

William (Bill) L. Rooney

Education and Training:

Texas A & M University	Agronomy	B.S., 1987
Texas A & M University	Plant Breeding	M.S., 1989
University of Minnesota	Plant Breeding and Genetics	Ph.D., 1992

Research and Professional Experience:

2018-present	Regents Professor, Borlaug-Monsanto Chair in International Crop Improvement and AgriLife Faculty Fellow	Dep Soil & Crop Sciences, Texas A&M
2016-2017	Regents Professor and AgriLife Faculty Fellow	Dep Soil & Crop Sciences, Texas A&M
2011-2015	Professor and AgriLife Faculty Fellow	Dep Soil & Crop Sciences, Texas A&M
2005-2010	Professor	Dep Soil & Crop Sciences, Texas A&M
2000-2005	Associate Professor	Dep Soil & Crop Sciences, Texas A&M
1995-2000	Assistant Professor	Dep Soil & Crop Sciences, Texas A&M
1992-1995	Assistant Professor	Dep Agronomy, Kansas State University

The long-range goal of my sorghum improvement program is to enhance the productivity and profitability of grain, forage and bioenergy sorghum production systems. The sorghum breeding program is used as a mechanism to develop and release sorghum germplasm to meet this goal. In addition to the release of improved sorghum genotypes, research in the program emphasizes the genetic and molecular genetic inheritance of disease resistance, grain quality and agronomic productivity and adaptability. The research provides opportunities for graduate student training in fundamental and applied aspects of plant improvement. Specific research interests include the development of sorghum germplasm for bioenergy (both sweet and biomass), grain and forage.

Synergistic Activities:

Associate Editor – Crop Science, 2005-2008; Associate Editor – Field Crops Research, 2004-present
Texas A&M AgriLife Research - Plant Release Committee Chairman, 2002-present; National Sweet Sorghum Producers Technical Board Member 2007-2012. Board Member, United Sorghum Checkoff, 2012 to present.

Teaching/Advising

I teach SCSC481 – Plant Science Senior Seminar and SCSC642 – Graduate level Plant Breeding II. I have served as chair for 26 M.S. and 28 Ph.D. degrees and served on the committees of an additional 20 M.S. and 38 Ph.D. degrees.

Grant Funding

From 1995 to present, Dr. Rooney has been associated with 84 funded grants summing to a value of \$64M with \$18M of that funding directed to the Rooney research program. Funding sources include but are not limited to private industry, commodity support groups, federal, national and international sources.

Selected Technology Transfer - Sorghum Releases (Total 13)

- Release of Tx3408 and Tx3409 Sugarcane Aphid Tolerant Sorghum Germplasm. January 2015. Scientists contributing to this release: L. Mbulwe, S. Armstrong, G. Peterson and W.L. Rooney
- Release of Tx3363 Sorghum Germplasm. Official Approval: August 2012. Scientists contributing to this release: W.L. Rooney, O. Portillo, and C. Hayes.
- Release of Tx3362 Sorghum Germplasm. Official Approval: January 2012. Scientists contributing to this release: W.L. Rooney, L. Rooney, J. Awika and L. Dykes.
- Release of Tx3361 Sorghum Germplasm. Official Approval: January 2010. Scientists contributing to this release: L.C. Kuhlman and W.L. Rooney.

Provisional and Granted Utility Patents (Total: 3)

- Mullet, JE and WL Rooney. Method for Designing Short Early Flowering Male and Female Inbreds that Produce Tall Energy Sorghum Hybrids with a Wide Range of Flowering Times U.S. Patent No. 9428762, August 30, 2016
- Mullet, JE, WL Rooney, PG Klein, D Morishige, R Murphy and JA Brady. 2008. Discovery and utilization of sorghum genes (*Ma5/ma6*). Provisional Patent filed in 2008. U.S. Patent 8309793 November 13, 2012
- Rooney, WL, GL Hodnett, LC Kuhlman, DM Stelly and JH Price. 2008. Methods of intergeneric hybrid production. Provisional Patent filed in 2008. U.S. Patent 8362329 January 29, 2013

Licensing Technology (Total: not exactly known...looking into it)

- New Industries Corporation: ATx3363/R12175 and ATx645/R12180
- Chromatin, Inc. (numerous lines)
- Gayland Ward Seed, Inc. (numerous lines)
- D.D. Williamson Company: A05028/RTx3363
- Advanta (numerous lines)

Selected Publications Last Four Years (Career Total:181)

- Hodnett, G.L. and W.L. Rooney. 2018. Male sterility induction of fertile sorghum using chemical hybridization agents. *Can. J. Plant Sci.* 98: 1–7 (2018) dx.doi.org/10.1139/cjps-2017-0327
- Malambo, L., S.C. Popescu, S.C. Murray, E. Putman, N.A. Pugh, D.W. Horne, G. Richardson, R. Sheridan, W.L. Rooney, R. Avant, M. Vidrine, A. Thomasson, Y. Shi, B. McCutchen, D. Baltensperger, and M. Bishop. 2018. Multitemporal field-based plant height estimation using 3D point clouds generated from small unmanned aerial systems high-resolution imagery. *Int. J. of Applied Earth Observation and Geoinformation* 64:31-48. <https://doi.org/10.1016/j.jag.2017.08.14>
- Mbulwe L, GC Peterson, JS Armstrong, and WL Rooney. 2016. Registration of Sorghum Germplasm Tx3408 and Tx3409 with tolerance to Sugarcane Aphid [*Melanaphis sacchari* (Zehntner)] J. Plant Registration. 10:51-56. doi:10.3198/jpr2015.04.0025crg
- Pfeiffer, BK, and WL Rooney. 2016. Inheritance of pericarp color, nutritional quality and grain composition traits in black sorghum. *Crop Science*. 56:164-172 doi: 10.2135/cropsci2015.04.0224
- Hayes, Chad M., B Weers, M Thakran, G Burow, Z Xin, JJ Burke, Y Emendack, WL Rooney, and JE Mullet. 2016. Discovery of a Dhurrin QTL in *Sorghum bicolor*: Co-Localization of Dhurrin Biosynthesis and a Stay-green QTL. *Crop Science*. 56:104-112 doi: 10.2135/cropsci2015.06.0379
- Burrell, AM, A Sharma, NY. Patil, SD Collins, WF. Anderson, WL. Rooney, and PE. Klein. 2015. Sequencing of an Anthracnose-Resistant Sorghum Genotype and Mapping of a Major QTL Reveal Strong Candidate Genes for Anthracnose Resistance. *Crop Science* 55:1-10. doi: 10.2315/cropsci2014.06.0430
- Murphy, Rebecca L., Daryl T. Morishige, Jeff A. Brady, William L. Rooney, Shanshan Yang, Patricia E. Klein, and John E. Mullet. 2014. *Ghd7* (*Ma6*) Represses Sorghum Flowering in Long Days: *Ghd7* Alleles Enhance Biomass Accumulation and Grain Production. *Plant Genome*. doi: 10.3835/plantgenome2013.11.0040
- Rhodes, D, L Hoffmann, L Dykes, W Rooney, P Ramu, G Morris, and S Kresovich. 2014. Genome-wide association study of grain polyphenol concentrations in global sorghum [*Sorghum bicolor* (L.) Moench] germplasm. *J. Agric. Food Chem.* 62:10916-10927.

Awards and Honors

- 2018 College of Agriculture, Deans Award for Collaborative Research
- 2018 Borlaug-Monsanto Chair in Crop Improvement
- 2018 National Sorghum Producers: Outstanding Contribution to the Sorghum Industry
- 2016 College of Agriculture and Life Sciences Dean's Outstanding Achievement Award for Research
- 2015 Fellow, Crop Science Society of America

- 2015 B.B. Singh Research Award
- 2012 College of Agriculture, Deans Award for Collaborative Research
- 2011 Faculty Fellow, AgriLife Research
- 2010 Innovation Award, Office of Technology Commercialization
- 2009 Departmental Research Award