

Illinois- MCCC State Report 2014

Maria Villamil

At University of Illinois Urbana-Champaign, 3 graduate students are actively involved in cover crop research. Cover crop projects include “Agronomic and environmental assessment of cover crops in Illinois” which is funded by the Illinois Nutrient Research and Education Council, “Keystone cover crop species: Understanding the relative contribution of individual species to soil health” which is funded by the CERES Trust, and “Alleviating soil compaction and improving weed suppression with multifunctional cover crops in organic grain production systems” which is also funded by the CERES trust. A previous study recently finished by a master’s student that was a Hatch Funded Project is “Improving the sustainability of Midwestern production systems: Alleviating soil compaction and improving nutrient cycling with multifunctional cover crops”. Dr. Villamil collective work on cover crops led to invitations to speak at local and regional venues, and (to date) at three international venues: a special session at the XXIV Argentinian Soil Science Congress; a commissioned symposium at the XX World Congress of Soil Science Congress in South Korea; and as a keynote speaker at a recent Agroecology symposium at the University of San Luis de Potosi, Mexico. Additionally, University of Illinois Extension has hosted several cover crop field days and outreach opportunities including demonstration plots and some small scale research on late-planted cover crops and the use of cover crops in no-till vegetable production throughout the state.

Publications

Peer-reviewed

Acuña JCM, and MB Villamil. 2014. Short term effects of cover crops and compaction on soil properties and soybean production in Illinois. *Agron. J.* 106:860-870.
doi:10.2134/agronj13.0370

Conferences and abstracts

Dozier I, GD Behnke, ED Nafziger, and MB Villamil. Agronomic Assessment of Cover Crops in Illinois. Poster presented at ASA, CSSA and SSSA International Annual Meeting. Long Beach, CA. Nov 2-6.

Villamil, M. B., and R. Y. Welch. 2014. Alleviating soil compaction with cover crops on organic farms: a participatory experience. 2014 Illinois Specialty Crops, Agritourism & Organic Conference, Jan., Bloomington, IL.

Villamil, M. B. Winter cover crops for sustainable cropping systems: Expectations and realities (In Spanish). Invited keynote speaker. XXIV Argentinian Congress of Soil Science and II National Meeting on Organic Matter and humic substances: Sustainable Production in Marginal Environments. Bahía Blanca, Argentina, May 5-9, 2014.

Villamil, M. B and E. D. Nafziger. Agronomic assessment of cover crops in Illinois. Commissioned Symposium. Soil Management Strategies for Enhancing Crop Yields. Invited speaker. 20th World Congress Soil Science. ICC Jeju, Korea. June 8-13, 2014.

Villamil, M. B. Opportunities and challenges in today's Agro-ecology. Invited keynote speaker. New Perspectives on Agro-ecology and Sustainability Symposium. University of San Luis Potosí, Mexico. Dec 1-4, 2014.

Welch, R. Y., G. Behnke, J. Masiunas, and M. B. Villamil. 2014. Alleviating soil compaction and suppressing weed populations with multifunctional cover crops in organic grain production. 2014 MOSES Organic Farming Conference, Feb., La Crosse, WI.

Welch, R. Y., G. Behnke, J. Masiunas, and M. B. Villamil. 2014. Improving weed suppression with cover crops in organic grain production. ASA. CSSA. & SSSA International Annual Meeting 2014, Nov., Long Beach, CA.

Extension Pubs:

Villamil MB, D Bowman, and ED Nafziger. Cover crops for Illinois: What we hear and what we know. Agronomy Day. Crop Sciences Research and Education Center. Urbana, IL. August 14, 2014.

Villamil MB. 2014. Working with cover crops in Illinois. AgMasters Conference. University of Illinois Dec 15-16. <http://www.cropsciconferences.com/program/10> .

Villamil MB. 2015. Cover Crops in Illinois Row Crop Production: Answers or Just More Questions? Crop Management Conferences. <http://web.extension.illinois.edu/csrec/2013conference/> Offered at 4 venues around Illinois: Champaign, Malta, Mt. Vernon, and Springfield. Jan-Feb 2015.

Grants:

Villamil MB. Improving the sustainability of Midwestern production systems: Alleviating soil compaction and improving nutrient cycling with multifunctional cover crops. Hatch Project \$7,500.

[Villamil MB, J Masiunas, and D Anderson. Alleviating soil compaction and improving weed suppression with multifunctional cover crops in organic grain production systems. 2011-2013. The CERES Trust. \\$175,693.](#)

Villamil MB, RC Bellm, D Bowman, R Higgins, A Peltier, R Cook, and ED Nafziger. 2012-2017. Agronomic and environmental assessment of cover crops in Illinois. NREC. \$1,036,555.

Wortman, S.E., A. Yannarell, S.T. Lovell, and J. Dawson. 2014-2016. Keystone cover crop species: Understanding the relative contribution of individual species to soil health. \$171,698.