USDA–ARS WESTERN WHEAT QUALITY LABORATORY
E-202 Food Science & Human Nutrition Facility East, Washington State University, Pullman, WA 99164, USA
www.wsu.edu/~wwql/php/index.php

Craig F. Morris, Brian Beecher, D.A. Engle, E.P. Fuerst, M. Baldridge, P. Boyer, B. Paszczynska, G.L. Jacobson, W.J. Kelley, M.J. Lenssen, J. Luna, E. Wegner, A. Kiszonas, S. Vogl, S. Sykes, H.W. Geng, C. James, D. Nicoara, and G. McKahan.

The mission of the lab is two-fold: conduct milling, baking, and end-use quality evaluations on wheat breeding lines, and conduct research on wheat grain quality and utilization. Our web site: http://www.wsu.edu/~wwql/php/index.php provides great access to our research and methodology. Our research publications are available on our web site.

Morris and Engle lead the Pacific Northwest Wheat Quality Council, a consortium of collaborators who evaluate the quality of new cultivars and advanced breeding lines. We also conduct the U.S. Wheat Associates' Overseas Varietal Analysis Program for Soft White and Club Wheat. Our current activities and projects include grain hardness and puroindolines, waxy wheat, polyphenol oxidase (PPO), arabinoxylans, SDS sedimentation test, and soft durum wheat.

Publications.

Campbell KG, Allan RE, Anderson J, Burke A, Blake N, Hoagland C, Walker C, Chatelain J, Little LM, Pritchett J, Chen X, Morris CF, See D, Guy S, Murray T, Engle D, Wetzel H, and Wood D. 2013. Registration of 'Cara' soft white winter club wheat. J Plant Reg 7:81-88.

Carter AH, Garland-Campbell K, Morris CF, and Kidwell KK. 2012. Chromosomes 3B and 4D are associated with several milling and baking quality traits in a soft white spring wheat (*Triticum aestivum* L.) population. Theor Appl Genet 124:1079-1096.

Chen F, Shang X, Morris CF, Zhang F, Dong Z, and Cui D. 2013.Molecular characterization and diversity of *puroindoline b-2* variants in cultivated and wild diploid wheat. Genet Res Crop Evol 60:49-58.

Delwiche SR, Morris CF, Mabille F, and Abecassis J. 2012. Influence of instrument rigidity and specimen geometry on calculations of compressive strength properties of wheat endosperm. Cereal Chem 89:24-29.

Geng HW, Beecher BS, He Z, Kiszonas AM, and Morris CF. 2012. Prevalence of *Puroindoline D1* and *Puroindoline b-2* variants in U.S. Pacific Northwest wheat breeding germplasm pools, and their association with kernel texture. Theor Appl Genet 124:1259-1269.

Geng HW, Beecher BS, He Z, and Morris CF. 2012. Physical mapping of *puroindoline b-2* in wheat (*Triticum aestivum* L.) using the cv. Chinese Spring deletion lines. Crop Sci 52:2674-2678.

Geng HW, Beecher BS, Pumphrey M, He ZH, and Morris CF. 2013. Segregation analysis indicates that *Puroindoline b-2* variants 2 and 3 are allelic in Triticum aestivum L. and that a revision to *Puroindoline b-2* gene symbolization is indicated. J Cereal Sci 57:61-66.

Kiszonas AM, Courtin CM, and Morris CF. 2012. A critical assessment of the quantification of wheat grain arabinoxylans using a phloroglucinol colorimetric assay. Cereal Chem 89:143-150. Erratum 89:144.

Kiszonas AM, Fuerst EP, and Morris CF. 2013. A comprehensive survey of soft wheat grain quality in United States germplasm. Cereal Chem 90:47-57.

Morris CF and Beecher BS. 2012. The distal portion of the short arm of wheat (*Triticum aestivum* L.) chromosome 5D controls endosperm vitreosity and grain hardness. Theor Appl Genet 125:247-254.

Morris CF, Anderson JA, King GE, Bettge AD, Garland-Campbell K, Allan RE, Fuerst EP, and Beecher BS. 2011. Characterization of a unique 'super soft' kernel trait in wheat. Cereal Chem 88:576-583.

Morris CF, Delwiche SR, Bettge AD, Mabille F, Abecassis J, Pitts MJ, Dowell FE, Deroo C, and Pearson T. 2011. Collaborative analysis of wheat endosperm compressive material properties. Cereal Chem 88:391-396.

Morris CF, McLean D, Engleson JA, Fuerst EP, Burgos F, and Coburn E. 2012. Some observations on the granivorous feeding behavior preferences of the house mouse (*Mus musculus* L.). Mammalia 76:209-218.

Morris CF, Simeone MC, King GE, and Lafiandra D. 2011. Transfer of soft kernel texture from *Triticum aestivum* to durum wheat, *Triticum turgidum* ssp. *durum*. Crop Sci 51:114-122.

Ramseyer DD, Bettge AD, and Morris CF. 2011. Distribution of total, water-unextractable, and water-extractable arabinoxylans in wheat flour mill streams. Cereal Chem 88:209-216.

Ramseyer DD, Bettge AD, and Morris CF. 2011. Endogenous and enhanced oxidative cross-linking in wheat flour mill streams. Cereal Chem 88:217-222.

Ramseyer DD, Bettge AD, and Morris CF. 2011. Flour mill stream blending affects sugar snap cookie and Japanese sponge cake quality and oxidative cross-linking potential of soft white wheat. J Food Sci 76:C1300-C1306.

Whent M, Huang H, Zhouhong X, Lutterodt H, Lu Y, Fuerst EP, Morris CF, Yu L, and Luthria D. 2012. Phytochemical composition, anti-inflammatory, and antiproliferative activity of whole wheat flour. J Agric Food Chem 60:2129-2135.