

Abbreviated Curriculum Vitae

Mark A. Brick

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Academic Training

<u>Degree</u>	<u>Year</u>	<u>Institution/Major</u>
PhD	1980	University of Minnesota - Plant Breeding and Genetics
MS	1975	University of Arizona - Agronomy
BS	1972	Univ. Of Wisconsin, River Falls - Crop Science

Areas of Specialization

Plant Breeding, Genetics of Disease Resistance, Breeding for Enhanced Nutritional and Health Beneficial Properties of Crops, Statistical Design of Experiments, Molecular Genetics.

Professional Appointments

Head, Dept. of Soil and Crop Sciences, Colorado State University, 2015-present.
Professor, Dept. of Soil and Crop Sciences, Colorado State University, 1993-present.
Associate Professor, Colorado State University, 1985-1993
Assistant Professor, Colorado State University, 1981-1985
Assistant Professor, California State University-Fresno 1980-1981
Graduate Research Assistant, University of Minnesota. 1977-1980.
Research Station Manager, Cal/West Seeds 1975-1977.
Graduate Research Assistant, University of Arizona, 1973-1975.

Membership in Professional Societies

American Society of Agronomy, since 1974.
Crop Science Society of America, since 1974.
Western Society of Crop Science, since 1981.
Bean Improvement Cooperative, since 1986.

Honors and awards received since 2000

President, Crop Science Society of America, 2013
Fellow, Crop Science Society of America, 2011
Meritorious Service Award, Bean Improvement Cooperative, 2009
Award for Excellence, Project W-1150 Western Assoc. Ag. Exp. Station Directors, 2009
Gamma Sigma Delta Faculty Award of Merit; 2005
Fellow, American Society of Agronomy; 2003
National Assoc. of College Teachers/Charles Shepardson Meritorious Teaching Award; 2001
Distinguished Achievement Award; Bean Improvement Cooperative, 2001.

Professional Accomplishments in Brief:

Mark is a Professor of Crop Breeding and Genetics in the Department of Soil and Crop Sciences at Colorado State University, Fort Collins, CO. He has been involved in research at the university level for 35 years. Dr. Brick is the project leader for one of five public sector dry edible bean breeding projects in the US. He develops improved dry edible bean varieties for growers and the industry throughout the western region and High Plains of the US. As the leader of the Colorado State University Dry Bean Breeding Project (DBBP), he is responsible for development of bean varieties for irrigated and non-irrigated production in the High Plains. The project has released 10 varieties and 12 germplasm lines since 1992. Dr. Brick is also recognized as an expert in health beneficial properties of grain legumes and their nutritional value. In collaboration with Dr. Henry Thompson published the first documentation that beans in the diet of mammals reduced the incidence and severity of mammary cancer in a preclinical model and the reduction is dose dependent. He has also provided numerous outreach presentations in his career to grower groups (more than 250) with many incorporating his ideas into their production methods. His other professional areas of expertise are molecular marker assisted selection, nutritional aspects of crops, seed production, and statistical approaches to experimental design. He has work experience with projects in Bolivia, Colombia, El Salvador, Ethiopia, Mexico, Spain, and Russia during 30+ years at Colorado State University. He and his CoPIs at CSU have been awarded more than \$4.5 million in grant support for their research on dry beans since 2007. He has served as major professor for 29 M.S. and 7 Ph.D. students, authored or co-authored more than 90 refereed publications and over 200 non-refereed bulletins, extension reports and papers.

Selected Recent Publications (2010-2017)

1. Singh, S.P., P.N. Miklas, **M.A. Brick**, H.F. Schwartz, C.A. Urrea, H. Terán, C. Centeno, B. Ogg, K. Otto, and A. Soler. 2017. Pinto Bean Cultivars Blackfoot, Nez Perce, and Twin Falls. *J. Plant. Reg.* 0. doi:10.3198/jpr2016.06.0030crc.
2. Hooper, S., Wiesinger, J. A., Echeverria, D., Thompson, H. J., **Brick, M. A.**, Nchimbi-Msolla, S., & Cichy, K. A. (2017). Carbohydrate Profile of a Dry Bean (*Phaseolus vulgaris* L.) Panel Encompassing Broad Genetic Variability for Cooking Time. *Cereal Chemistry*, 94(1), 135-141.
3. Moghaddam, S. M., S. Mamidi, J. M. Osorno, R. Lee, **M. Brick**, J. Kelly, P. Miklas, C. Urrea, Q. Song, P. Cregan, J. Grimwood, J. Schmutz, and P. E. McClean. 2016. Genome-Wide Association Study Identifies Candidate Loci Underlying Agronomic Traits in a Middle American Diversity Panel of Common Bean. *Plant Genome* 9. doi:10.3835/plantgenome2016.02.0012
4. **Brick, Mark A.**, and Henry J. Thompson. "Toward closing the dietary fiber gap: candidate genes associated with dietary fiber content in common bean." *The FASEB Journal* 30.1 Supplement (2016): 421-8.

5. Chen, Y., R. McGee, G. Vandemark, **M. Brick**, and H.J. Thompson. 2016. Dietary Fiber Analysis of Four Pulses Using AOAC 2011.25: Implications for Human Health. *Nutrients*, 8:, 829; doi:10.3390/nu8120829.
6. Hooper, S., Wiesinger, J.A., Echeverria, D., Thompson, H.J., **Brick, M.A.**, Nchimbi-Msolla, S. and Cichy, K.A., 2016. Carbohydrate Profile of a Dry Bean (*Phaseolus vulgaris* L.) Panel Encompassing Broad Genetic Variability for Cooking Time. *Cereal Chemistry*, pp.CCHEM-04.
7. Thompson, H.J. and **Brick, M.A.**, 2016. Perspective: Closing the dietary fiber gap: An ancient solution for a 21st century problem. *Advances in Nutrition: An International Review Journal*, 7(4), pp.623-626.
8. Wiesinger, J.A., K.A. Cichy, R.P. Glahn, M.A. Grusak, **M.A. Brick**, H.J. Thompson 2016. Demonstrating a nutritional advantage to the Fast-cooking dry bean (*Phaseolus vulgaris* L.). *Journal of Agricultural and Food Chemistry* 64 (45), 8592-8603.
9. **Brick, M.**, and M. Fisher. 2016. 2016 is the International Year of Pulses. *Crops Soils* 49:38-38. doi:10.2134/cs2016-49-1-9..
10. **Brick, M.**, and M. Fisher. 2016. 2016 is the International Year of Pulses. *Crops Soils* 49:38-38. doi:10.2134/cs2016-49-1-9
11. **Brick, M.A.**, J.B. Ogg, H.F. Schwartz, J.J. Johnson, F.Judson and M.A. Pastor-Corrales. 2015. Registration of 'Long's Peak' Pinto Bean. *Journal of Plant Registrations* 2015 9:279-282. doi:10.3198/jpr2015.02.0005crc.
12. Kleintop, A.E., J.R. Myers, D. Echeverria, H.J. Thompson, and **M.A. Brick**. 2015. Total Phenolic Content and Associated Phenotypic Traits in a Diverse Collection of Snap Bean Cultivars. *J. AMER. SOC. HORT. SCI.* 141(1):1–9. 2015.
13. Robison, F.M. A.L. Heuberger , **M.A Brick**, and J.E. Prenni. 2015. Proteome characterization of leaves in common bean. *Proteome Proteomes* 2015, doi:10.3390/pr30x000x
14. De Ron, AM., R. Papa, E.Bitocchi,,A.M. González, D.G. Debouck, **M.A. Brick**, D. Fourie, F.Marsolais, J. Beaver, V. Geffroy, P.McClean, M. Santalla, R. Lozano, F.J. Yuste-Lisbona, and Pedro A. Casquero. 2015. Common Bean. In: *Grain Legumes*, A.M. De Ron (Ed.), Series Handbook of Plant Breeding. Springer Science+Business Media, New York (in press).

15. Schwartz, H.F. and **M.A. Brick**. 2015. Dry Bean Pest Management & Production. 152 pp. Regional Publication. Colorado State University, University of Nebraska, and University of Wyoming.
16. **Brick, M.A.** and C.H. Pearson. 2015. Post Harvest. pp. 61-63. *In*: Dry Bean Pest Management & Production, (3rd ed., Schwartz, H.F., and M.A. Brick, Editors). Regional Publication. Colorado State University, University of Nebraska, and University of Wyoming.
17. Pearson, C.H., **M.A. Brick**, and John Smith. 2015. Planting. Pp. 23-27. *In*: Dry Bean Pest Management & Production, (3rd ed., Schwartz, H.F., and M.A. Brick, Editors). Regional Publication. Colorado State University, University of Nebraska, and University of Wyoming.
18. **Brick, M.A.** and C.A. Urrea. 2015. Classification, development and varietal descriptions. pp. 11-17. *In*: Dry Bean Pest Management & Production, (3rd ed., Schwartz, H.F., and M.A. Brick, Editors). Regional Publication. Colorado State University, University of Nebraska, and University of Wyoming.
19. **Brick, M.A.** and H.F. Schwartz. 2015. Crop rotation. pp. 21-22. *In*: Dry Bean Pest Management & Production, (3rd ed., Schwartz, H.F., and M.A. Brick, Editors). Regional Publication. Colorado State University, University of Nebraska, and University of Wyoming.
20. Vandemark, G.J., **M.A. Brick**, J. Osorno, J.D. Kelly, and C. Urrea. 2014. Edible grain legumes. *In*: S. Smith, B. Diers, J. Specht, and B. Carver (ed). Yield Gains in major U.S. field crops. CSSA Special Publications, Madison, WI. DOI: 10.2135/cssaspecpub33.
21. Schmutz J, McClean P, Mamidi S, Wu GA, Cannon SB, Grimwood J, Jenkins J, Shu S, Song Q, Chavarro C, Torres-Torres M, Geffroy V, Moghaddam SM, Gao D, Abernathy B, Barry K, Blair **M**, **Brick MA**, Chovatia M, Gepts P, Goodstein DM, Gonzales M, Hellsten U, Hyten DL, Jia G, Kelly JD, Kudrna D, Lee R, Richard MMS, Miklas PN, Osorno JM, Rodrigues J, Thareau V, Urrea CA, Wan M, Yu Y, Zhang M, Wing RA, Cregan PB, Rokhsar DS, Jackson SA. 2014. A reference genome for common bean and genome-wide analysis of dual domestications. *Nature Genetics* 46: 707-713.
22. Cichy, K.A., A. Fernandez, A. Kilian, J.D. Kelly, C.H. Galeano, S. Shaw, **M.A. Brick**, D. Hodgkinson, and E. Delorean. 2013. QTL analysis of canning quality and color retention in black beans (*Phaseolus vulgaris* L.). *Mol Breeding*. DOI 10.1007/s11032-013-9940-y.
23. Webb, K. M., A.J. Case, **M.A. Brick**, K. Otto, and H.F. Schwartz, 2013. Cross pathogenicity and vegetative compatibility of *Fusarium oxysporum* isolated from sugar beet. *Plant Dis.* 97:1200-1206.
24. Kleintop, A.E., D. Echeverria, L.A. Brick, H.J. Thompson, and **M.A. Brick**. 2013. Adaptation of the AOAC 2011.25 Integrated Total Dietary Fiber Assay to Determine the Dietary Fiber and Oligosaccharide Content of Dry Edible Bean. *J. Food Ag. Chemistry*. DOI: 10.1021/jf403018k

25. Porch, T.G., J.S. Beaver, and **M.A. Brick**. 2013. Registration of tepary germplasm with multiple-stress tolerance, TARS-Tep 22 and TARS-Tep 32. *J. Plant Registrations*. 2013 7: 3: 358-364 doi:10.3198/jpr2012.10.0047crg

26. Pearson, C., J.B. Ogg, **M.A. Brick**, and A. Berrada. 2012. Popping and Yield Characteristics of Nuña Bean Lines Developed for Temperate Climates. *Agron. J.* 104: 6: 1574-1578.

27. Daniell, E.L., E.Ryan, **M.A. Brick**, and H. Thompson. 2012. Hepatic Expression of Stress and Toxicity related genes in response to increasing amounts of dietary dry bean. *British Journal of Nutrition* (2012), 108, S37–S45.

28. Thompson MD, Mensack MM, Jiang W, Zhu Z, Lewis MR, McGinley JN, **Brick MA**, Thompson HJ. 2012 Cell signaling pathways associated with a reduction in mammary cancer burden by dietary common bean (*Phaseolus vulgaris* L.). *Carcinogenesis*. 2012 Jan;33(1):226-32. Epub 2011 Nov 9. PMID: 22093000.

29. **Brick, M.A.**, J.B. Ogg, H.F. Schwartz, J.J. Johnson, and F. Judson. 2011 Registration of Croissant pinto bean. 2011. *Journal of Plant Registrations. Journal of Plant Registrations* 2011 5: 3: 299-303.

30. Mensack, M.M., V.K. Fitzgerald, E.P. Ryan, M.R. Lewis, H.J.Thompson, and **M.A. Brick**. 2010. Evaluation of diversity among common beans (*Phaseolus vulgaris* L.) from two centers of domestication using 'omics' technologies. *BMC Genomics*. Dec 2, 2010;11(1):686. [Epub ahead of print].

31. Schwartz, H.F., **M.A. Brick**, K. Otto, and J. B. Ogg. 2010. Germplasm evaluation for resistance to bacterial wilt in common bean, 2008-2009. *Plant Disease Management Reports* 4:1-2.

32. Heuberger AL, Lewis MR, Chen M-H, **Brick MA**, Leach JE, and EP Ryan (2010) Metabolomic and Functional Genomic Analyses Reveal Varietal Differences in Bioactive Compounds of Cooked Rice. *PLoS ONE* 5 (9): e12915