

JEFFREY B. ENDELMAN

Assistant Professor

Department of Horticulture, University of Wisconsin

1575 Linden Dr., Madison, WI 53706

endelman@wisc.edu

EDUCATION

PhD Crop Science, 2011. Washington State University, Pullman, WA.

Thesis: Advances in barley genomics: Association analysis, breeding values, and consensus mapping

MS Plant Science, 2009. Utah State University, Logan, UT.

Thesis: Optimal compost rates for organic crop production based on a decay series

PhD Bioengineering, 2005. California Institute of Technology, Pasadena, CA.

Thesis: Design and analysis of combinatorial protein library created by site-directed recombination

MA Physics, 2002. University of California, Santa Barbara, CA.

BS Chemical Engineering, BS Applied Math, 2000. Northwestern University, Evanston, IL.

APPOINTMENTS

2013–Present Assistant Professor, Horticulture, Univ. Wisconsin, Madison

2011–2013 Postdoctoral Researcher, Cornell University/USDA-ARS, Ithaca, NY

AWARDS

2005 Caltech Demetriades Prize in Biotechnology

2000 National Defense Science and Engineering Graduate Fellowship

2000 National Science Foundation Graduate Fellowship (declined)

1999 Barry Goldwater Scholarship

INVITED TALKS

Genome-wide selection in crops. Aug. 19, 2013. University of Florida Genetics Institute Symposium, Gainesville, FL.

Optimal design of preliminary yield trials with genome-wide markers. Jan. 17, 2013. Bill and Melinda Gates Foundation Convening, San Diego, CA.

Genomic selection with the realized relationship matrix. Oct. 22, 2012. ASA-CSSA-SSSA Annual Meeting, Cincinnati, OH.

JOURNAL PUBLICATIONS

2013

Riedelsheimer, C., **J.B. Endelman**, M. Stange, M.E. Sorrells, J.-L. Jannink, and A.E. Melchinger. 2013. Genomic predictability of interconnected biparental maize populations. *Genetics* 194:493–503. doi:10.1534/genetics.113.150227/-/DC1

2012

Endelman, J.B., and J.-L. Jannink. 2012. Shrinkage estimation of the realized relationship matrix. *G3: Genes, Genomes, Genetics* 2:1405–1413. doi:10.1534/g3.112.004259

Poland, J.*, **J. Endelman***, J. Dawson, J. Rutokoski, S. Wu, Y. Manes, S. Dreisigacker, J. Crossa, H. Sanchez-Villeda, M. Sorrells, and J.-L. Jannink. 2012. Genomic selection in wheat breeding using genotyping-by-sequencing. *Plant Genome* 5:103–113. doi:10.3835/plantgenome2012.06.0006 *Contributed equally

Reeve, J.R., **J.B. Endelman**, B.E. Miller, and D.J. Hole. 2012. Residual effects of compost on soil quality and dryland wheat yield sixteen years after compost application. *Soil Sci. Soc. Am. J.* 76:278–285. doi:10.2136/sssaj2011.0123

2011

Endelman, J.B. 2011. Ridge regression and other kernels for genomic selection with R package rrBLUP. *Plant Genome* 4:250–255. doi:10.3835/plantgenome2011.08.0024

Endelman, J.B. 2011. New algorithm improves fine structure of the barley consensus SNP map. *BMC Genomics* 12:407. doi:10.1186/1471-2164-12-407

2010

Endelman, J.B., J.R. Reeve and D.J. Hole. 2010. Economically optimal compost rates for organic crop production. *Agronomy J.* 102:1283–1289. doi:10.2134/agronj2009.0525

Endelman, J.B., J.R. Reeve and D.T. Drost. 2010. A new decay series for organic crop production. *Agronomy J.* 102:457–463. doi:10.2134/agronj2009.0253

Older

Otey, C.R, M. Landwehr, **J.B. Endelman**, K. Hiraga, J.D. Bloom, and F.H. Arnold. 2006. Structure-guided recombination creates an artificial family of cytochromes P450. *PLoS Biology* 4(5): e112.

Endelman, J.B., J.J. Silberg, Z.G. Wang and F.H. Arnold. 2004. Site-directed protein recombination as a shortest-path problem. *Protein Eng. Design & Selection* 17:589–594.

Meyer, M.M., J.J. Silberg, C.A. Voigt, **J.B. Endelman**, S.L. Mayo, Z.-G. Wang, and F.H. Arnold. 2003. Library analysis of SCHEMA-guided protein recombination. *Protein Science* 12:1686–1693.

CONFERENCE PRESENTATIONS

- Poland, J., J. Endelman, J. Dawson, J. Rutkoski, S. Wu, Y. Manes, S. Dreisigacker, J. Crossa, H. Sanchez-Villeda, M. Sorrells, and J.-L. Jannink. 2013. Genomic selection in wheat breeding using genotyping-by-sequencing. Plant & Animal Genome XXI, Jan. 12–16, San Diego, CA.
- Atlin, G., J. Endelman, X. Zhang, R. Babu, Y. Beyene, J.-L. Jannink, and J. Crossa. 2013. Applying high density markers to crop improvement: Initial experiences from the CIMMYT maize program. Plant & Animal Genome XXI, Jan. 12–16, San Diego, CA.
- Sallam, A. J. Endelman, J.-L. Jannink, and K.P. Smith. 2013. Genomic selection and model accuracy in barley for deoxynivalenol (DON). Plant & Animal Genome XXI, Jan. 12–16, San Diego, CA.
- Dawson, J.C., J. Endelman, J. Crossa, J. Poland, S. Dreisigacker, Y. Manes, J.-L. Jannink, and M.E. Sorrells. 2012. Genomic selection using data from long-term international wheat trials. ASA-CSSA-SSSA Annual Meeting, Oct. 21–24, Cincinnati, OH.
- Chancerel, E., J. Endelman, L. Bouffier, and C. Plomion. 2012. Establishment of a composite SNP linkage map for maritime pine. Conference on Tree Breeding, Genomics and Evolutionary Biology, Oct. 16–17, Helsinki, Finland.
- Endelman, J.B. 2012. Ridge regression and other kernels for genomic selection with R package rrBLUP. Plant & Animal Genome XX, Jan. 14–18, San Diego, CA.
- Jannink, J.-L., Y. Jia, N. Heslot, J. Endelman, and J. Rutkoski. 2012. Some methodological developments in genomic selection. Plant & Animal Genome XX, Jan. 14–18, San Diego, CA.
- Sallam, A. J. Endelman, J.-L. Jannink, and K.P. Smith. 2012. Genomic selection and model accuracy in barley for yield and heading date. Plant & Animal Genome XX, Jan. 14–18, San Diego, CA.
- Endelman, J.B. 2011. Ridge regression and other kernels for genomic selection with R package rrBLUP. ASA-CSSA-SSSA Annual Meeting, Oct. 16–19, San Antonio, TX.
- Olsen, D.J.R., J.R. Reeve, J.B. Endelman, D.T. Drost, and A.R. Jacobson. 2011. Compost carryover as measured by yield, mineralizable nitrogen, and FT-IR spectroscopy in response to one-time applications in an organic field trial. ASA-CSSA-SSSA Annual Meeting, Oct. 16–19, San Antonio, TX.
- Endelman, J. 2011. New algorithm improves fine structure of the barley consensus SNP map. North American Barley Researchers Workshop, June 8, Corvallis, OR.
- Endelman, J., J.R. Reeve, and D. Drost. 2009. A new decay series for organic crop production. ASA-CSSA-SSSA Annual Meeting, Nov. 1–5, Pittsburgh, PA.

TEACHING

Fall 2012. Theory and Application of Association Analysis (online course). USDA-NIFA
Triticeae Coordinated Agricultural Project.

PROFESSIONAL ACTIVITIES

Reviewer for Theor. Appl. Genet., Crop Science, Genet. Sel. Evol., PLoS ONE, and more

2013– Potato Association of America (PAA)

2009– American Association for the Advancement of Science (AAAS)

2008– Crop Science Society of America (CSSA)