leij, F.J. and N. Toride. 1997. Analytical solutions for solute transport finite soil columns with arbitrary initial distributions. *Soil Sci. Soc. Am. J.* (Submitted).
1516. Šimčnek, J. and M.Th. van Genuchten. 1997. Estimating unsaturated soil hydraulic properties from multiple tension disc infiltrometer data. *Soil Sci.* 162:383-398.
1517. Šimčnek, J., D.L. Suarez and M. Sejna. 1997. The UNSATCHEM software package for simulating one-dimensional variably saturated water flow, heat transport, carbon dioxide production and transport, and solute transport with major ion equilibrium and kinetic chemistry. *USSL Research Report No. 141.* 186p.
1518. Šimčnek, J., D. Wang, P.J. Shouse, and M.Th. van Genuchten. 1998. Analysis of field tension disc infiltrometer estimation. *Int. Agrophysics* 12:167-180.
1519. Šimčnek, J., O. Wendroth and M.Th. van Genuchten. 1997. A parameter estimation analysis of the evaporation method for determining soil hydraulic properties. *Soil Sci. Soc. Am. J.* (Submitted).

1520. Inoue, M., J. Šimčnek, J. Hopmans and V. Clausnitzer. 1997. In-situ estimation of soil hydraulic functions using a multi-step soil water extraction technique. *Water Resour. Res.* (Submitted).
1521. Šimčnek, J., R. Angulo-Jaramillo, M. Schaap, J.-P. Vandervaere and M.Th. van Genuchten. 1998. Using an inverse method to estimate the hydraulic properties of crusted soils from tension disc infiltrometer data. *Geoderma*. (Accepted).
1522. Gribb, M.M., J. Šimčnek and M.F. Leonard. 1997. Use of cone penetrometer method to determine soil hydraulic properties. *J. Geotechnical Engineering*. (Submitted).
1523. Papiernik, S.K. and R.F. Spalding. 1998. Atrazine, deethylatrazine, and deisopropylatrazine persistence measured in groundwater in situ under low oxygen conditions. *J. Agric. & Food Chem.* 46:749-754.
1524. Shannon, M.C. and C.M. Grieve. 1997. Options for using poor-quality water for vegetable crops. *HortScience*. (Accepted).
1525. Corwin, D.L., A. David and S.R. Goldberg. 1999. Mobility of arsenic in soil from the rocky mountain arsenal area. *J. Contaminant Hydrology* 39:35-38.

1526. Manning, B.A., S.E. Fendorf and S.R. Goldberg. 1998. Surface structures and stability of Arsenic(III) on goethite: Spectroscopic evidence for inner-sphere complexes. *Environ. Sci. & Tech.* 32: 2383-2388.
1527. Wang, D., S.R. Yates, J. Gan and W.A. Jury. 1998. Temperature effect on methyl bromide volatilization: Permeability of plastic cover films. *J. Environ. Qual.* (In Press).
1528. Wang, D., S.R. Yates, R.C. Graham and W.A. Jury. 1997. Transport of methyl bromide gas in a layered field soil with temperature effect. *Soil Sci.* (Submitted).
1529. Gan, J., S.R. Yates, D. Wang and F.F. Ernst. 1998. Effect of application methods on 1,3-dichloropropene volatilization from soil under controlled conditions. *J. Environ. Qual.* 27:432-438.
1530. van Genuchten, M.Th., D.L. Suarez and M.C. Shannon. 1997. Modeling solute transport in salt-affected irrigated soils. Proc. Int'l Conf. "Pollution Control Towards Sustainable Irrigation in the Mediterranean Region", Valenzano, Italy. pp 181-200.
1531. Šimčnek, J. and D.L. Suarez. 1997. Sodic soil reclamation using multicomponent transport modeling. *J. Irrig. & Drng. Engn.* 123:367-376.
1532. Gan, J. and S.R. Yates. 1997. Surface amendment of fertilizer ammonium thiosulfate to reduce methyl bromide emission from soil. *J. Environ. Sci. & Tech.* (Submitted).
1533. Gan, J., S.K. Papiernik and S.R. Yates. 1998. Static headspace and gas chromatographic analysis of fumigant residues in soil and water. *J. Agric. & Food Chem.* 46:986-990.
1534. Wang, D., S.R. Yates, F.F. Ernst, J. Gan and W.A. Jury. 1997. Reducing methyl bromide emission with a high barrier plastic film and reduced dosage. *J. Environ. Sci. & Tech.* 31:3686-3691.
1535. Wang, D., S.R. Yates and F.F. Ernst. 1998. Determining soil hydraulic properties using tension infiltrometers, time domain reflectometry and tensiometers. *Soil Sci. Soc. Am. J.* 62:318-325.
1536. Wu, L., L .Pan, M.J. Roberson and P.J. Shouse. 1997. Numerical evaluation of ring-infiltrometers under various soil conditions. *Soil Sci.* (Submitted).
1537. Gilbert, G.A., M.V. Gadush, C. Wilson and M.A. Madore. 1997. Amino acid accumulation in sink and source tissues of coleus blumei benth. During salinity stress. *J. Exp. Botany.* (Submitted).
1538. Gilbert, G.A., C. Wilson and M.A. Madore. 1997. Root zone salinity alters raffinose oligosaccharide metabolism and transport in coleus. *J. Plant Physiol.* 115(3):1267-1276.
1539. Rhoades, J.D. 1997. Geospatial measurements of soil electrical conductivity for prescription farming. AGU Chapman/SSSA Conf., Riverside, CA, Oct. 19-24, 1997. (Submitted).

1540. Corwin, D.L., J. Letey, Jr, and M.L.K. Carrillo. 1999. Modeling non-point source pollutions in the vadose zone: Back to the basics. p. 323-342. In: Assessment of Non-Point Source Pollution in the Vadose Zone (D.L. Corwin, K. Loague, and T.R. Ellsworth, eds.), Geophysical Monograph 108, American Geophysical Union, Washington, D.C.
1541. Grattan, S.R., M.C. Shannon, C.M. Grieve, J.A. Poss, D.L. Suarez and L.E. Francois. 1997. Interactive effects of salinity and boron on the performance and water use of eucalyptus. *Proc. 2nd. Int'l. Symp. on Irrigation of Hort. Crops. Acta Hort.* 449:707-613.
1542. Abbaspour, K.C., R. Schulin, M.Th. van Genuchten and E. Schlappi. 1997. Application of a risk analysis algorithm to a landfill in Switzerland. *Proc. IAMG '97 Conf.* V. Pawkowsky-Glahn (ed.), CIMNE, Barcelona, pp. 911-916.
1543. Piccinni, G., J.A. Poss, F.N. Dalton, M.D. Lazar and C.D. Salisbury. 1997. Plant root length measurements using a flatbed scanner and image analysis. *Agron. J.* (Submitted).
1544. Huang, K., J. Šimčnek and M.Th. van Genuchten. 1997. A third-order numerical scheme with upwind weighting for solving the solute transport equation. *Int'l. Journal for Numerical Methods in Engineering.* 40:1623-1637.
1545. Šimčnek, J., K. Huang, M. Sejna, M.Th. van Genuchten, J. Majercak, V. Novak and J. Sutor. 1997. The Hydrus-ET software package for simulating the movement of water, heat, and multiple solutes in variably saturated media, Version 1.1. Inst. of Hydrol., Slovak Acad. of Sciences, Bratislava, Slovakia, pp. 1-184.
1546. Fischer, U., O. Dury, H. Fluhler and M.Th. van Genuchten. 1997. Modeling nonwetting-phase relative permeability accounting for a discontinuous nonwetting phase. *Soil Sci. Soc. Am. J.* 61:1348-1354.
1547. Abbaspour, K.C., M.Th. van Genuchten, R. Schulin and E. Schlappi. 1997. A sequential uncertainty domain inverse procedure for estimating subsurface flow and transport parameters. *Water Resour. Res.* 33:1879-1892.
1548. Corwin, D.L., M.L.K. Carrillo, P.J. Vaughan, J.D. Rhoades and D.G. Cone. 1999. Evaluation of a GIS-linked model of salt loading to groundwater. *J. Environ. Qual.* 28: 471-480.
1549. Vaughan, P.J., D.L. Suarez, J. Šimčnek, D.L. Corwin and J.D. Rhoades. 1999. Role of groundwater flow in tile drain discharge. *J. Environ. Qual.* 28(2):403-410.
1550. Grattan, S.R. and C.M. Grieve. 1999. Salinity - mineral nutrient relations in horticultural crops. *Scientia Horticultureae* 78:127-157.
1551. Corwin, D.L., K. Loague and T.R. Ellsworth. 1999. Advanced information technologies for assessing non-point source pollution in the vadose zone: Conference overview. *J. Environ. Qual.* 28(2):357-365.
1552. El-Haddad, E.H., F.N. Dalton and M.C. Shannon. 1998. Growth, development, yield and water use of tomato plants as influenced by root temperature and salinity. *J. Vegetable Crop Production.* (Submitted).

1553. Guzy, M.R., L.E. Francois and C.M. Grieve. 1998. Interpreting time-course leaf growth data in two salt-stressed wheat varieties (*Triticum aestivum*, L.). Annals of Botany. (Submitted).
1554. Carrillo, M.L.K., J. Letey and S.R. Yates. 1998. Unstable flow in layered soil: The effects of a hydrophobic lense. Soil Sci. Soc. Am. J. (Submitted).
1555. Yates, S.R. and J. Gan. 1998. Volatility, adsorption and degradation of propargyl bromide as a soil fumigant. J. Agric. & Food Chemistry. 46:755-761.
1556. Schaap, M.G., F.J. Leij and M.Th. van Genuchten. 1998. Neural network analysis for hierarchical prediction of soil hydraulic properties. Soil Sci. Soc. Am. J. (Accepted).
1557. Schaap, M.G., F.J. Leij. 1998. Using neural networks to predict soil water retention and soil hydraulic conductivity. Soil & Tillage Research 47:37-42.
1558. Rhoades, J.D. 1998. Geospatial measurements of soil electrical conductivity to determine soil salinity and diffuse salt-loading from irrigations. Book Chapter. SSSA Special Publ. (Submitted).
1559. Shannon, M.C., C.G. Suhayda, C.M. Grieve, S.R. Grattan, L.E. Francois, J.A. Poss, T.J. Donovan, J.H. Draper and J.D. Oster. 1997. Water use of eucalyptus camaldulensis, clone 4544, in saline drainage reuse systems. Proc. of the Calif. Plant & Soil Conf. - Agricultural Strategies for the Future, Calif. Chap. of Amer. Soc. of Agron. & Calif. Fertilizer Assoc., pp. 20-28
1560. Grattan, S.R. and C.M. Grieve. 1999. Mineral nutrient acquisition and response by plants grown in saline environments. Chapter 9, In: Mohammad Pessarakli (ed.) "Handbook of Plant & Crop Stress", University of Arizona, Tucson, AZ, Marcel Dekker, Inc., New York, pp. 203-229.
1561. Yates, S.R., D. Wang, J. Gan, F.F. Ernst and W.A. Jury. 1998. Methyl bromide emission from soil fumigation. Geophysical Res. Letters. 25(10):1633-1636.
1562. Wang, D., S.R. Yates and F.F. Ernst. 1999. Automated sequential sampler for collection of highly volatile atmospheric contaminants. J. Environ. Qual. 28(1): 345-349.
1563. Wang, D. and S.R. Yates. 1998. Methyl bromide emission from fields partially covered with a high density polyethylene and a virtually impermeable film. J. Environ. Sci. & Tech. 32:2515-2518.
1564. Wang, D., S.R. Yates and M. Th. van Genuchten. 1998. Accuracy of soil hydraulic property estimation using infiltrometers of different disk sizes. Proc. Int'l workshop "Characterization and measurement hydraulic properties". (Submitted).
1565. Corwin, D.L., K. Loague and T.R. Ellsworth. 1998. Assessing nonpoint source pollution in the vadose zone. EOS, Transactions, American Geophysical Union. 79(18): 219-220.
1566. Wang, D., S.R. Yates and J. Gan. 1997. Temperature effect on methyl bromide volatilization in soil fumigation. J. Environ. Qual. 26:1072-1079.

1567. Shannon, M.C. and C.M. Grieve. 1999. Tolerance of vegetable crops to salinity and associated ions. *Scientia Horticultureae* 78:5-38.
1568. Wang, D., S.R. Yates, B. Lowery and M.Th. van Genuchten. 1998. Estimating soil hydraulic properties using tension infiltrometers with different disk diameters. *Soil Sci.* 163: 356-361.
1569. Wang, D., S.R. Yates, J. Gan and J.A. Knuteson. 1999. Atmospheric volatilization of methyl bromide, 1,3-dichloropropene, and propargyl bromide through two plastic films: Transfer coefficient and temperature effect. *Atmospheric Environ.* 33:401-407.
1570. Grieve, C.M., M.R. Guzy, J.A. Poss and M.C. Shannon. 1998. Screening eucalyptus clones for salt tolerance. *Canadian J. Forest Research.* (Submitted).
1571. Goldberg, S., I. Lebron and D.L. Suarez. 1998. Soil colloidal behavior. In: *Handbook of Soil Sci.*, Sec. II - Soil Chemistry, Chap. 6. (In Press).
1572. Suarez, D.L., S.R. Goldberg and C. Su. 1998. Evaluation of oxyanion adsorption mechanisms on oxides using FTIR spectroscopy and electrophoretic mobility. In: D.L. Sparks & T.J. Grundl (eds), ACS Symposium Series 715, "Mineral-Water Interfacial Reactions - Kinetics and Mechanisms, pp. 136-178.
1573. Skaggs, T.H. and D.A. Barry. 1997. The first-order reliability method of predicting cumulative mass flux in heterogeneous porous formations. *Water Resour. Res.* 33:1485-1494.
1574. Skaggs, T.H. and B.P. Mohanty. 1998. Water table dynamics in tile-drained fields. *Soil Sci. Soc. Am. J.* 62(5): 1191-1196.
1575. Skaggs, T.H. and Z.J. Kabala. 1998. Limitations in recovering the history of a groundwater contaminant plume. *J. Contaminant Hydrol.* 33: 347-359.
1576. Šimčnek, J., M.Th. van Genuchten, M.M. Gribb and J.W. Hopmans. 1998. Parameter estimation of unsaturated soil hydraulic properties from transient flow processes. *Soil Tech.* (Submitted).
1577. Šimčnek, J., K. Huang, M. Sejna and M.Th. van Genuchten. 1998. The HYDRUS-1D software package for simulating the one-dimensional movement of water, heat, and multiple solutes in variably-saturated media. Version 1.0. IGWMC, Golden, CO. (Submitted).
1578. Kodesova, R., M.M. Gribb and J. Šimčnek. 1998. Estimating soil hydraulic properties from transient cone permeameter data. *Soil Sci.* (Submitted).
1579. Šimčnek, J., M.M. Gribb, J.W. Hopmans and M.Th. van Genuchten. 1998. Estimating soil hydraulic properties from field data via inverse modeling. *Proc. Int'l Conf. on Unsaturated Soils.* (Submitted).
1580. Kodesova, R., M.M. Gribb and J. Šimčnek. 1998. A new CPT method for estimating soil hydraulic properties. *Int'l Site Characterization Conf. Proc.* (Submitted).
1581. Kabala, K.J. and T.H. Skaggs. 1998. Comments on "Minimum relative entropy inversion:

- Theory and application to recovering the release history of a groundwater contaminant" by Allan D. Woodbury and Tadeusz J. Ulrych. Water Resour. Res. (Submitted).
- 1582. Wang, Z., J. Feyen, D.R. Nielsen and M.Th. van Genuchten. 1997. Two-phase flow infiltration equations accounting for air entrapment effects. Water Resour. Res. 33:2759-2767.
 - 1583. Mallants, D., D. Jacques, P.H. Tseng, M.Th. van Genuchten and J. Feyen. 1997. Comparison of three hydraulic property measurement methods. J. Hydrology. 199:295-318.
 - 1584. Wang, Z., J. Feyen, M.Th. van Genuchten and D.R. Nielsen. 1998. Air entrapment effects on infiltration rate and flow instability. Water Resour. Res. 34:213-222.
 - 1585. Goldberg, S. 1999. Reanalysis of boron adsorption of soils and soil minerals using the constant capacitance model. Soil Sci. Soc. Am. J. (In Press).
 - 1586. Poss, J.A., S.R. Grattan, C.M. Grieve and M.C. Shannon. 1999. Characterization of leaf boron injury in salt-stressed Eucalyptus by image analysis. Plant & Soil 206(2):237-245.
 - 1587. Wang, D., M.C. Shannon and J.D. Rhoades. 1998. Soil salinity redistribution in furrow irrigated fields. Proc. of the First Int'l Conf. on Geospatial Information in Agriculture and Forestry, Lake Buena Vista, FL., June 1-3, 1998. Vol 2: 91-99.
 - 1588. Shouse, P.J., J.E. Ayars, J.A. Jobes, J. Fargerlund and R.C. Schoneman. 1998. Managing shallow groundwater: Soil and groundwater salinity responses. Proc. ASAE Annual Int'l. Mtg. (Submitted).
 - 1589. Vaughan, P.J. and D.L. Suarez. 1998. Restriction of hydraulic parameter values for the unsatchem model. Proceedings of the Int'l workshop on "Characterization and measurement of the hydraulic properties of unsaturated porous media", Oct. 22-24, 1997, Riverside, CA. (Submitted).
 - 1590. Lebrón, I. and D.L. Suárez. 1998. Mechanisms and precipitation rate of rhodochrosite at 25EC as affected by P_{CO_2} and organic ligands. Soil Sci. Soc. Am. J. (Submitted).
 - 1591. Gan, J., S.R. Yates, S.K. Papiernik and D. Crowley. 1998. Application of organic amendments to reduce volatile pesticide emissions from soil. J. Environ. Sci. & Tech. (Submitted).
 - 1592. Wang, D. and S.R. Yates. 1999. Spatial and temporal distributions of 1,3-dichloropropene in soil under drip and shank application and implications to pest control efficacy using concentration-time index. Pesticide Sci. 55:154-160.
 - 1593. Carrillo, M., J. Letey and S.R. Yates. 1998. The development of unstable flow in layered soil I: The effects of a stable water repellent layer. Soil Sci. Soc. Am. J. (Submitted).
 - 1594. Carrillo, M., J. Letey and S.R. Yates. 1998. The development of unstable flow in layered soils II: The effects of a unstable water-repellent layer. Soil Sci. Soc. Am. J. (Submitted).
 - 1595. Vaughan, P.J. and D.L. Suarez. 1998. Spatial prediction of irrigation efficiency with the

- unsatchemgeo model. Proc. Software Engn. Workshop. (Submitted).
1596. Shouse, P.J. and B.P. Mohanty. 1998. Scaling of near-saturated hydraulic conductivity measured using DISC infiltrometers. Water Resour. Res. 34(5): 1195-1205.
1597. Mohanty, B.P., R.S. Brownman, J.M.H. Hendrickx, and M.T. van Genuchten. 1997. New piecewise-continuous hydraulic functions for modeling preferential flow in an intermittent-flood-irrigated field. Water Resour. Res. 33(6): 2049-2063.
1598. Mohanty, B.P., R.S. Bowman, J.M.H. Hendrickx, J. Simunek, and M.T. van Genuchten. 1998. Preferential transport of nitrate to a tile drain in an intermittent-flood-irrigated field: modeling development and experimental evaluation. Water Resour. Res. 34(5): 1061-1076.
1599. Mohanty, B.P., T.H. Skaggs, and M.T. van Genuchten. 1998. Impact of saturated hydraulic conductivity on the prediction of tile flow. Soil Sci. Soc. Am. J. 62(6): 1522-1529.
1600. Mohanty, B.P. 1998. Scaling hydraulic properties of a macroporous soil. Water. Resour. Res. (Submitted).
1601. Mohanty, B.P., P.J. Shouse, and M.T. van Genuchten. 1998. Spatio-temporal dynamics of water and heat in a field plot. Soil & Tillage Res. (Submitted).
1602. Mohanty, B.P. and P.J. Shouse. 1998. Scaling behavior of near-saturated hydraulic conductivity. Proc. of Characterization and Measurement of the Hydraulic Properties of Unsaturated Porous Media Workshop, Riverside, CA, Oct. 22-24, 1997.
1603. Mohanty, B.P. 1998. Hydraulic properties of a macroporous soil. Proc. of Characterization and Measurement of the Hydraulic Properties of Unsaturated Porous Media Workshop, Riverside, CA, Oct. 22-24, 1997.
1604. Jacques, D., C. Mouvet, B.P. Mohanty, H. Vereecken, and J. Feyen. 1998. Spatial variability of atrazine sorption parameters and other soil properties in a stagnic podzoluvisol. J. of contam. Hydrology (Submitted).
1605. Mohanty, B.P., P.J. Shouse, and M.T. van Genuchten. 1998. Spatio-temporal dynamics of water and heat in a field soil: Proc. of the 16th World Congress of Soil Science, ISSS, Montpellier, France, Aug. 20-26, 1998.
1606. Mohanty, B.P. 1998. Modeling tile flow using different saturated hydraulic conductivity measurement techniques. Proc. of the Irrig. & Drainage Int'l symp., (Submitted)
1607. Famiglietti, J.S., J.A. Devereaux, C. Laymon, et. al.. 1998. Ground-Based investigation of soil moisture variability within remote sensing footprints during SGP97: First results. Proc. of Characterization and Measurement of the Hydraulic Properties of Unsaturated Porous Media Workshop, Riverside, CA, Oct. 22-24, 1997.
1608. Suarez, D.L. 1998. Impact of agriculture of CO₂ fluxes as affected by changes in inorganic carbon. Book Chapter. (Submitted).
1609. Manning, B.A. and D.L. Suarez. 1998. Modelling arsenic(III) adsorption and

- heterogeneous oxidation kinetics in soils. *Soil Sci. Soc. Am. J.* (Submitted).
1610. Rhoades, J.D. 1998. Use of saline and brackish waters for irrigation: Implications and role in increasing food production, conserving water, sustaining irrigation and controlling soil and water degradation. In: R. Ragab & G. Pearce (Eds.), *Proceedings of the Int'l Workshop on "The Use of saline and brackish waters for irrigation: Implications for the Management of Irrigation, Drainage and Crops"* at th 10th Afro-Asian Conference of the Int'l Committee on Irrigation and Drainage, Bali, Indonesia, July 23-24, 1998. Int'l Committee on Irrigation & Drainage, pp. 261-304.
1611. Papiernik, S., J. Gan, J.A. Knuteson, and S. R. Yates. 1999. Sorption of fumigants by agricultural films. *J. Environ. Sci. & Tech.* 33:1213-1217.
1612. Rogers, C.M. Grieve, and M.C. Shannon. 1998. The response of Lucerne (*Medicago Sativa L.*) to sodium sulphate and chloride salinity. *Plant & Soil* 202:271-280.
1613. Zeng, L. and M.C. Shannon. 1998. Salinity effects on seedling and yield components of rice. *Crop Science* (Submitted).
1614. Wilson, C., Soliman, and M.C. Shannon. 1998. Electrostatic changes in root plasma memorane of glycophytic and halophytic species of tomato. *J. of Experimental Botany*. (Submitted).
1615. Wang, D., M.C. Shannon, C.M. Grie, and S.R. Yates. 1999. Soil Water and temperature regimes in drip and sprinkler irrigation, and implications to soybean emergene. *Ag. Water Management* (Accepted)
1616. Martens, D.A. and D.L. Suarez. 1998. Transformation of volatile methylated selenium gases in soil. *Soil Biology & Biochemistry* (submitted).
1617. Corwin, D.L., K. Loague, and T.R. Ellsworth. 1999. Introduction: Assessing non-point source pollution in the vadose zone with advanced information technologies. In: D.L. Corwin, K. Loague, and T.R. Ellsworth (eds.), "Application of GIS, Remote Sensing, Geostatistics, and Solute Transport Modeling to the Assessment of Non-Point Source Pollution in the Vadose Zone", Am. Geophysical Union, Washington, D.C., 1998, pp. 1-20.
1618. Corwin, D.L. S.R. Goldberg, and A. David. 1998. Evaluation of a functional model for simulating boron transport in soil. *Soil Sci.* (Submitted)
1619. Rhoades, J.D., D.L. Corwin, and S.M. Lesch. 1999. Geospatial measurements of soil electrical conductivity to assess soil salinity and diffuse salt loading from irrigation. In: D.L. Corwin, K. Loague, and T.R. Ellsworth (eds.), "Application of GIS, Remote Sensing, Geostatistics, and Solute Transport Modeling to the Assessment of Non-Point Source Pollution in the Vadose Zone", Am. Geophysical Union, Washington, D.C., 1998, pp. 197-215.
1620. Loague, K., D.L. Corwin, and T.R. Ellsworth. 1998. Are advanced information technologies the solution to non-point source pollution problems? *GIS Book Chapter* (Submitted)
1621. Mayer, S., T.R. Ellsworth, D.L. Corwin, and K. Loague. 1998. Identifying effective

parameters for solute transport models in heterogeneous environments. GIS Book Chapter (Submitted)

1622. Abdul-Baki, A.A., M.C. Shannon, et al. 1998. Soil, water and nutritional management of date orchards in Coachella Valley and Bard, p. 1-47, USDA, Natural Resources Conservation Service Report, Indio, CA.
1623. Grieve, C.M., M.C. Shannon, and D.A. Dierig. 1999. Salinity effects on growth, shoot-ion relations and seed production of Lesquerella Fendleri (Gray) S. Wats. Assoc. for the Advancement of Industrial Crops (AAIC) meeting, Phoenix, AZ, 11/98. (Submitted).
1624. Grieve, C.M. and M.C. Shannon. 1999. Ion accumulation and distribution in shoot components of salt-stressed Eucalyptus clones. Am. Soc. for Hort. Sci. (Submitted).
1625. Wang, D., Wilson, C. and M.C. Shannon. 1999. Canopy spectral reflectance, temperature, and leaf chlorophyll content of soybean plants under salinity stress and different irrigation methods. Remote Sensing of Environ. (Submitted)
1626. Lebron, I., M.G. Schaap, and D.L. Suarez. 1999. Saturated hydraulic conductivity as affected by pore size and pore geometry in soils with variable chemical composition. Water Resources Res. (Submitted)
1627. Banuelos, G.S., M.C. Shannon, H. Ajwa, J.H. Draper, J. Jordahl, and L. Louis. 1999. Phytoextraction and accumulation of boron and selenium by poplar (*Populus*) hybrid clones. Int'l J. Phytoremediation 1(1): 81-96.
1628. Shannon, M.C., G.S. Banuelos, J.H. Draper, H.A. Ajwa, and L. Licht. 1999. Tolerance of hybrid poplar (*Populus*) trees irrigated with varied levels of salt, selenium and boron. Int'l J. Phytoremediation. (Submitted)
1629. Grieve, C.M., D.L. Suarez, and M.C. Shannon. 1999. Effect of saline irrigation water composition on selenium accumulation by wheat. J. of Plant Nutrition 22(9): (In Press)
1630. Shannon, M.C. C.M. Grieve, S.M. Lesch, J.H. Draper. 1999. Analysis of salt tolerance in nine leafy vegetable species irrigated with saline drainage water. J. Am. Soc. hort. Sci. (Submitted)
1631. Lebron, I. and D.L. Suarez. 1998. Modeling calcite precipitation as affected by PCO₂ and organic ligands at 25 degrees C. Mineralogical Magazine 1:864-865.
1632. Lebron, I. and D.. Suarez. 1999. Precipitation of rhodochrosite as affected by PCO₂ and soil organic matter. Int'l Soil Sci. Soc. Conference Proceedings, Sci. Reg. #1021, pp. 1-7.
1633. Suarez, D.L. 1999. Determining water suitability for irrigation. Int'l Soil Soc. Soc. Conference Proceedings, Sci. Reg. # 1018, pp 1-7.
1634. Wilson, C. and J.J. Read. 1999. Effect of mixed-salt salinity on growth, ion uptake, and leaf gas exchange of barnyardgrass (*Echinochloa Crus-Galli*). (Submitted)
1635. Wang, D., Grieve, C.M., and M.C. Shannon. 1999. Soil salinity distribution under drip and

- sprinkler irrigation and effects on soybean growth. (Submitted)
1636. Zeng, L. and M.C. Shannon. 1999. Effects of salinity on grain yield and yield components of rice at different seeding densities. *Agronomy J.* (Submitted)
1637. Hendrickx, J.M., Rhoades, J.C., Corwin, D.L., Lesch, S.M., Hilgendorf, A.C. and B. Borchers. 1999. Inversion of soil conductivity profiles from electromagnetic induction measurements: 2. Experimental verification. *Soil Sci. Soc. Am. J.* (Submitted)
1638. Poss, J.A., S.R. Grattan, D.L. Suarez, C.M. Grieve, and M.C. Shannon. 1999. Carbon isotope discrimination and transpiration efficiency in Eucalyptus under salinity and boron stress. *Proc. 3rd Int. Symp. on Irrigation of Hort. Crops, Int. Soc. Hort. Sci., Lisbon, Portugal, June 28 thru July 2, 1999.* (Submitted)
1639. Papiernik, S.K., Gan, J., and S.R. Yates. 1999. Mechanism of degradation of methyl bromide and propargyl bromide in soil. *Soil Sci. Soc. Am. J.* (Submitted)
1640. Gan, J., Papiernik, S.K., Koskinen, W.C., and S.R. Yates. 1999. Evaluation of accelerated solvent extraction (ASE) for analysis of pesticide residues in soil. *J. Environ. Sci. & Tech.* (submitted)
1641. Wilson, C., Lesch, S.M., and C.M. Grieve. 1999. Effect of stage of growth on salinity tolerance of New Zealand spinach (*Tetragonia Tetragonoides*, Pall.) and red orach (*Atriplex Hortensis* L.). *Annals of Botany* (Submitted)
1642. Wang, D. and M.C. Shannon. 1999. Emergence and seedling growth of soybean cultivars and maturity groups under salinity. *Plant & Soil Journal* (Submitted).
1643. Yates, S.R., Papiernik, S.K., Gao, F., and J. Gan. 1999. Analytical solutions for the transport of volatile organic chemicals in unsaturated layered systems. *Water Resour. Res.* (Submitted).
1644. Ulery, A.L., Stewart, S., Deborah, A.R., and P.J. Shouse. 1999. Vacuum method for field installation of pipes and casings in light, loose soil. *Soil Sci.* (Submitted)
1645. Francois, L.E. and E.V. Maas. 1999. Crop response and management of salt-affected soils. In: Mohammad Pessarakli (ed.) "Handbook of Plant and Crop Stress", second edition, University of Arizona, Tucson, AZ, Marcel Dekker, Inc., New York, Basel, pp. 169-201.
1646. Wang, D., Knuteson, J.A. and S.R. Yates. 1999. Two-dimensional model simulation of 1, 3-dichloropropene volatilization and transport in a field soil. *J. Environ. Qual.* (Submitted)
1647. Simunek, J., Kodesova, R., Gribb, M.M. and M. Th. van Genuchten. 1999. Estimating hysteresis in the soil water retention function from cone permeameter experiments. *Water Resour. Res.* 35(5): 1329-1345.
1648. van Genuchten, M. Th. and E.A. Sudicky. 1999. Recent advances in vadose zone flow and transport modeling. In: M.B. Parlange and J.W. Hopmans (eds.) 1999. *Vadose Zone Hydrology: Cutting Across disciplines*, pp. 155-193, Oxford University Press, New York.

1649. Zhang, R., Shouse, P.J. and S.R. Yates. 1999. Estimates of soil nitrate distributions using cokriging with pseudo-crossvariograms. Environ. Qual. 28(2):424-428.

PLEASE NOTE: "NA" at the end of some publications means that we do not have reprints available for distribution.

Useful mimeographed material available:

Wilcox, L.V. 1966. Tables for calculating the pH_c values of water.

Suarez, D.L. 1982. Graphs for calculating Ca concentrations and SAR values in soil solutions.