**University of Nebraska-Lincoln**

**Soils Group Nitrogen Publications** (1952-2016)

January 6, 2017

With contributions from Nebraska Extension Soils Specialists Charles Wortmann, Charles Shapiro, Gary Hergert, and Bijesh Maharjan.

**TABLE OF CONTENTS**

Research

 [Refereed Journal Articles](#RefereedJournalArticles) [Refereed Proceedings](#RefereedProceedings)
[Abstracts](#Abstracts) [Book Chapters](#BookChapters)
 [Research Proceedings](#ResearchProceedings)
 [Grant Technical Report](#GrantTechnicalReport)

Extension

 [Extension Circulars](#ExtensionCircular)
 [NebGuides](#NebGuides)
 [NebFacts](#nebfact)
 [Other Extension Publications](#OtherExtensionPublications) [Extension Proceedings](#ExtensionProceedings)
 [Educational Aids & Materials Developed](#extaidsmat)
 [Professional Non-refereed Journal](#profnonrefjour)
 [Regional Publications](#RegionalPublications)

**RESEARCH**

Refereed Journal Articles
**2016**

Franzen, D., Kitchen, N., Holland, K., Schepers, J. and Raun, W. (2016). Algorithms for in-season nutrient management in cereals. *Agronomy Journal,* 108 (5), pp. 1775-1781.

Gitelson, A. A., Peng, Y., Vina, A., Arkebauer, T. and Schepers, J. S. (2016). Efficiency of chlorophyll in gross primary productivity: A proof of concept and application in crops. *Journal of Plant Physiology,* Article in Press.

Maharjan, B., Ferguson, R. B. and Slater, G. (2016). Polymer coated urea improved corn response compared to UAN irrespective of inter-annual climatic variation. *Agronomy Journal,* 108: 509-518.

Rudnick, D., Irmak, S., Ferguson, R., Shaver, T., Djaman, K., Slater, G., Bereuter, A., Ward, N., Francis, D., Schmer, M., Wienhold, B. and Donk, S. V. (2016). Economic return versus crop water productivity of maize for various nitrogen rates under full irrigation, limited irrigation, and rainfed settings in south central Nebraska. *Journal of Irrigation and Drainage Engineering,* 142 (6), art. no. 04016017.

Shapiro, C. and Bavougian, C. (2016). Effects of Crop Sequence and In-Season Nitrogen Applications on Organic Winter Wheat Yield and Quality. *Renewable Agriculture and Food Systems,* Sumbitted, in revision, rejected, resubmitted.

Shapiro, C., Attia, A., Ulloa, S. and Mainz, M. (2016). Use of Five Nitrogen Source and Placement Systems for Improved Nitrogen Management of Irrigated Corn. *Soil Science Society of America Journal,* Under revision, resubmitted Febrary 5, 2016. Accepted August 21, 2016.

Sindelar, A. J., Schmer, M. R., Jin, V. L., Wienhold, B. J. and Varvel, G. E. (2016). Crop rotation affects corn, grain sorghum, and Soybean yields and nitrogen recovery. *Agronomy Journal,* 108 (4), pp. 1592-1602.

Stamatiadis, S., Tsadilas, C., Samaras, V., Schepers, J. S. and Eskridge, K. (2016). Nitrogen uptake and N-use efficiency of Mediterranean cotton under varied deficit irrigation and N fertilization. *European Journal of Agronomy,* 73, pp. 144-151.

Stewart, C. E., Follett, R. F., Pruessner, E. G., Varvel, G. E., Vogel, K. P. and Mitchell, R.B. (2016). N fertilizer and harvest impacts on bioenergy crop contributions to SOC. *GCB Bioenergy,* 8 (6), pp. 1201-1211.

**2015**

Amaral, L. R., Molin, J. P. and Schepers, J. S. (2015). Algorithm for variable-rate nitrogen application in sugarcane based on active crop canopy sensor. *Agronomy Journal,* 107 (4), pp. 1513-1523.

Attia, A., Shapiro, C., Kranz, W., Mamo, M. and Mainz, M. (2015). Improved yield and nitrogen use efficiency of corn following soybean in irrigated sandy loams. *Soil Science Society of America Journal,* 79(6):1693-1703. Doi:10.2136/sssaj2015.05.0200.

Hurisso, T., Norton, U., Norton, J., Odhiambo, J., Del Grosso, S., Hergert, G. and Lyon, D. (2015). Dryland soil greenhouse gases and yield-scaled emissions in no-till and organic winter wheat–fallow systems. *Soil Science Society of America Journal,* 80:178 – 192.

Nguy-Robertson, A., Peng, Y., Arkebauer, T., Scoby, D., Schepers, J. and Gitelson, A. (2015). Using a Simple Leaf Color Chart to Estimate Leaf and Canopy Chlorophyll a Content in Maize (Zea mays). *Communications in Soil Science and Plant Analysis,* 46 (21), pp. 2734-2745.

Stepanovic, S. V., Datta, A., Neilson, B., Bruening, C., Shapiro, C., Gogos, G. and Knezevic, S. Z. (2015). The effectiveness of flame weeding and cultivation on weed control, yield, and yield components of organic soybean as influenced by manure application. *Renewable Agriculture and Food Systems,* Doi:10.1017/S1742170515000216.

Stewart, C. E., Follett, R. F., Pruessner, E. G., Varvel, G. E., Vogel, K. P. and Mitchell, R.B. (2015). Nitrogen and harvest effects on soil properties under rainfed switchgrass and no-till corn over 9 years: Implications for soil quality. *GCB Bioenergy,* 7 (2), pp. 288-301.

Thompson, L. J., Ferguson, R. B., Kitchen, N., Frazen, D. W., Mamo, M., Yang, H. and Schepers, J. S. (2015). Model and sensor-based recommendation approaches for in-season nitrogen management in corn. *Agronomy Journal,* 107 (6), pp. 2020-2030.

Wortmann, C. S., Shapiro, C. A. and Schmer, M. (2015). Residue harvest effects on irrigated, no-till corn yield and nitrogen response. *Agronomy Journal,* Accepted, October, 26, 2015.

Xianlong, P., Maharjan, B., Cailian, Y., Anyu, S. and Ferguson, R. B. (2015). A laboratory evaluation of ammonia volatilization and nitrate leaching following nitrogen fertilizer application on a coarse-textured soil. *Agronomy Journal,* 107:871-879.

**2014**

Arnall, D. B., Mallarino, A. P., Ruark, M. D., Varvel, G. E., Solie, J. B., Stone, M. L., Mullock, J. L., Taylor, R. K. and Raun, W. R. (2014). Erratum to Relationship between grain crop yield potential and nitrogen response. *Agronomy Journal,* 106 (6), 2335 p.

Blanco, H., Ferguson, R., Shapiro, C. and Drijber, R. (2014). Does inorganic nitrogen fertilization improve soil aggregation? Insights from two long-term tillage experiments. *Journal of Environmental Quality,* 43:995-1003.

Gitelson, A. A., Peng, Y., Arkebauer, T. J. and Schepers, J. (2014). Relationships between gross primary production, green LAI, and canopy chlorophyll content in maize: Implications for remote sensing of primary production. *Remote Sensing of Environment,* 144, pp. 65-72.

Schmer, M. R., Jin, V. L., Wienhold, B. J., Varvel, G. E. and Follett, R. F. (2014). Tillage and residue management effects on soil Carbon and nitrogen under irrigated continuous corn. *Soil Science Society of America Journal,* 78 (6), pp. 1987-1996.

**2013**

Arnall, D. B., Mallarino, A. P., Ruark, M. D., Varvel, G. E., Solie, J. B., Stone, M. L., Mullock, J. L., Taylor, R. K. and Raun, W. R. (2013). Relationship between grain crop yield potential and nitrogen response. *Agronomy Journal,* 105 (5), pp. 1335-1344.

Holland, K. H. and Schepers, J. S. (2013). Use of a virtual-reference concept to interpret active crop canopy sensor data. *Precision Agriculture,* 14 (1), pp. 71-85.

**2012**

Ciganda, V., Gitelson, A. and Schepers, J. (2012). How deep does a remote sensor sense? Expression of chlorophyll content in a maize canopy. *Remote Sensing of Environment,* 126, pp. 240-247.

Fortuna, A. M., Honeycutt, C. W., Vandemark, G., Griffin, T. S., Larkin, R. P., He, Z., Wienhold, B. J., Sistani, K. R., Albrecht, S. L., Woodbury, B. L., Torbert, H. A., Powell, J. M., Hubbard, R. K., Eigenberg, R. A., Wright, R. J. and Alldredge, J. R. (2012). Links among nitrification, nitrifier communities, and edaphic properties in contrasting soils receiving dairy slurry. *Journal of Environmental Quality,* 41 (1), pp. 262-272.

Holland, K. H., Lamb, D. W. and Schepers, J. S. (2012). Radiometry of proximal active optical sensors (AOS) for agricultural sensing. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing,* 5 (6), art. no. 6214995, pp. 1793-1802.

Lyon, D. J. and Hergert, G. W. (2012). Nitrogen fertility in semiarid dryland wheat production is challenging for beginning organic farmers. *Renewable Agriculture and Food Systems,* Available on CJO. doi: 10.1017/S1742170512000324.

Schepers, J. S. and Holland, K. H. (2012). Evidence of dependence between crop vigor and yield. *Precision Agriculture,* 13 (2), pp. 276-284.

Wortmann, C., Shapiro, C., Dobermann, A., Ferguson, R., Hergert, G., Walters, D. and Tarkalson, D. (2012). High yield corn production can result in high nitrogen use efficiency. *Better Crops,* 4:14-15.

**2011**

Dobermann, A., Wortmann, C. S., Ferguson, R. B., Hergert, G. W., Shapiro, C. A., Tarkalson, D. D. and Walters, D. (2011). Nitrogen Response and Economics for Irrigated Corn in Nebraska. *Agronomy Journal,* 103:67-75.

Varvel, G. E. and Wilhelm, W. W. (2011). No-tillage increases soil profile carbon and nitrogen under long-term rainfed cropping systems. *Soil and Tillage Research,* 114 (1), pp. 28-36.

Wienhold, B. J., Varvel, G. E. and Jin, V. L. (2011). Corn cob residue carbon and nutrient dynamics during decomposition. *Agronomy Journal,* 103 (4), pp. 1192-1197.

Wortmann, C. S., Tarkalson, D. D., Shapiro, C. A., Dobermann, A. R., Ferguson, R. B., Hergert, G. W. and Walters, D. (2011). Nitrogen use efficiency for three cropping systems in Nebraska. *Agronomy Journal,* 103:76-84.

Wortmann, C., Shapiro, C., Ferguson, R. and Mainz, M. (2011). Irrigated soybean has a small response to nitrogen applied during early reproductive growth. *Journal Crop Management,* Online. Crop Management. doi:10.1094/CM-2012-0126-01-RS.

**2010**

Holland, K. H. and Schepers, J. S. (2010). Derivation of a variable rate nitrogen application model for in-season fertilization of corn. *Agronomy Journal,* 102 (5), pp. 1415-1424.

Wienhold, B. J. and Gilley, J. E. (2010). Cob removal effect on sediment and runoffnutrient loss from a silt loam soil. *Agronomy Journal,* 102 (5), pp. 1448-1452.

Wienhold, B. J. and Gilley, J. E. (2010). Runoff losses of N and P after low phosphorus swine slurry application to no-tillage sorghum. *Soil Science,* 175 (5), pp. 201-206.

Wortmann, C. S., Liska, A. J., Ferguson, R. B., Lyon, D. J., Klein, R. N. and Dweikat, I. (2010). Dryland performance of sweet sorghum and grain crops for biofuel. *Agronomy Journal,* 102:319-326.

**2009**

Ciganda, V., Gitelson, A. and Schepers, J. (2009). Non-destructive determination of maize leaf and canopy chlorophyll content. *Journal of Plant Physiology,* 166 (2), pp. 157-167.

Gilley, J. E., Eghball, B. and Marx, D. B. (2009). Adsorption and desorption of phosphorus and nitrogen by immersed stalks. *Transactions of the ASABE,* 50 (5), pp. 1543-1548.

Hodgen, P. J., Ferguson, R. B., Shanahan, J. F. and Schepers, J. S. (2009). Uptake of point source depleted 15N fertilizer by neighboring corn plants. *Agronomy Journal,* 101 (1), pp. 99-105.

Lindquist, J. L., Evans, S. P., Shapiro, C. A. and Knezevic, S. Z. (2009). Effect of nitrogen addition and weed interference on soil nitrogen and corn nitrogen nutrition. *Weed Technology,* 24:50-58.

Roberts, D. F., Adamchuk, V. I., Shanahan, J. F., Ferguson, R. B. and Schepers, J. S. (2009). Optimization of crop canopy sensor placement for measuring nitrogen status in corn. *Agronomy Journal,* 101 (1), pp. 140-149.

Wienhold, B. J., Varvel, G. E. and Wilhelm, W. W. (2009). Container and installation time effects on soil moisture, temperature, and inorganic nitrogen retention for an in situ nitrogne mineralization method. *Communications in Soil Science and Plant Analysis,* 40 (13-14), pp. 2044-2057.

**2008**

Ciganda, V., Gitelson, A. and Schepers, J. (2008). Vertical profile and temporal variation of chlorophyll in maize canopy: Quantitative "crop vigor" indicator by means of reflectance-based techniques. *Agronomy Journal,* 100 (5), pp. 1409-1417.

Griffin, T.S., Honeycutt, C. W., Albrecht, S. L., Sistani, K. R., Torbert, H. A., Wienhold, B. J., Woodbury, B. L., Hubbard, R. K. and Powell, J. M. (2008). Nationally coordinated evaluation of soil nitrogen mineralization rate using a standardized aerobic incubation protocol. *Communications in Soil Science and Plant Analysis,* 39 (1-2), pp. 257-268.

Hubbard, R. K., Bosch, D. D., Marshall, L. K., Strickland, T. C., Rowland, D., Griffin, T. S., Honeycutt, C. W., Albrecht, S. L., Sistani, K. R., Torbert, H. A., Wienhold, B. J., Woodbury, B. L. and Powell, J. M. (2008). Nitrogen mineralization from broiler litter applied to southeastern Coastal Plain soils. *Journal of Soil and Water Conservation,* 63 (4), pp. 182-192.

Paschold, J. S., Wienhold, B. J., Ferguson, R. B. and McCallister, D. L. (2008). Soil nitrogen and phosphorus availability for field-applied slurry from swine fed traditional and low-phytate corn. *Soil Science Society of America Journal,* 72 (4), pp. 1096-1101.

Paschold, J. S., Wienhold, B. J., McCallister, D. L. and Ferguson, R. B. (2008). Crop nitrogen and phosphorus utilization following application of slurry from swine fed traditional or low phytate corn diets. *Agronomy Journal,* 100 (4), pp. 997-1004.

Shanahan, J. F., Kitchen, N. R., Raun, W. R. and Schepers, J. S. (2008). Responsive in-season nitrogen management for cereals. *Computers and Electronics in Agriculture,* 61 (1), pp. 51-62.

Solari, F., Shanahan, J., Ferguson, R., Schepers, J. and Gitelson, A. (2008). Active sensor reflectance measurements of corn nitrogen status and yield potential. *Agronomy Journal,* 100 (3), pp. 571-579.

**2007**

Gilley, J. E., Eghball, B. and Marx, D. B. (2007). Nitrogen and phosphorus concentrations of runoff as affected by moldboard plowing. *Transactions of the ASABE,* 50 (3), pp. 939-944.

Hong, S. D., Schepers, J. S., Francis, D. D. and Schlemmer, M. R. (2007). Comparison of ground-based remote sensors for evaluation of corn biomass affected by nitrogen stress. *Communications in Soil Science and Plant Analysis,* 38 (15-16), pp. 2209-2226.

Nicolaisen, J. E., Gilley, J. E., Eghball, B. and Marx, D. B. (2007). Crop residue effects on runoff nutrient concentrations following manure application. *Transactions of the ASABE,* 86 (4), pp. 597-611.

Stamatiadis, S., Christofides, C., Tsadila, E., Taskos, D., Tsadilas, C. and Schepers, J. S. (2007). Relationship of leaf stable isotopes (δ13C and δ15N) to biomass production in two fertilized Merlot vineyards. *American Journal of Enology and Viticulture,* 58 (1), pp. 67-74.

Varvel, G. E., Wilhelm, W. W., Shanahan, J. F. and Schepers, J. S. (2007). An algorithm for corn nitrogen recommendations using a chlorophyll meter based sufficiency index. *Agronomy Journal,* 99 (3), pp. 701-706.

Varvel, G. E., Wilhelm, W. W., Shanahan, J. F. and Schepers, J. S. (2007). An algorithm for corn nitrogen recommendations using a chlorophyll meter based sufficiency index. *Agronomy Journal,* 99 (3), pp. 701-706.

Wienhold, B. J. (2007). Comparison of laboratory methods and an in situ method for estimating nitrogen mineralization in an irrigated silt-loam soil. *Communications in Soil Science and Plant Analysis,* 38 (13-14), pp. 1721-1732.

Wortmann, C. S., Mamo, M. and Dobermann, A. (2007). Nitrogen response of grain sorghum in rotation with soybean. *Agronomy Journal,* 99:808-813.

**2006**

Adviento-Borbe, M. A., Doran, J. W., Drijber, R. A. and Dobermann, A. (2006). Soil electrical conductivity and water content affect nitrous oxide and carbon dioxide emissions in intensively managed soils. *Journal of Environmental Quality,* 35 (6), pp. 1999-2010.

Larney, F. J., Sullivan, D. M., Buckley, K. E. and Buckley, K. E. (2006). The role of composting in recycling manure nutrients. *Canadian Journal of Soil Science,* 86 (4), pp. 597-611.

Shapiro, C. and Wortmann, C. (2006). Corn response to nitrogen rate, row spacing and plant density in the upper Midwest. *Agronomy Journal,* 98:529-535.

Stamatiadis, S., Christofides, C., Tsadilas, C., Samaras, V. and Schepers, J. S. (2006). Natural abundance of foliar 15N as an early indicator of nitrogen deficiency in fertilized cotton. *Journal of Plant Nutrition,* 29 (1), pp. 113-125.

Tarkalson, D. D., Payero, J. O., Ensley, S. M. and Shapiro, C. A. (2006). Nitrate accumulation and movement under deficit irrigation in soil receiving cattle manure and commercial fertilizer. *Agricultural Water Management,* 85:201-210.

Wortmann, C. S., Xerinda, S. A., Mamo, M. and Shapiro, C. A. (2006). No-till row crop response to starter fertilizer in eastern Nebraska: I. irrigated and rainfed corn. *Agronomy Journal,* 98:156-162.

**2005**

Ginting, D. and Eghball, B. (2005). Nitrous oxide emission from no-till irrigated corn: Temporal fluctuation and wheel traffic effects. *Soil Science Society of America Journal,* 69 (3), pp. 915-924.

Honeycutt, C. W., Griffin, T. S., Wienhold, B. J., Eghball, B., Albrecht, S. L., Powell, J. M., Woodbury, B. L., Sistani, K. R., Sistani, K. R., Eigenberg, R. A., Wright, R. J. and Jawson, M. D. (2005). Protocols for nationally coordinated laboratory and field research on manure nitrogen mineralization. *Communications in Soil Science and Plant Analysis,* 36 (19-20), pp. 2807-2822.

Martin, K. L., Hodgen, P. J., Freeman, K. W., Melchiori, R., Arnall, D. B., Teal, R. K., Mullen, R.W., Desta, K., Phillips, S. B., Solie, J. B., Stone, M. L., Caviglia, O., Solari, F., Bianchini, A., Francis, D. D., Schepers, J. S., Hatfield, J. L. and Raun, W. R. (2005). Plant-to-plant variability in corn production. *Agronomy Journal,* 97 (6), pp. 1603-1611.

Raun, W. R., Solie, J. B., Stone, M. L., Martin, K. L., Freeman, K. W., Mullen, R.W., Zhang, H., Schepers, J. S. and Johnson, G. V. (2005). Optical sensor-based algorithm for crop nitrogen fertilization. *Communications in Soil Science and Plant Analysis,* 36 (19-20), pp. 2759-2781.

Schlemmer, M. R., Francis, D. D., Shanahan, J. F. and Schepers, J. S. (2005). Remotely measuring chlorophyll content in corn leaves with differing nitrogen levels and relative water content. *Agronomy Journal,* 97 (1), pp. 106-112.

Wilhelm, W. W., Varvel, G. E. and Schepers, J. S. (2005). Corn stalk nitrate concentration profile. *Agronomy Journal,* 97 (6), pp. 1502-1507.

**2004**

Cermak, J. D., Gilley, J. E., Eghball, B. and Wienhold, B. J. (2004). Leaching and sorption of nitrogen and phosphorus by crop residue. *Transactions of the American Society of Agricultural Engineers,* 47 (1), pp. 113-118.

O'Neill, P. M., Shanahan, J. F, Schepers, J. S. and Caldwell, B. (2004). Agronomic responses of corn hybrids from different eras to deficit and adequate levels of water and nitrogen. *Agronomy Journal,* 96 (6), pp. 1660-1667.

Osborne, S. L., Schepers, J. S. and Schlemmer, M. R. (2004). Using multi-spectral imagery to evaluate corn grown under nitrogen and drought stressed conditions. *Journal of Plant Nutrition,* 27 (11), pp. 1917-1929.

Osborne, S. L., Schepers, J. S. and Schlemmer, M. R. (2004). Detecting Nitrogen and Phosphorus Stress in Corn Using Multi-spectral Imagery. *Communications in Soil Science and Plant Analysis,* 35 (3-4), pp. 505-516.

**2003**

Eghball, B., Schepers, J. S., Negahban, M. and Schlemmer, M. R. (2003). Spatial and temporal variability of soil nitrate and corn yield: Multifractal analysis. *Agronomy Journal,* 95 (2), pp. 339-346.

Evans, S. P., Knezevic, S. Z., Lindquist, J. L. and Shapiro, C. A. (2003). Influence of nitrogen and duration of weed competition on corn growth and development. *Weed Science,* 51:546-556.

Evans, S. P., Knezevic, S. Z., Lindquist, J. L., Shapiro, C. A. and Blankenship, E. E. (2003). Nitrogen Application influences the critical period for weed control in corn. *Weed Science,* 51:408-417.

Varvel, G. E. and Wilhelm, W. W. (2003). Soybean Nitrogen Contribution to Corn and Sorghum in Western Corn Belt Rotations. *Agronomy Journal,* 95 (5), pp. 1220-1225.

**2002**

Eghball, B. (2002). Soil properties as influenced by phosphorus- and nitrogen-based manure and compost applications. *Agronomy Journal,* 94 (1), pp. 128-135.

Eghball, B., Gilley, J. E., Baltensperger, D. D. and Blumenthal, J. M. (2002). Long-term manure and fertilizer application effects on phosphorus and nitrogen in runoff. *Transactions of the American Society of Agricultural Engineers,* 45 (3), pp. 687-694.

Eghball, B., Wienhold, B. J., Gilley, J. E. and Eigenberg, R. A. (2002). Mineralization of manure nutrients. *Journal of Soil and Water Conservation,* 57 (6), pp. 470-473.

Eigenberg, R. A., Doran, J. W., Nienaber, J. A., Ferguson, R. B. and Woodbury, B. L. (2002). Electrical conductivity monitoring of soil condition and available N with animal manure and a cover crop. *Agriculture, Ecosystems and Environment,* 88 (2), pp. 183-193.

Ferguson, R. B., Hergert, G. W., Schepers, J. S., Gotway, C. A., Cahoon, J. E. and Peterson, T. A. (2002). Site-specific nitrogen management of irrigated maize: Yield and soil residual nitrate effects. *Soil Science Society of America Journal,* 66 (2), pp. 544-553.

Liebig, M. A., Varvel, G. E., Doran, J.W. and Wienhold, B. J. (2002). Crop sequence and nitrogen fertilization effects on soil properties in the Western Corn Belt. *Soil Science Society of America Journal,* 66 (2), pp. 596-601.

Mosier, A. R., Doran, J. W. and Freney, J. R. (2002). Managing soil denitrification. *Journal of Soil and Water Conservation,* 57 (6), pp. 505-513.

Osborne, S. L., Schepers, J. S., Francis, D. D. and Schlemmer, M. R. (2002). Detection of phosphorus and nitrogen deficiencies in corn using spectral radiance measurements. *Agronomy Journal,* 94 (6), pp. 1215-1221.

Osborne, S. L., Schepers, J.S., Francis, D. D. and Schlemmer, M. R. (2002). Use of spectral radiance to estimate in-season biomass and grain yield in nitrogen- and water-stressed corn. *Crop Science,* 42 (1), pp. 165-171.

Vigil, M. F., Eghball, B., Cabrera, M. L., Jakubowski, B. R. and Davis, J. G. (2002). Accounting for seasonal nitrogen mineralization: An overview. *Journal of Soil and Water Conservation,* 57 (6), pp. 464-469.

Zhang, R. and Wienhold, B. J. (2002). The effect of soil moisture on mineral nitrogen, soil electrical conductivity, and pH. *Nutrient Cycling in Agroecosystems,* 63 (2-3), pp. 251-254.

**2001**

Kirda, C., Derici, M. R. and Schepers, J. S. (2001). Yield response and N-fertiliser recovery of rainfed wheat growing in the Mediterranean region. *Field Crops Research,* 71 (2), pp. 113-122.

Masek, T. J., Schepers, J. S., Mason, S. C. and Francis, D. D. (2001). Use of precision farming to improve applications of feedlot waste to increase nutrient use efficiency and protect water quality. *Communications in Soil Science and Plant Analysis,* Vol 32, Issue 7-8, 2001, p. 1355-1369.

Spalding, R. F., Watts, D. G., Schepers, J. S., Burbach, M. E., Exner, M. E., Poreda, R. J. and Martin, G. E. (2001). Controlling nitrate leaching in irrigated agriculture. *Journal of Environmental Quality,* 30 (4), pp. 1184-1194.

**2000**

Eghball, B. (2000). Nitrogen mineralization from field-applied beef cattle feedlot manure or compost. *Soil Science Society of America Journal,* 64 (6), pp. 2024-2030.

Eghball, B., Gilley, J. E., Kramer, L.A. and Moorman, T. B. (2000). Narrow grass hedge effects on phosphorus and nitrogen in runoff following manure and fertilizer application. *Journal of Soil and Water Conservation,* 55 (2), pp. 172-176.

Halvorson, A. D., Black, A. L., Krupinsky, J. M., Merrill, S. D., Wienhold, B. J. and Tanaka, D.L. (2000). Spring wheat response to tillage and nitrogen fertilization in rotation with sunflower and winter wheat. *Agronomy Journal,* 92 (1), pp. 136-144.

Varvel, G. E. (2000). Crop rotation and nitrogen effects on normalized grain yields in a long-term study. *Agronomy Journal,* 92 (5), pp. 938-941.

Wienhold, B. J. and Tanaka, D. L. (2000). Haying, tillage, and nitrogen fertilization influences on infiltration rates at a Conservation Reserve Program site. *Soil Science Society of America Journal,* 64 (1), pp. 379-381.

Wilhelm, W. W., Arnold, S. L. and Schepers, J. S. (2000). Using a nitrate specific ion electrode to determine stalk nitrate-nitrogen concentration. *Agronomy Journal,* 92 (1), pp. 186-189.

Yamoah, C. F., Walters, D. T., Shapiro, C. A., Francis, C. A. and Hayes, M. J. (2000). Standardized precipitation index and nitrogen rate effects on yields and risk distribution of maize. *Agriculture, Ecosystems and Environment,* 80:113-120.

**1999**

Eghball, B. and Gilley, J. E. (1999). Phosphorus and nitrogen in runoff following beef cattle manure or compost application. *Journal of Environmental Quality,* 28 (4), pp. 1201-1210.

Eghball, B. and Power, J. F. (1999). Phosphorus- and nitrogen-based manure and compost applications: Corn production and soil phosphorus. *Soil Science Society of America Journal,* 63 (4), pp. 895-901.

Eghball, B. and Power, J. F. (1999). Composted and noncomposted manure application to conventional and no-tillage systems: Corn yield and nitrogen uptake. *Agronomy Journal,* 91 (5), pp. 819-825.

Wienhold, B. J. and Halvorson, A. D. (1999). Nitrogen mineralization responses to cropping, tillage, and nitrogen rate in the northern Great Plains. *Soil Science Society of America Journal,* 63 (1), pp. 192-196.

Wienhold, B. J. and Krupinsky, J. M. (1999). Chlorophyll meter as nitrogen management tool in malting barley. *Communications in Soil Science and Plant Analysis,* 30 (17-18), pp. 2551-2562.

Wilhelm, W. W., Liebig, M. A., Varvel, G. E. and Blackmer, T. M. (1999). Midseason stalk breakage in corn as affected by crop rotation, hybrid, and nitrogen fertilizer rate. *Agronomy Journal,* 91 (1), pp. 160-165.

**1998**

Doran, J. W., Elliott, E. T. and Paustian, K. (1998). Soil microbial activity, nitrogen cycling, and long-term changes in organic carbon pools as related to fallow tillage management. *Soil and Tillage Research,* 49 (1-2), pp. 3-18.

Kessavalou, A., Mosier, A. R., Doran, J.W., Drijber, R. A., Lyon, D. J. and Heinemeyer, O. (1998). Fluxes of carbon dioxide, nitrous oxide, and methane in grass sod and winter wheat-fallow tillage management. *Journal of Environmental Quality,* 27 (5), pp. 1094-1104.

Shapiro, C. A. (1998). Using a chlorophyll meter to manage nitrogen applications to corn with high nitrate irrigation water. *Communications in Soil Science and Plant Analysis,* Vol. 30:7&8: 1037-1049.

Sims, A. L., Schepers, J. S., Olson, R. A. and Power, J. F. (1998). Irrigated corn yield and nitrogen accumulation response in a comparison of no-till and conventional till: Tillage and surface-residue variables. *Agronomy Journal,* 90 (5), pp. 630-637.

Wienhold, B. J. and Halvorson, A. D. (1998). Cropping system influences on several soil quality attributes in the northern Great Plains. *Journal of Soil and Water Conservation,* 53 (3), pp. 254-258.

Yamoah, C. F., Varvel, G. E., Waltman, W. J. and Francis, C. A. (1998). Long-term nitrogen use and nitrogen-removal index in continuous crops and rotations. *Field Crops Research,* 57 (1), pp. 15-27.

**1997**

Eghball, B., Power, J. F., Gilley, J. E. and Doran, J. W. (1997). Nutrient, carbon, and mass loss during composting of beef cattle feedlot manure. *Journal of Environmental Quality,* 26 (1), pp. 189-193.

Francis, D. D., Schepers, J. S. and Sims, A. L. (1997). Ammonia exchange from corn foliage during reproductive growth. *Agronomy Journal,* 89 (6), pp. 941-946.

Qian, J. H., Doran, J. W., Weier, K. L., Mosier, A. R., Peterson, T. A. and Power, J. F. (1997). Soil denitrification and nitrous oxide losses under corn irrigated with high-nitrate groundwater. *Journal of Environmental Quality,* 26 (2), pp. 348-360.

Varvel, G. E., Schepers, J. S. and Francis, D. D. (1997). Chlorophyll meter and stalk nitrate techniques as complementary indices for residual nitrogen. *Journal of Production Agriculture,* 10 (1), pp. 147-151.

Varvel, G. E., Schepers, J. S. and Francis, D. D. (1997). Ability for in-season correction of nitrogen deficiency in corn using chlorophyll meters. *Soil Science Society of America Journal,* 61 (4), pp. 1233-1239.

**1996**

Blackmer, T. M. and Schepers, J. S. (1996). Aerial photography to detect nitrogen stress in corn. *Journal of Plant Physiology,* 148 (3-4), pp. 440-444.

Blackmer, T. M., Schepers, J. S., Varvel, G. E. and Meyer, G. E. (1996). Analysis of aerial photography for nitrogen stress within corn fields. *Agronomy Journal,* 88 (5), pp. 729-733.

Blackmer, T. M., Schepers, J. S., Varvel, G. E. and Walter-Shea, E. A. (1996). Nitrogen deficiency detection using reflected shortwave radiation from irrigated corn canopies. *Agronomy Journal,* 88 (1), pp. 1-5.

Kessavalou, A., Doran, J. W., Powers, W. L., Kettler, T. A. and Qian, J. H. (1996). Bromide and nitrogen-15 tracers of nitrate leaching under irrigated corn in Central Nebraska. *Journal of Environmental Quality,* 25 (5), pp. 1008-1014.

Schepers, J. S., Blackmer, T. M., Wilhelm, W. W. and Resende, M. (1996). Transmittance and reflectance measurements of corn leaves from plants with different nitrogen and water supply. *Journal of Plant Physiology,* 148 (5), pp. 523-529.

Westfall, D. G., Havlin, J. L., Hergert, G. W. and Raun, R. W. (1996). Nitrogen management in dryland cropping systems. *Journal of Production Agriculture,* 9:192-199.

**1995**

Blackmer, T. M. and Schepers, J. S. (1995). Use of a chlorophyll meter to monitor nitrogen status and schedule fertigation for corn. *Journal of Production Agriculture,* 8 (1), pp. 56-60.

Rice, C. W., Havlin, J. L. and Schepers, J. S. (1995). Rational nitrogen fertilization in intensive cropping systems. *Fertilizer Research,* 42 (1-3), pp. 89-97.

Schepers, J. S., Varvel, G. E. and Watts, D. G. (1995). Nitrogen and water management strategies to reduce nitrate leaching under irrigated maize. *Journal of Contaminant Hydrology,* 20 (3-4), pp. 227-239.

Weber, R. W., Grisso, R. D., Shapiro, C. A., Kranz, W. L. and Schinstock, J. L. (1995). Anhydrous ammonia application errors. *Applied Engineering in Agriculture,* 11(2):211-217.

Wienhold, B. J., Trooien, T. P. and Reichman, G. A. (1995). Yield and nitrogen use efficiency of irrigated corn in the northern Great Plains. *Agronomy Journal,* 87 (5), pp. 842-846.

Wilhelm, W. W., Johnson, B. E. and Schepers, J. S. (1995). Yield, quality, and nitrogen use of inbred corn with varying numbers of leaves removed during detasseling. *Crop Science,* 35 (1), pp. 209-212.

**1994**

Blackmer, T. M. and Schepers, J. S. (1994). Techniques for monitoring crop nitrogen status in corn. *Communications in Soil Science and Plant Analysis,* 25 (9-10), pp. 1791-1800.

Blackmer, T. M., Schepers, J. S. and Varvel, G. E. (1994). Light reflectance compared with other nitrogen stress measurements in corn leaves. *Agronomy Journal,* 86 (6), pp. 934-938.

Boldt, A. L., Watts, D. G., Eisenhauer, D. E. and Schepers, J. S. (1994). Simulation of water applied nitrogen distribution under surge irrigation. *Transactions of the American Society of Agricultural Engineers,* 37 (4), pp. 1157-1165.

Eghball, B., Mielke, L. N., McCallister, D. L. and Doran, J. W. (1994). Distribution of organic carbon and inorganic nitrogen in a soil under various tillage and crop sequences. *Journal of Soil and Water Conservation,* 49 (2), pp. 201-205.

Francis, D. D. and Schepers, J. S. (1994). Nitrogen uptake efficiency in maize production using irrigation water high in nitrate. *Fertilizer Research,* 39 (3), pp. 239-244.

Schepers, J. S. and Meisinger, J. J. (1994). Field indicators of nitrogen mineralization. *Soil testing: prospects for improving nutrient recommendations,* pp. 31-47.

Varvel, G. E. (1994). Rotation and nitrogen fertilization effects on changes in soil carbon and nitrogen. *Agronomy Journal,* 86 (2), pp. 319-325.

Weier, K. L., Doran, J. W., Mosier, A. R., Power, J. F. and Peterson, T. A. (1994). Potential for bioremediation of high nitrate irrigation water via denitrification. *Journal of Environmental Quality,* 23 (1), pp. 105-110.

**1993**

Blackmer, T. M., Schepers, J. S. and Vigil, M. F. (1993). Chlorophyll Meter Readings in Corn as Affected by Plant Spacing. *Communications in Soil Science and Plant Analysis,* 24 (17-18), pp. 2507-2516.

Brown, R. E., Varvel, G. E. and Shapiro, C. A. (1993). Residual effects of interseeded hairy vetch on soil nitrate-nitrogen levels. *Soil Science Society of America Journal,* 57:121-124. (Journal Series Paper No. 10055).

Francis, D. D., Doran, J. W. and Lohry, R. D. (1993). Immobilization and uptake of nitrogen applied to corn as starter fertilizer. *Soil Science Society of America Journal,* 57 (4), pp. 1023-1026.

Maskina, M. S., Power, J. F., Doran, J.W. and Wilhelm, W. W. (1993). Residual effects of no-till crop residues on corn yield and nitrogen uptake. *Soil Science Society of America Journal,* 57 (6), pp. 1555-1560.

Sander, D. H., Walters, D. T. and Frank, K. D. (1993). Nitrogen Testing for Optimum Management. *Journal of Soil and Water Conservation,* p. 46-52.

Weier, K. L., Doran, J. W., Power, J. F. and Walters, D. T. (1993). Denitrification and the dinitrogen/nitrous oxide ratio as affected by soil water, available carbon, and nitrate. *Soil Science Society of America Journal,* 57 (1), pp. 66-72.

**1992**

Schepers, J. S., Francis, D. D., Vigil, M. F. and Below, F. E. (1992). Comparison of corn leaf nitrogen concentration and chlorophyll meter readings. *Communications in Soil Science and Plant Analysis,* 23 (17-20), pp. 2173-2187.

Shapiro, C. A. and Kranz, W. L. (1992). Comparison of auger and core soil sampling methods to determine soil nitrate under field conditions. *Journal of Production Agriculture,* 5:358-362.

Walters, D. T., Aulakh, M. S. and Doran, J.W. (1992). Effects of soil aeration, legume residue, and soil texture on transformations of macro- and micronutrients in soils. *Soil Science,* 153 (2), pp. 100-107.

**1991**

Aulakh, M. S. and Doran, J. W. (1991). Effectiveness of acetylene inhibition of N2O reduction for measuring denitrification in soils of varying wetness. *Communications in Soil Science and Plant Analysis,* 22 (1-2), pp. 11-21.

Aulakh, M. S., Doran, J. W. and Mosier, A. R. (1991). Field evaluation of four methods for measuring denitrification. *Soil Science Society of America Journal,* 55 (5), pp. 1332-1338.

Aulakh, M. S., Doran, J. W., Walters, D. T., Mosier, A. R. and Francis, D. D. (1991). Crop residue type and placement effects on denitrification and mineralization. *Soil Science Society of America Journal,* 55 (4), pp. 1020-1025.

Eghball, B. and Maranville, J. W. (1991). Interactive effects of water and nitrogen stresses on nitrogen utilization efficiency, leaf water status and yield of corn genotypes. *Communications in Soil Science and Plant Analysis,* 22 (13-14), pp. 1367-1382.

Ferguson, R. B., Schepers, J. S., Hergert, G. W. and Lohry, R. D. (1991). Corn uptake and soil accumulation of nitrogen. Management and hybrid effects. *Soil Science Society of America Journal,* 55 (3), pp. 875-880.

Ferguson, R. B., Shapiro, C. A., Hergert, G. W., Kranz, W. L., Klocke, N. L. and Krull, D. H. (1991). Nitrogen and irrigation management practices to minimize nitrate leaching from irrigated corn. *Journal of Production Agriculture,* 4:186-192.

Karlen, D. L. and Doran, J. W. (1991). Cover crop management effects on soybean and corn growth and nitrogen dynamics in an on-farm study. *American Journal of Alternative Agriculture,* 6 (2), pp. 71-82.

Saint-Fort, R., Schepers, J. S. and Spalding, R. F. (1991). Potentially Mineralizable Nitrogen And Nitrate Leaching Under Different Land-Use Conditions In Western Nebraska. *Journal of Environmental Science and Health. Part A: Environmental Science and Engineering and Toxicology,* 26 (3), pp. 335-345.

Schepers, J. S., Moravek, M. G., Alberts, E. E. and Frank, K. D. (1991). Maize production impacts on groundwater quality. *Journal of Environmental Quality,* 20 (1), pp. 12-16.

**1990**

Nichols, J. T., Reece, P. E., Hergert, G. W. and Moser, L. E. (1990). Yield and quality response of subirrigated meadow vegetation to nitrogen, phosphorus, and sulfur fertilizers. *Agronomy Journal,* 82:47-52.

Peterson, T. A., Shapiro, C. A. and Flowerday, A. D. (1990). Rainfall and previous crop effects on crop yields. *American Journal of Alternative Agriculture,* 5:33-37.

Saint-Fort, R., Frank, K. D. and Schepers, J. S. (1990). Role of Nitrogen Mineralization in Fertilizer Recommendations. *Communications in Soil Science and Plant Analysis,* 21 (13-16), pp. 1945-1958.

Schepers, J. S., Francis, D. D., Ferguson, R. B. and Lohry, R. D. (1990). Comparison of early season stem nitrate and leaf total nitrogen concentrations across corn hybrids. *Communications in Soil Science and Plant Analysis,* 21 (13-16), pp. 1381-1390.

**1989**

Power, J. F. and Schepers, J. S. (1989). Nitrate contamination of groundwater in North America. *Agriculture, Ecosystems and Environment,* 26 (3-4), pp. 165-187.

Raun, W. R., Sander, D. H. and Olson, R. A. (1989). Nitrogen Fertilizer Carriers and Their Placement of Minimum Till Corn Under Sprinkler Irrigation. *Agronomy Journal,* Vol 81, no. 2, p. 280-285.

Shapiro, C. A. and Flowerday, A. D. (1989). Effect of etridiazol in combination with urea and UAN-Solutions on corn. *Journal of Fertilizer Issues,* 6:36-43.

Varvel, G. E., Havlin, J. L. and Peterson, T. A. (1989). Nitrogen placement evaluation for winter wheat in three fallow tillage systems. *Soil Science Society of America Journal,* 53 (1), pp. 288-292.

**1988**

Olson, R. A. and Sander, D. H. (1988). Corn Production. *ASA-CSSA-SSSA,* Corn and Corn Improvement-Agronomy Monograph No. 18 (3rd edition), p. 639-686.

**1987**

Doran, J. W. (1987). Microbial biomass and mineralizable nitrogen distributions in no-tillage and plowed soils. *Biology and Fertility of Soils,* 5 (1), pp. 68-75.

Doran, J. W., Fraser, D. G., Culik, M. N. and Liebhardt, W. C. (1987). Influence of alternative and conventional agricultural management on soil microbial processes and nitrogen availability. *American Journal of Alternative Agriculture,* 2 (3), pp. 99-106.

Lamb, J. A., Doran, J. W. and Peterson, G. A. (1987). Nonsymbolic dinitrogen fixation in no-till and conventional wheat-fallow systems. *Soil Science Society of America Journal,* 51 (2), pp. 356-361.

Power, J. F. and Power, J. F. (1987). Use of legumes in conservation systems. *ASAE Publication,* pp. 151-159.

Wilhelm, W. W., Schepers, J. S., Mielke, L. N., Doran, J. W., Ellis, J. R. and Stroup, W.W. (1987). Dryland maize development and yield resulting from tillage and nitrogen fertilization practices. *Soil and Tillage Research,* 10 (2), pp. 167-179.

**1986**

Hergert, G. W. (1986). Nitrate leaching through sandy soil as affected by sprinkler irrigation management. *Journal of Environmental Quality,* 15:272-278. (Journal Series No. 7904).

Lueking, M. A. and Schepers, J. S. (1986). Achieving desired moisture conditions in potentially mineralizable nitrogen incubation studies. *Soil Science Society of America Journal,* 50 (5), pp. 1370-1373.

Olson, R. A., Raun, W. R., Chun Y.S. and Skopp, J. (1986). Nitrogen Management and Interseeding Effects on Irrigated Corn and Sorghum and on Soil Strength. *Agronomy Journal,* 78: 856-862.

Power, J. F., Doran, J. W. and Wilhelm, W. W. (1986). Uptake of nitrogen from soil, fertilizer, and crop residues by no- till corn and soybean. *Soil Science Society of America Journal,* 50 (1), pp. 137-142.

Power, J. F., Wilhelm, W. W. and Doran, J.W. (1986). Recovery of fertilizer nitrogen by wheat as affected by fallow method. *Soil Science Society of America Journal,* 50 (6), pp. 1499-1503.

Raun, W. R., Sander, D. H. and Olson, R. A. (1986). Emergence of Corn as Affected by Source and Rate of Solution Fertilizers applied with the Seed. *Journal of Fertilizer Issues,* Vol. 3, no. 1, p. 18-24.

**1985**

Hergert, G. W. (1985). Comparison of N sources for corn planted in untilled wheat stubble. *Journal of Fertilizer Issues,* 2:80-85.

Kissel, D. E., Sander, D. H. and Ellis Jr., R. (1985). Fertilizer-Plant Interactions in Alkaline Soils. *Soil Science Society of America,* Fertilizer Technology and Use (3rd Edition), p. 153-196.

Lueking, M. A. and Schepers, J. S. (1985). Changes in soil carbon and nitrogen due to irrigation development in nebraska's sandhill soils. *Soil Science Society of America Journal,* 49 (3), pp. 626-630.

**1984**

Broder, M. W., Doran, J. W., Peterson, G. A. and Fenster, C. R. (1984). Fallow tillage influence on spring populations of soil nitrifiers, denitrifiers, and available nitrogen. *Soil Science Society of America Journal,* 48 (5), pp. 1060-1067.

Hatlitligil, M. B., Olson, R. A. and Compton, W. A. (1984). Yield, water use, and nutrient uptake of corn hybrids under varied irrigation and nitrogen regimes. *Fertilizer Research,* 5:321-333.

Linn, D. M. and Doran, J. W. (1984). Effect of water-filled pore space on carbon dioxide and nitrous oxide production in tilled and nontilled soils. *Soil Science Society of America Journal,* 48 (6), pp. 1267-1272.

McIsaac, G. F., Martin, D. L. and Schepers, J. S. (1984). Nitrate leaching in sandy soils. *American Society of Agricultural Engineers,* p. 21.

**1983**

Russelle, M. P., Hauck, R. D. and Olson, R. A. (1983). Nitrogen Accumulation Rates of Irrigated Maize. *Agronomy Journal,* Vol. 75, p. 593-598.

Smith, T. L., Peterson, G. A. and Sander, D. H. (1983). Nitrogen Distribution in Roots and Tops of Winter Wheat. *Agronomy Journal,* Vol. 75, p. 1031-1036.

**1982**

Olson, R. A. and Kurtz, L. T. (1982). Crop Nitrogen Requirements, Utilization, and Fertilization. *ASA-CSSA-SSSA,* Nitrogen in Agricultural Soils- Agronomy Monography, No.22 p. 567-604.

**1981**

Russelle, M. P., Deibert, E. J., Hauck, R. D., Stevanovic, M. and Olson, R. A. (1981). Effects of Water and Nitrogren Management on Yield and N-Depleted Fertilizer Use Efficiency of Irrigated Corn. *Soil Science Society of America Journal,* Vol. 45, no. 3, p. 553-557.

**1980**

Hooker, M. L., Sander, D. H., Peterson, G. A. and Daigger, L. A. (1980). Gaseous N Losses From Winter Wheat. *Agronomy Journal,* Vol. 72, p. 789-792.

Sander, D. H. and Moline, W. J. (1980). Sulfur-coated Urea and Urea Compared as Nitrogen Source for Irrigated Corn. *Soil Science Society of America Journal,* Vol. 44, no. 4, p. 777-782.

**1979**

Bigeriego, M., Hauck, R. D. and Olson, R. A. (1979). Uptake, Translocation and Utilization of N-Depleted Fertilizer in Irrigated Corn. *Soil Society of America Journal,* Vol. 43, No. 3, p. 528-533.

Deibert, E. J., Bijeriego, M. and Olson, R. A. (1979). Utilization fo N Fertilizer by Nodulating and Non-Nodulating Soybean Isolines. *Agronomy Journal,* Vol. 71, p. 717-723.

**1978**

Olson, R. A. (1978). An Approach to Measuring Leaching of Nitrate from Freely Drained Irrigated Fields. *Nitrogen in the Environment,* Vol 1, pg. 257-265.

**1976**

Boyce, J. S., Muir, J., Edwards, A. P., Seim, E. C. and Olson, R. A. (1976). Geologic Nitrogen in Pleistocene Loess of Nebraska. *Journal of Environmental Quality,* Vol. 5, No. 1, p. 93-96.

Daigger, L. A. and Sander, D. H. (1976). Nitrogen Availability to Wheat as Affected by Depth of Nitrogen Placement. *Agronomy Journal,* Vol. 68, p. 524-526.

Muir, J., Boyce, J. S., Seim, E. C., Mosher, P. N., Deibert, E. J. and Olson, R. A. (1976). Influence of Crop Management Practices on Nutrient Movement Below the Root Zone in Nebraska Soils. *Journal of Environmental Quality,* Vol. 5, no. 3, p. 255-259.

Olson, R. A., Frank, K. D., Deibert, E. J., Dreier, A. F., Sander, D. H. and Johnson, V. A. (1976). Impact of Residual Mineral N in Soil on Grain Protein Yields of Winter Wheat and Corn. *Agronomy Journal,* Vol. 68, p. 769-772.

**1975**

Perry Jr., L. J. and Olson, R. A. (1975). Yield and Quality of Corn and Grain Sorghum Grain and Residues as Influenced by N Fertilization. *Agronomy Journal,* Vol. 67, p. 816-818.

**1973**

Muir, J., Seim, E. C. and Olson, R. A. (1973). A study of Factors Influencing the Nitrogen and Phosphorus Contents of Nebraska Waters. *Journal of Environmental Quality,* 2: No. 4: 466-470.

**1971**

Gass, W. B., Peterson, G. A., Hauck, R. D. and Olson, R. A. (1971). Division S-4—Soil Fertility and Plant Nutrition. *Soil Science Society of America Proceedings,* Vol. 35: No. 2, p. 290-294.

Herron, G. M., Dreier, A. F., Flowerday, A. D., Colville, W. L. and Olson, R. A. (1971). Residual Mineral N Accumulation in Soil and its Utilization by Irrigated Corn (Zea mays L.). *Agronomy Journal,* 63: 321- 327.

**1969**

Terman, G. L., Ramig, R. E., Dreier, A. F. and Olson, R. A. (1969). Yield-Protein Relationships in Wheat Grain, as Affected by Nitrogen and Water. *Agronomy Journal,* 61: 755-759.

**1968**

Barber, S. and Olson, R. (1968). Fertilizer Use on Corn. *Soil Society of America,* 163-188.

Frolik, E. F., Ottoson, H. W. and Grbaouski, P. H. (1968). Using Fertilizer Nitrogen Effectively on Grain Crops. *University of Nebraska College of Agriculture and Home Economics, The Agriculture Experiment Station,* Jan-42.

Herron, G. M., Terman, G. L., Dreier, A. F. and Olson, R.A. (1968). Risidual Nitrate Nitrogen in Fertilized Deep Loess-Derived Soils. *Agronomy Journal,* Vol. 60, p. 477-482.

Sander, D. H. (1968). Nitrogen and Central Great Plains Wheat. *Fertilizer Solutions Magazine,* September-October, 1968.

**1967**

Olson R. A., Dreier, A. F., Thompson, C., Frank K. and Grabouski, P. H. (1967). Using Fertilizer Nitrogen Effectively on Grain Crops. *University of Nebraska College of Agriculture and Home Economics, The Agriculture Experiment Station,* SB 479.

**1963**

Olson, R. A. (1963). Nitrogen and Nebraska Wheat. *Agriculture Ammonia News,* July-Aug.

Sander, D. H., Chesnin, L., Rhoades, H. F., McGill, D. P., Colville, W. L. and Lyness, W. E. (1963). Maintenance of Nitrogen in a Brunizem Soil of Eartern Nebraska. *Agronomy Journal,* Vol. 55:53-55.

**1961**

Meyer, R. D., Olson, R. A. and Rhoades, H. F. (1961). Ammonia Losses from Fertilized Nebraska Soils. *Agronomy Journal,* Vol. 53.241-244.

**1956**

Olson, R. A. and Dreier, A. F. (1956). Fertilization Placement for Small Grains in Relation to Crop Stand and Nutrient Efficiency in Nebraska. *Soil Science Society of America Proceedings,* Vol 20: No. 1, p.19-24.

Olson, R. A. and Dreier, A. F. (1956). Nitrogen, A Key Factor in Fertilizer Phosphorus Efficiency. *Soil Science Society of America Proceedings,* Vol 20: No. 4, p.509-514.

**1952**

Fox, R. L., Olson, R. A. and Mazurak, A. P. (1952). Persistence of Ammonium Ion and Its Effect upon Physical and Chemical Properties of Soil. *Agronomy Journal,* 44: 10: 509-513.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Refereed Proceedings
**2013**

Ferguson, R., Schmer, M., Shaver, T., Wienhold, B., Van Donk, S., Irmak, S., Rudnick, D., Ward, N., Jin, V., Francis, D., Bereuter, A. and Hendrickson, L. (2013). Variable rate irrigation and nitrogen fertilization of maize across landscape positions. *Precision Agriculture 2013 - Papers Presented at the 9th European Conference on Precision Agriculture,* pp. 729-736.

**2011**

Ferguson, R., Shanahan, J., Roberts, D., Schepers, J., Solari, F., Adamchuk, V., Shiratsuchi, L., Krienke, B., Schlemmer, M. and Francis, D. (2011). In-season nitrogen management of irrigated maize using a crop canopy sensor. *Precision Agriculture 2011 - Papers Presented at the 8th European Conference on Precision Agriculture,* pp. 503-513.

Holland, K. and Schepers, J. (2011). Active-crop sensor calibration using the virtual-reference concept. *Precision Agriculture 2011 - Papers Presented at the 8th European Conference on Precision Agriculture,* pp. 469-479.

**2006**

Ferguson, R. B., Dobermann, A., Wortmann, C. S., Walters, D. T., Shapiro, C. A., Tarkalson, D. and Baltensperger, D. D. (2006). Developing recommendations for site-specific nitrogen management in irrigated maize. *In Proceedings of the 7th International Conference on Precision Agriculture and Other Resource Management.* July 25-28, 2004, Bloomington, MN CD ROM. American Society of Agronomy, Madison, WI.

**2001**

 Benham, B. J., Blumenthal, R. B., Ferguson, R. B., Hergert, G. W., Kranz, W. L., Shapiro, C. A., Stevens, W .B. and Yonts, C. D. (2001). Crop response and nitrogen availability as a function of climate, variable rate nitrogen application, and every-and alternate-furrow irrigation. p. 501-507. In R.G. Evans, B.L. Benham, and T.P. Trooien (eds.). *Proceedings of the 4th Decennial National Irrigation Symposium. Phoenix, AZ, Nov. 14-16, 2000. American Society of Agricultural Engineers, St. Joseph, MI.*

**1991**

 Schepers, J. S., Moravek, M. G. and Bishop, R. (1991). Impact of nitrogen and water management on ground water quality. *Proceedings of the 1991 National Conference on Irrigation and Drainage.*

**1988**

Martin, D., Jennings, G. and Schepers, J. (1988). Modeling irrigation and nitrogen management. *Planning Now for Irrigation and Drainage in the 21st Century,* (1988) pp. 476-483.

**1985**

Schepers, J. S., Frank, K. D. and Watts, D. G. (1985). Influence of irrigation and nitrogen fertilization on groundwater quality. Relation of groundwater quantity and quality. *Proceedings of the Hamburg Symposium,* pp. 21-32.

**1983**

Schepers, J. S. (1983). Use of agricultural BMPs to control ground-water nitrogen. *State, County, Regional and Municipal Jurisdiction of Ground-Water Protection, Proceedings of the 6th National Ground-Water Quality Symposium*.

**1979**

Mielke, L. N., Schepers, J. S. and Richards, K. A. (1979). Nitrogen leaching under center-pivot irrigation on sandy loam soil. *Tech Conf Proc - Irrig Assoc, Water, Water Everywhere - But Can We Use It?; San Francisco, CA, USA,* pp. 85-94.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Abstracts
**2014**

Shapiro, C. and Stewart, Z. (2014). Effect of tillage, rotation (maize and soybean), and nitrogen rate in a long term study on Solvita, Water extract, H3A extract values. *Agronomy Abstracts,* 87486. SSSA Annual Meetings.

**2013**

McAfee, B. P., Wortmann, C. S., Miller, D. N., Henry, C. G. and Shapiro, C. A. (2013). Nitrogen loss from sprinkler applied beef feedlot effluent. *Agronomy Abstracts,* 89-8 Poster 1019. American Society of Agronomy.

**2012**

Martellotto, A., Walters, D. T. and Shapiro, C. A. (2012). Long-term tillage, crop rotation, and nitrogen rate effects on soil carbon stocks over time. *Agronomy Abstracts.*

 McAffee, B., Wortmann, C., Miller, D., Henry, C. and Shapiro, C. (2012). Ammonia and nitrous oxide loss from sprinkler applied beef feedlot effluent. *Agronomy Abstracts,* 83-6.

Shapiro, C. A. and Kranz, B. (2012). Effect of rotation and nitrogen application on corn and soybean on an irrigated sandy soil. *Agronomy Abstracts.*

**2010**

Shapiro, C. A., Drew, D., Little, R. S., Hergert, G. W., Sarno, E., Baenziger, P. S., Mainz, M. J. and Florke Jr., V. H. (2010). Efforts to increase grain protein in organic winter wheat. *Agronomy Abstracts.*

**2006**

 Shapiro, C. A., Dobermann, A., Ferguson, R., Hergert, G. W., Tarkalson, D., Walters, D. and Wortmann, C. (2006). Nebraska Soil Fertility Project Revisits Corn Recommendations under High Yield Environments. *Agronomy Abstracts,* World Congress of Soil Science. Philadelphia, PA. 52 (2), pp. 429-436.

**2002**

 Ginting, D., Eghball, B., Kessavalou, A. and Shapiro, C. A. (2002). Manure and N fertilizer effects on emission of greenhouse gasses from soil. *Agronomy Abstracts,* In USDA Symposium on Natural Resource Management to Offset Greenhouse Gas Emissions. Raleigh, NC. Nov. 19-21, 2002., p. 56.

**2001**

Shapiro, C. A., Kranz, W. L., Atkeson, R. L. and Pavlik, M. (2001). Determining treatment effects in large scale fertigation experiments. *Agronomy Abstracts.*

**2000**

Knezevic, S. Z., Evans, S. P., Shapiro, C. A. and Lindquist, J. L. (2000). Effect of nitrogen on critical period of weed control in corn. *Agronomy Abstracts,* Abstracts of the 3rd International Weed Science Society Congress. Iguassu Falls, Brazil.

Shapiro, C. A., Knezevic, S. Z., Evans, S. P. and Lindquist, J. L. (2000). Effect of nitrogen on critical period of weed control in corn. *Agronomy Abstracts,* p. 294.

**1999**

Echavarria, F. G., Shapiro, C. A. and Hergert, G. A. (1999). Bromide movement under alternate irrigation and fertilization. *Agronomy Abstracts,* p. 345.

Shapiro, C. A., Blumenthal, J. M., Benham, B.L., Ferguson, R. B., Hergert, G. W., Kranz, W. L., Stevens, W. B. and Yonts, C. D. (1999). Site specific nitrogen and irrigation management across Nebraska agro-ecozones. *Agronomy Abstracts,* p. 318.

**1998**

Shapiro, C. A. (1998). Effect of nitrogen rate, application method and tillage on corn following the Conservation Reserve Program. *Agronomy Abstracts,* p. 230.

**1997**

Langrud, M. T. and Shapiro, C. A. (1997). Nitrogen requirement for narrow row corn in Nebraska. *Agronomy Abstracts,* p. 232.

McCluskey, M..M. and Shapiro, C. A. (1997). Crop response to tillage and residue management in former smooth brome conservation Reserve Program land. *Agronomy Abstracts,* p. 112.

Shapiro, C. A. and Walters, D. T. (1997). Effect of tillage, rotation and nitrogen rate on corn. *Agronomy Abstracts,* p. 238.

**1996**

Shapiro, C. A., McCluskey, M. M., Holshouser, D. L., Kranz, W. L., Witkowski, J. F., Shelton, D. P., Jarvi, K. J. and Rasmussen, S. D. (1996). Effect of residue and nitrogen management on corn grown on CRP land. *Agronomy Abstracts,* p. 129.

**1995**

Shapiro, C. A. (1995). Effect of chlorophyll meter readings on improving nitrogen use efficiency in corn. *Agronomy Abstracts,* p. 315.

**1994**

Shapiro, C. A., Rehm, G. W., Penas, E. J. and Wiese, R. A. (1994). Effect of starter ratios on corn. *Agronomy Abstracts,* p. 299.

**1993**

Shapiro, C. A. and Parkhurst, A. M. (1993). Assessing effects of sampling in demonstration plots using measures of spatial variability and fractal dimension. *Agronomy Abstracts,* p. 343.

**1992**

Hergert, G. W., Shapiro, C. A., Anderson, F. A., Ferguson, R. B. and Penas, E. J. (1992). Spatial variability of nitrate-N in Nebraska corn fields. *Agronomy Abstracts,* p. 280.

Shapiro, C. A., Hergert, G. and Sander, D. (1992). Residual effects of treatments applied to the Nebraska Soil Test Lab Comparison Study. *Agronomy Abstracts,* p. 359.

**1991**

Walters, D. T., Shapiro, C. A. and Eskridge, K. (1991). Residual soil nitrate utilization by corn as influenced by tillage, rotation, and cover crop. *Agronomy Abstracts,* p.304.

**1989**

Brown, R. E., Varvel, G. E. and Shapiro, C. A. (1989). Interseeded hairy vetch effects is a continuous corn system. *Agronomy Abstracts,* p. 276.

Walters, D. T. and Shapiro, C. A. (1989). Tillage, rotation and cover crop effects on dryland corn production and nitrogen uptake. *Agronomy Abstracts,* p. 256.

**1986**

Peterson, T. A., Shapiro, C. A. and Flowerday, A. D. (1986). Temperature, rainfall and previous crop effect on crop yields. Agron. Abstracts. *Agronomy Abstracts,* p. 120.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Book Chapters
**2011**

Wortmann, C. S. and Regassa, T. (2011). Sweet sorghum as a bioenergy crop for the US Great Plains. *In Economic Effects of Biofuel Production. M.A. do Santos Bernandes (Ed.). ISBN978-953-307-178-7.,* p. 225-240.

**2006**

Sharpley, A. N., Schmidt, J. P. and Hergert, G. W. (2006). Environmental effects of conservation practices: Chapter 5: Nutrient management in rain-fed and irrigated farming systems. *In M. Schnepf and C. Cox (ed.) Environmental Effects of Conservation on Cropland-The Status of Our Knowledge. Soil and Water Cons. Society,* p. 149-194.

**1995**

Hergert, G. W., Ferguson, R. B., Shapiro, C. A., Penas, E. J. and Anderson, F. B. (1995). Classical statistical and geostatistical analysis of soil nitrate-N spatial variability. *Site-specific management for agricultural systems. ASA. Madison, WI,* In P.C. Robert, R.H. Rust, and W.E. Larson, (eds.) Chapter 13, p. 175-186.

**1991**

Bock, B. R. and Hergert, G. W. (1991). Fertilizer Nitrogen Management. *Managing Nitrogen for Ground Water Quality and Farm Profitability,* In R.F. Follett (ed.), SSSA Special Pub. p. 140-164.

Bock, B. R., Sikora, F. J. and Hergert, G. W. (1991). Approach for estimating yield response to nitrogen based on nitrogen-rate requirement parameters. *Managing Nitrogen for Ground Water Quality and Farm Profitability,* In F.R. Follett (ed.) p. 323-332.

**1988**

Olson, R. A. and Sander, D. H. (1988). Corn Production. *Corn and Corn Improvement,* In xxx (ed.), Production Handbook. ASA pp 639-686.

**1987**

Hergert, G. W. (1987). Status of Residual Nitrate-Nitrogen Tests in the United States of America. *In J.R. Brown (ed.) Soil Testing: Sampling, Correlation, Calibration and Interpretation,* SSSAJ Spec. Pub. #21. SSSA, Madison, WI. p. 73-88.

Olson, R. A., Anderson, F. N., Frank, K. D., Grabouski, P. H., Rehm, G. W. and Shapiro, C. A. (1987). Soil Testing Interpretations: Sufficiency vs. Build-up and Maintenance. *In SSSA Spec. Pub 21. Soil Testing: Sampling, Correlation, Calibration, and Interpretation,* p. 41-52.

**1982**

Olson, R. A. and Kurtz, L. T. (1982). Crop Nitrogen Requirements, Utilization, and Fertilization. *In Nitrogen in Agricultural Soils,* ASA Monograph 22: p. 567-604.

**1980**

Hergert, G. W. and Wiese, R. A. (1980). Performance of nitrification inhibitors in the Mid-west (West). Nitrification Inhibitors: Potential and Limitations. Am. Soc. Agron. Spec. Pub. No. 38., In J.J. Meisinger, G.W. Randall and M.L. Vitosh. (eds.).

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Research Proceedings
**2014**

Shapiro, C. and Stewart, Z. (2014). Effect of tillage, rotation (maize and soybean), and nitrogen rate in a long term study on Solvita, Water extract, H3A extract values. *Proceedings of the 44th North Central Extension-Industry Soil Fertility Conference,* November, 2014. Des Moines, IA.30:178-182.

**2006**

Dobermann, A., Ferguson, R., Hergert, G., Shapiro, C. A., Tarkalson, D., Walters, D. and Wortmann, C. (2006). Should we abandon soil testing and yield goals in estimating nitrogen rates for corn? *Proceedings of the North Central Extension-Industry Soil Fertility Conference,* November, 2006. Des Moines, IA.

**2002**

Echavarria, F. G., Shapiro, C. A. and Hergert, G. H. (2002). Potassium bromide as tracer of the nitrate movement under alternate irrigation and fertilization. *In Proceedings of the XXXI Congress of Soil Science.,* Torreon Coah. Oct. 13-17, 2002. (In press) (Poster).

Echavarria, F. G., Shapiro, C. A., Hergert, G. H. and Kranz, W. (2002). Alternate irrigation and fertilization to reduce the nitrate groundwater contamination. *In Proceedings of the XXXI Congress of Soil Science.,* Torreon Coah. Oct. 13-17, 2002. (In press) (Poster).

Eghball, B., Ginting, D., Shapiro, C. A., Schepers, J. S. and Bauer, C. J. (2002). Manure as a carbon source for soil improvement and crop production: site-specific application. *In Alan J. Schlegel. Ed., Proceedings of the Great Plains Soil Fertility Conference.,* Vol. 9. Denver, CO, March 5-6, 2002. PPI. P. 22-28.

**2000**

Eghball, B., Bauer, C. J., Shapiro, C. A. and Schepers, J. S. (2000). Site-specific manure applications effects on corn yield and N status. *Proceedings of the Animal Residuals Management Conference,* Water Environment Federation, p.17. (CD-ROM) Kansas City, MO.

Shapiro, C. A., Kranz, W. L., Blumenthal, J., Yonts, C. D., Ferguson, R. B., Benham, B. L., Hergert, G. W., Stevans, W. B. and Waltman, W. J. (2000). Site-specific nitrogen and irrigation management across Nebraska Agro-ecological zones. *In P.C. Robert, R.H. Rust and W.E. Larsen (eds.) Proceedings of the Fifth International Conference on Precision Agriculture.,* Minneapolis, MN, July 16-19, 2000. (CD-ROM) ASA Madison, WI.

Shapiro, C. A., Kranz, W. L., Blumenthal, J., Yonts, C. D., Benham, B. L., Ferguson, R. B., Hergert, G. W., Stevans, W. B. and Waltman, W. J. (2000). Site-specific nitrogen and irrigation management across Nebraska Agro-ecological zones. *Proceedings of the Thirtieth North Central Extension-Industry Soil Fertility Conference,* Vol. 16. Potash and Phosphate Institute. p. 73-82.

**1998**

Shapiro, C. A. (1998). Effects of using chlorophyll meter to manage nitrogen applications with high-nitrate water on yield of Zea Mays L. *In J.J. Mortvedt and A. Shaviv (ed.) Dahlia Greidinger International Symposium on Fertilization and the Environment,* Technion-Israel Institute of Technology. March 24-27, 1997. p.210-222.

Shapiro, C. A. and Walters, D. T. (1998). Effect of tillage, rotation and nitrogen rate on rainfed corn yield and nitrogen uptake. *Proceedings of the twenty-eighth north central Extension-Industry Soil Fertility Conference,* Vol. 14. Potash and Phosphate Institute p. 62-70.

**1992**

Hergert, G. W., Anderson, F. N., Shapiro, C. A., Ferguson, R. B. and Penas, E. J. (1992). Spatial Variability of Nitrate-N in Nebraska cornfields. *In 1992 Great Plains Soil Fertility Conference Proceedings,* Potash and Phosphate Institute. Denver, Colorado. p. 15-25.

Rehm, G. and Shapiro, C. A. (1992). Field evaluation to predict best starter ratios for corn. Creating the future through research. *Fluid Fertilizer Foundation Research Symposium Proceedings.,* p. 212-225.

Shapiro, C. A., Weber, R., Kranz, W. and Grisso, R. (1992). In-field determination of anhydrous ammonia applicator accuracy in Nebraska. *Proceedings of the 22nd North Central Extension-Industry Soil Fertility Workshop,* Vol. 8. Potash and Phosphate Institute. p. 24-30.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Grant Technical Report

**2014**

Wilson, J., Shapiro, C., Mainz, R. M., Drijber, R., Jeske, E., Lesoing, G., Wortmann, C. and Schroeder, D. (2014). Returning crop production to flooded soils following the 2011 Missouri River Flood. *University of Nebraska – Lincoln,* p. 12.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**EXTENSION**

Extension Circulars
**2014**

Kranz, W. L., Burr, C., Farmaha, B. S., Grassini, P., Hergert, G. W., Irmak, S., Martin, D., Nygren, A., Shapiro, C. A., Shaver, T. and Zoubek, G. (2014). Irrigation and Nitrogen Management: User Education/Certification Program. *University of Nebraska Extension Division,* EC 2008.

Shaver, T., Brand, J. I., Hergert, G. W., Krienke, B., Shapiro, C. and Wortmann, C. (2014). Nutrient Management for Agronomic Crops in NE. *University of Nebraska Extension Division,* Tim Shaver (Ed.), Lincoln, NE: EC 155.

Wortmann, C., Jansen, J., Van Liew, M., Ferguson, R., Hergert, G. W., Shaver, T. and Shapiro, C. (2014). Nitrogen Loss Assessment Tool (N-LAT) for Nebraska: Background and Users Guide.

**2009**

Shapiro, C. A. (2009). N rate Calculator for Corn. *University of Nebraska Extension Division,* EC 168. (Revised 2014 or 2015?).

Shapiro, C. A., Ferguson, R. B., Hergert, G. W., Wortmann, C. S. and Walters, D. T. (2009). Fertilizer Suggestions for Corn. *University of Nebraska Extension Division,* EC 117.

**2007**

Ferguson, R. B., Henry, C. G., Koelsch, R. K. and Wortmann, C. S. (2007). Managing livestock manure to protect environmental quality. *University of Nebraska Extension Circular,* EC 02-179, revised.

Kranz, W. L., Koelsch, R. K. and Shapiro, C. A. (2007). Application of liquid animal manures using center pivot irrigation systems. *University of Nebraska Extension Circular,* EC 778.

**2006**

Deloughery, R., Wortmann, C., Steinkamp, P. and Shapiro, C. A. (2006). Calculating the Value of Manure for Crop Production Spreadsheet Instructions for Version 1.33*,* EC 192.

**2003**

Shapiro, C. A., Deloughery, R. and Wortmann, C. (2003). Manure Nitrogen Application Calculator. *Nebraska Cooperative Extension,* EC 03-182.

**2002**

Lackey, S. O., Shapiro, C. A. and Kranz, W. (2002). Agricultural management practices and the groundwater system of northern Holt County, Nebraska: with a focus on the Holt County Groundwater Education Project. *Joint publication with Conservation and Survey Division EC 15 and Cooperative Extension Division EC02-799-X.*

**2000**

Shapiro, C. A. (2000). Manure and organic residual management. Nutrient Management for Agronomic Crops in Nebraska. *In Richard Ferguson (ed.) pp. 59-63, Chapter Eight,* EC 01-155S.

**1998**

Hay, D. and Shapiro, C. A. (1998). Improving Crop Nutrient Application Management Fact Sheet*,* EC 98-789.

Hay, D. and Shapiro, C. A. (1998). Crop Nutrient Application Management Worksheet*,* EC 98-790.

Hergert, G.W. and Shapiro, C. A. (1998). The scientific basis for making fertilizer recommendations. *In J.M. Peterson, (ed.) Soils Home Study Course,* EC 98-152, Lesson 10.

Shapiro, C. A. and Wiese, R. A. (1998). Fundamentals of soil testing. *In J.M. Peterson, (ed.) Soils Home Study Course,* EC 98-152, Lesson 9.

Watts, D. G., Hay, D. R. and Eigenberg, D. A. (1998). Managing Irrigation and Nitrogen to Protect Water Quality. (Contributing author sections D and E), EC 98-786-S.

**1997**

Shapiro, C. A. (1997). Nitrogen Rate Slide Chart. *Nebraska Cooperative Extension,* EC 97-147-S.

**1996**

Conservation Reserve Program. (1996). CRP Land Use Guide. *Nebraska Cooperative Extension,* EC 96-142-X.

Shapiro, C. A. and Ferguson, R. B. (1996). Fertilizer management for conservation tillage. *University of Nebraska Cooperative Extension,* EC 96-144-C.

**1994**

Kranz, W. L., Shapiro, C. A. and Grisso, R. (1994). Calibrating Anhydrous Ammonia Applicators. *University of Nebraska,* EC 94-737-D.

**1993**

Penas, E., Ferguson, R., Hergert, G., Shapiro, C. A. and Binford, G. (1993). Procedures for field demonstrations of nitrogen management practices. *University of Nebraska,* EC 93-126-D.

**1989**

Nelson, D. W. and Shapiro, C. A. (1989). Fertilizing crops with animal manure. EC 89-117. p. 15*.*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

NebGuides
**2015**

Shapiro, C. A., Schmidt, A. M. and Koelsch, R. K. (2015). Determining crop available nutrients from manure. *NebGuide 1335 (Revised, March 2006).*

**2014**

Wortmann, C., Jansen, J., Van Liew, M., Ferguson, R., Hergert, G. W., Shapiro, C. and Shaver, T. (2014). Nitrogen Loss Assessment Tool (N-LAT) for Nebraska: Background and Users Guide. *NebGuide 2249 (New).*

Wortmann, C., Shapiro, C. A. and Schmidt, A. (2014). Manure testing for nutrient content. *NebGuide G1450 (Revised).*

**2013**

Shapiro, C. A. and Francis, D. D. (2013). Using a chlorophyll meter to improve Nitrogen management. *NebGuide G1632 (Minor revised from 2006 revision).*

**2012**

Hergert, G. W., Wortmann, C. S., Ferguson, R. B., Shapiro, C. A. and Shaver, T. M. (2012). Using starter fertilizers for corn, grain sorghum, and soybeans. *NebGuide G361 (Revision).*

Wortmann, C. S. and Shapiro, C. A. (2012). Composting manure and other organic residuals. *NebGuide G1315.*

Wortmann, C. S. and Shapiro, C. A. (2012). Calculating the value of manure for crop production. *NebGuide G1519.*

Wortmann, C. S., Ferguson, R. B., Hergert, G. W., Shapiro, C. A. and Shaver, T. M. (2012). Nutrient management suggestions for grain sorghum. *NebGuide G1669 (Revision).*

Wortmann, C. S., Klein, R. N. and Shapiro, C. A. (2012). Harvesting crop residues. *NebGuide G1846.*

**2009**

Shapiro, C. A. and Hergert, G. W. (2009). Soil Fertility Considerations for land coming out of Conservation Reservation Program (CRP). *NebGuide G1970.*

Wortmann, C. and Shapiro, C. A. (2009). Sampling manure for nutrient analysis. *NebGuide G1450 (Revised).*

**2008**

Wortmann, C. S., Klein, R. N., Wilhelm, W. W. and Shapiro, C. A. (2008). Harvesting crop residues. *NebGuide G1846.*

**2007**

Ferguson, R. B., Hergert, G. W., Shapiro, C. A. and Wortmann, C. S. (2007). Guidelines for soil sampling. *NebGuide G1740.*

Wortmann, C. S., Dobermann, A. R., Ferguson, R. B., Hergert, G. W., Shapiro, C. A. and Tarkalson, D. (2007). Fertilizer suggestions for grain sorghum. *NebGuide G1669.*

**2006**

Koelsch, R. and Shapiro, C. A. (2006). Determining crop available nutrients from manure. *NebGuide 1335 (Revised, March 2006).*

Shapiro, C. A., Schepers, J. S., Francis, D. D. and Shanahan, J. F. (2006). Using a chlorophyll meter to improve Nitrogen management. *NebGuide G1632 (Revised, October 2006).*

Wortmann, C. S., Shapiro, C. A. and Tarkalson, D. (2006). Composting manure and other organic residuals. *NebGuide G1315 (Revised, April 2006).*

**2004**

Dobermann, A. and Shapiro, C. A. (2004). Setting a realistic corn yield goal. *NebGuide G79-481-A (Revised January 2004).*

**2003**

Shapiro, C. A., Ferguson, R. B., Hergert, G. W., Dobermann, A. R. and Wortmann, C. S. (2003). Fertilizer Suggestions for Corn. *NebGuide G74-174-A (Slightly Revised).*

Wortmann, C., Mamo, M. and Shapiro, C. A. (2003). Management strategies to reduce the rate of soil acidification. *NebGuide G03-1504A.*

**2002**

Wortmann, C., Shapiro, C. A. and DeLoughery, R. (2002). Sampling manures for nutrient analysis. *NebGuide G02-1450.*

**1994**

Ferguson, R. B., Penas, E. J., Shapiro, C. A. and Hergert, G. W. (1994). Fertilizer Nitrogen Best Management Practices. *NebGuide G94-1178-A (Revised).*

**1992**

Moomaw, R.S. and Shapiro, C. A. (1992). Oat Production in Nebraska. *NebGuide G79-430 (Revised 1992).*

**1982**

Hergert, G. W., Frank, K. D. and Anderson, F. N. (1982). Understanding Nitrogen in Soils. *NebGuide G82-595.*

**1978**

Frank, K. D., Eisenhauer, D. E., Fischbach, P., Watts, D., Sander, D. H., Hergert, G., Wiese, D., Rehm, G. and Penas, E. (1978). Nitrogen Management on Soil Irrigated with Groundwater Containing Nitrate. *NebGuide G78-413.*

**1975**

Fischbach, P. E. (1975). Fertilizing Through Center Pivots. *NebGuide G73-20.*

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Other Extension Publications (incomplete)
**2015**

Thompson, L. T., Glewen, K., Mueller, N., Burr, C., Krienke, B., Lesoing, G., Nygren, A., Rees, J., Rethwisch, M., Thomas, J., Timmerman, A., VanDeWalle, B., Zoubek, G., Ferguson, R., Hoegemeyer, T., Jasa, P., Luck, J., Shapiro, C., Wortmann, C., Wright, R., Eskridge, K. and Stewart, Z. (2015). Nebraska On-Farm Research Network: 2014 Growing Season Results. *Nebraska Extension.*

**2001**

Shapiro, C. A., Kranz, W. L., Lackey, S. O. and Kulm, R. (2001). Holt County Groundwater Education Project: Final Report. *University of Nebraska Cooperative Extension,* MP 77. 65 pages.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Extension Proceedings
**2015**

Grassini, P., Soler, F. M., Yang, H., Cassman, K. G., Elmore, R., Rees, J., Glewen, K., Shapiro, C. and Kruger, G. (2015). In-season corn yield forecasting using a computer simulation model. *In: 2015 Crop Production Clinics Proceedings,* Pg. 12-14.

Shapiro, C. A., Krienke, B., Shaver, T., Ferguson, R., Hergert, G. and Wortmann, C. (2015). *In: 2015 Crop Production Clinics Proceedings,* Pg. 171-172.

Shaver, T., Ferguson, R., Hergert, G., Krienke, B., Shapiro, C. and Wortmann, C. (2015). *In: 2015 Crop Production Clinics Proceedings,* Pg. 169-170.

Wortmann, C. S., Shapiro, C. A. and Schmer, M. (2015). Residue harvest effects on irrigated, no-till corn yield and nitrogen response. *Proceedings North Central Extention Industry, Soil Fertility Conference.*

Wortmann, C. S., Shapiro, C. A. and Schmer, M. (2015). Residue harvest effects on irrigated, no-till corn yield and nitrogen response. *In: 2015 Crop Production Clinics Proceedings.*

**2013**

Hergert, G., Shaver, T ., Ferguson, R., Shapiro, C. A. and Wortmann, C. (2013). The Importance of Soil Sampling. *In: 2013 Crop Production Clinics Proceedings.*

McAfee, B. P., Wortmann, C., Miller, D., Shapiro, C. and Henry, C. (2013). Nitrogen Loss from Sprinkler Applied Beef Feedlot Effluent. *Proceedings North Central Region Soil fertility Extension and Industry Conference.*

Wortmann, C. S., Shaver, T ., Shapiro, C. A., Hergert, G. W., Ferguson, R. B., van Liew, M. and Jansen, J. (2013). The Nitrogen Loss Assessment Tool. *In: 2013 Crop Production Clinics Proceedings.*

Wortmann, C., Loecke, T., Ferguson, R., Hergert, G., Shapiro, C. and Shaver, T. (2013). Nitrous oxide and Nebraska crop production. *In: 2013 Crop Production Clinics Proceedings.*

**2012**

Hergert, G. W., Wortmann, C. S., Shapiro, C. A., Ferguson, R. B. and Shaver, T. (2012). Manure value and fertilizer costs. *In: 2012 Crop Production Clinics Proceedings.*

Shapiro, C. A., Hergert, G. W., Wortmann, C. S., Ferguson, R. B. and Shaver, T. M. (2012). Mid-season nutrient deficiency correction in corn and soybeans. *In: 2012 Crop Production Clinics Proceedings.*

Shaver, T., Ferguson, R., Hergert, G., Shapiro, C. and Wortmann, C. (2012). Nutrient management: Now & in the future. *In: 2012 Crop Production Clinics Proceedings.*

**2011**

Hergert, G. W., Ferguson, R., Wortmann, C., Shapiro, C. and Shaver, T. (2011). Enhanced efficiency fertilizers: Will they enhance my fertilizer efficiency? *In: 2011 Crop Production Clinics Proceedings.,* Pg. 145-148.

Wortmann, C., Ferguson, R., Hergert, G., Mason, S., Novacek, M., Shapiro, C. and Shaver, T. (2011). What is needed for 300 bu corn and 100 bu soybean? *In: 2011 Crop Production Clinics Proceedings,* Pg. 149-151.

**2010**

Ferguson, R. B., Hergert, G. W., Shapiro, C. A., Shaver, T. M. and Wortmann, C. S. (2010). Using precision agriculture technologies profitably. *In: 2010 Crop Production Clinics Proceedings,* Pg. 186-189.

Ferguson, R., Hergert, G., Shapiro, C. A. and Wortmann, C. (2010). Enhanced efficiency fertilizers. *In: 2010 Crop Production Clinics Proceedings,* pp. 143-146.

Hergert, G., Ferguson, R., Shapiro, C. A. and Wortmann, C. (2010). A closer look at soil testing and accurate fertilizer recommendations. *In: 2010 Crop Production Clinics Proceedings,* pp. 147-149.

Kranz, W. L., Koelsch, R. K. and Shapiro, C. A. (2010). Application of liquid animal manures using center pivot irrigation systems. *Memorias del X Congreso National de Produccion Porcina, Mendoza, Argentina,* p.191-203.

Wortmann, C., Ferguson, R., Hergert, G. and Shapiro, C. A. (2010). The value of manure and nutrient availability. *In: 2010 Crop Production Clinics Proceedings,* pp. 150-151.

**1992**

Francis, C. A. and Shapiro, C. A. (1992). On-farm and on-ranch research and demonstration methods and experimental designs: Analysis and interpretation of results. *ICM Workshop. Lincoln, NE.*

Francis, C. A., Elmore, R., Shapiro, C. A. and King, J. (1992). Who owns the results? Interpretation and adaptation of on-farm research. *In Proceedings of a Conference on Participatory on-farm research and education for agricultural sustainability,* University of Illinois-Champaign.

**1990**

Kranz, W. (1990). Fertilizer/Irrigation management project. *Nebraska Irrigation Short Course.*

Wiese, R. A., Hergert, G. W., Ferguson, R. B. and Penas, E. J. (1990). Nitrogen fertilizer use in relation to water quality. *In: 1990 Crop Production Clinics Proceedings.*

How to utilize carry-over fertilizer following a drought. (1990). *Crop Focus Proceedings.*

**1989**

Ferguson, R. B. (1989). Fertilizer management in ridge tillage systems. *Conservation Tillage Proceedings,* No. 8.

Ferguson, R. B. (1989). Recent advances in fertilizer application. *Core Topic Crop Focus.*

Hergert, G.W., Klocke, N. and Kranz, W. (1989). Farm demonstrations to improve nitrogen and irrigation management. *Crop Focus.*

Kranz. W. and Olsen, T. (1989). Fertilizer/Irrigation management project. *Nebraska Irrigation Short Course.*

**1988**

Choosing an economic yield goal. (1988). *Crop Focus Proceedings.*

Fertilizer/Irrigation recommendations for sandy soils. (1988). *Crop Focus Proceedings.*

**1985**

Soil Test Comparison‑Update (1985). *Crop Focus Proceedings*.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Regional Publications
**2013**

Wortmann, C. S., Al-Kaisi, M., Sawyer, J., Helmers, M., Devlin, D., Barden, C., Scharf, P., Ferguson, R., Shapiro, C. A., Spalding, R., Tarkalson, D., Kranz, W., Holz, J., Francis, D. and Schepers, J. (2013). Agricultural nitrogen management for water quality protection in the Midwest. *University of Nebraska –Lincoln Extension,* RP 189, revised.