

Dirk E. Maier

Professor

Registered Professional Engineer

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Education

Ph.D. Agricultural Engineering, 1992
Michigan State University

M.S. Agricultural Engineering, 1988
Michigan State University

B.S. Agricultural Engineering, 1987
Michigan State University

A.S. Engineering, 1985
Grand Rapids Jr. College

Honors and Awards

The Andersons Cereals and Oilseeds Award of Excellence, NC-213/U.S. Quality Grains Research Consortium, 2007

Grain Industry Leader Award, Grain Elevator & Processing Society (GEAPS), 2011

Distinguished Alumni Award, Biosystems and Agricultural Engineering Department, Michigan State University, 2011

Association for Continuing Higher Education (ACHE) 2012 Distinguished Program: Non-Credit Award for GEAPS Continuing Education and Credentials Program

University Professional and Continuing Education Association (UPCEA) Central Region's 2015 Celebration of Excellence Award for Innovative Noncredit Program – GEAPS Continuing Education and Credentials Program

Recent Publications

Roberts, M.J., Field, W.E., **Maier, D.E.** and Stroshine, R.L. 2015. Determination of entrapment victim extrication forces with and without use of a grain rescue tube. *Journal of Agricultural Safety and Health*. 21(2):71-83.

Boac, J.M., Ambrose, R.P.K., Casada, M.E., Maghirang, R.G., and **Maier, D.E.** 2014. Applications of discrete element method in modeling of grain postharvest operations. *Food Engineering Reviews*. 10.1007/s12393-014-9090-y.

Martinez-Kawas, A. and **Maier, D.E.** 2014. Improvements in quantification of biomass feedstock availability to a biorefinery using a GIS-based method. *Transactions of the ASABE*, 57(2):533-542.

Rigdon, A.R., Jumpponen, A., Vadlani, P.V., and **Maier, D.E.** 2013. Impact of various storage conditions on enzymatic activity, biomass components and conversion to ethanol yields from sorghum biomass used as a bioenergy crop. *Bioresource Technology*. 132:269-275.

Dr. Maier serves as the Associate Director of the Global Food Security Consortium at Iowa State University which aims to promote research, outreach and capacity building that increase the quality and quantity of food and nutrition in the world

(www.globalfoodsecurity.iastate.edu). He is the Founding Director of the USAID-funded Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss for which he served as the lead PI.



Dr. Maier is a registered professional engineer, and a member and officer of several academic, professional and scholarly societies. He has served on two EPA FIFRA Scientific Advisory Panels related to the assessment of genetically modified grains. He has traveled extensively throughout the world as a speaker and participant in many national and international industry meetings and scientific conferences.

Research

Dr. Maier's research program focuses on post-harvest engineering applied to grain and feed operations and processing. Projects involve post-harvest loss reduction and prevention, food security, grain operations management, feed technology, post-harvest engineering (crop handling, drying, storage, processing and loss prevention), value-added processing of agricultural crops and food/feed products, ecosystem modeling, stored products protection (IPM, fumigation), alternative crop storage systems (grain chilling, hermetic storage), dehydration of biological products, bulk material (grain, feed) handling and segregation (IP), quality assurance of agricultural crops and biological products, and facilities planning and design (including safety, entrapment rescue, dust explosion prevention, system simulation).

Outreach

Dr. Maier's outreach program focuses on crop post-harvest handling, drying, storage, processing and loss prevention, global food and nutrition security, and continuing education and credentialing of industry professionals in the global grain and feed industry. He provides leadership to and teaches a number of distance courses in the GEAPS Continuing Education and Credentials Program (<http://www.geaps.com/knowledge/credential/index.cfm>)