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EDUCATION

1977	Ph.D.	Crop Production and Physiology, Iowa State University
1973	M.S.	Agronomy, Pennsylvania State University
1971	B.S.	Agricultural Mechanization, Pennsylvania State University
2006	Certification	Nutrient Management, Maryland Dept of Agriculture
2008	Certification	Technical Service Provider, USDA-NRCS

PROFESSIONAL EXPERIENCE

7/07-present	Extension Specialist in Agriculture Energy, Rutgers Cooperative Extension, Department of Plant Biology and Pathology, Rutgers, The State University of New Jersey, New Brunswick, NJ
1/08-12/08	Visiting Professor of Biomass Energy, Everglades Research and Center/IFAS/University of Florida, Belle Glade, FL
7/02 – 6/07	Director of National and Regional Partnerships, New Jersey Agricultural Experiment Station (NJAES), Assistant Director of Rutgers Cooperative Extension, and Chair, Department of Extension Specialists
7/92 – 6/02	Dean of Outreach, Cook College and Director, Rutgers Cooperative Extension
3/91-9/94	Interim Assistant Director of Program Development, NJAES
1/90 - 6/92	Chair and Extension Specialist, Department of Agricultural and Resource Management Specialists, Rutgers Cooperative Extension
6/81 to 12/89	Assistant/Associate Professor and Extension Specialist, Agronomy Department, University of Missouri, Columbia, MO

9/77 to 5/81 Assistant Professor and Extension Specialist, Crop and Soil Sciences Department, Michigan State Univ., East Lansing, MI

9/75 to 8/77 Adjunct Instructor, Agronomy Department, Iowa State Univ., Ames, IA

EXTENSION ADMINISTRATIVE LEADERSHIP, NATIONALLY & REGIONALLY

Extension Committee on Organization and Policy (ECOP)/Cooperative Extension Section/National Association State Universities and Land Grant Colleges

1997 National Chair
1996-1999 NAPIAP Inter-Regional Coordinating Committee
1996-1998 Executive Committee
1995-2007 IPM National Advisory Committee; Pesticide Safety Education Program
1994-1997 Budget Committee

Northeast Extension Directors (various dates from 1994-2006)

Representative/Liaison to: NE Pasture Research and Extension Consortium, NEREAP-IPM, NE Integrated Pest Management Center, Pesticide Safety Education Program; NE Sustainable Agriculture Research & Education program (Administrative Council).

AWARDS AND RECOGNITIONS

2011 2011 Editor's Citation for Excellence as a Reviewer- Agronomy Journal

2009 Specialist of the Year, Rutgers Cooperative Extension

2009 Communications Award, Regional Finalist – Fact Sheet. Hlubik, W., S. Bonos and Z. R., Hesel. Switchgrass Production and Use in New Jersey. Assn. of County Ag. Agents, Ann. Mtg. and Prof. Impr. Conf. Portland, OR. p. 158.

2002 NJ Farm Bureau Distinguished Service to Agriculture.

1998 NJ FFA Honorary Degree

1990 First Place - Public Relations Project Award for Creative Excellence - Gateway Chapter, National Agriculture Marketing Association (co-recipient)

1989 American Soybean Association/ICI Americas - South American Soybean Recognition Tour

1985 American Soybean Association/ICI Americas - Soybean Researchers Recognition

1987/ 1984 American Society of Agricultural Engineers - Blue Ribbon Award(3) Extension Publ.

TEACHING

- **Undergraduate/Graduate/Extension**

Rutgers, The State University of New Jersey

Current program on Energy in Agriculture involves demonstrations, field day and conference presentations. Previously cooperated in the development and presentation of in-service education programs on "Writing for Professional Journals," "Reappointment and Promotion Procedures," "Grantsmanship", "Liability for Master Gardeners", and various presentations on energy, soybeans and nutrient management.

Classroom instruction involved the following:

2010-Present	Plants for Bioenergy (shared)	3 credits
2009 -Present	Plants and People (shared)	3credits
2004- Present	Modern Crop Production	3 credits
2004-2005	Agriculture and Environmental Perspectives	2 credits
1992	Sustainable Agriculture-problems course	1 credit

University of Missouri - Columbia

Major programmatic activities as State Extension Specialist in Agronomy/Soybeans included significant input into the development of the Missouri Soybean Handbook and National Soybean Diagnostic Guide; development and administration of a yield contest for 4-H and FFA youth; major mass media (radio and news releases) outreach; production efficiency meetings, field days, and demonstrations, computer software development, and sustainable agriculture program development.

Classroom instruction involved the following:

1988-1989	Agronomy 20 - World Food and You (co-taught)	2 credits
1988	Agronomy 204 - Grain Crops	3 credits
1983-1987	Agronomy 230 - Crop and Soil Management	3 credits
1983	Agronomy 303 - Forages	3 credits
1983-1989	Graduate Student Advisor - 2 MS theses, 7 committees	
1987-1989	Undergraduate Internship Advisor - 3 students	

Michigan State University

Major programmatic activities as State Extension Specialist in Crop and Soil Sciences included development of a new soybean Extension program that included county variety testing and management demonstrations, publications, mass media, in-service education and educational meetings. Similarly, a new program in forages was developed with major activities in hay marketing, forage quality and regional forage days. Energy in agriculture responsibilities focused on a comprehensive Michigan Energy Audit program that included a survey, instruction, publications, and computer programs.

Classroom instruction involved the following:

1979	Crop and Soil Sciences 050 - Corn and Soybeans	3 credits
1979	Crop and Soil Sciences 070 - Cash Crop Management Skills	3 credits
1978-1980	Crop and Soil Sciences 411 - Special Problems in Agronomy	1-3 credits
1979-1981	Graduate Student Advisor - 1 MS thesis, 3 committees	

- **Extension/ Educational Meetings**

Rutgers University - Annually, 10 or more presentations at grower meetings, field days, and related clientele events; one to two invited out-of-state presentations; and one to three in-service education programs.

University of Missouri-Columbia - Annually, 20 or more presentations at grower meetings, field days, and related clientele events; one to two invited out-of-state presentations; and one to three in-service education programs.

Michigan State University - Annually, 25 or more presentations at grower meetings, field days, and related clientele events; one to two invited out-of-state presentations; and one to three in-service education programs.

- **Mass Media**

Rutgers University - AG*SAT Program - "Writing for Professional Journals," 2 hours; various news articles

University of Missouri-Columbia - Averaged 25 radio and 4 TV programs/interviews; 30 news releases; and 10 newsletter articles per year.

Michigan State University - Averaged more than 15 radio and 3 TV programs/interviews; 20 news releases; and 8 newsletter articles per year. A 30-minute TV program was also produced.

SCHOLARSHIP

- **Dissertation and Thesis**

Helsel, Z.R. 1977. Dry matter yield, nutritive composition and combustible energy value of biomass grown in single and double cropping systems. Ph.D. Dissertation. Iowa State University, Ames, IA.

Helsel, Z. R. 1973. Forage quality and morphological characteristics of orchardgrass (*Dactylis glomerata* L.) clones. M.S. Thesis. The Pennsylvania State University, University Park, PA.

- **Books, Chapters, Published Proceedings (Written/Edited)**

Lasley, P, M. Hogberg, Z. Helsel and A. Larsen. 2009. People, Grassland, and Livestock in Revitalized Rural Communities. Chapter 10, In: W. Wedin and S. Fales (eds.) *Grassland: Quietness and Strength for a New American Agriculture* ASA, CSSA, SSSA, Madison, WI. pp. 173-188.

Helsel, Z. R. 2006. Energy in Pesticide Production and Use. In: D. Pimental, (ed). *Encyclopedia of Pest Management*, 1:1, 1-4. Taylor & Francis, London.

Fretz, T.A., J.S Angle and Z.R. Helsel. 2005. *Principals of Grantsmanship*. University of Maryland, College Park. 181 pp.

Helsel, Z.R. 1992. Energy and alternatives for fertilizer and pesticide use. In: R. Fluck, (ed.). *Energy in World Agriculture*. Vol. 6, pp. 177-202. Elsevier Sci. Publ. Co., Amsterdam.

Helsel, Z.R. 1987. Energy in plant nutrition and pest control. In: Z.R. Helsel, (ed.). *Energy in World Agriculture Vol 2*, pp. 179-196. Elsevier Sci. Publ. Co., Amsterdam. 293 pp.

Minor, H.C. and Z. Helsel. 1985. "Wheat-soybean doublecrop management in Missouri." pp. 223-232. In: S. Shanmugasundaram and E.W. Sulzberger (eds.). *Soybean in tropical and subtropic cropping systems*. Proc. Symp. Tsukuban, Japan, 26 Sept. - Oct. 1983. Asian Veg. Res. Dev. Center, Shanahua, Taiwan, China.

Energy Use and Management in Agriculture. 1984. B.A. Stout (ed). Breton Publishers, North Scituate, MA. Z. R. Helsel one of several assisting authors.

Myers, G. A., D. Bass, B. A. Stout, T. Surbrook, L. Connor, S. Nott, S. Rosenberg, W. Schauer, G. Schwab, G. Sionakides, Z. Helsel, and V. Meints. 1979. *The Michigan Farm Energy Audit Study*. In: R. A. Rassolare and C. B. Smith, (ed.) *Changing Energy Use Futures*. Vol. 4, p. 1762-1770. Pergamon Press, New York.

- **Refereed Journal Articles (*denotes graduate student)**

Erickson, J.E., Z.R. Helsel, K.R. Woodard, J.M.B. Vendramini, Y.Wang, L.E. Sollenberger, and R.A. Gilbert. 2011. Planting date affects biomass and brix of sweet sorghum grown for biofuels across Florida. *Agron. J.* 103:1827-1833.

Morgan, K. T., R. A. Gilbert, Z. R. Helsel, L. Baucum, R. Leon, and J. Perret. 2010. White paper report from working groups attending the international conference on research and educational opportunities in bio-fuel crop production. *J. Biombioe.* 1968-1972.

- Lam, E., J. Shine, J. DaSilva, M. Lawton, S. Bonos, M. Calvino, H. Carrier, M.C. Silva-Filho, N. Glynn, Z. Helsel, J. Ma, E. Richard, G.M. Sousa and, R. Ming. 2009. Improving sugarcane for biofuel: engineering for an even better feedstock. *GCB Bioenergy*. 1:251-255.
- *Johnson, G.A., M.S. DeFelice, and Z.R. Helsel 1993. Cover crop management and weed control in corn (*Zea mays* L.) *Weed Tech*. 7:425-430.
- Unklesbay, N., Z.R. Helsel, and K. Unklesbay. 1991. How cultivars of soy hulls affect moisture and lipid contents of restructured pork/soyhull products after heat processing. *Catering and Health*. 2:53-60.
- O'Neill, B. and Z. Helsel. 1991. Writing for professional journals: A hands-on approach. *J. Extension* XXX:34.
- *Muzilla, M., Z. Helsel, K. Unklesbay and N. Unklesbay, 1991. Thermal properties of hydrated soy hulls. *Crop Sci*. 31:1541-1544.
- Beuerlein, J.E., Z.R. Helsel, and J.M. Woodruff. 1991. Effective handbook production and distribution. *J. Extension* XXIX:14-17.
- Helsel, Z.R. and N.F. Unklesbay. 1990. Can agronomy be appetizing to non-agricultural students? *J. Agron. Educ*. 19:193-195.
- *Muzilla, M., N. Unklesbay, Z. Helsel, K. Unklesbay and M. Ellersieck. 1989. Effect of particle size and heat on absorptive properties of soy hulls. *Food Qual*. 12:305-318.
- *Muzilla, M., N. Unklesbay, Z. Helsel, K. Unklesbay and M. Ellersieck. 1989. Absorptive properties of processed soy hulls. *Food Qual*. 12:319-329.
- Helsel, Z.R. and J.W. Thomas. 1988. Small grains for forage. *Dairy Sci*. 70:2330-2338.
- Helsel, Z.R. E. Ratcliffe and W. Rudolph. 1987. Maleic hydrazide effects on soybean reproductive development and yield. *Agron. J*. 79:910-912.
- *Reinbott, T.M., Z.R. Helsel, D.G. Helsel, M. Gebhardt and H.C. Minor. 1987. Intercropping soybeans into standing green wheat. *Agron. J*. 79:886-891.
- Helsel, Z.R., S. Burns and T. Nadler. 1987. MOSOYVAR: A computer based soybean variety information retrieval system. *J. Agron. Educ*. 16:20-23.
- Helsel, D.G., Z.R. Helsel and H.C. Minor. 1986. Field studies on osmoconditioning soybeans. *Field Crops Res*. 14:291-297.

Helsel, Z. R. and W.F. Wedin. 1983. Direct combustion energy from crops and crops residues produced in Iowa. *Energy Agri.* 1:317-329.

Helsel, Z.R. and W.F. Wedin. 1981. Harvested dry matter from single- and double-cropping systems. *Agron. J.* 73:895-900.

- **Extension and other Semi-Technical Publications**

Books

Principles of Grantsmanship II, 2003 Mac Kenzie, D.R. J.S. Angle, Z.R. Helsel, and T.A. Fretz
College of Agriculture & Natural Resources, Univ. of Maryland. 111pp.

American Soybean Association Diagnostic Guide. 1988. Spec. Rept. #101. American Soybean Association and Extension Service. St. Louis. 52 pp. (Major contributor)

Missouri Soybean Handbook. 1987. Helsel, Z.R., D. Esslinger, S. Anand and G. Lauer (eds).
UMC Misc. Publ. M-123. Ext. Div., Univ. of Missouri Columbia. Columbia, MO. 86 pp. (Authored 4 chapters)

Missouri Soybean Handbook. 1982. Helsel, Z. R., D. Esslinger, and S. Anand (eds). UMC
Misc. Publ. M-123. Ext. Div., Univ. of Missouri - Columbia. Columbia, MO. 86 pp.

Farm Energy Use: Standards, Worksheets, Conservation. 1981. Coop. Ext. Serv. Michigan
State Univ., East Lansing, MI. (Z. R. Helsel - a principal author).

Bulletins/Circulars

Helsel, Z. R. and J.Alvarez. 2011. Economic Potential of Switchgrass as a Biofuel Crop in
Florida. University of Florida. IFAS Extension Publication #FE900.
edis.ifas.ufl.edu/FE900.

Helsel, Z. R. and J.Alvarez. 2011. Economic Potential of Sweet Sorghum for Ethanol
Production in South Florida. University of Florida. IFAS Extension Publication #FE896.
edis.ifas.ufl.edu/FE896.

Alvarez, J and Z. R.Helsel. 2011. Economic Feasibility of Biofuel Crops in Florida:Energy cane
on Mineral Soils. University of Florida. IFAS Extension Publication #SC089.
<http://edis.ifas.ufl.edu/SC089>.

- Alvarez, J and Z. R.Helsel. 2011. Economic Feasibility of Biofuel Crops in Florida:Sugarcane on Mineral Soils. University of Florida. IFAS Extension Publication #SC090. <http://edis.ifas.ufl.edu/SC090>.
- Brumfield, R. and Z. R. Helsel. 2011. Switchgrass Bioenergy Budgets. E331. Rutgers Cooperative Extension, New Brunswick, NJ.
- Helsel, Z. R. and D. Specca. 2009. Crop Residues as a Potential Bioenergy Resource. FS1116. Rutgers Cooperative Extension, New Brunswick, NJ.
- Gilbert, R. A., J. Ferrell, and Z. Helsel. 2008. Production of Giant Reedgrass for Biofuel. edis.ifas.ufl.edu/AG327.
- Bonos, S., Z. Helsel, and B. Hlubik. 2008. Switchgrass Production and Use in New Jersey. FS1075. Rutgers Cooperative Extension, New Brunswick, NJ.
- Helsel, Z.R., 2007. Fuel Requirements and Energy Saving Tips for Field Operations. Rutgers Cooperative Extension, Rutgers the State University of New Jersey, New Brunswick, NJ.
- Meade, J.A. and Z.R. Helsel. 1991. Operating Mowers Safely. FS583. Rutgers Cooperative Extension, Cook College, Rutgers, The State University of New Jersey, New Brunswick, NJ.
- Helsel, Z.R., 1987. Buckwheat. UMC Guide 4305. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Helsel, Z., D. Sharpe, and J. Scheurenberg, 1987. Seed testing services. UMC Guide 4005. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Minor, H.C. and Z.R. Helsel, 1987. Drilled soybeans in Missouri. UMC Guide 4415. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Helsel, Z.R., M. DeFelice, and D. Buchholz 1986. Cover crop management for no-till grain production. UMC Guide 4960. Ext. Div. Univ. of Missouri-Columbia, Columbia, MO.
- DeFelice, M.S., H.D. Kerr, J.A. Schaffer and Z.R. Helsel, 1985. Weed control guide for Missouri field crops-1986. MP575. Ext. Div. Univ. of Missouri-Columbia. Columbia, MO.
- Helsel, Z. R. and H. C. Minor. 1985. Soybean production in Missouri. UMC Guide 4410. Ext. Div. Univ. of Missouri-Columbia. Columbia, MO.
- Helsel, D. G. and Z. R. Helsel. 1985. Irrigating soybeans. UMC Guide 4420. Ext. Div. Univ. of Missouri-Columbia. Columbia, MO.

- Anderson, L. E., O. H. Fletchall, H. D. Kerr, E. J. Peters, Z. R. Hesel, and J.A. Schaffer. 1985. Herbicide response of common weeds. UMC Guide 4904. Ext. Div. Univ. of Missouri-Columbia. Columbia, MO.
- Schaffer, J. A. H. D. Kerr, D. Guethle, O. H. Fletchall, E. J. Peters, L.E. Anderson, and Z.R. Hesel. 1985. Chemical weed control in grain sorghum. UMC Guide 4348. Ext. Div. Univ. of Missouri-Columbia. Columbia, MO.
- Anderson, L. E., O. H. Fletchall, D. Guethle, H. Kerr, E. J. Peters, Z. R. Hesel, and J. Schaffer. 1985. Herbicides for corn. UMC Guide 4135. Ext. Div. Univ. of Missouri-Columbia. Columbia, MO.
- Hesel, Z. R., H. D. Kerr, E. J. Peters, D. Goethle, L. E. Anderson, J. A. Schaffer, and O. H. Fletchall. 1984. Herbicides for soybeans. UMC Guide 4436. Ext. Div. Univ. of Missouri - Columbia. Columbia, MO.
- Hesel, Z. R. and H. C. Minor. 1984. Soybean variety selection. UMC Guide 4412. Ext. Div., Univ. of Missouri -Columbia. Columbia, MO.
- Schaffer, J. A., H. D. Kerr. D. Guethle, O. H. Fletchall, E. J. Peters, L.E. Anderson, and Z.R. Hesel. 1984. Herbicides for grain sorghum - 1984. UMC Guide 4348. Ext. Div., Univ. of Missouri -Columbia. Columbia, MO.
- Hesel Z. R. and L. E. Anderson. 1984. Soybean harvest aids. UMC Guide 4081. Ext. Div., Univ. of Missouri -Columbia. Columbia, MO.
- Hesel, Z. R. 1984. No-till checklist. UMC Guide 4081. Ext. Div., Univ. of Missouri – Columbia. Columbia, MO.
- Hesel, Z.R., H.D. Kerr, E.J. Peters, D. Guethle, L.E. Anderson, J.A. Schaffer, and O.H. Fletchall. 1983. Herbicides for soybeans 1984. UMC Guide 4436. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Anderson, L. E., O. H. Fletchall, D. Guethle, H. Kerr, E. J. Peters, Z. Hesel, J. Schaffer. 1983. Herbicides for corn. 1984. UMC Guide 4135. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Minor, H.C., Z.R. Hesel, and S. McCrate. 1983. Wheat - soybean double crop management in Missouri. UMC Guide 4953. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Hesel, Z.R., and H.C. Minor. 1983. Conservation Tillage Tips #4. Cropping systems, crop varieties, and seed quality for conservation tillage. Pamphlet from the Soil Conservation Service and the Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.

- Helsel, Z.R. and D.L. Pfost. 1983. Conservation Tillage Tips #3. Planter operation for conservation tillage. Pamphlet from the Soil Conservation Service and the Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Helsel, Z.R. 1983. Conservation Tillage Tips #2. Stand establishment for conservation tillage. Pamphlet from the Soil Conservation Service and the University of Missouri-Columbia. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- McCarthy, J.R. and Z.R. Helsel. 1983. Conservation Tillage Tips #1. Conservation tillage: The first time. Pamphlet from the Soil Conservation Service and the Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Helsel, Z.R., D.D. Buchholz, D. Hoette, L.E. Anderson, E. Palm, G. Thomas, and D. Pfost. 1983. No-till planting systems. UMC Guide 4080. Ext. Div., Univ. of Missouri - Columbia. Columbia, MO.
- Buchholz, D.D., L.E. Anderson, Z.R. Helsel, H.C. Minor, C.J. Johannsen, J.H. Scott, and H.N. Wheaton. 1983. Analyzing cropping systems. UMC Guide 4099. Ext. Div., Univ. of Missouri - Columbia. Columbia, MO.
- Fletchall, O. H., Z. R. Helsel, H. D. Kerr, E.J. Peters, D. Guethle, and L.E. Anderson. 1983. Chemical weed control for soybeans - Part 2: Pre-emergence and Postemergence. UMC Guide 4437. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Fletchall, O. H., Z. R. Helsel, H. D. Kerr, E.J. Peters, D. Guethle, and L.E. Anderson. 1983. Chemical weed control for soybeans - Part 1: Preplanting incorporated treatments and sequential applications. UMC Guide 4436. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Zandstra, B. H., A. L. Wells, D. G. Helsel, and Z. R. Helsel. 1983. Sweet corn. Ext. Bull. E-1673. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Helsel, Z. R. and H. C. Minor. 1983. Determinate semi-dwarf and semi-determinate soybean varieties. UMC Guide 4419. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Anderson, L. E., O. H. Fletchall, H. Guscar, Z. R. Helsel, H. D. Kerr, E. J. Peters and J. H. Scott. 1982. Chemical weed control for soybeans in 1982, Part 2: Pre-emergence and post-emergence. UMC Guide 4437. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Anderson, L. E., O. H. Fletchall, H. Guscar, Z. R. Helsel, H. D. Kerr, E. J. Peters, and J. H. Scott. 1982. Chemical weed control for soybeans in 1982, Part 1: Preplanting incorporated treatments and sequential applications. UMC Guide 4436. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.

- Kerr, H. D., J. H. Scott, E. J. Peters, L. E. Anderson, O. H. Fletchall, D. Guethle, Z. R. Helsel, and H. Guscar. 1982. Chemical weed control in field corn for 1982, Part 2: Pre-emergence and postemergence. UMC Guide 4136. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Kerr, H. D., J. H. Scott, E. J. Peters, L. E. Anderson, O. H. Fletchall, D. Guethle, Z. R. Helsel, and H. Guscar. 1982. Chemical weed control in corn for 1982, Part I: Preplanting incorporated treatments. UMC Guide 4135. Ext. Div., Univ. of Missouri-Columbia. Columbia, MO.
- Helsel, Z. R. 1981. Soybeans. Ext. Bull. E-1528. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Helsel, Z. R., T. J. Johnston, and L. P. Hart. 1981. Soybean production in Michigan. Ext. Bull. E-1549. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Helsel, Z. and T. Oguntunde. 1981. Fuel requirements for field operations with fuel saving tips. Ext. Bull. E-1535. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Hart, P., J. Lockwood, and Z. Helsel. 1981. Phytophthora root and stem rot of soybeans. Ext. Bull. E-1511. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Helsel, Z. R. and L. Copeland. 1981. Seeding practices for Michigan crops. Ext. Bull. E-489-rev. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Helsel, Z. R. and J. Swart. 1980. Soybean irrigation. In: Michigan Irrigation Guide. IFS/9-80. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Helsel, Z. and M. B. Tesar. 1980. Alfalfa irrigation management. In: Michigan irrigation guide. IFS/6-80. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Helsel, Z. R., and T. J. Johnston, R. Leep, M. Cordonnier, and F. Pearsall. 1980. 1980 Michigan soybean performance report. Ext. Bull. E-1206. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Helsel, Z. R., M. B. Tesar, R. Leep, and J. W. Thomas. 1980. Producing high quality, high yielding alfalfa for Michigan. Ext. Bull. E-1413. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- *Rose, W. T., Z. Helsel, B. Stout, and C. Myers. 1980. Energy management for field crop production. Ext. Bull. E-1407. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.
- Helsel, Z. R., T. J. Johnston, D. Merck, R. Leep, L. P. Hart, and M. Cordonnier. 1979. Michigan soybean performance report - 1979. Ext. Bull. E-1206. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.

Helsel, Z. R., T. J. Johnston, and D. Carter. 1979. Michigan soybean performance report - 1978. Ext. Bull. E-1206. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.

Helsel, Z. R., and L. Copeland. 1978. Seeding practices for Michigan crops. Ext. Bull. E-489. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.

Hillman, D. and Z. R. Helsel. 1978. Cereal grain forages for dairy cattle. Ext. Bull. E-1263. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.

Johnston, T. J., Z. R. Helsel, and D. McIntyre. 1978. Michigan soybean performance report - 1977. Ext. Bull. E-1206. Coop. Ext. Serv. Michigan State Univ. East Lansing, MI.

Wedin, W. F., R. L. Vetter, A. Seim, R. Segebart, N. P. Martin, and Z. Helsel. 1976. Management of crownvetch pastures for beef cattle. AS Leaflet R214. Iowa State Univ., Ames, IA.

Reports

1988-81 Annual Soybean Reports. 1988-82. Z. R. Helsel and D. Esslinger or S. Seidel (eds.). Agron. Ser. No 1, 3-9, College of Agriculture, Univ. of Missouri-Columbia, Columbia, MO.

Helsel, Z. R., Missouri soybean grower survey. 1982. Agron. Ser. No. 2. College of Agriculture Univ. of Missouri - Columbia. Columbia, MO.

*Muhtar, H., J. R. Black, D. Christenson, T. Burkhardt, V. Meints, Z. Helsel. 1981. Results of an economic comparison of conventional and conservation tillage systems in the southeast Saginaw Bay coastal drainage basin. Ag. Econ. Staff Paper No. 81-82. Michigan State Univ. East Lansing, MI.

Christenson, D., Z. Helsel, V. Meints, R. Black, R. Hoskins, F. Wolak, T. Burkhardt. 1978. Agronomics and economics of cropping systems in the Saginaw Valley. Ag. Econ. Staff Paper No. 78-88. Michigan State Univ. East Lansing, MI.

• Conference Proceedings, Papers and Abstracts

Brumfield, R.G. and Z.R. Helsel. 2011. Economic analysis of various production and handling alternatives for perennial bioenergy crops including heating a greenhouse. HortSci. 46(9) (Supplement):212-213. 108th Annual Meeting of American Society for Horticultural Science, Waikoloa, Hawaii, Sept. 25-28, 2011.

Korndorfer, P., R.A. Gilbert, Z. Helsel, J. Erickson and L. Sollenberger. 2010. Biomass and energy yield of energycane and giant reed grown on sandy soils in Florida. Agron. Abstr. 2010 International Annual Meetings Am. Soc. of Agron. Long Beach, CA

- +Fedenko, J., J. Erickson, L. Sollenberger, K. Woodward, R. Gilbert, J. Vendramini and Z. Helsel. 2010. Tissue chemistry of potential bioenergy grasses. Agron. Abstr. 2010 International Annual Meetings Am. Soc. of Agron. Long Beach, CA.
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- Helsel, Z. R. Missouri soybean grower survey. Agron. Abstr., p. 21. 1982 Annual Meetings, Am. Soc. of Agron., Anaheim, CA.
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- Helsel, Z. R. and W. F. Wedin. 1977. Biomass from double-cropping systems for combustible energy. Agron. Abstr., p. 100. 1977 Annual Meetings, Am.Soc. of Agron., Los Angeles, CA.
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Wedin, W. F. and Z. R. Helsel. 1977. Plant species for biomass production on marginal sites. 1977. In: Proc. Conference on the Production from Grasses, Crop Residues, Forage Legumes and Grasses for Conversion to Fuels and Chemicals, 2-3 March, 1977, Midwest Res. Inst., Kansas City, MO, pp. 34-38.

Wedin, W. F. and Z. R. Helsel. 1975. Hand separation vs. visual estimation in determining the botanical composition of legume-grass mixtures. Agron. Abstr. p. 87-88. 1975 Annual Meetings, Am. Soc. of Agron., Knoxville, TN.

Helsel, Z. R. and J. S. Shenk. 1975. Estimation of forage digestibility by spectro-photometric techniques. Agron. Abstr. p. 197. 1975 Annual Meetings, Am. Soc. of Agron., Knoxville, TN.

Helsel, Z. R. and J. S. Shenk. 1972. Forage quality and morphological relationships among individual orchardgrass plants. Agron. Abstr. p.69. 1972 Annual Meetings, Am. Soc. of Agron., Miami Beach, FL.

- **Computer Programs**

Soybean Stand, Yield and Replant, AG0031, copyrighted 1986, Extension Division, University of Missouri-Columbia, Columbia, MO.

Soybean Variety Selection and Information, AG0018, copyrighted 1985, Extension Division, University of Missouri-Columbia, Columbia, MO.

Soybean Yield and Economic Game and Mock Exam for classroom teaching. 1986.

- **Grants, Contracts and Gifts**

Renewable Energy Education and Technical Assistance Program. NJ-NRCS-USDA, 2011-2012. \$44,989. PI

- No-Tillage Sweet Sorghum Cropping Systems to Reduce Greenhouse Gasses for Biofuel Production, Highlands EnviroFuels, LLC, Florida Department of Environmental Protection, , 2009-2010; \$305,000, Co-PI
- Comparing the Environmental and Energy Merits of Biomass Crops, UF/IFAS Innovation Grant, 2008-2009; \$89,166, Co-P
- A Comparison of *Miscanthus x giganteus* Propagation Methods, University of Illinois, 2008-2010; \$10,000, Co-PI
- Evaluation of Sorghum Germplasm, Land O' Lakes/EthanoPeru, 2008, \$4000;
- Comprehensive Nutrient Management Plans; NJ NRCS-USDA, 2003-08, \$185,950.

- Soybean Variety Testing; New Jersey Soybean Board 1994-97, ~ \$7000/year.
- Agricultural Health Promotion Systems for New Jersey; National Institute for Occupational Safety and Health, Centers for Disease Control, U.S. Department of Health and Human Services; September 1990-4; 4 year, \$473,765.
- As principal or co-investigator, obtained over \$400,000 in grants while at the University of Missouri, primarily from the Missouri Soybean Merchandising Council, Missouri Research Assistance Act; and the North Central USDA-LISA program.
- Obtained over \$150,000 as principal or co-investigator on grants at Michigan State University primarily from Michigan Department of Commerce (Energy) and the Michigan Soybean Committee.
- Received gifts totaling more than \$30,000 from over 25 agri-businesses and organizations while at University of Missouri and over \$8,000 from similar groups while at Michigan State University.

SERVICE

- **Government**

US Department of Agriculture

2007-Present Member, Northeast SunGrant Steering Committee

1991-1993 Member, Technical Advisory Committee, Northeast Sustainable Agriculture Research and Education

1991-1992 Member, Sustainable Agriculture Education Council, ES-USDA

1989-1991 Advisory Committee, National Low-Input Sustainable Agriculture SMART Project

1987 Co-Leader, ES-USDA/Rodale Institute. Low-Input Agriculture National Workshop

- **Professional Societies**

American Society of Agronomy

1971-present Member

1985-1998 ARCPACS certified

2011-present United Soybean Board Fellowship committee

2003-2004 Member and Chair (2004) Agronomic Extension Educator Award Committee

2004 Member, General Awards Committee

1992 Associate Editor, Journal of Production Agriculture

2003-2005 Member and Chair (2005), A731, Location of Meetings Committee
& 1990-1994
2000 Member, Young Crop Scientist Award Committee
1988-91 Associate Editor, Journal of Natural Resources and Life Sciences Education
1990 Member, ACS 805 Planning Priorities in Agronomic Research, Teaching and Extension Committee
1985-1987 Member and Chair (1986) Computer Software Applications Committee
1980-1986 Session Chairman at Annual Meetings
1983 Student Speech Contest Judge
1980 Student Photo Contest Judge

American Society of Agricultural and Biological Engineers

1970-present Member
1985-1990 T-11 Energy Committee

• **Honor Societies**

- Epsilon Sigma Phi
- Phi Kappa Phi
- Gamma Sigma Delta
- Phi Sigma, Sigma Xi

• **University**

Cook College, Rutgers Cooperative Extension (RCE), Rutgers University

1992-Present Represented the Executive Dean and/or RCE to various state/regional committees for all or parts of this period including; Northeast Sungrant, NJ State Mosquito Control Commission, USDA Food and Agriculture Committee, NJ State Technical Committee; NJ State Soil Conservation Committee; NJ Soybean Board; Mid Atlantic Apiary Research and Extension Consortium; Mid Atlantic Food and Farms Coalition; Mid-Atlantic Certified Coop Advisor Committee; Member and Contributor, eXtension CoP on Farm Energy 2008-Present
1990-1993 Board of Directors, Rutgers Cooperative Extension's Family Community Leadership (FCL) Program
1990-1992 Extension Advisor to Field and Forage Crop, Vegetable, Small Fruit, Forestry, Farm Management and Finance, Sustainable Agriculture, and Water Quality Working Groups
1990-1992 Member, Cook College Membership and Nominating Committee
1990-1992 Member, Greenhouse/Growth Chamber Committee
1990-1991 Member, NJAES Outlying Centers Committee
1991 Leadership in developing Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) Chapter

University of Missouri

1987-1989	Chair, Low-Input Agriculture Workshop
1987-1988	North Central LISA Administrative Council
1983-1988	Coordinator, Show-Me Big Bean Yield Council
1986-1988	Hearnes Multipurpose Building Committee, campus-wide
1982-1987	Ag Science Week Planning Committee
1987-1988	North Central LISA Administrative Council
1983-1985	Integrated Pest Management Committee
1983-1988	Agriculture Experiment Station Field Day Planning Committee
1983-1988	Agronomy Department Foundation Seed Distribution
1983-1987	Agronomy Department Herbicide Recommendations
1982-1985	Agronomy Department Social Committee
1984-1985	Agronomy Day, Show-Me Agri-Tech Expo Committee
1985	College of Agriculture Placement Committee
1985	College of Agriculture Instructional Improvement Committee
1985-1986	College of Agriculture Computer Committee

Michigan State University

- Crop and Soil Science Department Advisory Committee
- Forage Production and Marketing Task Force
- Dairy Type-of-Farming Committee
- Crop and Soil Sciences Curriculum Committee
- Crop and Soil Sciences Soybean Commodity Committee
- Crop and Soil Sciences Forage Commodity Committee
- Land Use Committee - Kellogg Farm
- Co-Advisor to Spartan Agronomy Club

- **Other Service**
 - Board of Trustees, New Jersey 4-H Development Fund, 1992-2002
 - Board of Directors, New Jersey Agriculture Leadership Development Program, 1995-2002
 - Board of Trustees, Stonybrook-Millstone Watershed Association, 1991-1997
 - Grant Proposal Reviewer: US Small Business Administration, American Soybean Association, Leopold Center, USDA
 - Journal Article Reviewer: Agronomy Journal, Journal of Agronomic Education, Journal of Production Agriculture, Energy in Agriculture, Transactions of ASAE