

**Richard M. Cruse**  
 Professor, Department of Agronomy  
 Director, Iowa Water Center  
 Iowa State University  
 Ames, Iowa 50011  
 515-294-7850, [rmc@iastate.edu](mailto:rmc@iastate.edu)  
 2/23/2017

<b>CANDIDATE INFORMATION</b>	<b>PAGE</b>
Education	2
Professional Experience	2
Areas of Specialization	2
Current appointment at Iowa State University	2
<hr/>	
<b>RESEARCH</b>	
Honors and Awards (13)	3
Refereed journal articles (99)	3
Non-refereed technical publications (30)	12
Refereed books and book chapters (15)	15
Refereed abstracts	17
Invited keynote presentations (6)	19
International presentations (19)	19
Invited domestic presentations (57)	21
Grants and contracts	28
Professional service	30
Honorary and professional society membership	30
Participation and offices held	30
International activities	31
Grant and technical reviewing	31
Peer reviewer	31
Editorial duties	32
Visiting scholars hosted	32
<hr/>	
<b>ADMINISTRATION</b>	
Leadership as Director of Iowa Water Center	32
Iowa Water Center Seed Grants	33
Outreach	33
<hr/>	
<b>TEACHING</b>	
Classes taught	34
Student club advising at ISU	34
Advising	35
<hr/>	
<b>EXTENSION and SERVICE</b>	
Refereed publications (6)	37
Presentations (52)	38
Popular press coverage	41
<hr/>	
<b>INSTITUTIONAL SERVICE</b>	
Agronomy Department and Iowa State University	44

## CANDIDATE INFORMATION

### Education

Ph.D.	Soil Physics	University of Minnesota	1978
M.S.	Soils	University of Minnesota	1975
B.S.	Agronomy	Iowa State University	1972

### Professional Experience

Appointment	Year
Adjunct Professor, Northeast Forestry University Harbin, China	2009 – present
Adjunct Professor, Northeast Institute of Geography and Agroecology Harbin, China	2007 – present
Director, Iowa Water Center Iowa State University, Ames, Iowa	2006 – present
Adjunct Professor, St. Istvans University Gyongyos, Hungary	2000 – present
Professor, Iowa State University Department of Agronomy, Ames, Iowa	1988 – present
Associate Professor, Iowa State University Department of Agronomy, Ames, Iowa	1983 – 1988
Assistant Professor, Iowa State University Department of Agronomy, Ames, Iowa	1979 – 1983
Assistant Professor, North Carolina State University Department of Soil Science, Raleigh, NC	1978 – 1979
Research Assistant, University of Minnesota Department of Soil Science, Minneapolis, MN	1972 – 1978

### Areas of Specialization

My research emphasizes quantifying both water-driven soil erosion rates and soil loss rates as affected by management. Specifically, I work to improve spatial and temporal erosion rates estimates beyond what the National Resources Inventory reports. I continue to study soil erosion impacts on crop yields and profitability in Iowa, and as co-leader of the Daily Erosion Project team, publically report current soil erosion rates across Iowa. Additionally, I address soil management practices affecting soil physical properties and crop production.

### Current appointment at Iowa State University

50% Research/ 25% Administration/ 10% Teaching/ 10% Extension/  
5% Institutional Service

## RESEARCH

### Honors and Awards (13)

Award	Year
<i>White House Invitation to participate in “Gaining Ground-Soil as a Renewable Resource.”</i> White House Office of Science, Technology and Policy. August 1, 2016.	2016
<i>President, National Institutes for Water Resources.</i> October 1, 2015 – September 30, 2016.	2015 - 2016
<i>White House Invitation to participate in Round Table on Soil Health.</i> White House Office of Science, Technology and Policy. December 17, 2015	2015
<i>Stewards of Iowa’s Land (SOIL) Award,</i> Drake University Agricultural Law Center. November 19, 2015	2015
<i>Best Research Paper Award for Impact and Quality (Honorable Mention)</i> Journal of Soil and Water Conservation	2011
<i>President’s Leadership Award,</i> Soil and Water Conservation Society	2011
<i>International Award of Merit,</i> Gamma Sigma Delta Mission Award Iowa Chapter	2011
<i>Honorary Ph.D.,</i> Karoly Robert College of Economics and Environmental Science, St. Istvans University, Gyongyos, Hungary	2005
<i>Commendation Award,</i> Soil and Water Conservation Society	2003
<i>Fellow,</i> Soil Science Society of America	2002
<i>Outstanding Educational Materials (Computer Software),</i> American Society of Agronomy, Division A-4, Certified Crop Advisors Training Module – Water Storage in Soils	2001
<i>Distinguished Professor Award,</i> Gyongyos College of Economics, Agriculture, and Environmental Sciences, St. Istvans University, Gyongyos, Hungary	2000
<i>Distinguished Service Award,</i> Campus Organization for Club Advising, Iowa State University (for Soil and Water Conservation Club)	2000
<i>Sustainable Agriculture Achievement Award,</i> Practical Farmers of Iowa	1994
<i>Fellow,</i> American Society of Agronomy	1993
<i>Excellence in Applied Research and Extension,</i> Iowa State University	1992
<i>Raymond and Mary Baker Award for Agronomic Excellence,</i> Department of Agronomy, Iowa State University	1986

### Refereed journal articles (107)

1. Gelder, Brian, Tim Sklenar, David James, Daryl Herzman, **Richard M. Cruse**, Karl Gesch, and John Laflen. 2017. The Daily Erosion Project – Daily Estimates of Water Runoff, Soil Detachment, and Erosion. *Earth Surface Processes and Landforms*. *Accepted for publication.*

2. Aller, Deborah, Samuel Rathke, David Laird, Richard Cruse, and Jerry Hatfield. 2017. Impacts of fresh and aged biochars on plant available water and water use efficiency. *Geoderma*. 307:114-121.
3. Daigh, Aaron, L.M., Warren A. Dick, Matthew J. Helmers, Rattan Lal, Joseph G. Lauer, Emerson Nafziger, Carl H. Pederson, Jeff Strock, Maria Millamil, Atanu Mukherjee and **Richard Cruse**. 2017. Yields and yield stability of no-till and chisel-plow fields in the Midwestern US Corn Belt. *Field Crops Res.* <http://dx.doi.org/10.1016/j.fcr.2017.04.002>
4. Hatfield, Jerry L., Thomas J. Sauer and Richard M. Cruse. 2017. Soil: The Forgotten Piece of the Water, Food, Energy Nexus. *Adv. Agron.* 143:1-46.
5. Paulsen, Thomas H., Elena Y. Polush, T. Clark and Richard M. Cruse. 2016. Introducing a Precision Soil Conservation Curriculum: A Pre- and Post- Evaluation. *Journal of Agricultural Systems, Technology, and Management*. Accepted for publication pending revision. (10/4/2016).
6. G A Fox · A Sheshukov · **R Cruse** · R L Kolar · L Guertault · K R Gesch · R C Dutnell. 2016. Reservoir Sedimentation and Upstream Sediment Sources: Perspectives and Future Research Needs on Streambank and Gully Erosion. *Environmental Management*. DOI 10.1007/s00267-016-0671-9.
7. **Richard M. Cruse**, Daniel L. Devlin, Doug Parker, Reagan M. Waskom. 2016. Irrigation aquifer depletion: the nexus linchpin. *J. Env. Studies and Sci.* 6:149-160. DOI 10.1007/s13412-016-0369-6
8. Wells, Robert R., Henrique G. Momm, Sean J. Bennett, Karl R. Gesch, Seth M. Dabney, **Richard Cruse**, and Glenn V. Wilson. 2015. A measurement method for rill and ephemeral gully erosion assessments. *Soil Sci. Soc. Am. J.* doi:10.2136/sssaj2015.09.0320
9. Li, H, **R. M. Cruse**, R. L. Bingner, K. R. Gesch, and X. Zhang. 2015. Evaluating ephemeral gully erosion impact on *Zea mays* L. yield and economics using AnnAGNPS. *Soil Till. Res.* 155:157-165.
10. Gesch, K.R., R.R. Wells, **R.M. Cruse**, H.G. Momm, S.M. Dabney. 2015. *Quantifying uncertainty of measuring gully morphological evolution with close-range digital photogrammetry*. *Soil Sci. Soc. Am. J.* 79:650-659.
11. Wang, E., **R.M. Cruse**, Y. Zhao, and X. Chen. 2015. *Quantifying soil physical condition based on solid, liquid and gaseous phases*. *Soil Till. Res.* 146:4-9.
12. DeLong, C., **R.M. Cruse**, and J. Wiener. 2015. *The soil degradation paradox: Compromising our resources when we need them most*. *Sustainability.* 7:866-879.

13. Eleki, K., **R.M. Cruse**, N. Rogovska, L. Fodor, L. Szabó, and S. Holló. 2014. *Soil and crop management and biomass removal effects on soil organic matter content in Hungary*. Stud. Agric. Econ. 116:107-113.
14. E.J. Kladviko, M.J. Helmers, L.J. Abendroth, D. Herzmann, R. Lal, M.J. Castellano, D.S. Mueller, J.E. Sawyer, R.P. Anex, R.W. Arritt, B. Basso, J.V. Bonta, L.C. Bowling, **R.M. Cruse**, N.R. Fausey, J.R. Frankenberger, P.W. Gassman, A.J. Gassmann, C.L. Kling, A. Kravchenko, J.G. Lauer, F.E. Miguez, E.D. Nafziger, N. Nkongolo, M. O'Neal, L.B. Owens, P.R. Owens, P. Scharf, M.J. Shipitalo, J.S. Strock, M.B. Villamil. 2014. *Standardized research protocols enable transdisciplinary research of climate variation impacts in corn production systems*. J. Soil Water Conserv. 69:532-542.
15. Sun T., **R.M. Cruse**, Q. Chen, X. Li, H. Li, C. Song and X. Zhang. 2014. *Design and initial evaluation of a portable in situ runoff and sediment monitoring device*. J. Hydrol. 519:1141-1148.
16. Sun T., Q. Chen, Y. Chen, **R.M. Cruse**, X.F. Li, C.Y Song, Y.S. Kravchenko, and X.Y. Zhang. 2014. *A novel soil wetting technique for measuring wet stable aggregates*. Soil Till. Res. 141:19-24.
17. Smith, T., R. Kolka, X. Zhor, M. Helmers, **R.M. Cruse**, and M. Tomer. 2014. *Effects of native perennial vegetation buffer strips on dissolved organic carbon in surface runoff from an agricultural landscape*. Biogeochemistry. 120:121-132.
18. X. Zhou, M.J. Helmers, H. Asbjornsen, R. Kolka, M.D. Tomer, and **R.M. Cruse**. 2014. *Nutrient removal by prairie filter strips in agricultural landscapes*. J. Soil Water Conserv. 69:54-64.
19. **Cruse, R.M.**, D. Abbas, K. Gesch, C. Kowaleski, U. Kreuter, K. LaValley, C. Lepczyk, H. Salwasser, V. Scott, and M. Willig. 2014. Grand Challenges: Sustainability. In Association of Public and Land-grant Universities, Board on Natural Resources and Board on Oceans, Atmosphere, and Climate Science, Education and Outreach Roadmap for Natural Resources.
20. Hatfield, J.L., **R.M. Cruse**, and M.D. Tomer. 2013. *Convergence of Agricultural Intensification and Climate Change in the Midwestern United States: Implications for Soil and Water Conservation*. Mar. Freshwater Res. 64:423-435.
21. Helmers, M.J, X. Zhou, H. Asbjornsen, R. Kolka, M.D. Tomer, and **R.M. Cruse**. 2012. *Sediment removal by prairie filter strips in row-cropped ephemeral watersheds*. J. Environ. Qual. 41(5) 1531-1539.
22. **Cruse, R.M.** 2012. *Agriculture: Is climate change a serious issue?* In: O. Ernst, M.P. Bidegain, J. Terra, and M. Barbazan (eds). Agrocincia Uruguay, Special Issue. p. 9-19.

23. Liu, X., C.L. Burras, Y.S. Kravchenko, A. Duran, T. Huffman, H. Morras, G. Studdert, X. Zhang, **R.M. Cruse**, and X. Yuan. 2012. *Overview of Mollisols in the world: Distribution, land use and management*. Can. J. Soil Science. 92(3):383-402.
24. Wang, E., **R.M. Cruse**, X. Chen, and A. Daigh. 2012. *Effects of moisture condition and freeze/thaw cycles on surface soil aggregate size distribution and stability*. Can. J. Soil Sci. 92(3): 529-536.
25. **Cruse, R.M.** D. Huggins, C. Lenhart, J. Magner, T. Royer, and K. Schilling. 2012. *Assessing the health of streams in agricultural landscapes: The impacts of land management change on water quality*. Council for Agriculture Science and Technology Special Publication No. 31. Ames, IA, USA.
26. Zhao, Y., E. Wang, **R.M. Cruse** and X. Chen. 2012. *Characterization of seasonal freeze/thaw and potential impacts on soil erosion in Northeast China*. Can. J. Soil Sci. 92(3): 567-571.
27. Chen, Y., S. Liu, H. Li, X.F. Li, C.Y. Song, **R.M. Cruse**, and X.Y. Zhang. 2011. *Effects of conservation tillage on corn and soybean yield in the humid continental climate region of Northeast China*. Soil Till. Res. 115-116:56-61.
28. Liu, X., S. Zhang, X. Zhang, G. Ding, and **R.M. Cruse**. 2011. *Soil erosion control practices in northeast China: A mini review*. Soil Till. Res. 114:44-48.
29. Rogovska, N.P., D.L. Laird, **R.M. Cruse**, S. Trabue, and E. Heaton. 2011. *Germination tests for assessing biochar quality*. J. Environ. Qual. 41:1014-1022.
30. **Cruse, R.M.**, C. Herndl, E. Polush, and M. Shelly. 2011. *An assessment of cellulosic ethanol industry sustainability based on industry configurations*. J. Soil Water Conserv. 67:67-74.
31. Gemesi, Z., J.A. Downing, **R.M. Cruse**, and P.F. Anderson. 2011. *Effects of watershed configuration and composition on downstream lake water quality*. J. Environ. Qual. 40:517-527.
32. Kravchenko, Y.S., X. Zhang, X. Liu, C. Song, and **R.M. Cruse**. 2011. *Mollisols properties and changes in Ukraine and China*. Chin. Geogr. Sci. 21:257-266.
33. Rogovska, N., P. Fleming, D. Laird, **R.M. Cruse**, T. Parkin, and D. Meek. 2011. *Impact of biochar on manure carbon stabilization and greenhouse gas emissions*. Soil Sci. Soc. Am J. 75:871-879.
34. Wilson, H., **R.M. Cruse**, and C.L Burras. 2011. *A method to adapt watershed-scale sediment fingerprinting techniques to small-plot runoff experiments*. J. Soil Water Conserv. 66:323-328.

35. Wilson, H., **R.M. Cruse**, and C.L. Burras. 2011. *Perennial grass management impacts on runoff and sediment export from vegetated channels in pulse flow runoff events*. *Biomass Bioenerg.* 35:429-436.
36. Bidegain, M., M. Helmers, and **R.M. Cruse**. 2011. *Modeling phosphorus transport in an agricultural watershed using the WEPP model*. *J. Environ. Qual.* 39:2121-2129.
37. Gelder, B.K., A.L. Kaleita, and **R.M. Cruse**. 2009. *Estimating mean field residue cover on Midwestern soils using satellite imagery*. *Agron. J.* 101:635-643.
38. **Cruse, R.M.** and C. Herndl. 2009. *Balancing corn stover harvest for biofuels with soil and water conservation*. *J. Soil Water Conserv.* 64(4):286–291.
39. Robertson, G.P., V.H. Dale, O.C. Doering, S.P. Hamburg, J.M. Melillo, M.M. Wander, W.J. Parton, P.R. Adler, J.N. Barney, **R.M. Cruse**, C.S. Duke, P.M. Fearnside, R.F. Follet, H.K. Gibbs, J. Goldemberg, D.J. Mladenoff, D. Ojima, M.W. Palmer, A. Sharpley, L. Wallace, K.C. Weathers, J.A. Wiens, and W.W. Wilhelm. 2008. *Sustainable biofuels redux*. *Science.* 322:49-50.
40. Gelder, B.K., **R.M. Cruse**, and A.L. Kaleita. 2008. *Automated determination of management units for precision conservation*. *J. Soil Water Conserv.* 63:273-279.
41. Gelder, B.K., A.L. Kaleita, and **R.M. Cruse**. 2007. *Estimating mean field residue cover on Midwestern soils using satellite imagery*. *Agron. J.* 101:635- 643.
42. **Cruse, R.M.** and A. Molnar. 2007. *A bioüzemanyagok jelenlegi és jövőbeni szerepe az USA-ban*, MAG - Kutatás Fejlesztés és Környezet. ÉVFOLYAM., 2:12-16.
43. Gelder, B.K., **R.M. Cruse**, X.Y. Zhang. 2007. *Comparison of track and tire effects of planter tractors on corn yield and soil properties*. *Trans. ASABE:* 50(2):365-370.
44. Perez-Bidegain, M., **R.M. Cruse**, and A. Ciha. 2006. *Tillage system by planting date interaction effects on corn and soybean yield*. *Soil Sci. Soc. Am. J.* 70:613-619.
45. **Cruse, R.M.**, D. Flanagan, J. Frankenberger, B. Gelder, D. Herzmann, D. James, W. Krajewski, M. Kraszewski, J. Laflen, J. Opsomer, and D. Todey 2006. *Daily estimates of rainfall, water runoff, and soil erosion in Iowa*. *J. Soil Water Conserv.* 61:191-198.
46. Zhang, X.Y., **R.M. Cruse**, Y.Y. Sui, and Z. Jun. 2006. *Soil compaction induced by small tractor traffic in Northeast China*. *Soil Sci. Soc. Am. J.* 70: 613-619.
47. Eleki, K., **R.M. Cruse**, and K.A. Albrecht. 2005. *Root segregation of C3 and C4 species using carbon isotope composition*. *Crop Sci.* 45:879-882.

48. Santelmann, M.V., D. White, K. Lindsay, J.I. Nassauer, J.M. Eilers, K.B. Vaché, B.J. Danielson, R.C. Corry, M.E. Clark, S. Polasky, **R.M. Cruse**, J. Sifneos, H. Rustigian, C. Coiner, J. Wu, and D. Debinski. 2004. *Assessing Alternative Futures for Agriculture in Iowa, U.S.A.* Landscape Ecol. 19:357–374.
49. Kanwar, R.S., **R. Cruse**, M. Ghaffarzadeh, A. Bakhsh, D. Karlen, and T. Bailey. 2005. *Corn-soybean and alternative farming systems effects on water quality.* Appl. Eng. Agric. 21:181-188.
50. Nassauer, J., R.C. Corry, and **R.M. Cruse**. 2002. *The Landscape in 2025: Alternative future landscape scenarios: A means to consider agricultural policy.* J. Soil Water Conserv. 57:44-53.
51. Exner, D.N. and **R.M. Cruse**. 2001. *Profitability of crop rotations in Iowa in a stress environment.* J. Iowa Acad. Sci. 108:84-89.
52. Harbur, M.M., **R.M. Cruse**. 2000 *Higher population and twin row configuration does not benefit strip intercropped corn.* J. Iowa Acad. Sci. 107:3-9.
53. Ghaffarzadeh, M., F. García Préchac, **R.M. Cruse**, and M.M. Harbur. 2001. *Tillage effect on soil water content and soybean yields in a strip intercropping system.* J. Iowa Acad. Sci. 108: 19-23.
54. **Cruse, R.M.**, R. Mier, and C.W. Mize. 2001. *Surface residue effects on erosion of thawing soils.* Soil Sci. Soc. Am. J. 65:178-184.
55. Wright, S.R., D.D. Buhler, K.A. Kohler and **R.M. Cruse**. 2000. *Weed seedbanks and seedling emergence in a two and three crop narrow strip intercropping/rotation system.* J. Iowa Acad. Sci. 107:10-15.
56. Harbur, M.M., M. Ghaffarzadeh, and **R.M. Cruse**. 2000. *Corn (Zea Mays L.) yield response to N fertilizer in conventional and alternative rotations* J. Iowa Acad. Sci. 107: 42-45.
57. **Cruse, R.M.**, B.E. Berghoefer, C.W. Mize, and M. Ghaffarzadeh. 2000. *Water drop impact angle and soybean protein amendment effects on soil detachment.* Soil Sci. Soc. Am. J. 64:1474-1478.
58. Exner, D.N., D.G. Davidson, M. Ghaffarzadeh, and **R.M. Cruse**. 1999. *Yields and returns from strip intercropping on six Iowa farms.* Am. J. Alternative Agr. 14(2):69-77.
59. Froese, J., **R.M. Cruse**, and M. Ghaffarzadeh. 1999. *Erosion mechanics of soils with an impermeable subsurface layer.* Soil Sci. Soc. Am. J. 63:1836-1841.



60. Ellsbury, M.M., D.D. Exner, and **R.M. Cruse**. 1999. *Movement of corn rootworm larvae (Coleoptera: Chrysomelidae) between border rows of soybean and corn in a strip intercropping system*. J. Econ. Entomol. 92:207-214.
61. Ghaffarzadeh, M., F. García Préchac, **R.M. Cruse**, and M.M. Harbur. 1998. *Fertilizer and soil nitrogen use by corn and border crops in a strip intercropping system*. Agron. J. 90:758-762.
62. Kohler, K., M. Ghaffarzadeh, and **R.M. Cruse**. 1998. *Planting method and fertilizer timing effects on ridge-till corn*. J. Iowa Acad. Sci. 106:15-20.
63. Gilley, J.E., L.A. Kramer, **R.M. Cruse**, and A. Hull. 1997. *Sediment movement within a strip intercropping system*. J. Soil Water Conserv. 52:443-447.
64. Ghaffarzadeh, M., F. García Préchac, and **R.M. Cruse**. 1997. *Tillage effect on soil water content and corn yield in a strip intercropping system*. Agron. J. 89:893-899.
65. Ghaffarzadeh, M., D.C. Erbach, and **R.M. Cruse**. 1996. *Ridge shape as influenced by ridge building technique*. Trans. ASAE. 12:281-286.
66. Robinson, C.A., **R.M. Cruse**, and M. Ghaffarzadeh. 1996. *Cropping system and nitrogen effects on Mollisol organic carbon*. Soil Sci. Soc. Am. J. 60:264-269.
67. Robinson, C.A., M. Ghaffarzadeh, and **R.M. Cruse**. 1995. *Vegetative filter strip effects on sediment concentration in cropland runoff*. J. Soil Water Conserv. 51:227-230.
68. Karlen, D.L., G.E. Varvel, D.G. Bullock, and **R.M. Cruse**. 1994. *Crop rotations for the twenty-first century*. Adv. Agron. 53:1-45.
69. Ghaffarzadeh, M., F. García Préchac, and **R.M. Cruse**. 1994. *Grain yield response of corn, soybean, and oat grown in a strip intercropping system*. Am. J. Alternative. Agr. 9:171-177.
70. Exner, D.N. and **R.M. Cruse**. 1993. *Interseeded forage legume potential as winter ground cover, nitrogen source, and competitor*. J. Prod. Agric. 6:226-231.
71. Erbach, D.C., J.G. Benjamin, **R.M. Cruse**, M.A. Elamin, S. Mukhtar, and C.H. Choi. 1992. *Soil and corn response to tillage with paraplow*. Trans. ASAE. 35(5):1347-1354.
72. Craft, E.M., **R.M. Cruse**, and G.A. Miller. 1992. *Soil erosion effects on corn yields assessed by potential yield index model*. Soil Sci. Soc. Am. J. 56:878-883.
73. Blaylock, A.D. and **R.M. Cruse**. 1992. *Ridge-tillage corn response to point-injected N fertilizer*. Soil Sci. Soc. Am. J. 56:591-595.
74. Brown, H.J., **R.M. Cruse**, and D.C. Erbach. 1992. *Tractive device effects on soil physical properties*. Soil Till. Res. 22:41-53.

75. Timmons, D.R. and **R.M. Cruse**. 1991. *Effect of fertilization method and tillage on nitrogen-15 recovery by corn*. Agron. J. 82:777-784.
76. Kaspar, T.C., D.D. Erbach, and **R.M. Cruse**. 1990. *Corn response to seed-row residue removal*. Soil Sci. Soc. Am J. 54:1112-1117.
77. Timmons, D.R. and **R.M. Cruse**. 1990. *Residual nitrogen-15 recovery by corn as influenced by tillage and fertilization method*. Agron. J. 83:357-363.
78. Blaylock, A.D., J.G. Benjamin, and **R.M. Cruse**. 1990. *Microplot design for determining corn recovery of nitrogen fertilizer applied in the row*. Soil Sci. Soc. Am. J. 54:930-932.
79. Benjamin, J.G., M.R. Ghaffarzadeh, and **R.M. Cruse**. 1990. *Coupled water and heat transport in ridged soils*. Soil Sci. Soc. Am. J. 54:963-969.
80. Benjamin, J.G., A.D. Blaylock, H.J. Brown, and **R.M. Cruse**. 1990. *Ridge tillage effects on simulated water and heat transport*. Soil Till. Res. 18:167-180.
81. Dickey, E.E., D.J. Eckert, W.E. Larson, R. Johnson, J. Mannering, J. Kinsella, I. Wikner, **R.M. Cruse**. 1989. *To till or not to till during drought*. J. Soil Water Conserv. 44: 117-120.
82. Brown, H.J., **R.M. Cruse**, and T.S. Colvin. 1988. *Tillage system effects on crop growth and production costs for a corn-soybean rotation*. J. Prod. Agric. 2:273-279.
83. Benjamin, J.G., **R.M. Cruse**, A.D. Blaylock, and L.V. Vogl. 1988. *A small-plot point injector for liquid fertilizer application*. Soil Sci. Soc. Am. J. 52:1194-1195.
84. Garcia, F., **R.M. Cruse**, and A.M. Blackmer. 1988. *Compaction and nitrogen placement effect on root growth, water depletion, and nitrogen uptake*. Soil Sci. Soc. Am. J. 52:792-797.
85. Potter, K.N., R. Horton, and **R.M. Cruse**. 1987. *Soil surface roughness effects on radiation reflectance and soil heat flux*. Soil Sci. Soc. Am. J. 51:855-859.
86. Benjamin, J.G., and **R.M. Cruse**. 1987. *Tillage effects on shear strength and bulk density of soil aggregates*. Soil Till. Res. 9:255-264.
87. Kaspar, T.C., T.M. Crosbie, **R.M. Cruse**, D.C. Erbach, D.R. Timmons, and K.N. Potter. 1987. *Growth and productivity of four corn hybrids as affected by tillage*. Agron. J. 79:477-480.

88. Timmons, D.R., T.M. Crosbie, **R.M. Cruse**, D.C. Erbach, and K.N. Potter. 1986. *Effect of tillage and corn hybrids on N, P and K uptake at different growth stages*. *Maydica*. 31:279-294.
89. Erbach, D.C., and **R.M. Cruse**. *Evaluation of the paraflow for continuous corn production*. 1986. *Soil Till. Res.* 8:336.
90. Erbach, D.C., **R.M. Cruse**, T.M. Crosbie, D.R. Timmons, and K.N. Potter. 1986. *Maize response to tillage-induced soil conditions*. *Trans. ASAE*. 29:690-695.
91. **Cruse, R.M.** 1985. *Watch soil temperatures—managing crop residues brings several benefits*. *Crops Soils*. 38:17-18.
92. Hill, R.L., R. Horton and **R.M. Cruse**. 1985. *Tillage effects on soil water retention and pore size distribution of two mollisols*. *Soil Sci. Soc. Am. J.* 49:1264-1270.
93. Benjamin, J.G. and **R.M. Cruse**. 1985. *Measurement of shear strength and bulk density of soil aggregates*. *Soil Sci. Soc. Am. J.* 49:1248-1251.
94. Potter, K.N., **R.M. Cruse** and R. Horton. 1985. *Tillage effects on soil thermal properties*. *Soil Sci. Soc. Am. J.* 49:968-973.
95. Hill, R.L. and **R.M. Cruse**. 1985. *Tillage effects on bulk density and soil strength of two mollisols*. *Soil Sci. Soc. Am. J.* 49:1270-1273.
96. Hill, R.L., B. Dalali, **R.M. Cruse**, and A.S. Felsot. 1984. *Effect of seed-treatment methods and soil water content on early growth and acephate uptake by corn and cotton plants*. *J. Econ. Entomol.* 77:880-884.
97. Yakle, G.A. and **R.M. Cruse**. 1984. *Effects of fresh and decomposing corn plant residue extracts on corn seedling development*. *Soil Sci. Soc. Am. J.* 48:1143-1146.
98. Colvin, T.S., D.C. Erbach, W.F. Buchele, and **R.M. Cruse**. 1984. *Tillage index based on created soil conditions*. *Trans. Am. Soc. Agric. Eng.* 27:370-371.
99. **Cruse, R.M.** and P.B. Francis. 1984. *Shallow-layer soil water potential changes due to water drop impact*. *Soil Sci. Soc. Am. J.* 48:498-500.
100. **Cruse, R.M.**, G.A. Yakle, T.S. Colvin, D.R. Timmons, and A.L. Musselman. 1983. *Tillage effects on corn and soybean production in farmer-managed, university-monitored field plots*. *J. Soil Water Conserv.* 38(6):512-514.
101. Francis, P.B. and **R.M. Cruse**. 1983. *Soil water matric potential effects on aggregate stability*. *Soil Sci. Soc. Am. J.* 47:478-581.

102. Yakle, G.A. and **R.M. Cruse**. 1983. *Corn plant residue age and placement effects on early corn growth*. Can. J. Plant Sci. 63:871-877.
103. **Cruse, R.M.**, D.K. Cassel, R.E. Stitt, and F.E. Averette. 1981. *Effect of particle surface roughness on mechanical impedance of coarse textured soil materials*. Soil Sci. Soc. Am. J. 45:1210-1214.
104. **Cruse, R.M.**, K.N. Potter, and R.R. Allmaras. 1980. *Modeling tillage effects on soil temperature*. In: P.W. Unger and D.M. Van Doran, Jr. (eds), Predicting Tillage Effects on Soil Physical Properties and Processes. ASA Special Publication No. 44, pp. 133-150.
105. **Cruse, R.M.**, D.K. Cassel, and F.G. Averette. 1980. *Effect of particle surface roughness on densification of coarse textured soils*. Soil Sci. Soc. Am. J. 44:692-697.
106. **Cruse, R.M.**, D.R. Linden, J.K. Radke, W.E. Larson, and K. Larntz. 1980. *A model to predict tillage effects on soil temperature*. Soil Sci. Soc. Am. J. 44: 378-383.
107. **Cruse R.M.** and W.E. Larson. 1977. *Effect of soil shear strength on soil detachment due to raindrop impact*. Soil Sci. Soc. Am. J. 41:777-781.

---

**Non-refereed technical publications: conference proceedings, reports etc. (34)**

---

1. **Cruse, Rick**, Brian Gelder, David James, and Daryl Herzmann. 2017. Soil erosion: How much is occurring, when and where? Wisconsin Agribusiness Classic. Available at: <http://agclassic.org/proceedings/2017Cruse-et-al.pdf>
2. **Cruse, Rick**. 2017. Why conserving Wisconsin's soil and water resources is a global necessity. Wisconsin Agribusiness Classic. Available at: <http://agclassic.org/proceedings/2017Cruse-1.pdf>
3. **Cruse, Rick**. 2016. Soil erosion defined. Pgs. 16-17. In Clay, R and Runyan, C (eds.) Getting Into Soil and Water. 2016. Iowa Water Center. Ames, IA.
4. **Cruse, Richard M.**, Brian Gelder, David James, and Daryl Herzmann. 2016. Daily Erosion Project: daily estimates of soil erosion and water runoff. Pp. 193-194. In Integrated Crop Management Conference Proceedings. Ames, IA.
5. Isenhardt, T. and **R.M Cruse**. 2014. Gulf of Mexico Hypoxia: Why Blame Iowa Farmers? In: D.C. McDonough (ed.) *Getting Into Soil and Water: 2014*. Iowa Water Center, Ames, IA.
6. **Cruse, R.M.**, 2014. Soil erosion in Iowa: How much is really occurring? *Crop Advantage Proceedings*. AEP 0200. p. 34-35.

7. Rogovska, N. and **R.M. Cruse**. 2010. Consequences for Iowa Agriculture. In: Connie Mutel (ed.) *Climate Change Impacts on Iowa 2010. Report to the Governor and Iowa General Assembly*.
8. Rogovska, N., D. Laird, **R.M. Cruse**, and E. Heaton. 2010. Quality of pyrolyzed organic biomass and its potential use as a soil ameliorant. In: X. Liu, C. Song, **R.M. Cruse** and T. Huffman (eds.) *New Advances of Research and Management of World Mollisols. Proceedings of International Symposium on Soil Quality and Management of World Mollisols*. p. 153-154. Northeast Forestry University Press.
9. Burras, C.L., **R.M. Cruse**, S.A. Willis, J.M. McMichael, and J.J. Veenstra. 2010. Managing mollisols to enhance infiltration and carbon sequestration across fields susceptible to erosion and sedimentation. In: X. Liu, C. Song, **R.M. Cruse**, and T. Huffman (eds.) *New Advances of Research and Management of World Mollisols. Proceedings of International Symposium on Soil Quality and Management of World Mollisols*. p. 114. Northeast Forestry University Press.
10. Wang, E, **R.M. Cruse**, X. Chen, and A. Daigh. 2010. Effects of moisture condition and freeze-thaw cycles on surface soil aggregate size distribution and stability of two mollisols. In: X. Liu, C. Song, **R.M. Cruse** and T. Huffman (eds.) *New Advances of Research and Management of World Mollisols. Proceedings of International Symposium on Soil Quality and Management of World Mollisols*. p. 90. Northeast Forestry University Press.
11. Wang, E., **R.M. Cruse**, Y. Zhao, and X. Chen. 2010. Characterization of seasonal freeze-thaw and its effects on soil structure of black soil in Northeast China. In: X. Liu, C. Song, **R.M. Cruse**, and T. Huffman (eds.) *New Advances of Research and Management of World Mollisols. Proceedings of International Symposium on Soil Quality and Management of World Mollisols*. p. 88-89. Northeast Forestry University Press.
12. Burras, C.L, J. Veenstra, M. Ibrahim, **R.M. Cruse**, and T. Fenton. 2010. Black soils of the USA—A brief introduction. In: X. Liu, C. Song, **R.M. Cruse** and T. Huffman (eds.) *New Advances of Research and Management of World Mollisols. Proceedings of International Symposium on Soil Quality and Management of World Mollisols*. p. 46-50. Northeast Forestry University Press.
13. **Cruse, R.M.**, B.K. Gelder, and E. Wang. 2010. Recent spatial and temporal erosion of Iowa mollisols. In: X. Liu, C. Song, **R.M. Cruse**, and T. Huffman (eds.) *New Advances of Research and Management of World Mollisols. Proceedings of International Symposium on Soil Quality and Management of World Mollisols*. p. 70-71. Northeast Forestry University Press.
14. Eleki, K., **R.M. Cruse**, L. Fodor, L. Szabo, and S. Hollo. 2005. Soil management and crop biomass removal impacts on soil organic matter content. In: S. Hidvegi (ed.) *Proceedings of the IV. Alps-Adria Scientific Workshop. Cereal Research Communications*. Szeged, Hungary. p. 305-307.

15. Gelder, B.K., **R.M. Cruse**, J.M. Laflen, J. Opsomer, W. Krajewski, M. Kraszewski, D. Herzmann, D. James, D. Flanagan, J. Frankenberger, and D. Todey. 2004. Daily estimates of soil erosion and runoff in Iowa. Paper no. 114, p. 1-6. In: *ISCO 2004 - 13th International Soil Conservation Organisation Conference – Brisbane, Australia, July 2004: Conference Proceedings*. Australian Society of Soil Science Inc. and Warragul Vic and Picton NSW.
16. Perez-Bidegain, **R.M. Cruse**, and A. Ciha. 2003. Strip till, no-till, and conventional tillage comparisons: Does date of planting affect results? *Proceedings of the 15th Annual Integrated Crop Management Conference*. p. 165-168.
17. Eleki, K. and **R.M. Cruse**. 2002. Effect of kura clover living mulch on soil erosion and water runoff. *Proceedings of Saint Stephen University College of Economics and Agriculture*, Gyongyos 8th International Agrieconomic Scientific Days. March 26-27. Vol. 1. p. 282-285.
18. **Cruse, R.M.**, F. Laszlo, and L. Szabo. 2000. Sustainable Corn Production. p. 173-180. In Magda Sandor and Lajos Szabo (eds.) *Proceedings of 7th International Agrieconomic Scientific Days*. Gyongyos, Hungary, March 28-29.
19. Mize, C., W. Batchelor, J. Brandle, **R.M Cruse**, M. Ghaffarzadeh, X.Qi, E. Takle, and P. Wray. 1999. SAMS (Shelterbelt Agroforestry Modeling System): Present Status and Future Directions. In: L. Buck and J. Lassoie, (eds.) *Exploring the Opportunities for Agroforestry in Changing Rural Landscapes*. Proceedings Fifth Conference on Agroforestry in North America, Ithaca, New York. Aug. 1999. p. 135-136.
20. Keeney, D. and **R.M. Cruse**. 1997. Soil quality: The bridge to a sustainable agriculture. *International Symposium on Soil, Human and Environment Interactions*. Institute of Soil Science, Chinese Academy of Sciences. Nanjing, P.R. China. May 4-11.
21. Froese, J. and **R.M. Cruse**. 1997. Erosion impacts of the soil-thawing process. In: Iskandar, E.A., E.A. Wright, J.K. Radke, B.S. Sharratt, P.H. Groenevelt, and L.D. Hinzman (eds.) *International Symposium on Physics, Chemistry, and Ecology of Seasonally Frozen Soils*. Proceedings. U.S. Army Cold Regions Research and Engineering Laboratory, Hanover, NH. p. 231-234.
22. Kanwar, R.S., **R.M. Cruse**, D.L. Karlen, C. Cambardella. 1995. Swine manure and N management systems: impact on ground water quality. *Clean Water, Clean Environment, 21st Century: team agriculture working to protect water resources: Conference proceedings*. March 5-8. Kansas City, MO.
23. Swan, J.B., B. Lowery, **R.M Cruse**, T. Kaspar, M.J. Lindstrom, J.F. Moncrief, and J. Staricka. 1995. Crop residue management to reduce erosion and improve soil quality. *USDA-ARS Cons. Rept.* 47:73-77.

24. Kaspar, T.C., **R.M. Cruse**, and D.R. Timmons. 1991. Demonstration of how fertilizer placement interacts with root growth. Iowa State University Cooperative Extension Service (PM-1417). In the series analytic: *Integrated Farm Management Demonstration Program. 1990 Progress Report*. p. 63-68.
25. **Cruse, R.M.** and C. Francis. 1990. Planting cereals in a ridge till system. *Crop Production News*. Vol. X, No. 9. February 23, 1990. Institute of Agriculture & Natural Resources, University of Nebraska.
26. **Cruse, R.M.** 1990. Strip Intercropping. In: *Farming Systems for Iowa: Seeking Alternatives. Leopold Center for Sustainable Agriculture 1990 Conference Proceedings*.
27. **Cruse, R.M.** 1990. Fertilizer placement considerations for conservation tillage. In: *1990 Crop Production and Protection Conference Proceedings*. Iowa State University Extension Service. p 127-130.
28. **Cruse, R.M.** 1987. Matching tillage and cropping systems to Clarion-Webster soils. *Proceedings of Conservation Tillage on Wet Soils*. Clear Lake, IA. p. 100-107.
29. **Cruse, R.M.**, I.C. Anderson, and F.B. Amos, Jr. 1985. Residual effects of corn and soybean on the subsequent corn crop. In: R. Shibles (ed.) *World Soybean Research Conference III Proceedings*. p.1061-1065.
30. **Cruse, R.M.** 1985. What can be done about soil compaction? *Iowa State University 36th Annual Fertilizer and Ag Chemical Dealers Conference*. Ce-2081.
31. **Cruse, R.M.** 1983. Crop stress: The effect of soil properties. *Iowa State University 36th Annual Fertilizer and Ag Chemical Dealers Conference*. Ce-1981's.
32. **Cruse, R.M.** 1983. Effect of crop residue on corn-soybean rotations. *Proceedings of the Soils, Fertilizer and Agricultural Pesticide Short Course*. University of Minnesota. p.18.
33. **Cruse, R.M.** 1983. Maintaining soil fertility. *Proceedings of the Management Alternatives for Biological Farming Workshop*. p. 32-33.
34. **Cruse, R.M.**, D. Tapper, and T.M. Crosbie. 1983. A perspective on developments. III. Biological sciences and their impact on productivity. In: *NRE Staff Report No. AGES830315, Perspectives on Vulnerability of U.S. Agriculture to Soil Erosion*. p. 5-9.

---

#### Refereed books and book chapters (15)

---

1. **Cruse, R.M.**, S. Lee, T.E. Fenton, E. Wang, and J. Laflen. 2013. Soil renewal and sustainability. In: R. Lal and B. A. Stewart (eds.) *Principles of Sustainable Soil Management in Agroecosystems*. CRC Press, Boca Raton, LA. p. 477-500.

2. **Cruse, R.M.**, E. Wang, S. Lee, and X. Chen. 2013. Agriculture and water quality. In: S. Ahuja, M.C. Larsen, J. Eimers, C. Patterson, S. Sengupta, and J.L. Schnoor (eds.) *Comprehensive Water Quality and Purification*. Elsevier, Boston, MA. p. 42-54.
3. **Cruse, R.M.**, H. Olson, and J.M. Laflen. 2010. How did the flood affect farmland? In: C. Mutel (ed.) *A Watershed Year: Anatomy of Iowa Floods of 2008*. Bur Oak Books, University of Iowa Press, Iowa City, IA. p. 147-154.
4. **Cruse, R.M.**, M.J. Cruse, and D. Reicosky. 2009. Soil quality impacts of residue removal for biofuel feedstocks. In: R. Lal and B.A. Stewart. (eds.) *Soil Quality and Biofuel Production*. CRC Press. Boca Raton, LA. p. 45–62.
5. Santelmann, M.V., D. White, D.F. Lindsay, J.I. Nassauer, J.M. Eilers, K.B. Vache, B.J. Danielson, R., C. Corry, M.E. Clark, S. Polasky, **R.M. Cruse**, J.C. Sifneos, H.L. Rustigian, C.U. Coiner, J. Wu, and D.M. Debinski. 2007. An integrated assessment of alternative futures for Corn Belt agriculture. In: J. Nassauer, M.V. Santelmann, and D. Scavia (eds.) *From the Corn Belt to the Gulf: Resources for the Future*. Washington, D.C. p. 162-174.
6. Nassauer, J., R.C. Corry, and **R.M. Cruse**. 2007. Alternative scenarios for future Iowa agricultural landscapes. In: J. Nassauer, M.V. Santelmann, and D. Scavia (eds.) *From the Corn Belt to the Gulf: Resources for the Future*. Washington, D.C. p. 41-55.
7. **Cruse, R.M.**; K. Eleki, J. Kost, and J.G. Neppel. 2003. Erosion control, tillage/residue management. In: T. Howell, and B.A. Stewart (eds.) *Encyclopedia of Water Science*, 1st Ed. Marcel Dekker, Inc. New York, NY.
8. Santelmann, M., K. Freemark, D. White, J. Nassauer, M. Clark, B. Danielson, J. Eilers, **R.M. Cruse**, S. Galatowitsch, S. Polasky, K. Vaché, and J. Wu. 2001. *Applying ecological principles to land-use decision-making in agricultural watersheds*. In Dale V.H. and Haeuber R.A. (eds.), *Applying Ecological Principles to Land Management*. Springer-Verlag, New York, New York, USA, p. 226–252.
9. Keeney, D., and **R.M. Cruse**. 1998. The connection between soil conservation and sustainable agriculture. In: F.J. Pierce and W.W. Frye (eds.) *Advances in Soil and Water Conservation*. Sleeping Bear Press, Inc. Chelsea, MI. p. 185-194.
10. Kanwar, R.S., J.L. Baker, D.L. Karlen, C. Cambardella, and **R.M. Cruse**. 1996. Nitrogen management systems for sustainable crop production and water quality enhancement. In: S. Arya, K. Arora, and R.K. Behl (eds.) *Sustainable Agriculture & Environment*, Vol 1. Soc. Sust. Agri. & NRM, Hisar and MMB, New Delhi, India. p. 99-105.
11. **Cruse, R.M.** and D.L. Dinnes. 1995. Spatial and temporal diversity in production fields. In: R.K. Olson, C.A. Francis, and S. Kaffka (eds.) *Exploring the role of diversity in sustainable agriculture*. American Society of Agronomy, Madison, WI. p. 73-94.



12. Robinson, C.A., **R.M. Cruse**, and K.A. Kohler. 1994. Soil Management. In: J.L. Hatfield and D.L. Karlen (eds.) *Sustainable Agricultural Systems*. Lewis Publishers, Boca Raton, FL. p. 109-134.
13. Follett, R.F., D.R. Keeney, and **R.M. Cruse**. 1991. Managing Nitrogen for Groundwater Quality and Farm Profitability. Soil Science Society of America, Inc., Madison, WI.
14. **Cruse, R.M.** and S.C. Gupta. 1990. Structural stability effects on soil compaction. In R. Lal and F.J. Pierce (eds.) *Soil Management for Sustainability*. Soil and Water Conservation Society, Ankeny, IA. p. 19 - 24.
15. Craft, E.M., S.A. Carlson, and **R.M. Cruse**. 1985. A model of erosion and subsequent fertilization impacts on soil productivity. In: *Erosion and Soil Productivity*. ASAE Publication, 8-85. St. Joseph, MI. p. 143-151.

---

## Abstracts

---

*Approximately 100 prior to 2010*

1. Gelder, Brian, Richard Cruse, Daryl Herzmann, David James, and Timothy Sklenar. 2017. The daily erosion project: hillslope to regional scale estimates of erosion. Madison, WI.  
[http://www.swcs.org/documents/filelibrary/17ac/17AC\\_Abstract\\_Book\\_1085002174566.pdf](http://www.swcs.org/documents/filelibrary/17ac/17AC_Abstract_Book_1085002174566.pdf) p 152
2. Sharma, Bhavna, Bradley Miller and Richard Cruse. 2017. Soil erosion impacts on soil water storage capacity and flooding potential. Soil and Water Conservation Annual Meetings. Madison, WI.  
[http://www.swcs.org/documents/filelibrary/17ac/17AC\\_Abstract\\_Book\\_1085002174566.pdf](http://www.swcs.org/documents/filelibrary/17ac/17AC_Abstract_Book_1085002174566.pdf)
3. Chen, Xuewen, Richard M. Cruse, Brian Gelder, and Xingyi Zhang. 2017. Application of the daily erosion project (DEP) in Northeast China. Soil and Water Conservation Society Annual meetings. Madison, WI.  
[http://www.swcs.org/documents/filelibrary/17ac/17AC\\_Abstract\\_Book\\_1085002174566.pdf](http://www.swcs.org/documents/filelibrary/17ac/17AC_Abstract_Book_1085002174566.pdf) p. 170
4. Yu, Changhong, Richard Cruse and Jiu hao Li. 2017. Runoff and sediment yield from strong storms on sloping laterite soils producing sugarcane. Soil and Water Conservation Society Annual meetings. Madison, WI.  
[http://www.swcs.org/documents/filelibrary/17ac/17AC\\_Abstract\\_Book\\_1085002174566.pdf](http://www.swcs.org/documents/filelibrary/17ac/17AC_Abstract_Book_1085002174566.pdf) p. 194
5. Tim Sklenar, Mario Perez-Bidegain, **Richard Cruse**, Brian Gelder, and Daryl Herzmann. 2016. Integrating Phosphorus Movement with Soil and Water Loss in the Daily Erosion

Project. European Geosciences Union. Vienna Austria. Available at:  
<http://meetingorganizer.copernicus.org/EGU2016/EGU2016-18026.pdf>

6. Scott Lee and **Richard Cruse**. 2015. Topsoil Depth Effects on Crop Yields as Affected by Weather. European Geosciences Union Annual Meeting. Vienna Austria. Available at: <http://meetingorganizer.copernicus.org/EGU2015/EGU2015-6577.pdf>
7. Brian Gelder, David James, Daryl Herzmann, Victoria Scott, **Richard Cruse**, John Laflen, Dennis Flanagan, Jim Frankenberger, and Jean Opsomer. 2015. The Daily Erosion Project - lessons learned by expanding a statewide erosion and runoff model beyond state boundaries. European Geosciences Union Annual Meeting. Vienna Austria. Available at: <http://meetingorganizer.copernicus.org/EGU2015/EGU2015-15022.pdf> .
8. Cruse, R.M. 2015. Supplemental Irrigation: Improving Sustainability or Risking Our Soil Resource. 3rd Inter-Regional Conference on Land and Water Challenges. Colonia, Uruguay.
9. Caon, L., A. Kessler, S. Keesstra, and **R.M. Cruse**. 2014. *Soil erosion and mitigation measures on rented and owned fields in Uruguay: the impact of transgenic soya and foreign investors on the resource soil*. European Geosciences Union Annual Meeting. Vienna, Austria.
10. Wang, E., **R.M. Cruse**, Y. Zhao, and X. Chen. 2010. *Quantifying soil structure based on solid, liquid and gas components*. American Society of Agronomy Annual Meetings. Long Beach, CA.
11. Rogovska, N., D. Laird, **R.M. Cruse**, and E. Heaton. 2010. *Evaluation of biochar quality utilizing standard germination tests*. American Society of Agronomy Annual Meetings. Long Beach, CA.
12. **Cruse, R.M.**, B. Gelder, R. Anex, and H. Olson. 2010. *Water foot print of various biofuel crops*. American Society of Agronomy Annual Meetings. Long Beach, CA.
13. Helmers, M., H. Asbjornsen, X. Zhou, R. Kolka, M. Tomer and **R.M. Cruse**. 2010. *Integration of perennials in row crop agriculture for enhancing water quality in central Iowa*. American Society of Agronomy Annual Meetings. Long Beach, CA.
14. Heaton, E., J. Singer, **R.M. Cruse**, and D. Davenport. 2010. *Under cover: Secrets to using companion crops in establishment of *M. x Giganteus**. American Society of Agronomy Annual Meetings. Long Beach, CA.
15. **Cruse, R.M.**, E. Wang, and X. Chen. 2010. *Soil structure: Science or fantasy*. American Society of Agronomy Annual Meetings. Long Beach, CA.

---

**Invited keynote presentations (6)**


---

1. **Cruse, Richard.** May 26, 2016. Daily Erosion Project (DEP): Estimating soil erosion and water runoff in near real time. 7<sup>th</sup> International Symposium on Gully Erosion. West Lafayette, IN
2. **Cruse, R.M.** February 4, 2015. Is soil and water degradation inevitable? Don't bet your life on it! Ontario Soil and Crop Improvement Association Annual Meeting. London, Ontario, Canada.
3. **Cruse, R.M.** July 28, 2014. Is soil and water degradation inevitable? Don't bet your life on it! Pritchard Lecture, Soil and Water Conservation Society Annual Meeting. Lombard, IL.
4. **Cruse, R.M.** March 27, 2014. Changing and Adopting: Agriculture and the Countryside. 14<sup>th</sup> International Scientific Days, Karoly Robert College. Gyongyos, Hungary.
5. **Cruse, R.M.** September 24, 2012. Agriculture and climate change. International Soil and Tillage Research Conference. Montevideo, Uruguay.
6. **Cruse, R.M.** September 5, 2012. Are we really losing ground? Conservation Districts of Iowa Annual Meeting. Des Moines, IA.
7. **Cruse, R.M.** June 26, 2011. Global pressure on agriculture. ASA-CSSA-SSSA Northeastern Branch Annual Meeting. Chesapeake Beach, MD.

---

**International presentations (26)**


---

1. **Cruse, Rick.** September 27, 2017. Gully channel erosion, and its prevention and control in US Mollisol area. Yanji, China.
2. **Cruse, Rick.** February 8, 2017. Cost of Soil Erosion. Rendez-vous végétal 2017. Brossard, Québec, Canada
3. **Cruse, Rick.** March 31, 2016. Are Current Soil Erosion Rates Sustainable? Huron County Soil and Crop Improvement Association. Holmesville, Ontario, Canada
4. **Cruse, R.M.** September 31, 2015. Daily Erosion Project. Instituto Nacional Investigacion Agropecuaria. Colonia, Uruguay.
5. **Cruse, R.M.** September 28, 2015. Irrigation and Agriculture in Uruguay? 3<sup>rd</sup> Inter-Regional Conference on Land and Water Challenges. Colonia, Uruguay.
6. Brian Gelder, David James, Daryl Herzmann, Karl Gesch, **Richard Cruse**, John Laflen, Dennis Flanagan, Jim Frankenberger and Jean Opsomer. April 13, 2015. The Daily

Erosion Project: Lessons Learned. European Geosciences Union. Vienna, Austria.

7. **Cruse, Richard**, Scott Lee and Tim Sklenar. April 13, 2015. Topsoil Depth Effects on Crop Yields And Weather Impacts. European Geosciences Union. Vienna, Austria.
8. **Cruse, R.M.** January 6-7, 2015. The economics of soil health: What is erosion costing us? Southwest Agricultural Conference. Ridgetown, Ontario, Canada. (Snow storm canceled flights – presented as webinar). (Invited).
9. **Cruse, R.M.** July 15, 2014. Resource degradation, climate change and rising global demand. Research School for Socioeconomic and Natural Sciences of the Environment. Bonn, Germany. (Invited).
10. Euken, J. and **R.M. Cruse**, July 8, 2014. Soil and Water Resource: Challenges and opportunities for biofuels. 3rd European Biorefinery Training School. Budapest, Hungary. (Invited).
11. **Cruse, R.M.** March 29, 2012. Electronic learning at Iowa State University. 13th International Scientific Days, Karoly Robert College (presented from Iowa State University). Gyongyos, Hungary. (Invited).
12. **Cruse, R.M.** April 8, 2011. Biofuels, climate change and hydrology: A tsunami of challenges. Low Carbon Economy: EU Energy and Environment Innovations. The Hungarian EU Presidency 2011 - Open University Programme. St. Istvans University. Gödöllő, Hungary. (Invited).
13. **Cruse, R.M.** March 25, 2010. Distance education: Lessons learned. International Scientific Days, Karoly Robert College. Gyongyos, Hungary. (Invited).
14. **Cruse, R.M.** July 18, 2008. Soil and water conservation in the U.S.: History, techniques, and policies. The Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences. Harbin, China. (Invited).
15. **Cruse, R.M.** and M.J. Cruse. July 14, 2008. Soil erosion control methods in Iowa. The Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences. Chanchun, China. (Invited).
16. Eleki, K., **R.M. Cruse**, L. Fodor, L. Szabó, S. Holló. March 4, 2005. Soil management and crop biomass removal impacts on soil organic matter content. IV. Alps-Adria Scientific Workshop. Portoroz, Slovenia.
17. **Cruse, R.M.** 2005. Soil and water conservation issues in the United States (3 lectures). Institute of Soil and Water Conservation of Heilongjaing Province, China; Institute of Soil and Fertilizer, Agricultural Academy of Science, Heilongaing Province; and Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, Heilongaing Province. In or near Harbin, China. (Invited).

18. Eleki, K. and **R.M. Cruse**. 2002. Effect of Kura Clover living mulch on soil erosion and water runoff. Gyongyos 8th Int'l Agrieconomic Scientific Days. 1:282-285. (Invited).
19. **Cruse, R.M.**, F. Laszlo, and L. Szabo. February 20, 2001. Nitrogen and energy balance in maize (*Zea Mays L.*) production. Croatian Symposium on Agriculture. Opatija, Croatia.
20. **Cruse, R.M.**, F. Laszlo, and L. Szabo. March 28, 2000. Sustainable corn production. Gyongyos, Hungary. (Invited).
21. **Cruse, R.M.** September 7, 1999. Corn production in Iowa. Extension meeting held at Tass-puszta Research Farm. Gyongyos, Hungary. (Invited).
22. **Cruse, R.M.** May 8, 1992. Concepts in sustainable agriculture. Research Institute of Agriculture. Kiev, Ukraine. (Invited).
23. **Cruse, R.M.** May 4, 1992. Concepts in sustainable agriculture. Research Institute of Agriculture and Soil Conservation. Kursk, Russia. (Invited).
24. **Cruse, R.M.** February 26, 1992. Tillage and soil fertility -Iowa perspective. Ontario Corn Producers' Association. London, Ontario, Canada. (Invited).
25. **Cruse, R.M.** February 12, 1992. Potential for sustainable cereal grain production in the U.S. Workshop on Sustainable Agriculture Technology and Practices. Organization for Economic Cooperation and Development. Paris, France. (Invited)
26. **Cruse, R.M.** February 12, 1992. Feasibility of sustainable farming practices in the U.S. Organization for Economic Cooperation and Development. Paris, France. (Invited).

---

#### **Invited domestic presentations (87)**

---

1. **Cruse, Rick.** Daryl Herzmann, Brian Gelder, and David James. August 16, 2017. Crop residue management decisions: How do they influence daily soil erosion estimates. Crop Residues for Advanced Biofuels Workshop. Sacramento, CA.
2. **Cruse, Rick.** August 5, 2017. Iowa International Agricultural Summit panel member – Environment. Des Moines, IA.
3. **Cruse, Rick.** August 1, 2017. Soils and Soil Fertility Crisis: Earmarks of Solutions? 2017 SWCS Annual Meetings. Madison WI.
4. **Cruse, Rick.** June 27, 2017. Soil and Water: Resources with a troubled future. Des Moines Water Works. Des Moines, IA.

5. **Cruse, Rick.** May 10, 2017. Soil: A resource with a troubled future. National Adaptation Forum. St. Paul, MN.  
<https://www.nationaladaptationforum.org/program/wednesday/concurrent-session-4/adaptation-maintain-agricultural-productivity>
6. **Cruse, Rick.** March 31, 2017. Cost of soil erosion. Cedar River Watershed Coalition meeting: Improving the Upper Cedar River Watershed: Challenges & Successes. Osage, IA. 50 people attending.
7. **Cruse, Rick.** March 19, 2017. Is soil and water degradation inevitable? United Methodist Church adult forum. Ames, IA 16 people attending.
8. **Cruse, Rick.** March 15, 2017. Why conserving Wisconsin's soil and water resources is a global necessity. Soil Health Seminar. Cedar Lake Protection & Rehabilitation District. New Richmond, WI. 80 people attending.
9. **Cruse, Rick, Brian Gelder, David James, and Daryl Herzmann.** January 11, 2017. Soil erosion: How much is occurring, when and where? Wisconsin Agribusiness Classic. Madison, WI. ~300 people attending
10. **Cruse, Rick.** January 11, 2017. Why conserving Wisconsin's soil and water resources is a global necessity. Wisconsin Agribusiness Classic. Madison, WI. ~ 250 people attending.
11. **Cruse, Rick.** December 13, 2016. Why sustaining soil and water resources is critical. Land O'Lakes SUSTAIN® Grower Recognition Meeting. Ft. Lauderdale, FL.
12. **Cruse, Rick.** October 7, 2016. Impact of Changing Intense Rainstorms on Soil Erosion. The 4th Annual Iowa Climate Science Educators Forum. Des Moines, IA.
13. **Cruse, Rick.** September 26, 2016. Daily Erosion Project: A Nebraska connection. Nebraska Resources Annual Conference. Kearney, NB.
14. **Cruse, Rick.** July 26, 2016. Water quality: Why such a challenge? Arkansas Annual Water Conference. Fayetteville, AR.
15. **Cruse, Rick, Brian Gelder, Daryl Herzmann, and David James.** May 24, 2016. Daily Erosion Project (DEP): Estimating statewide soil erosion and water runoff in near real time. International Symposium on Gully Erosion. West Lafayette, IN.
16. **Cruse, Rick.** April 15, 2016. Soil erosion: how much and what does it cost? The True Cost of American Food. San Francisco, CA.
17. **Cruse, Rick.** April 7, 2016. Soil and Water: Resources with decreasing life expectancy? Southern Illinois University. Carbondale, IL.

18. **Cruse, Rick.** March 9, 2016. Why Soil Health? Archers Daniel Midland. Ankeny, IA.
19. **Cruse, Rick.** March 9, 2016. Why Soil Health? Archers Daniel Midland. Albia, IA.
20. **Cruse, Rick.** March 8, 2016. Why Soil Health? Archers Daniel Midland. Atlantic, IA.
21. **Cruse, Rick.** March 1, 2016. Threats to Water Quality: What does the future hold? Iowa Chapter of the American Fisheries Society. Honey Creek Resort. Moravia, IA.
22. **Cruse, Rick.** February 17, 2016. Threats to Water Quality: What does the future hold? Central Iowa Sierra Club. Des Moines, IA.
23. **Cruse, Rick.** January 27, 2016. Daily Erosion Project: Real time inventory of soil erosion and water runoff. University of Wisconsin, Madison, WI.
24. **Cruse, Rick.** December 30, 2015. Improving Profitability thru Improving Soil Management. North Central Iowa Crop and Land Stewardship Clinic. Iowa Falls, Iowa.
25. **Cruse, Rick.** November 19, 2015. Soil Erosion, how much is really happening. Sustaining Our Iowa Land (SOIL): the Past, Present and Future of Iowa's Soil and Water Conservation Policy. Drake University. Des Moines, Iowa.
26. **Cruse, Rick.** October 5, 2015. Is Soil and Water Degradation Inevitable? Ames Rotary Club. Ames, IA.
27. **Cruse, Rick.** September 17, 2015. Is Soil and Water Degradation Inevitable? Ames Golden Kiwanis Club. Ames, IA.
28. **Cruse, Rick.** July 9, 2015. Is Soil and Water Degradation Inevitable? Don't bet your life on it. Alumni Brown Bag Luncheon. Ames, IA.
29. **Cruse, Rick.** June 3, 2015. The Encouraging/Discouraging Aspects of Agroforestry in a Changing Agriculture. North American Agroforestry Conference. Ames, IA.
30. **Cruse, Richard M.** May 13, 2015. Making Progress with Water, Energy, and Soil. National Adaptation Forum. St. Louis, MO.
31. **Cruse, R.M.** April 1, 2015. Cost of soil erosion. USDA NRCS 2015 Spring Certified Crop Adviser Update. Paynesville, MN.
32. **Cruse, R.M.** November 19, 2014. Transforming Midwestern Agriculture with Continuous Living Cover: Challenges and Opportunities for Biofuels. Green Lands, Blue Waters annual conference. Decatur, IL.
33. **Cruse, R.M.** October 10, 2014. Invest in Clean Water – Values and Resources. Iowa Environmental Council Annual Meeting. Des Moines, IA.

34. **Cruse, R.M.** October 1, 2014. Iowa Daily Erosion Project. North Central Region Water Network Extension Beyond Borders Conference. Bloomington, MN.
35. **Cruse, R.M.** September 26, 2014. Economics of soil erosion. State Chapter, Soil and Water Conservation Society Annual Meeting. Nevada, IA.
36. **Cruse, R.M.** July 21, 2014. Soil erosion: how much is really occurring. Warren County Fair, Opening Day. Indianola, IA.
37. **Cruse, R.M.** December 11, 2013. The soil resource. Adapting to weather extremes: The economic impact in Iowa. Forkenbrock Series on Public Policy, University of Iowa. Des Moines, IA.
38. **Cruse, R.M.** October 11, 2013. Our degrading soil resource. Iowa Environmental Council Annual Meeting. Drake University. Des Moines, IA.
39. **Cruse, R.M.** June 11, 2013. The nexus: Climate change, global food demand and resource stress. University Council on Water Resources. Lake Tahoe, NV.
40. **Cruse, R.M.** May 31, 2013. Iowa's changing climate and water run-off: Water runoff trends in Iowa. Forkenbrock Series on Public Policy – Ongoing Impacts & Challenges of the 2008 Floods. Cedar Rapids, IA.
41. **Cruse, R.M.** April 16, 2013. Bioenergy future scenarios. Heartland Regional Water Conference. Overland Park, KS.
42. **Cruse, R.M.** April 4, 2013. The soil conservation connection. Adaptation for Landscaping Diversity in Farming and Habitat, National Adaptation Forum. Denver, CO.
43. **Cruse, R.M.** January 28, 2013. Limitations of T and soil loss. National Summit on Sustainable Residue Removal. National Wildlife Federation and Great Plains Institute. Washington, D.C.
44. **Cruse, R.M.** December 13, 2012. Why cover crops? (after dinner speech). Cover Crops Workshop sponsored by the Soil and Water Conservation Society. Prairie Meadows, Altoona, IA.
45. **Cruse, R.M.** November 13, 2012. Assessing the health of streams in agricultural landscapes: The impacts of land management change on water quality. Water: Science Practice and Policy. Nebraska Annual Water Conference. Lincoln, NE.
46. **Cruse, R.M.** March 26, 2012. Biomass production and multifunctional agriculture (2 *presentations*). Conservation, Energy Security and Jobs with Biomass Crops? A Question for the Next Farm Bill. Congressional Briefing. Washington, D.C.



47. **Cruse, R.M.** November 18, 2011. Climate Change and Agriculture. Forum on Adaption: Farm Production, Risk Management, Food Security and Changes in Weather and Climate. Bipartisan Policy Center. Washington, D.C.
48. **Cruse, R.M.** and S. Staggenborg. November 2, 2011. Climate change impact on crop performance and soil and water. Agricultural Decision Making with a Water and Climate Change Perspective. Heartland Regional Water Coordination Initiative. Nebraska City, NE.
49. **Cruse, R.M.** October 7, 2011. Climate change, natural resource degradation and the American dream. Guest lecture, “Environmental Challenges and Responses.” Grinnell College, Grinnell, IA.
50. **Cruse, R.M.** June 13, 2011. Climate change impacts on Iowa. Inquiry Approaches to Climate, Weather, and Energy in the 6–9 Classroom. Center for Global and Regional Environmental Change. University of Iowa. Iowa City, IA.
51. **Cruse, R.M.,** B. Gelder, R. Anex, and H. Olson. November 2, 2010. Water foot print of various biofuel crops. American Society of Agronomy Annual Meetings. Long Beach, CA.
52. **Cruse, R.M.,** E. Wang, and X. Chen. November 1, 2010. Soil structure: Science or fantasy. Symposium—Remembering Ray Allmaras: Residue and Tillage Research. American Society of Agronomy Annual Meetings. Long Beach, CA.
53. **Cruse, R.M.** December 8, 2008. Farming systems—What did we learn? Leopold Center for Sustainable Agriculture Conference. “Learning from the Floods of 2008: Practical Strategies for Resilience.” Ames, IA.
54. **Cruse, R.M.** and E. Takle. September 9, 2008. Carbon cycle and climate change: Biofuels—are they important? Biobased Industries Outlook Conference. Ames, IA.
55. **Cruse, R.M.** and E. Takle. March 11, 2008. Potential impact of climate change on the bioeconomy. American Chemical Society. New Orleans, LA.
56. **Cruse, R.M.** February, 2008. Protecting water resources in feedstock production. Agriculture Outlook Forum – U.S. Department of Agriculture. Washington, D.C.
57. **Cruse, R.M.** January 10, 2008. Bioenergy impacts on soil and water resources. Innovating for Sustainable Results: Integrated Approaches for Energy, Climate and the Environment – Environmental Protection Agency. Chapel Hill, NC.
58. **Cruse, R.M.** November 5, 2007. Bioenergy implications on soil and water resources. American Society of Agronomy Annual Meeting. New Orleans, LA.
59. **Cruse, R.M.** August 24, 2007. Bioenergy impacts on soil and water conservation. Iowa Chapter of the Soil and Water Conservation Society. Carroll, IA.

60. **Cruse, R.M.** July 27, 2007. Bioenergy impacts on soil and water resources. Annual Meetings of the Soil and Water Conservation Society. Tampa, FL.
61. **Cruse, R.M.** and M. Burkart. July 12, 2007. Bioenergy industry impacts on water quality. National Academies of Science Colloquium on Water Implications of Biofuels. Washington, D.C.
62. **Cruse, R.M.** March 30, 2007. Bioenergy implications on soil and water resources. Montgomery County Soil and Water Conservation District Meeting. Red Oak, IA.
63. **Cruse, R.M.** March 28, 2007. Bioenergy implications on soil and water resources. Fayette County Soil and Water Conservation District Meeting. Elkader, IA.
64. **Cruse, R.M.** March 27, 2007. Bioenergy implications on soil and water resources. Cerro Gordo Soil and Water Conservation District Meeting. Mason City, IA.
65. **Cruse, R.M.** March 26, 2007. Bioenergy implications on soil and water resources. Pocahontas Soil and Water Conservation District Meeting. Pocahontas, IA.
66. **Cruse, R.M.** February 8, 2007. The bioeconomy: Water quality implications. Iowa State Senate Environment Committee. Des Moines, IA.
67. **Cruse, R.M.** January 11, 2007. The bioeconomy: Water quality implications. Iowa Watersheds Conference. Des Moines, IA.
68. **Cruse, R.M.** January 2, 2007. Tillage effects on root growth and fertilizer placement considerations. Illinois Crop Protection Technology Conference. Champaign, IL.
69. **Cruse, R.M.** December 7, 2006. Challenges and opportunities surrounding a sustainable bioeconomy. U.S. House of Representatives Soil Science Caucus. Washington D.C.
70. **Cruse, R.M.** October 12, 2006. The bioeconomy: Potential impacts on soil and water resources. Presented at: What Would Aldo Leopold Think about Corn Ethanol? University of Wisconsin, Madison, WI.
71. **Cruse, R.M.** and W. Simpkins. August 28, 2006. Water quality and water quantity for the bioeconomy. Biobased Industries Outlook Conference. University of Minnesota, St. Paul MN.
72. **Cruse, R.M.** April 19, 2006. Future bioeconomy and its impacts on soil and water resources. William E. Larson and Raymond R. Allmaras Lecture Series on Emerging Issues in Soil and Water. University of Minnesota, St. Paul, MN.
73. **Cruse, R.M.** April 12, 2006. Defining a future bioeconomy for the nation: Bio-renewable resources and complex systems. Power-Gen Renewable Energy Conference. Las Vegas, NV.

74. **Cruse, R.M.** October 29, 1997. Division S-6: Who should we serve? American Society of Agronomy Annual Meeting. Anaheim, CA.
75. **Cruse, R.M.** September 23-25, 1996. Vegetative filter effects on runoff sediment concentration. National Symposium on Effectiveness of Erosion & Sediment Control Practices and Perspectives. Raleigh, N.C.
76. **Cruse, R.M.** 1994. Biological, spatial and temporal diversity in production fields. American Society of Agronomy.
77. **Cruse, R.M.** February 1, 1991. Soil erosion and agronomic productivity. Minnesota chapter of the Soil and Water Conservation Society Annual Meeting. Rochester, MN.
78. **Cruse, R.M.** November 15-16, 1990. On-farm research at Iowa State. On-Farm Research Techniques workshop. St. Paul, MN. November 15-16.
79. **Cruse, R.M.** May 8, 1990. The low-input sustainable agriculture research program. Agricultural Machinery Conference of the American Society of Agricultural Engineers. Cedar Rapids, IA.
80. **Cruse, R.M.** February 19, 1990. Tillage and cropping systems for sustainable agriculture. American Association for the Advancement of Science. New Orleans, LA.
81. **Cruse, R.M.** February 5, 1990. Strip intercropping systems. Leopold Center Conference on New Developments in Cropping and Livestock Management Systems. Ames, IA.
82. **Cruse, R.M.** March 22, 1988. Tillage and erosion control. Sustainable Agriculture in the Midwest. Lincoln, NE.
83. Horton, R., R.R. Allmaras, and **R.M. Cruse.** September 16, 1988. Tillage and compactive effects on hydraulic properties and water flow. NATO Advanced Research Workshop on Mechanics and Related Processes in Structure Agricultural Soils. University of Minnesota, St. Paul, MN.
84. **Cruse, R.M.** March 13, 1985. Influence of tillage and fertility on yields. North Central Branch Entomological Society of America. Lexington, KY.
85. **Cruse, R.M.** and I.C. Anderson. 1984. Residual effects of corn and soybeans on subsequent corn crop. World Soybean Research Conference-III,
86. **Cruse, R.M.** 1983. Tillage impacts on the soil environment and early plant growth. American Society of Agronomy.
87. **Cruse, R.M.,** D. Tapper and T.M. Crosbie. 1983. A Perspective on developments in biological sciences and their impact on productivity. Perspectives on Vulnerability of U.S. Agriculture to Soil Erosion. Western Branch of the American Agricultural Economics Association. Logan, UT.

---

**Grants and contracts**


---

**Funded (since 2000):** Prior to 2000 total external funding: \$1,782,705

<b>Dates of Project</b>	<b>Title. Funding Source. Cooperators</b>	<b>Grant Amount</b>
10/1/2016-9/31/2021	<i>Community Development Block Grant Program Disaster Recovery- National Disaster Resilience; Iowa Economic Development Authority; IEDA, Iowa Flood Center, Iowa Nutrient Research Center, ISU Extension...</i>	\$975,000
1/1/2016 – 9/30/2016	<i>Cropping System Impacts on Hill Slope Erosion Losses in Iowa; Union of Concerned Scientist; Daily Erosion Project Team</i>	\$10,477
2015-2016	<i>Daily Erosion Project and Agricultural Conservation Planning Framework – Extension Tools for Addressing Soil and Water Degradation. North Central Water Network. R.M. Cruse (PI)</i>	\$29,272
7/1/2015 – 6/30/2017	<i>Stacked practice impacts on phosphorus loss and long term corn yield – Iowa Nutrient Research Center; Daily Erosion Project Team</i>	\$75,497
2014-2015	<i>A Smartphone-based Device for Measuring Soil Organic Matter. Leopold Center for Sustainable Agriculture. M. Lu (PI), R.M. Cruse (Co-PI).</i>	\$40,182
2014-2015	<i>Economic Impacts of Soil Erosion in Iowa. Leopold Center for Sustainable Agriculture. R.M. Cruse (PI).</i>	\$15,768
2012-2014	<i>Iowa Daily Erosion Project. Iowa State University Department of Agronomy Endowment. R.M. Cruse (PI).</i>	\$252,160
2012-2016	<i>An Integrated Approach to Precision Conservation Planning in the South Fork Watershed. National Institute for Food and Agriculture. USDA. R.M. Cruse (PI).</i>	\$620,898
2011-2012	<i>Land management impact on stream water quality. Iowa Department of Agriculture and Land Stewardship. R.M. Cruse (PI).</i>	\$24,572
2011-2016	<i>Climate change, mitigation and adaptation in corn-based cropping systems. USDA-AFRI. L.M. Wright (PI), R.M. Cruse one of 20+ Co-PIs.</i>	\$19,927,691
2011-2013	<i>Biofuel cropping systems for feedstock production and greenhouse gas mitigation. NASA – Carbon Cycle Science. M. Thompson (PI), R. Anex, R.M. Cruse (Co-PI), M. Helmers, K. Hofmockel, R. Horton, M. Liebman, and F. Miguez (Co-PI).</i>	\$726,508
2010-2011	<i>Environmental credit and greenhouse gas emission reporting: A tutorial. NRCS. R.M. Cruse (PI).</i>	\$99,733
2010-2011	<i>Do nurse crops make M. x Giganteus establishment more sustainable? Sungrant, USDA. E. Heaton (PI), R.M. Cruse (Co-PI) and M. O’Neal.</i>	\$180,969
2009-2010	<i>Shaping a functional and sustainable biofuels industry through bridging industry’s needs with farmer production capabilities. Leopold Center for Sustainable Agriculture. R.M. Cruse (PI).</i>	\$24,561
2009-2010	<i>Environmental trading programs: A tutorial. USDA-NRCS. R.M. Cruse (PI)</i>	\$193,239
2008-2009	<i>Agriculture and greenhouse gas emission reporting: A tutorial. USDA-NRCS. R.M. Cruse (PI)</i>	\$172,028
2008-2009	<i>Biofuel feedstock landscape coverage and ecoservice implications for various biofuel industry scenarios. Environmental Protection Agency. R.M. Cruse (PI)</i>	\$100,000
2007-2009	<i>Biofuel feedstock landscape coverage and ecoservice implications for various biofuel industry scenarios. Environmental Protection Agency. R.M. Cruse (PI)</i>	\$49,723

<b>Dates of Project</b>	<b>Title. Funding Source. Cooperators</b>	<b>Grant Amount</b>
2005-2008	<i>Biocomplexity of integrated perennial-annual systems.</i> National Science Foundation; H. Asbjorensen, et. al. <b>R.M. Cruse</b> (Co-PI)	\$1,853,996
2003-2004	<i>Conservation tillage management, effects on corn production and soil erosion.</i> Iowa Department of Agriculture and Land Stewardship. <b>R.M. Cruse</b> (PI)	\$23,632
2004-2005	<i>Remote sensing of soil managment practices.</i> Natural Resources Conservation Service. <b>R.M. Cruse</b> (PI)	\$17,000
2002-2004	<i>Tire design effects on soil compaction.</i> Case/New Holland/DMI & Michilen Tire. <b>R.M. Cruse</b> (PI).	\$20,000
2002	<i>Strip tillage, corn profitability, and soil conservation.</i> Iowa Department of Agriculture and Land Stewardship. <b>R.M. Cruse</b> (PI).	\$15,000
2001-2003	<i>Daily soil erosion and water runoff estimates for Iowa.</i> Iowa State University Department of Agronomy Path to the Future. <b>R. M. Cruse</b> (PI), J. Opsomer, D. Todey, J. Laflen, and M. Al-Kaisi.	\$292,292
2001-2002	<i>Strip tillage, corn profitability and soil conservation.</i> Iowa Department of Agriculture and Land Stewardship. <b>R. M. Cruse</b> (PI).	\$30,000
1999-2001	<i>An assessment, management plan and evaluation of the water quality impacts of switchgrass production for biomass for the Rathbun Lake Watershed.</i> Chariton Valley Resource Conservation and Development. <b>R.M. Cruse</b> (PI), J. Opsomer, and T. Isenhart.	\$113,000

**Not funded (since 2000):**

<b>Dates of Project</b>	<b>Title. Funding Source. Cooperators</b>	<b>Grant Amount</b>
2015-2018	The Daily Erosion Project: An Erosion, Runoff, and Soil Water Inventory for the Midwest. <b>R.M. Cruse</b> et al. Presidential Initiative for Interdisciplinary Research in Data Driven Science.	\$559,859
2014-2017	<i>Daily Inventory and Cost of Soil Erosion.</i> <b>R.M. Cruse</b> and B. Gelder. USDA NRCS Conservation Innovation Grants	\$382,225
2014-2017	<i>Seasonal Forecasting, Soil Organic Matter Dynamics and N Management.</i> <b>R.M. Cruse</b> , C. Anderson, J. Arbuckle, M. Castellano, E. Polush and M. Shelley. Agriculture and Food Research Initiative.	\$985,834
2010	<i>Evaluation of the Quality of Fast Pyrolysis Biochars.</i> N. Rogovska (PI), D. Laird and <b>R.M. Cruse</b> . USDA/NIFA.	\$581,839
2009	<i>Identification of Environmentally sensitive lands: LIDAR technology, Ec.</i> <b>R.M. Cruse</b> (PI), Silvia Secchi, H. Olson and P. Gassman. USDA	\$24,480
2009	<i>Decision support tools with LIDAR and web technologies: Promote perennial.</i> <b>RM. Cruse</b> (PI), S. Secchi and P. Gassman. USDA-EPA	\$148,790

## Professional service

---

### Honorary and professional society membership

---

American Society of Agronomy  
 Gamma Sigma Delta  
 Iowa Environmental Council  
 Practical Farmers of Iowa  
 Sigma Xi  
 Soil Science Society of America  
 Soil and Water Conservation Society of America

---

### Participation and offices held

---

2016 – 2017	Past President, National Institutes for Water Resources
2015-2016	President, National Institute for Water Resources
2014	President Elect, National Institute of Water Resources
2012-2013	Great Plains Regional Representative, National Institute of Water Resources Board of Directors
2012	Scientific Committee, International Soil and Tillage Research Annual Meeting
2011	International Fulbright Science & Technology Selection Committee
2011	Member, Center for Global and Regional Research, University of Iowa
2011	Member, Iowa Nutrient Reduction Strategy Committee
2010	Co-Chair (with X. Liu), International Symposium on Soil Quality and Management of World Mollisols. Harbin, China. July 13-16.
2008-2010	Member, Iowa Climate Change Advisory Council, appointed by Governor's office.
2007-2009	Advisor, National Advisory Council for Environmental Policy and Technology: U.S. Environmental Protection Agency Administrator – Biofuels
2008	Technical Advisor, Council on Sustainable Biomass Production Water Working Group
2001-2003	Chair, Regional Committee NCT-186
1993	Member, Ad hoc Soil Science Society of America (SSSA) committee on the need for a SSSA book on soil erosion
1989-1990	Member, Nominations Committee, SSSA (S-116), Division S-6
1988	Member, SSSA Nominating Committee for President Elect
1988	Member, SSSA (S-480) Soil Science Education Award Committee
1988	Chairman, SSSA, Division S-6

1986	President, Iowa Chapter of Agronomy Society of America (ASA)
1984-1985	Chairman, Crops and Soils Award Committee (A-444), ASA
1984	Chairman, Local Arrangements Committee for the World Soybean Research Conference–III
1983-1984	Member, Crops and Soils Award Committee (A-444), ASA
1982	Vice President, Iowa Chapter of ASA

---

#### International research projects

---

2010	Effect of freezing and thawing processes on soil structure, Northeast Forest University, Harbin, China.
2005-2008	Impacts of wheel traffic on soil compaction and crop yields in China. Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences. Harbin, China.
1993-1996	Cropping system effects on crop yields and water quality, Instytut Melioracji i Uzytkow Zieloncył Falenty, Poland.

---

#### Grant and technical reviewing

---

2017	Proposal reviewer, Center for Global and Regional Environmental Research, University of Iowa.
2014	Proposal reviewer, University of Minnesota Water Resources Center
2002	Reviewer representing Soil Science Society of America, Bush Administration's Strategic Plan for Climate Change Science Program
1988	Chair of North Central Region review panel, USDA Grant Program on Low Input Sustainable Agriculture (LISA) in the North Central Region
1980 – present	Proposal reviewer, Small Business Innovative Research Program
1980 – present	Proposal reviewer, National Research Initiative Competitive Research Grants program

---

#### Peer reviewer

---

2009 – present	Journal of Soil and Water Conservation
2009 – 2014	Plant, Soil and Environment
2006 – present	Environmental Science and Technology
2002 – present	Canadian Journal of Soil Science
2000 – present	Journal of Environmental Quality
1982 – present	Agronomy Journal
1982 – present	Soil Science Society of America Journal
2017	Earth Surface Processes and Land Forms

---

## Editorial duties

---

2010 – present	Studies in Agricultural Economics	Editorial Board
2010 – 2012	Canadian Journal of Soil Science	Associate Editor
1993 – 1995	Soil Science Society of America Journal	Associate Editor (S-6)

## Visiting Scholars Hosted

Eduardo Luquin Oroz, University of Wageningen, Wageningen, Netherlands. May 2015 – September 2015.

Hao Li, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences. Harbin, China. April 2014 – September, 2014

Enheng Wang, Northeast Forest University, China, November, 2009 – November, 2010

Xuewen Chen, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences. Harbin, China. August 2016 – July 2017.

Changhong Yu. South China Agricultural University. March 2016 – February 2017.

## **ADMINISTRATION**

Director, Iowa Water Center, 2006 – present

The Iowa Center (IWC), which is housed at Iowa State University, is a federally funded program. IWC has an annual budget of \$92,000 (funded through the U.S. Geological Survey) and maintains one professional and scientific employee. The purpose of the IWC is to:

1. identify research needs and fund selected projects about Iowa's water quality, water quantity, and the human dimensions of water-resources management
2. provide outreach and education opportunities to familiarize water-resource professionals, teachers, and students with current research about Iowa's water resources
3. disseminate information about Iowa's water resources to water-resource specialists, teachers, students, policymakers, and the general public.

The Center is part of a national network created by the U.S. Congress in 1964 when it enacted Public Law 88-379, the Water Resources Research Act. Today, there are 54 institutes or centers. The USGS administers the network, while the National Institutes of Water Resources facilitates network activities and provides information about each institute, their common goals, and the nation's water resources.



---

### Leadership as Director of Iowa Water Center (also included under Professional service)

---

2015	President of the National Institute of Water Resources
2012 – 2013	Great Plains Regional representative for the National Institute of Water Resources Board of Directors

---

### Iowa Water Center Seed Grants

---

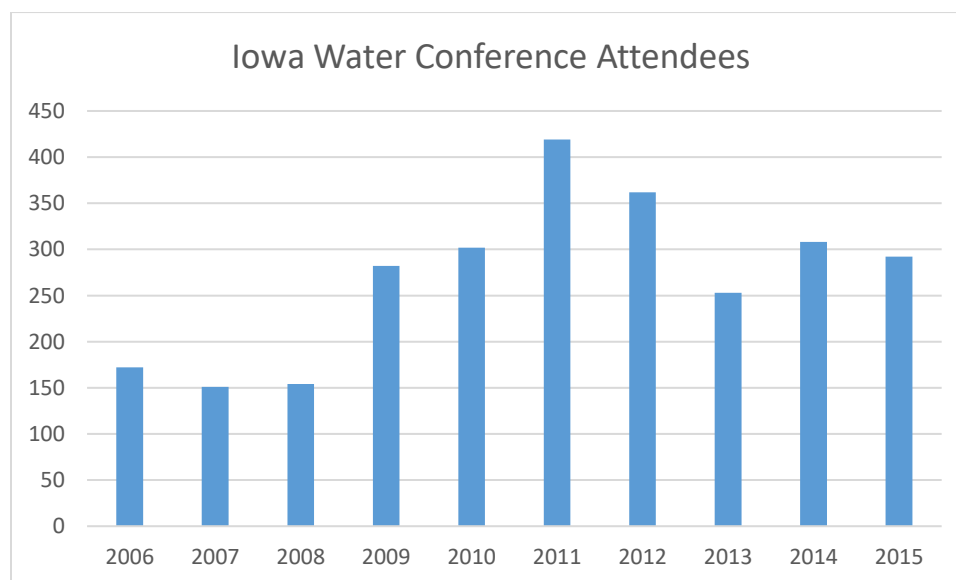
1. **Institute Research Grants** [Section 104 (b)] IWC administers an annual competitive statewide program to fund research that focuses on Iowa water resources problems. Funds available are set by the U.S. Congress and vary from year to year.
2. **National Research Grants** [Section 104 (g)] The USGS and the National Institutes for Water Resources jointly administer and set the priorities for this grant program. The focus is on regional and interstate water resources problems, which are typically the scope and interests of a single state.

---

### Outreach

---

- Since 2006, the IWC has hosted an annual conference, The Iowa Water Conference, targeting soil and water resources in the state.



- IWC works with the Iowa State University Soil and Water Conservation Club to annually publish *Getting into Soil and Water*. The publication is distributed to Iowa high school

science teachers, Iowa Water Conference attendees, NRCS offices, Extension offices, alumni of the Soil and Water Conservation Club, ISU administrative offices and potential students in Agronomy, Environmental Science, and Biosystem Engineering.

- In 2014, this publication won the Soil and Water Conservation Society's Merit Award.
  - Publication can be found online at <http://www.swcc.stuorg.iastate.edu/getting-into-soil-and-water/>
- Social Media
    - Facebook 'likes': 193, Twitter followers: 420
  - Bi-weekly newsletter, *News Flow*, subscriptions: 126
  - Iowa Water Center details at: <http://www.water.iastate.edu/>

## TEACHING

---

### Classes taught

---

#### **Iowa State University, Ames, IA**

Agronomy 594: *Workshop in Agronomy* (1 cr.); taught annually from 2010 to present; enrollment ~12 - 18

Agronomy 554: *Advanced Soil Management* (2 cr.); taught odd calendar years from 1982 to present; enrollment: ~10.

Agronomy 532: *Soil Management* (3 cr.); taught annually from 2004 to 2012; enrollment: ~18 - 24 enrollment.

#### **Karoly Robert College, Gyongyos, Hungary**

*Soil, Water, and the Environment*; taught annually between 1999-2007; enrollment: ~17  
First class to be presented in English.

Topics ranging from agriculture and the environment, corn production and agriculture in Iowa; several courses taught between March 1-June 6, 1999; enrollment ~12 – 20.

---

### Student club advising at ISU

---

Agronomy Graduate Student Club, Co-advisor, 1990-present

Soil and Water Conservation Club, Advisor, 1985-present

The club works with the Iowa Water Center to annually publish *Getting into Soil and*

*Water*, which is distributed to Iowa high school science teachers, Iowa Water Conference attendees, NRCS offices, Extension offices, alumni of the Soil and Water Conservation Club, ISU administrative offices and potential students in Agronomy, Environmental Science, and Biosystem Engineering. In 2014, this publication won the Soil and Water Conservation Society's Merit Award. Publication can be found online at: <http://www.swcc.stuorg.iastate.edu/getting-into-soil-and-water/>

---

## Advising

---

*Name, Degree; Funding source; Major; Expected or completed graduation date. Notes.*

---

### Current (on campus, ISU) students as major professor:

*Tim Sklenar, Ph.D., USDA-NIFA Corn Cap, Agronomy, Expected Fall 2018*  
*Eric Moore, Ph.D., Minority Student Scholarship, Expected Fall 2018*

### Major professor (MS Agronomy Distance Program at ISU):

Adam Gurr, Jonathan McWilliams, Amanda Schwartz-Harder, Maxine Levin, Nick Tiedt,  
 Anthony Stirling (A.S. defended Fall 2014)  
 Amanda Swartz (defending ???)  
 Karolyn (defending ???)  
 Jonathan McWilliams (defending Fall 2017?)

Currently serving on ~10 program of study committees at ISU

### Previous students

*Juliana Albertengo, MS in Agronomy. (2017). Soil Health Indicators and Certification Schemes.*  
*Heidi Dittmer, M.S. Soil Science and Agricultural Education (2016). A soil science and conservation continuing education workshop for Iowa high school agriculture and science educators.*  
*Joyce Lok, M.S. Sustainable Agriculture (2016). Cover crop impacts on soil quality during Miscanthus x giganteus in Central Iowa.*  
*Karl Gesch, M.S. Soil Science and Environmental Science (2015). Quantifying uncertainty of measuring gully morphological evolution with close-range digital photogrammetry. Won ISU Research Excellence Award.*  
*Tomorra Smith, M.S. Environmental Science (2012). Effects of native perennial vegetation buffer strips on dissolved organic carbon in surface runoff from an agricultural landscape.*  
*Krisztina Eleki, Ph.D. Soil Management (2005). Estimating crop biomass removal (for energy production) effects on soil organic matter content.*  
*Brian Gelder, Ph.D. Soil Management, Ag and Biosystems Engineering (2007). Determining tractor tire design impacts on corn yield.*  
*Mario Perez-Bidegain, Ph.D (2007). Soil Management. Determining the effect of tillage systems on optimum planting date for corn and soybeans and evaluating these effects on corn*

and soybean yield.

- Hillary Owen*, M.S. Soil Science (2005). Designing and developing a water runoff and soil erosion collection system for small plots and natural rainfall events.
- Michael Keller*, M.S. Agronomy (2005).
- Michael Janssen*, M.S. Agronomy (2005).
- John Kost*, M.S. Soil Management (2003).
- Brian Ritland*, M.S. Agronomy (2001).
- Jerome Neppel*, M.S. Soil Management (2001). Rathbun Lake watershed assessment and water quality implications of switchgrass biomass production
- Matt Harbur*, M.S. Soil Management (1998). Corn response to plant density and row spacing effects in a strip intercropping system.
- Roberto Mier*, M.S. Soil Management (1998). Erosion of thawing soils.
- Derrick Exner*, Ph.D. Soil Fertility (1997). Productivity and profitability of strip intercropping systems as implemented by agronomists and farmers.
- Bret Berghoefer*, M.S. Soil Management (1996). Soybean protein and slope effects on soil detachment from raindrop impact.
- Jane Froese*, M.S. Soil Management (1996). Erosion mechanics of thawing soils.
- Urszula Choromanska*, M.S. (1996). Corn yield response to rotation effect, nitrogen rate application and position in a stripintercropping system.
- Jorge Sawchik*, M.S. (1994). Cropping system effect on spatial and temporal changes in soil properties.
- Dana Dinnes*, M.S. (1994). Spatial relationships among plant species in a shelterbelt cropping system, and a simulated small grain with companion seeded berseem clover.
- Keith Allen Kohler*, M.S. Soil Fertility (1993). Planting method, fertilization timing, and nitrogen dynamics in ridge till corn
- Mohammadreza Ghaffarzadeh*, Ph.D. Soil Management (1993). Ridge characteristics as influenced by ridge building methods.
- Komi Ahlidza*, M.S. Soil Management (1992). Ridge tillage effects on soil properties and yield of small grains.
- Fernando Garcia*, Ph.D. Soil Management (1991). Strip position, tillage, and water regime effects on a strip intercropping rotation
- Clay A. Robinson*, Ph. D. Soil Management (1991). Long term cropping system and nitrogen management effects on soil properties.
- Joseph G. Benjamin*, Ph.D. Soil Physics (1989). Coupled heat and water flow in non-uniform soils; *Recipient of Research Excellence Award*.
- Hugh Brown*, Ph.D. Soil Management (1989). Tillage and tractive device effects on soil physical properties.
- Alan Blaylock*, Ph.D. Soil Fertility (1989). Nitrogen point injection in ridge till corn.
- Derrick N. Exner*, M.S. (1987). Legume Interseeding into corn in Iowa.
- Fernando Garcia Prechac*, M.S. (1986). Effect of compaction zones on corn root growth patterns, soil water depletion, and applied nitrogen uptake.
- Hugh J. Brown*, M.S. (1985). The effect of soybean and corn residues on soil physical properties related to soil erodibility.
- Kenneth N. Potter*, Ph.D. (1985). Surface conditions effect on energy exchange at the soil surface.
- Ellen M. Craft*, M.S. (1984). A model to evaluate soil erosion effects on plant production.

- Joseph G. Benjamin*, M.S. (1984). Tillage effects on shear strength and bulk density of soil aggregates
- Robert L. Hill*, Ph.D. Soil Physics (1984) Tillage effects on soil mechanical properties
- Kathy Ann Sperow*, M.S. (1983). Effects of crop rotation and nitrogen fertilization on corn grain and stover production.
- Greg A. Yakle*, M.S. (1983). Two studies investigating the effects of corn plant residues on early corn growth.
- Behshid Dalili*, M.S. (1982). Comparison of acephate diffusion rate and acephate uptake by plants as affected by soil water content.
- Paul B. Francis*, M.S. (1981). Soil management effects on aggregate stability, aggregate bulk density and soil water tension change after raindrop impact.
- Joan R. Davenport*, M.S. (1981). The effect of soil organic matter and fertilizer treatments on runoff water quality from three Clarion soils.

### Advising beyond ISU

Invited to advise 5 graduate students at Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Harbin, China. Intensive advising and thesis editing was accomplished between August 3 – 14, 2013.

Zsolt Gemesi, B.S. program for thesis development. Co-advisor. St. Istvans University, Hungary. 2002-2003.

Piotra Burczyk, Ph.D. Committee member. Instytut Melioracji i Użytków Zielonych Falenty, Poland. 1999.

## EXTENSION and SERVICE

---

### Refereed publications (6)

---

1. **Cruse, R.M.** and D. Friedman. 2014. *Soil erosion and sustainable biofuel production*. eXtension Communities of Practice.
2. **Cruse, R.M.** and D. Friedman. 2014. *Water use and sustainable biofuel production*. eXtension Communities of Practice.
3. **Cruse, R.M.** and M. Bomford. 2014. *Water quality in sustainable energy systems*. eXtension Communities of Practice.
4. **Cruse, R.M.**, M. Bomford, and D. Friedman. 2014. *Residue cover in sustainable energy systems*. eXtension Communities of Practice.
5. **Cruse, R.M.** *Life cycle analysis for biofuels*. 2014. eXtension Communities of Practice.
6. Friedman, D. and **R.M. Cruse**. 2014. *Conservation tillage for sustainable energy*

*systems.* eXtension Communities of Practice.

---

### **Presentations (56 since 2009)**

---

1. Cruse, Rick. June 29, 2017. Soil and water conservation challenges for Iowa. Ames Kiwanis. Ames, IA.
2. Cruse, Rick. June 28, 2016. Soil Quality and Farming Practices. Northeast Iowa Research Center field day.
3. **Cruse, Rick.** March 14, 2016. Threats to Water Quality: What does the future hold? Farmers Coop. Sioux Center, IA.
4. **Cruse, R.M.** March 31, 2015. ISUEO Crops Team Spring In-Service. Ames, IA.
5. **Cruse, Richard M.,** Brian Gelder, David James, and Daryl Herzmann. November 31, 2016. Daily Erosion Project: daily estimates of soil erosion and water runoff. Integrated Crop Management Conference. Ames, IA.
6. **Cruse, R.M.** February 23, 2015. How much soil erosion is really happening in Iowa – And why is it important. ISU Extension Crop Fair. Ogden, IA.
7. **Cruse, R.M.** February 6, 2015. Soil erosion; How much is really occurring and why is it important. Iowa Conservation Education Coalition Diving into Networking Winter Workshop. Guthrie Center, IA.
8. **Cruse, R.M.** and Seth Dabney. February 5, 2015. Predicting Water Erosion: RUSLE2 and WEPP. American Society of Agronomy Erosion Webinar Series.
9. **Cruse, R.M.** January 22, 2015. Soil Health: What is soil erosion costing us? Practical Farmers of Iowa short course. Ames, IA.
10. **Cruse, R.M.** January 15, 2015. Soil erosion in Iowa: How much is really happening. Crop Advantage Series. Honey Creek Resort, Moravia, IA.
11. **Cruse, R.M.** January 15, 2015. How soil erosion happens/physics of soil erosion. Practical Farmers of Iowa short course. Ames, IA.
12. **Cruse, R.M.** January 15, 2015. How Can We Estimate Soil Erosion in Iowa (or even in your backyard)? Practical Farmers of Iowa short course. Ames, IA.
13. **Cruse, R.M.** September 17, 2014. Soil erosion rates in Iowa. ISU Extension Field Day. Fontenelle, IA.
14. **Cruse, R.M.** August 21, 2014. Soil erosion and water quality. Syngenta Soybean Seed

Growers Workshop. Waverly, IA.

15. **Cruse, R.M.** August 20, 2014. Economics of soil health. “Soil Health: Do you know yours” workshop organized by NRCS. Waverly, IA.
16. **Cruse, R.M.** August 15, 2014. Crop production, tillage practices and soil and water conservation. Iowa Food Systems Council. Des Moines, IA.
17. **Cruse, R.M.** May 27, 2014. Iowa Daily Erosion Project. Webinar presentation, North Central Region Water Network.
18. **Cruse, R.M.** May 11, 2014. Our degrading soil resource. Adult Forum at Collegiate Presbyterian Church. Ames, IA.
19. **Cruse, R.M.** April 24, 2014. Food security and climate change. Perry High School Career Day. Perry, IA.
20. **Cruse, R.M.** April 16, 2014. Soil erosion: How much is really happening. Iowa Learning Farms Webinar Series.
21. **Cruse, R.M.** February 8, 2014. Soil erosion: How much is really occurring. Dallas County Soil and Water Conservation District Commissioners Annual Awards Dinner. Adel, IA.
22. **Cruse, R.M.** January 10, 2014. Soil Erosion: How much is really occurring. Crop Advantage Series. Iowa State University Extension. Burlington, IA.
23. **Cruse, R.M.** January 9, 2014. Soil Erosion: How much is really occurring. Crop Advantage Series. Iowa State University Extension. Mason City, IA.
24. **Cruse, R.M.** January 6, 2014. Soil erosion: How much is really occurring. Crop Advantage Series. Iowa State University Extension. Sheldon, IA.
25. **Cruse, R.M.** September 26, 2014. Soil Health: What is soil erosion costing us? Iowa Chapter of the Soil and Water Conservation Society Annual Meeting. Nevada, IA.
26. **Cruse, R.M.** August 7, 2014. Current research on soil erosion. Webinar for Agren.
27. **Cruse, R.M.** July 30, 2014. Soil erosion: how much is actually happening. Southfork Watershed Alliance Field Day. Iowa Falls, IA.
28. **Cruse, R.M.** March 18, 2014. Soil erosion: how much is actually happening. Building Soil Health for Productivity and Profit. NRCS Workshop. Lennox, IA.
29. **Cruse, R.M.** January 10, 2014. Soil erosion: how much is actually happening. Crop Advantage Series. Burlington, IA.

30. **Cruse, R.M.** January 9, 2014. Soil erosion: how much is actually happening. Crop Advantage Series. Mason City, IA.
31. **Cruse, R.M.** January 7, 2014. Soil erosion: how much is actually happening. Crop Advantage Series. Sheldon, IA.
32. **Cruse, R.M.** November 12, 2013. Soil erosion, what are we missing? Presented at Iowa Learning Farms field day. Rick Juchem Farm. Plainfield, IA.
33. **Cruse, R.M.** December 6, 2012. Soil management options for drought conditions. The Farm News AG Show. Ft. Dodge, IA.
34. **Cruse, R.M.** November 26, 2012. Water education and ground water movement. Girl Scouts Troop 534. Grimes, IA.
35. **Cruse, R.M.** October 18, 2012. Losing ground. Ames League of Women Voters. Ames, IA.
36. **Cruse, R.M.** August 23 & 25, 2012. Groundwater Flow Model presentation. Farm Progress Show. Boone, IA.
37. **Cruse, R.M.** August 22, 2012. Tillage and Fertilizer Management. Northeast Iowa Field Day. Northeast Iowa Research Center. Nashua, IA.
38. **Cruse, R.M.** June 25-26, 2012. Eight hours of education for Agren's Conservation Farmer Certification Program. Lake City (4 hours) and Rockwell City (4 hours), IA.
39. **Cruse, R.M.** June 13, 2012. Are we losing ground? Capital Crossroads: looking forward. Des Moines, IA.
40. **Cruse, R.M.** May 11, 2012. Are we losing ground? Leadership Iowa. Shenandoah, IA.
41. **Cruse, R.M.** April 10, 2012. Water resources: Issues & opportunities. Sustainable Bioenergy Training Program of Extension Educators. Bradford Research Center. Columbia, MO.
42. **Cruse, R.M.** March 6, 2012. Are we really losing ground? Iowa Water Conference. Ames, IA. (Invited).
43. **Cruse, R.M.** February 8, 2012. Soil erosion – What will the future bring. Lennox, IA. (Invited).
44. **Cruse, R.M.** January 26, 2012. Improving soil productivity for the future. Crop Advantage Series. Iowa City, IA. (Invited).



45. **Cruse, R.M.** January 17, 2012. Soil erosion – What will the future bring. Crop Advantage Series. Storm Lake, IA. (Invited).
46. **Cruse, R.M.** January 12, 2012. Soil conservation updates. Crop Advantage Series. Mason City, IA. (Invited).
47. **Cruse, R.M.** January 11, 2012. Soil erosion – What will the future bring. Crop Advantage Series. Spirit Lake, IA. (Invited).
48. **Cruse, R.M.** January 6, 2012. Improving soil productivity for the future. Crop Advantage Series. Burlington, IA. (Invited).
49. **Cruse, R.M.** January 4, 2012. Soil erosion – What will the future bring. Crop Advantage Series. Sheldon, IA. (Invited).
50. **Cruse, R.M.** November 30, 2011. Soil erosion – what will the future bring. Integrated Crop Management Conference. Ames, IA. (Invited)
51. **Cruse, R.M.** August 17, 2011. Iowa Learning Farms Webinar, “Losing Ground.” Ames, IA.
52. **Cruse, R.M.** and A. Daigh. May 12, 2011. Ground water education. Iowa Children’s Water Festival. Ankeny, Iowa.
53. **Cruse, R.M.** and G. Takle. February 15, 2011. Climate change impacts on Iowa: Implication for agriculture and watershed management. Senate Natural Resources and Environment Committee, Iowa Legislature. Des Moines, IA.
54. **Cruse, R.M.** December 14, 2009. Infrastructure strategy for Iowa’s future economy. Iowa Department of Natural Resources.
55. **Cruse, R.M.** February 26, 2009. Gulf of Mexico – An Iowa connection. Iowa Learning Farms. Ames, IA.
56. **Cruse, R.M.** March 10, 2009. Soil and water: An Iowa vision. Iowa Water Conference. Ames, IA.
57. **Cruse, R.M.** March 3, 2009. Bioenergy impacts on soil and water. Iowa Roundtable on Sustainable Biomass. Ames, IA.

---

**Popular press coverage (recent examples)**

---

1. Conservation Chat. Iowa Learning Farms. Jacqueline Comito. October 29, 2015.  
<http://conservationchat.libsyn.com>

2. Soil Sustainability, Livestock Sustainability Impact and Human Food Challenges with Rick Cruse. Jett Radio Podcast by Ted Shierer. April 2, 2015.
3. Rethink tolerable soil loss on your corn, soybean fields. Jim Ruen. Corn and Soybean Digest. March 6, 2015. <http://cornandsoybeandigest.com/tillage/rethink-tolerable-soil-loss-your-corn-soybean-fields>
4. Urgent need to calculate costs of soil erosion. Cheryl Tevis. Agriculture.com. March 3, 2015. [http://m.agriculture.com/farm-management/urgent-need-to-calculate-costs-of-soil\\_556-ar47910](http://m.agriculture.com/farm-management/urgent-need-to-calculate-costs-of-soil_556-ar47910)
5. Water use priority after 2012 drought. Jeff DeYoung. Iowa Farmer Today. September 3, 2014. [http://www.iowafarmertoday.com/news/crop/water-use-priority-after-drought/article\\_aa66eb76-3391-11e4-92c8-0019bb2963f4.html](http://www.iowafarmertoday.com/news/crop/water-use-priority-after-drought/article_aa66eb76-3391-11e4-92c8-0019bb2963f4.html)
6. Study: Iowa lost 15 million tons of soil to erosion. Christopher Doering. Des Moines Register. August 4, 2014. <http://www.desmoinesregister.com/story/money/agriculture/2014/08/05/environmental-working-group-says-iowa-lost-million-tons-soil-erosion/13609603/>
7. An annual \$1 billion loss from soil erosion & what an Iowa farmer is doing about it. Ben Kieffer and Emily Woodbury. Interview for Iowa Public Radio program “River to River”. May 8, 2014. <http://iowapublicradio.org/post/annual-1-billion-loss-soil-erosion-what-iowa-farmer-doing-about-it>
8. Erosion estimated to cost Iowa \$1 billion in yield. Donelle Eller. Des Moines Register and AP. May 3, 2014. <http://www.desmoinesregister.com/story/money/agriculture/2014/05/03/erosion-estimated-cost-iowa-billion-yield/8682651/>

Examples of selected outlets publishing this story include:

- a. News & Observer: <http://www.newsobserver.com/2014/05/04/3835489/erosion-may-cost-iowa-farmers.html>
- b. Omaha World Herald: <http://www.omaha.com/apps/pbcs.dll/article?AID=/20140505/NEWS/140509254/1707>
- c. Connect Tristates.com: <http://www.connecttristates.com/news/story.aspx?id=1039845#.U3s73fldWSo>
- d. World News (WN.com): [http://article.wn.com/view/2014/05/05/Erosion\\_may\\_cost\\_Iowa\\_farmers\\_1\\_billion\\_each\\_year/](http://article.wn.com/view/2014/05/05/Erosion_may_cost_Iowa_farmers_1_billion_each_year/)
- e. Washington Times: <http://www.washingtontimes.com/news/2014/may/4/erosion-may-cost-iowa-farmers-1-billion-each-year/?page=all>
- f. Turkeyriver.org : <http://turkeyriver.org/erosion-estimated-to-cost-iowa-1-billion-in-yield/>

9. Measuring erosion became his mission. Donnelle Eller. Des Moines Register. April 29, 2014. <http://www.desmoinesregister.com/story/money/agriculture/2014/04/29/rick-cruse-measuring-erosion/8491841/>
10. Iowa is getting sucked into scary vanishing gullies. Tom Philpott. Mother Jones. February 7, 2014. <http://www.motherjones.com/tom-philpott/2014/02/iowas-vaunted-farms-are-losing-topsoil-alarming-rate>
11. Spring planting with record warmth. Charity Nebbe. Interview for Iowa Public Radio program “Talk of Iowa.” March 20, 2012.
12. Downstream – a documentary addressing farming practices and water quality. Erica Blair. 2012. <http://vimeo.com/56096224>
13. Etats-Unis La Corn Belt Côte-d’Ivoire Réinvestir perd du terrain. Isabelle Boucq. La France Agricole. September 16, 2011. <http://www.lafranceagricole.fr/archive/article/etats-unis-la-corn-belt-cote-d-ivoire-reinvestir-perd-du-terrain-FA340102005.html>
14. Levee blast means lost year for Missouri farmers (and variations there of). Michael J. Crumb, Associated Press. May 5, 2011. Six examples of outlets where this story ran:
  - a. NBC News: [http://www.nbcnews.com/id/42921838/ns/business-us\\_business/t/levee-blast-means-lost-year-missouri-farmers/#.VVyeQrlViko](http://www.nbcnews.com/id/42921838/ns/business-us_business/t/levee-blast-means-lost-year-missouri-farmers/#.VVyeQrlViko)
  - b. Deseret News: <http://www.deseretnews.com/article/700132919/Levee-blast-means-lost-year-for-Missouri-farmers.html?pg=all>
  - c. Pittsburg Post Gazette: <http://www.post-gazette.com/news/nation/2011/05/06/Floodwaters-strip-farms-of-topsoil/stories/201105060157>
  - d. Successful Farming Gate: <http://www.sfgate.com/news/article/Missouri-farms-damaged-in-flood-control-blasts-2372697.php>
  - e. Yahoo News: <http://news.yahoo.com/levee-blast-means-lost-missouri-farmers-202700071.html>
  - f. U.S. Business News on MSNBC: [http://www.msnbc.msn.com/id/42921838/ns/business-us\\_business/](http://www.msnbc.msn.com/id/42921838/ns/business-us_business/)
15. Soil erosion threatens Iowa agriculture. Kathleen Masterson. Harvest Public Media. April 12, 2011. <http://harvestpublicmedia.org/article/519/soil-erosion-threatens-iowa-agriculture/5>
16. High prices sow seeds of erosion. William Neuman. New York Times. April 12, 2011
17. Turning farmland into wetland may lower flood risk, but it’s a difficult choice in Iowa. Kate Wells (Harvest Public Media). Interview for National Public Radio program “All Things Considered.” February 1, 2011. <http://harvestpublicmedia.org/article/389/turning->

[farmland-wetland-may-lower-flood-risk-it%E2%80%99s-difficult-choice-iowa/5](https://www.farmland-wetland-may-lower-flood-risk-it%E2%80%99s-difficult-choice-iowa/5)

## INSTITUTIONAL SERVICE

---

### Agronomy Department

---

2017 – present	Soil Science DOGE
2015 – present	Member Promotion and Tenure Committee, Department of Agronomy
2015 – present	Member Iowa Nutrient Reduction Strategy Science Team
2013 – present	Member, Curriculum Development Committee
2010 – 2011	Member, Water Quality and Nutrient Management Search Committee – ABSE
2013 – present	Chair, Graduate Awards Committee
1996 – present	Member, Agronomy Awards Committee, Chair 2010 - present
1990 – present	Co-Advisor, Agronomy Graduate Club (also listed under teaching)
1990 – 2011	Member, Soil Science Uniform Written Prelim Committee
1981 – present	Advisor, Soil and Water Conservation Club (also listed under teaching)

---

### Iowa State University and Professional

---

10/11–12/2016	Review Panel member for IIHR-Hydrosience and Engineering Center, University of Iowa
2016-present	Member, 4-R Plus Committee on Water Quality, Iowa Nature Conservancy
2014 - 2016	Member, Advisory Board Selection Committee, University Council for Water Resources
2011	ISU representative, Iowa Nonpoint Source Management Plan Committee
1995 – 2000	Iowa State University Athletic Council
1995 – 1996	Chair, Facilities Planning and Mgmt. Committee
1997 – 1998	Chair, Academic Integrity Committee
1998 – 1999	President, Athletic Council
1998 – 1999	Chair, Executive Committee
1997 – 2000	Member, Executive Committee
1998 – 1999	Member, Athletic Student Appeals Committee
1998	Member, Search Committee for Compliance Coord.
2000 - 2002	Co-chair, Academic Integrity Committee of the NCAA Certification Self Study
2000	Member, Review panel for Director of Academic Services