

## NCCC-31 Publications 2013-2014

### Kansas State Univ.

Grabber, J., H. Riday, K. A. Cassida, T. C. Griggs, D. H. Min, and J. W. MacAdam. 2014. Yield, morphological characteristics, and chemical composition of European- and Mediterranean-derived birdsfoot trefoil cultivars grown in the colder continental United States. *Crop Science*. 54:1893-1901.

Griffin, W. A., V. R. Bremer, T. J. Klopfenstein, L. A. Stalker, L. W. Lomas, J. L. Moyer, and G. E. Erickson. 2012. A meta-analysis evaluation of supplementing dried distillers grains plus solubles to cattle consuming forage-based diets. *Prof. Animal Sci.* 28:306-312.

Holman, J., M. Stamm, T. Roberts, S. Maxwell, and D. H. Min. 2013. Companion Cropping and Fall Grazing of Winter Canola. ASA Annual meeting in Tampa, FL. November 3-6, 2013.

Min, D. H., C. Kapp, K. Cassida and J. Holman. 2013. Switchgrass Performance as a Bioenergy Crop. ASA Annual meeting in Tampa, FL. November 3-6, 2013.

Moyer, J. L., R. J. Whitworth, and H. Davis. 2014. Flaming dormant alfalfa for pest control. *Amer. J. Pl. Sci.* 5:915-923. doi: 10.4236/ajps-2014-57104.

Moyer, J. L., and D. W. Sweeney. 2014. Responses of eastern gamagrass [*Tripsacum dactyloides* (L.)L.] forage quality to nitrogen application and harvest system. *J. Plant Nutr.* 37: (In press).

### Univ. of Kentucky

Fierer, N., J. Ladau, J.C. Clemente, J.W. Leff, S.M. Owens, K.S. Pollard, R. Knight, J.A. Gilbert, and R.L. McCulley. 2013. Reconstructing the microbial diversity and function of pre-agricultural tallgrass prairie soils in the United States. *Science* 342:621-624.

Seabloom, E., E.T. Borer, Y. Buckley, W.E. Cleland, K. Davies, J. Firn, W.S. Harpole, Y. Hautier, E. Lind, A. MacDougall, J.L. Orrock, S.M. Prober, P. Adler, J. Alberti, T.M. Anderson, J.D. Bakker, L.A. Biederman, D. Blumenthal, C.S. Brown, L.A. Brudvig, M. Caldiera, C. Chu, M.J. Crawley, P. Daleo, E.I. Damschen, C.M. D'Antonia, N.M DeCrappeo, C. R. Dickman, G. Du, P.A. Fay, P. Frater, D.S. Gruner, N. Hagenah, A. Hector, A. Helm, H. Hillebrand, K.S. Hofmockel, H.C. Humphries, O. Iribarne, V.L. Jin, A. Kay, K.P. Kirman, J.A. Klein, J.M.H. Knops, K.J. La Pierre, L.M. Ladwig, J.G. Lambrinos, A.D.B. Leakey, Q. Li, W. Li, R.L. McCulley, B. Melbourne, C.E. Mitchell, J.L. Moore, J. Morgan, B. Mortensen, L.R. O'Halloran, M. Partel, J. Pascual, D.A. Pyke, A.C. Risch, R. Salguero-Gomez, M. Sankaran, M. Schuetz, A. Simonsen, M. Smith, C. Stevens, L. Sullivan, G.M. Wardle, E.M. Wolkovich, P.D. Wragg, J. Wright, L. Yang. 2013. Predicting invasion in grassland ecosystems: is exotic dominance the real embarrassment of richness. *Global Change Biology* 19(12):3677-3687.

Kreba, S.A., O.O. Wendoroth, M.S. Coyne, and R.L. McCulley. 2013. Spatial and temporal patterns of CO<sub>2</sub> flux in crop and grass land-use systems. *Vadose Zone Journal* 12(4). doi: 10.2136/vzj2013.01.0005.

Rúa, M.A., R.L. McCulley, and C.E. Mitchell. 2013. Fungal endophyte infection and host genetic background jointly modulate host response to an aphid-transmitted viral pathogen. *Journal of Ecology* 101:1007-1018.

Strickland, M.S., R.L. McCulley, and M.A. Bradford. 2013. The effect of a quorum-quenching enzyme on leaf litter decomposition. *Soil Biology & Biochemistry* 64:65-67.

Young, C.A., D. Hume, and R.L. McCulley. 2013. Fungal endophyte of tall fescue and perennial ryegrass: pasture friend or foe? *Journal of Animal Science* 91:2379-2394.

Hewins, D., S. Archer, G. Okin, R.L. McCulley, and H. Throop. 2013. Soil-litter mixing accelerates decomposition in a Chihuahuan Desert grassland. *Ecosystems* 16:183-195.

O'Halloran, L.R., E.T. Borer, E.W. Seabloom, A.S. MacDougall, E.E. Cleland, R.L. McCulley, S. Hobbie, W.S. Harpole, N.M. DeCrappeo, C. Chu, J.D. Bakker, K.F. Davies, G. Du, J. Firn, N. Hagenah, K.S. Hofmockel, J.M.H. Knops, W. Li, B.A. Melbourne, J.W. Morgan, J.L. Orrock, S.M. Prober, and C.J. Stevens. 2013. Regional contingencies in the relationship between aboveground biomass and litter in the world's grasslands. *PLOS One* 8(2):e54988.

Iqbal, J., J.A. Nelson, and R.L. McCulley. 2013. Fungal endophyte presence and genotype affect plant diversity and soil-to-atmosphere trace gas fluxes. *Plant and Soil* 364:15-27.

### **Univ. of Maryland**

Gott, R.C, Y. Lao, Q. Wang, and W.O. Lamp. 2014. Development of a biopolymer nanoparticle-based method of oral toxicity testing in aquatic invertebrates. *Ecotoxicology and Environmental Safety* 104: 226-230.

Lamp, W.O., and B.D. DeLay. 2013. Interactive effects of elevated atmospheric CO<sub>2</sub> level and leafhopper injury on host gas exchange rates. Entomological Society of America, Austin, TX.

Leslie, A., and W.O. Lamp. 2013. The invasive kudzu bug reaches Maryland. University of Maryland Extension Agronomy News. 4(5) 1-2.

Tracy B., K. Albrecht, J. Flores, M. Hall, A. Islam, G. Jones, W. Lamp, J. MacAdam, H. Skinner, and C. Teutsch. 2013. Forage yield, weed suppression and fertilizer nitrogen replacement value (FNRV) of alfalfa-tall fescue mixtures. *Grassland Science in Europe* 18:192-194.

### **Michigan State Univ.**

John H. Grabber, Heathcliffe Riday, Kim Cassida, Thomas C. Griggs, Doo-Hong Min, and Jennifer W. MacAdam. 2014. Yield, relative maturity, and forage quality of European and Mediterranean-derived birdsfoot trefoil genotypes in the colder continental United States. *Crop Sci.* (in press) online 03/13/2014, doi:10.2135/cropsci2013.09.0644.

### **Univ. of Nebraska**

Foster, J., Guretzky, J., Huo, C., Kering, M., Butler, T. J. (2013). Effects of row spacing, seeding rate, and planting date on establishment of switchgrass. *Crop Science*, 53, 1-6.

Haque, M., Biermacher, J. T., Kering, M. K., Guretzky, J. (2013). Economic evaluation of switchgrass feedstock production systems tested in potassium-deficient soils. Bioenergy Research.

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Kering, M. K., Guretzky, J., Interrante, S., Butler, T. J., Biermacher, J. T., Mosali, J. (2013). Harvest timing affects switchgrass production, forage nutritive value, and nutrient removal. Crop Science, 53, 1809-1817.

Guretzky, J., Schacht, W., Snell, L. K., Soper, J., Moore, S., Watson, A., Klopfenstein, T. (2013). Nitrogen input effects on herbage accumulation and presence of pasture plant species. Agronomy Journal, 105, 915-921.

### **Ohio State Univ.**

Sulc, R.M. 2013. Best tools for predicting forage harvest timing to optimize yield and nutritive value. p.160-163 *In* Cool forages: Advanced management of temperature forages. Edited by: Bittman, S, Hunt, D. Agassiz: Pacific Field Corn Assoc.. 206. Available at <http://farmwest.com/>

Nave, R.L.G., R.M. Sulc, and D.J. Barker. 2013. Relationships of forage nutritive value to cool-season grass canopy characteristics. Crop Science 53:341-348.

Sulc, R.M., Barker, D.J., and McCormick, J.S. 2013. Options for sulfur fertilization in alfalfa. [CD-ROM computer file, No.34]. American Forage and Grassland Council Conf. Proc., Covington, KY. 6-9 Jan. American Forage and Grassland Council, Berea, KY.

Nave, R.L.G., Sulc, R.M., Barker, D.J. 2013. Forage nutritive value changes in a stratified canopy of a mixed cool-season grass sward affected by season. p. 678-679 *In* 22nd International Grassland Congress Proc. Edited by Michalk, DL., Millar, G.D., et al., Orange New South Wales, Australia: New South Wales Department of Primary Industry & CSIRO Publishing.

Barker, D.J., Sulc, R.M., McCormick, J. 2013 Alfalfa responses to gypsum and sulfur in Ohio. 2013 Int'l Meeting Abstracts, 3-6 November 2013, Tampa, FL. Madison: American Society of Agronomy-Crop Science Society of America-Soil Science Society of America.

McCormick, J.S., Sulc, R.M., and Barker, D.J. 2013. Ohio forage performance trials. Columbus: Ohio State University. <http://oardc.osu.edu/forage2013/>

Sulc, M. 2013. Potato leafhopper resistant alfalfa. *In* Integrated pest management program achievements, 2010-2012. Edited by: Jasinski, J.R. Columbus: Ohio State University Extension.

### **Purdue Univ.**

Woodson, P, J.J. Volenec, and S.M. Brouder. 2013. Field-scale potassium and phosphorus fluxes in the bioenergy crop switchgrass: Theoretical energy yields and management implications. J. Plant Nutr. Soil Sci. 176:387-399.

Burks, J.L., J.J. Volenec, and S M. Brouder. 2014. Seasonal biomass accumulation and carbon partitioning in *Miscanthus x giganteus*, *Panicum virgatum* 'Shawnee', and an unmanaged prairie. GCB Bioenergy.

Chivenge, P., R.F. Turco, J.J. Volenec, and S.M. Brouder. 2014. A meta-analysis of soil organic carbon sequestration under biofuel cropping systems. Agron. J.

Trybula, E.M., C. Raj, J.L. Burks, , I. Chaubey, S.M. Brouder, and J.J. Volenec. 2014. Perennial rhizomatous grasses as bioenergy feedstock in SWAT: parameter development and model improvement. Glob. Change Biol. (in press).

Orr, M-J., M. Bischoff, B. Applegate, J.J. Volenec, S.M. Brouder, R.F. Turco. 2014. Response of soil microbial community to establishment of perennial and annual biofuel feedstock production systems. SSSAJ (submitted)

Trybula, E., I. Chaubey, J. Frankenberger, S.M. Brouder, and J.J. Volenec. 2012. Quantifying ecohydrologic Impacts of perennial rhizomatous grasses on tile discharge, a plot level comparison of continuous corn, mixed prairie, upland switchgrass, and *Miscanthus x giganteus*. Abstract 297-9. Inter. Meeting of the Amer. Soc. Agron.-Crop Sci. Soc. of Amer.-Soil Sci. Soc. of Amer. Oct. 21-24. Cincinnati OH.

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Moore, K., S.J. Birrell, R.C. Brown, M. Casler, J.E. Euken, D.J. Hayes, M. Hanna, J.D. Hill, C.L. Kling, K.L. Jacobs, D.A. Laird, R. Mitchell, P.T. Murphy, R. Raman, C.V. Schwab, K.J. Shinners, K.P. Vogel, and J.J. Volenec. 2012. Sustainable production and distribution of bioenergy for the Central USA: An agro-ecosystem approach to sustainable biofuels production via the pyrolysis-biochar platform (USDA-NIFA AFRI CAP, Project #2010-05073). Abstract 26-3. Inter. Meeting of the Amer. Soc. Agron.-Crop Sci. Soc. of Amer.-Soil Sci. Soc. of Amer. Oct. 21-24. Cincinnati OH.

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<http://scisoc.confex.com/scisoc/2012am/webprogram/Paper74076.html>

Issa, S., S.M. Brouder, J.J. Volenec, T.S. Murrell, and I. Chaubey. 2013. An in-depth study of growth, stover and grain predictions of Hybrid-Maize and CERES-Maize in rainfed conditions in northwestern Indiana. Abstract 198-2. Inter. Meeting of the Amer. Soc. Agron.-Crop Sci. Soc. of Amer.-Soil Sci. Soc. of Amer. Nov. 2-6, Tampa, FL.

Dierking, R.M., J.J. Volenec, and P.T. Murphy. 2013. Forage yield and quality of Miscanthus giganteus subjected to simulated haying/grazing conditions. Abstract 245-5. Inter. Meeting of the Amer. Soc. Agron.-Crop Sci. Soc. of Amer.-Soil Sci. Soc. of Amer. Nov. 2-6, Tampa, FL.  
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Long, M.K., J.J. Volenec, and S.M. Brouder. 2013. Theoretical ethanol yield for potential bioenergy sorghum genotypes of differing compositions. Abstract 373-9. Inter. Meeting of the Amer. Soc. Agron.-Crop Sci. Soc. of Amer.-Soil Sci. Soc. of Amer. Nov. 2-6, Tampa, FL.  
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Rivera Burgos Sr., L. A, S.M. Brouder, J.J. Volenec, and G. Ejeta. 2013. Development of brown midrib sweet sorghum as a biomass crop for ethanol production. Abstract 367-50. Inter. Meeting of the Amer. Soc. Agron.-Crop Sci. Soc. of Amer.-Soil Sci. Soc. of Amer. Nov. 2-6, Tampa, FL.

Volenec, J.J., S.M. Brouder, S. Lissbrant, W.K. Berg and P. Woodson. 2013. Cluster analysis in forms physiological and species-specific responses of alfalfa, maize and switchgrass to P and K nutrition. Int. Plant Nutrition Coll., Aug. 18-22, Istanbul, Turkey.

Volenec, J.J. R.B. Mitchell, D. Laird, D.K. Lee, C. Rosen, S.M. Brouder, R.F. Turco, E. Heaton, K.J. Moore, I. Chaubey, J. Lamb, and M. Casler. 2013. Evaluating perennial grasses for biomass production in diverse cropping systems in the Central United States (cenUSA). Proc. Am. Assoc. Industrial Crops. (in press).

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Berg, W.K., S. Lissbrant, J.J. Volenec, S.M. Brouder, B.C. Joern, K.D. Johnson, and S.M. Cunningham. 2012. Phosphorus and potassium influence on alfalfa nutrition. Purdue University Research Repository. DOI: 10.4231/D3251FJ7S.

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### Texas Tech Univ.

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Cahill, N., M.P. Popp, C.P. West, A. Rocateli, A.J. Ashworth, and R. Farris. 2014. Switchgrass harvest time effects on nutrient use and yield: An economic analysis. *J. Agric. Appl. Econ.* (In revision).

### **USDA-ARS, Madison, WI**

Coblentz W.K., Grabber J.H. (2013) In situ protein degradation of alfalfa and birdsfoot trefoil hays and silages as influenced by condensed tannin concentration. *J. Dairy Sci.* 96:3120-3137.

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### **USDA-ARS, Mandan, ND**

Cannayen, I., D.W. Archer, C. Gustafson, M.R. Schmer, J.R. Hendrickson, S.L. Kronberg, D. Keshwani, L. Backer, K. Hellevang, and T. Faller. 2014. Biomass round bales infield aggregation logistic scenarios. *Biomass and Bioenergy.* 66:12-26.

- Cassida, K.A., J.G. Foster, J.M. Gonzalez, R.W. Zobel, and M.A. Sanderson. 2013. Response of forage chicory seedlings to available soil phosphorus in two soils in a controlled environment. *Comm. Soil Sci. Plant Anal.* 44:1992-2007.
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- Halvorson, J.J., J.M. Gonzalez, and A.E. Hagerman. 2013. Retention of tannin-C is associated with decreased soluble-N and increased cation exchange capacity in a broad range of soils. *Soil Science Society of America Journal.* 77:1199-1213.
- Kronberg, S.L., and C.S. Schauer. 2013. Cattle and sheep develop preference for drinking water containing grape seed tannin. *Animal.* 7(10):1714-1720.
- Liebig, M.A., S.L. Kronberg, J.R. Hendrickson, and J.R. Gross. 2014. Grazing management, season, and drought contributions to near-surface soil properties dynamics in semiarid rangeland. *Rangeland Ecol. Manage.* 67:266-274.
- Printz, J., D. Toledo, and S. Boltz. 2014. Rangeland health assessment: The key to understanding and assessing rangeland soil health in the Northern Great Plains. *J. Soil Water Conserv.* 69:73A-77A
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- Sanderson, M.A., G. Brink, R. Stout, and L. Ruth. 2013. Grass-legume proportions in forage seed mixtures and effects on herbage yields and weed abundance. *Agron. J.* 105:1289-1297.
- Sanderson, M.A., S.C. Goslee, and K.J. Soder. 2013. Biodiversity in forage stands. p. 42-45. In: S. Bittman and D. Hunt (eds.) *Cool forages: Advanced management of temperate forages.* Pacific Field Corn Association, Agassiz, BC, Canada. (Book Chapter)
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- Sanderson, M.A., R. Stout, J. Gonet, S.C. Goslee, and R. Smith. 2014. Soil seed bank community structure of pastures and hayfields on an organic farm. *Can. J. Plant Sci.* 94: 621-631
- Sanderson, M.A. 2014. Evaluating the USDA-NRCS pasture condition score system with weighted indicators. *Ecological Indicators* 41:183-186.
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- Toledo, D.N., U.P. Kreuter, M.G. Sorice, and C.A. Taylor. 2013. The role of prescribed burn associations in the application of prescribed fires in rangeland ecosystems. *Journal of Environmental Management.* 132:323-328

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### **USDA-ARS, University Park, PA**

Antaya, N.T., A.F. Brito, K.J. Soder, N.L. Whitehouse, N.E. Guindon, D.B.D. Pereira, and C.C. Muir. Kelp meal (*Ascophyllum nodosum*) did not improve milk yield or mitigate heat stress but increased milk iodine in mid lactation organic Jersey cows during the grazing season. *J. Dairy Sci.* 96 (E-Suppl. 1):33.

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Resende, T.L., A.F. Brito, K.J. Soder, D.H. Woitschach, A.B.D. Pereira, and R.B. Reis. Feeding incremental levels of ground flaxseed linearly reduced milk yield and enteric methane emission in organic Jersey cows. *J. Dairy Sci.* 96 (E-Suppl. 1):523.

Veith, Tamie; Kleinman, Peter; Adler, Paul; Bryant, Ray; Buda, Anthony; Church, Clint; Dell, Curt; Goslee, Sarah; Rotz, Al; Skinner, Howard; Soder, Kathy. Long Term Agro-Ecosystem Research (LTAR) Network: Upper Chesapeake Bay. 2013. ASABE Annual Meeting.

Camargo, G., A. Kemanian, T. Richard, S. Goslee and H. Skinner. 2013 Water competition among mixed species in the northeast US. ASA-CSSA-SSSA Annual Meeting, Nov. 3-6 2013, Tampa, FL.

Adler, P.R. 2014. Opportunities for grasslands as biofuel feedstock, p. 90-92. In A. Glaser (Ed.) America's Grasslands Conference: The Future of Grasslands in a Changing Landscape. Proceedings of the 2nd Biennial Conference on the Conservation of America's Grasslands. August 12-14, 2013, Manhattan, KS. Washington, DC and Manhattan, KS: National Wildlife Federation and Kansas State University.

Schrenker, D.L., M.H. Hall, A. Grantham, J.P. Kaye, and R.H. Skinner. 2014. Production Potential of Warm-Season Annual Pastures in Rotation with Corn Silage. *In Proceedings American Forage and Grassland Council (CD-ROM Computer File)*.

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