

CURRICULUM VITAE

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Soil and Crop Sciences
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EDUCATION

1967 Ph D, IOWA STATE UNIV

1965 MS, U OF NEBRASKA

1963 BS, U OF NEBRASKA

OTHER POSITIONS

2011 - Present Professor Emeritus, Colorado State University.

2003 - 2011 Head of the Soil and Crop Sciences Dept, Colorado State University.

1984 - 2003 Professor, Colorado State University.

PUBLISHED WORKS

Books

(2006). *Dryland Agriculture*. 2nd Edition Agronomy Monograph No 23 ASA-CSSA-SSSA, Madison, WI.

Refereed Journal Articles

(2010). Conserving and optimizing limited water for crop production. *J of Crop Improvement*, 24, 70-84.

(2010). Simulating landscape catena effects in no-till dryland agroecosystems using GPFARM. *Agric Systems*, 103, 569-584.

(2008). Agronomy journal turns one hundred. *Agron J*, 100, 8-Jan.

(2008). Agronomy Journal turns one hundred (reprinted from Agron J, vol 100, pg 1-8, 2008). *Agron J*, 100, S19-S26.

(2007). Temporally stable patterns in grain yield and soil water on a dryland catena. *Agr Syst*, 94, 119-127.

(2006). Long-term crop residue dynamics in no-tilt cropping systems under semi-arid conditions. *J Soil Water Conserv*, 61, 84-95.

- (2006). Mobility of organic and inorganic zinc fertilizers in soils. *Comm Soil Sci Plant Anal*, 37, 199-209.
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- (2005). Climatic gradient, cropping system, and crop residue effects on carbon and nitrogen mineralization in no-till soils. *Comm Soil Sci Plant Anal*, 36, 2875-2888.
- (2005). Climatic gradient, cropping system, and crop residue impacts on carbon and nitrogen mineralization in no-till soils. *Commun Soil Sci Plan*, 36, 2875-2887.
- (2005). Continuous dryland cropping in the Great Plains. *Agron J*, 97, 347-348.
- (2005). Efficient and environmentally safe use of micronutrients in agriculture. *Commun Soil Sci Plan*, 36, 169-182.
- (2005). Efficient and environmentally safe use of micronutrients in agriculture. *Comm Soil Sci Plant Anal*, 36, 169-182.
- (2005). Measurement of net global warming potential in three agroecosystems. *Nutr Cycl Agroecosys*, 72, 67-76.
- (2005). Soil organic carbon pools after 12 years in no-till dryland agroecosystems. *Soil Sci Soc Am J*, 69, 1600-1608.
- (2004). Managing precipitation use in sustainable dryland agroecosystems. *Ann Appl Biol*, 144, 127-138.
- (2003). Cropping intensification in dryland systems improves soil physical properties. *Geoderma*, 116, 149-164.
- (2003). Cropping intensity enhances soil organic carbon and nitrogen in a no-till agroecosystem. *Soil Sci Soc Am J*, 67, 1533-1543.
- (2003). Evaluation of GPFARM for dryland cropping systems in eastern Colorado. *Agron J*, 95, 1510-1524.
- (2003). Using electrical conductivity classification and within-field variability to design field-scale research. *Agron J*, 95, 602-613.
- (2002). Inorganic carbon analysis by modified pressure-calimeter method. *Soil Sci Soc Am J*, 66, 299-305.
- (2002). Regional assessment of net greenhouse gas fluxes from agricultural soils in the USA Great Plains under current and improved management. *Ann Appl Biol*, 144, 469-474.
- (2002). Relative availability coefficients of organic and inorganic Zn fertilizers. *J Plant Nutr*, 25, 259-273.
- (2002). Residue accumulation and changes in soil organic matter as affected by cropping intensity in no-till dryland agroecosystems. *Agron J*, 94, 944-954.
- (2002). Surface soil physical properties after twelve years of dryland no-till management. *Soil Sci Soc Am J*, 66, 1296-1303.
- (2002). Tillage system and crop rotation effects on dryland crop yields and soil carbon in the central Great Plains. *Agron J*, 94, 1429-1436.
- (2000). Fungal translocation as a mechanism for soil nitrogen inputs to surface residue decomposition in a no-tillage agroecosystem. *Soil Biol Biochem*, 32, 689-698.

- (1999). Decomposition of surface crop residues in long-term studies of dryland agroecosystems. *Agron J*, 91, 401-409.
- (1999). Influence of cropping intensity and nitrogen fertilizer rates on in situ nitrogen mineralization. *Soil Sci Soc Am J*, 63, 129-134.
- (1999). Influence of water solubility of granular zinc fertilizers on plant uptake and growth. *J Plant Nutr*, 22, 1815-1827.
- (1999). Seasonal evaluation of the root zone water quality model in Colorado. *Agron J*, 91, 212-219.
- (1999). Sodium Bicarbonate-DTPA test for macro- and micronutrient elements in soils. *Commun Soil Sci Plan*, 30, 957-970.
- (1998). Dryland cropping intensification. *Adv Agron*, 64, 197-223.
- (1998). Nitrogen transformations, utilization, and conservation as affected by fallow tillage method. *Soil Till Res*, 49, 37-47.
- (1998). Reduced tillage and increasing cropping intensity in the Great Plains conserves soil C. *Soil Till Res*, 47, 207-218.
- (1998). Soil water storage in dryland cropping systems. *Soil Sci Soc Am J*, 62, 984-991.
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- (1997). Diversity in case management modalities. *Community Ment Hlt J*, 33, 245-250.
- (1997). Evaluation of an in situ net soil nitrogen mineralization method in dryland agroecosystems. *Soil Sci Soc Am J*, 61, 504-508.
- (1997). Radiocarbon dating for determination of soil organic matter pool sizes and dynamics. *Soil Sci Soc Am J*, 61, 1058-1067.
- (1997). Water storage efficiency in no-till dryland cropping systems. *J Soil Water Conserv*, 52, 131-136.
- (1996). Cropping systems in the Great Plains - Symposium. *J Prod Agric*, 9, 179-179.
- (1996). Documenting informed consent for treatment with neuroleptics. *Psychiatr Serv*, 47, 302-303.
- (1996). Modelling climate, CO₂ and management impacts on soil carbon in semi-arid agroecosystems. *Plant Soil*, 187, 351-365.
- (1996). Precipitation use efficiency as affected by cropping and tillage systems. *J Prod Agric*, 9, 180-186.
- (1996). The effectiveness of outpatient civil commitment. *Psychiatr Serv*, 47, 1251-1253.
- (1996). Tillage systems - Cropping intensity and nitrogen management impact of dryland no-till rotations in the semi-arid western Great Plains. *J Prod Agric*, 9, 517-522.
- (1995). Comparison of extractable phosphorus from two sulfuric acid methods with the Mehlich phosphorus test number one. *Commun Soil Sci Plan*, 26, 3165-3173.

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- (1993). Agroecosystem Approach to Soil and Crop Management Research. *Soil Sci Soc Am J*, 57, 1354-1360.
- (1993). Soil Attribute Prediction Using Terrain Analysis. *Soil Sci Soc Am J*, 57, 443-452.
- (1991). Nitrogen-Balance and Biomass Production of Newly Established No-Till Dryland Agroecosystems. *Agron J*, 83, 519-526.
- (1991). Soil Carbon and Nitrogen Changes on Initiation of No-Till Cropping Systems. *Soil Sci Soc Am J*, 55, 470-476.
- (1990). Carbon, Nitrogen, Phosphorus, and Sulfur Mineralization in Plow and No-Till Cultivation. *Soil Sci Soc Am J*, 54, 457-461.
- (1990). Dry-Matter and Nutrient Accumulation and Partitioning by Proso Millet. *Agron J*, 82, 183-189.
- (1990). Impacts of Cropping Intensity on Carbon and Nitrogen Mineralization under No-Till Dryland Agroecosystems. *Agron J*, 82, 1115-1120.
- (1990). Nitrogen Contamination of Soils from Sampling Bags. *Agron J*, 82, 354-356.
- (1990). Tillage Influence on Soil Sulfur Characteristics in Winter Wheat-Summer Fallow Systems. *Soil Sci Soc Am J*, 54, 1630-1634.
- (1989). Calibration of Nitrogen and Phosphorus Soil Tests with Yield of Proso Millet. *Soil Sci Soc Am J*, 53, 1737-1741.
- (1989). Fertilizer Phosphorus Recommendations for Winter-Wheat in Terms of Method of Phosphorus Application, Soil-Ph, and Yield Goal. *Soil Sci Soc Am J*, 53, 1282-1287.
- (1988). Effect of Incrementing Nitrogen Application on Sucrose Yield of Sugarbeet. *Agron J*, 80, 709-712.
- (1988). Phosphorus-Fertilizer Placement and Tillage in a Wheat-Fallow Cropping Sequence. *Soil Sci Soc Am J*, 52, 1063-1068.
- (1988). Surface Soil Nutrient Distribution as Affected by Wheat-Fallow Tillage Systems. *Soil Sci Soc Am J*, 52, 141-147.
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- (1987). Predicting Winter-Wheat Grain-Yield Response to Applied-P with Different Soil P-Tests and Sampling Depths. *J Fert Issues*, 4, 19-28.
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- (1985). Sucrose Yield of Sugar-Beet as Affected by Chiseling and Plowing Compacted Soils. *Soil Till Res*, 5, 259-271.
- (1985). Wheat Fallow Tillage Systems Effect on a Newly Cultivated Grassland Soils Nitrogen Budget. *Soil Sci Soc Am J*, 49, 352-356.
- (1984). Effect of Fertilizer Phosphorus Placement on the Availability of Phosphorus. *Soil Sci Soc Am J*, 48, 336-340.
- (1984). Fallow Tillage Influence on Spring Populations of Soil Nitrifiers, Denitrifiers, and Available Nitrogen. *Soil Sci Soc Am J*, 48, 1060-1067.
- (1983). Dry-Matter Production in Tops and Roots of Winter-Wheat as Affected by Phosphorus Availability during Various Growth-Stages. *Agron J*, 75, 657-663.
- (1983). Nitrogen Distribution in Roots and Tops of Winter-Wheat. *Agron J*, 75, 1031-1036.
- (1981). A New Look at Row and Broadcast Phosphate Recommendations for Winter-Wheat. *Agron J*, 73, 13-17.
- (1980). Gaseous-N Losses from Winter-Wheat. *Agron J*, 72, 789-792.
- (1980). Phosphate Fractions in Calcareous Soils as Altered by Time and Amounts of Added Phosphate. *Soil Sci Soc Am J*, 44, 269-277.
- (1980). Relation of Soil Properties and Other Environmental-Factors to Grain-Yield and Quality of Winter-Wheat Grown at International Sites. *Agron J*, 72, 329-336.
- (1980). The Magnesium Problem in Nitrate Determination by Steam Distillation. *Soil Sci Soc Am J*, 44, 1326-1327.
- (1979). Uptake of N-15-Labeled Nitrate by Sugar-Beets from Depths Greater Than 180-Cm. *Agron J*, 71, 371-372.
- (1977). Influence of Cultivation on Distribution of Nitrogen in Soils of Ustoll Suborder. *Soil Sci*, 124, 334-342.
- (1976). Nitrogen-Content of Winter-Wheat during Growth and Maturation. *Agron J*, 68, 815-818.
- (1974). Continuing Need for Soil Testing. *Soil Sci Soc Am J*, 38, 859-860.
- (1973). Effects of Continuous Corn (*Zea-Mays* L), Manuring, and Nitrogen Fertilization on Yield and Protein Content of Grain and on Soil Nitrogen Content. *Agron J*, 65, 697-700.
- (1972). Uptake Patterns of N-15 Tagged Nitrate by Sugarbeets as Related to Soil Nitrate Level and Time. *J Am Soc Sugar Beet*, 17, 42-48.
- (2007). *A primer on how no-till conserves water* (pp. 43-54). Proceedings of the 3rd International Conference on Sustainable and Effective Agriculture 25-27 June, Dnipropetrovsk, Ukraine.

- (2006). *A primer on how no-till conserves water* (pp. 43-54). Proceedings of the 3rd International Conference on Sustainable and Effective Agriculture 27-30 June, Dnipropetrovsk, Ukraine.
- (2006). *Effect of no-till dryland cropping systems and evapotranspiration gradient on the retention of residue in semiarid environments* (pp. 10-Sep). Proc Soil and Water Conservation Society Conference 22-26 July Keystone, CO.
- (2006). *Influence of drought on dryland cropping systems in the West Central Great Plains* (pp. 10-Sep). Proc Soil and Water Conservation Society Conference 22-26 July Keystone, CO.
- (2006). *Managing precipitation use in dryland systems to enhance productivity and sustainability*. Abstract [37-2] of the 18th World Congress of Soil Science Philadelphia, PA.
- (2005). *Dryland farming: A viable option for formerly irrigated land?* (1st ed., vol. 22, pp. 14-Dec). Colorado Water Newsletter February.
- (2005). *Water conservation principles and no-till practices* (pp. 53-71). Proceedings of the 2nd International Conference on Sustainable and Effective Agriculture using No-till Systems Approach 17-20 August Dnipropetrovsk, Ukraine.
- (2004). *Achievements and future challenges in conservation tillage*. New Directions for a Diverse Planet Proceedings of the 4th International Crop Science Congress 26 Sept 2 Oct 2004, Brisbane, Australia.
- (2003). *Landscapes, Soil and Water Conservation, and Diversity*. Proceedings of the Dynamic Cropping Systems Symposium 5-7 August.
- (2003). *Measurement and modeling of soil atmosphere N₂O and CO₂ exchange for global warming potential in agroecosystems*. Agron Abs Amer Soc of Agron, Madison, WI Denver, CO 2-6 Nov.

AES Report/Bulletin

- Peairs, F. B., Hansen, N. C., Poss, D., Westfall, D. G., Peterson, G. A., Herman, J., Shaver, T., Randolph, T. L., Rudolph, J. B. *Agronomic & entomological results from 7 years of dryland cropping systems research at Briggsdale, Colorado*. (vol. TB-13-01, pp. 34). Fort Collins, CO: AES.
- Hansen, N. C., Sherrod, L., Peterson, G. A., Westfall, D. G., Peairs, F. B., Poss, D., Shaver, T., Larson, K., Thompson, D., Ahuja, L. *Sustainable dryland agroecosystems management*. (vol. TB-13-02, pp. 94). Fort Collins, CO: AES.

Book Review

- (2010). *Conserving and optimizing limited water for crop production* (pp. 43-55). Water and Agricultural Sustainability Strategies M S Kang (Ed) Taylor and Francis Publishing.
- (2008). *Dryland Farming*. GA Goreham (ed) Encyclopedia of Rural America, 2nd Edition Grey House Publishing, Millerton, NY.
- (2006). *Dryland agriculture research issues* (pp. 901-907). GA Peterson, PW Unger, and WA Payne (eds) Dryland Agriculture 2nd Edition Agronomy Monograph No 23 ASA-CSSA-SSSA, Madison, WI.
- (2006). *Water conservation and efficient use* (pp. 39-85). GA Peterson, PW Unger, and WA Payne (eds) Dryland Agriculture 2nd Edition Agronomy Monograph No 23 ASA-CSSA-SSSA, Madison, WI.

(2004). *Dryland farming* (vol. 1, pp. 414-417). Hillel, D (Editor-In-Chief) Encyclopedia of Soils in the Environment Elsevier Academic Press.

Technical Bulletin

Barbarick, K. A., Ippolito, J. A., McDaniel, J. P., Hansen, N. C., Peterson, G. A. (in press). *Regression modeling weather and biosolids effects on dryland wheat yields in eastern Colorado, 2001-2012*. Colorado Agricultural Experiment Station.

PAPERS PRESENTED/SYMPOSIA/INVITED LECTURES/PROFESSIONAL MEETINGS/WORKSHOPS

November 17, 2015, "Dryland systems yields over 24 years as impacted by potential ET site and soil landscape position", ASA/CSSA/SSSA Annual Meeting, (Presenter) Ahuja, L.

November 17, 2015, "Systems approach critical to agroecosystems management", ASA/CSSA/SSSA Annual Meeting, (Presenter) Ahuja, L.

TEACHING:

<u>Year</u>	<u>Semester</u>	<u>Course No./Title</u>	<u>Cr. Hrs.</u>	<u>Enrollment</u>
2015	Fall	SOCR421 - Crop and Soil Management Systems II	4	31
2015	Fall	SOCR421 - Crop and Soil Management Systems II -Lab	0	31
2015	Fall	SOCR492 - Seminar	1	34
2014	Fall	SOCR421 - Crop and Soil Management Systems II	4	29
2014	Fall	SOCR421 - Crop and Soil Management Systems II -Lab	0	29
2013	Fall	SOCR421 - Crop and Soil Management Systems II	4	30
2013	Fall	SOCR421 - Crop and Soil Management Systems II -Lab	0	30
2011	Spring	SOCR487 - Internship	12	3
2010	Fall	SOCR492 - Seminar	1	22
2010	Fall	SOC321 - Soil, Environment, and Society	3	25
2009	Fall	SOCR492 - Seminar	1	15
2009	Fall	SOC321 - Soil, Environment, and Society	3	24
2008	Fall	SOCR492 - Seminar	1	14
2008	Fall	SOC321 - Soil, Environment, and Society	3	23
2007	Fall	SOCR492 - Seminar	1	21
2007	Fall	SOC381 - Soils, Environment and Society	3	16
