

## ROBERT L. BOWDEN

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### EDUCATION

1985 - 1989 University of Wisconsin, Madison, WI 53706. Ph.D. - Plant Pathology. Minor - Statistics.  
1978 - 1981 University of Minnesota, St. Paul, MN 55108. M.S. - Plant Pathology. Related field - Statistics.  
1974 - 1978 Michigan State University, E. Lansing, MI 48224. B.S. - Botany and Plant Pathology.

### STAFF AND STUDENTS

Irazema Fuentes-Bueno, Biological Science Technician  
Shauna Dendy, Biological Science Technician  
Katherine Gambone, M.S.  
Joseph Hahn, M.S.  
Lisa Pacha, Program Support Assistant

### TEACHING

- PLPTH 755, Plant Resistance to Diseases

### RESEARCH

Genetics of resistance to wheat leaf rust, stem rust, and stripe rust.

### PUBLICATIONS

1. Bockus, W.W., De Wolf, E.D., Gill, B.S., Fritz, A.K., Jardine, D.J., Stack, J.P., **Bowden, R.L.**, Martin, T.J. 2011. Historical durability of resistance to wheat diseases in Kansas. Plant Management Network. DOI: 10.1094/PHP-2011-0802-01-RV.
2. Fang, T., Garland Campbell, K.A., Liu, Z., Chen, X., Wan, A., Li, S., Liu, Z., Cao, S., Chen, Y., **Bowden, R.L.**, Carver, B., Yan, L. 2011. Stripe rust resistance in the wheat cultivar 'Jagger' is due to *Yr17* plus a novel QTL. Crop Science. 51:2455-2465.
3. Goates, B., Peterson, G.L., **Bowden, R. L.**, Maddux, L.D. 2011. Analysis of induction and establishment of dwarf bunt of wheat under marginal climatic conditions. Plant Disease. 95:478-484.
4. Haley, S., Johnson, J., Peairs, F., Stromberger, J., Heaton, E., Seifert, S., Kottke, R., Rudolph, J., Martin, T., Bai, G., Chen, X., **Bowden, R.L.**, Jin, Y., Kolmer, J.A., Seifers, D., Chen, M., Seabourn, B.W. 2011. Registration of 'Snowmass' wheat. Journal of Plant Registrations. 5:87-90.
5. Qi, L.L., Pumphrey, M.O., Friebe, B., Zhang, P., Qian, C., **Bowden, R.L.**, Rouse, M.N., Jin, Y., Gill, B.S. 2011. A novel Robertsonian translocation *event* leads to transfer of a stem rust

- resistance gene (*Sr52*) effective against race Ug99 from *Dasypyrum villosum* into bread wheat. *Theoretical and Applied Genetics*. 123:159-167.
6. Rudd, J., Devkota, R., Fritz, A., Baker, J., Obert, D.E., Worrall, D., Sutton, R., Rooney, L., Nelson, L., Morgan, G., Bean, B., Ibrahim, A., Klatt, A., Weng, Y., **Bowden, R.L.**, Graybosch, R.A., Jin, Y., Seabourn, B.W. 2011. Registration of 'TAM 401' wheat. *Journal of Plant Registrations*. 6:60-65.
  7. Edwards, J.T., Hunger, R.M., Smith, E.L., Horn, G.W., Chen, M., Yan, L., Bai, G., **Bowden, R.L.**, Rayas-Duarte, P., Osburn, R.D., Kolmer, J.A., Jin, Y., Porter, D.R., Giles, K.C., Seabourn, B.W., Bayles, M.B., Carver, B.F., Klatt, A. 2012. 'Duster' wheat: A durable, dual-purpose cultivar adapted to the southern great plains of the USA. *Journal of Plant Registrations*. 6(1):37-48.
  8. Haley, S.D., Johnson, J., Peairs, F., Stromberger, J., Hudson, E., Seifert, S., Kottke, R., Valdez, V., Rudolph, J., Bai, G., Chen, X., **Bowden, R.L.**, Jin, Y., Kolmer, J.A., Chen, M., Seabourn, B.W. 2012. Registration of 'Byrd' wheat. *Journal of Plant Registrations*. 6:302-305.
  9. Haley, S.D., Johnson, J., Peairs, F., Stromberger, J., Hudson, E., Seifert, S., Kottke, R., Valdez, V., Rudolph, J., Martin, T.J., Bai, G., Chen, X., **Bowden, R.L.**, Jin, Y., Kolmer, J.A., Chen, M., Seabourn, B.W. 2012. Registration of 'Denali' wheat. *Journal of Plant Registrations*. 6:311-314.
  10. Haley, S.D., Johnson, J., Westra, P., Peairs, F., Stromberger, J., Hudson, E., Seifert, S., Kottke, R., Valdez, V., Rudolph, J., Bai, G., Chen, X., **Bowden, R.L.**, Jin, Y., Kolmer, J.A., Chen, M., Seabourn, B.W. 2012. Registration of 'Brawl CL Plus' wheat. *Journal of Plant Registrations*. 6:306-310.
  11. Barkley, A., Tack, J., Nalley, L.L., Bergtold, J., Bowden, R.L., Fritz, A. 2013. Weather, disease, and wheat breeding effects on Kansas wheat varietal yields, 1985 to 2011. *Agronomy Journal*. 106:227-235.
  12. Liu, Z., Bai, G., and **Bowden, R.L.** 2013. Molecular markers for leaf rust resistance gene *Lr42* in wheat. *Crop Sci*. doi: 10.2135/cropsci2012.09.0532
  13. Bernardo, A., **Bowden, R.L.**, Rouse, M. N., Newcomb, M. S., Marshall, D. S., and Bai, G. 2013. Validation of molecular markers for new stem rust resistance genes in U.S. hard winter wheat. *Crop Science* 53:755-764.
  14. Liu, W., Danilova, T.V., Rouse, M.N., **Bowden, R.L.**, Friebe, B., Gill, B.S., and Pumphrey, M.O. 2013. Development and characterization of a compensating wheat-*Thinopyrum intermedium* Robertsonian translocation with *Sr44* resistance to stem rust (Ug99). *Theor. Appl. Genet.* 126:1167-1177.
  15. Olson, E.L., Rouse, M.N., Bowden, R.L., Pumphrey, M.O., Gill, B., Poland, J.A. 2013. Introgression of stem rust resistance genes *SrTA10187* and *SrTA10171* from *Aegilops tauschii* to wheat. *Theoretical and Applied Genetics*. doi: 10.1007/s00122-013-2148-z.
  16. Olson, E. L., Rouse, M.N., Pumphrey, M. O., **Bowden, R.L.**, Gill, B.S., and Poland, J.A. 2013. Simultaneous transfer, introgression and genomic localization of genes for resistance to stem rust race TTKSK (Ug99) from *Aegilops tauschii* to wheat. *Theor. Appl. Genet.* 126:1179-1188.
  17. Rudd, J.C., Devkota, R.N., Baker, J.A., Ibrahim, A.M., Worrall, D., Lazar, M.D., Sutton, R., Rooney, L.W., Nelson, L.R., Bean, B., Duncan, R., Seabourn, B.W., **Bowden, R.L.**, Jin, Y., Graybosch, R.A. 2013. Registration of 'TAM 113' wheat. *Journal of Plant Registrations* 7:63-68.
  18. Zhang, D., Bowden, R.L., Yu, J., Carver, B., Bai, G. 2014. Association analysis of stem rust resistance in U.S. Winter Wheat. *PLoS One*. 9(7): e103747.
  19. Dunckel, S.M., Olson, E.L., Rouse, M.N., Bowden, R.L., Poland, J.A. 2015. Genetic mapping of race-specific stem rust resistance in the synthetic hexaploid W7984 x Opata M85 mapping population. *Theoretical and Applied Genetics*. 55:1-9 (2015). doi: 10.2135/cropsci2014.11.0755.

20. Fu, J., Bowden, R.L., Prasad, V., Ibrahim, A. 2015. Genetic variation for heat tolerance in primitive cultivated subspecies of *Triticum turgidum* L. Journal of Crop Improvement. DOI: 10.1080/15427528.2015.1060915.