

CURRICULUM VITAE

Brent S. Hulke

Sunflower and Plant Biology Research Unit
Red River Valley Agricultural Research Center
USDA-ARS
1307 18th St. N.,
Fargo, ND 58102-2765

Professional and Academic Appointments

- 2017-present Associate Adjunct Professor, Ecology and Evolutionary Biology Dept, University of Colorado, Boulder, CO
- 2016-present Affiliate Graduate Faculty Level 1, North Dakota State University, Fargo, ND
- 2015-present Research Geneticist GS-14, Sunflower and Plant Biology Research Unit, USDA-ARS, Fargo, ND
- 2010-2015 Research Geneticist GS-13, Sunflower and Plant Biology Research Unit, USDA-ARS, Fargo, ND
- 2008-present Adjunct Professor, Plant Sciences Dept., North Dakota State University, Fargo, ND
- 2007-2010 Research Geneticist GS-12, Sunflower Research Unit, USDA-ARS, Fargo, ND
- 2005-2007 Research Assistant, University of Minnesota, Twin Cities
- 2004-2005 Graduate School Fellow, University of Minnesota, Twin Cities
- 2002-2004 Research Assistant and Plant Sciences Institute Fellow, Iowa State University, Ames, IA

Education

- Ph.D. *Applied Plant Sciences* University of Minnesota, Twin Cities August 2007
Dissertation: "Using wild and landrace germplasm and current breeding methods to improve winterhardiness in perennial ryegrass (*Lolium perenne* L.)."
- M.S. *Plant Breeding* Iowa State University, Ames, IA May 2004
Thesis: "Influence of reduced phytate on the agronomic and seed characteristics of soybean lines with reduced palmitate."
- B.S. *Agronomy, With Highest Honor* South Dakota State University, Brookings, SD May 2002

Peer-Reviewed Publications (*graduate students/postdocs in italics*)

47. Portlas, Z.M., J.R. Tetlie, D. Prischman-Voldseth, **B.S. Hulke**, and J.R. Prasifka. 2018. Variation in floret size explains differences in wild bee visitation to cultivated sunflowers. *Plant Genet. Res.* (in review).
46. Fu, X., L.L. Qi, **B.S. Hulke**, and C.-C. Jan. 2017. Somatic embryogenesis from corolla tubes of interspecific amphiploids between cultivated sunflower (*Helianthus annuus* L.) and its wild species. *Helia* 40:1-19.
45. Gao, Q.M., N.C. Kane, **B.S. Hulke**, S. Reinert, C. Pogoda, S. Tittes, and J.R. Prasifka. 2017. Genetic architecture of capitate glandular trichome density in florets of domesticated sunflower (*Helianthus annuus* L.). *Frontiers Plant Sci.* doi: 10.3389/fpls.2017.02227.
44. **Hulke, B.S.**, Q.M. Gao, and M.E. Foley. 2017. Registration of the sunflower oilseed maintainer genetic stocks HOLS1, HOLS2, HOLS3, and HOLS4, possessing genes for high oleic and low saturated fatty acids, and tolerance to imidazolinone herbicides. *J. Plant Registrations* doi:10.3198/jpr2016.09.0043crgs.
43. **Hulke, B.S.**, G. Ma, L.L. Qi, and T.J. Gulya. 2017. Registration of oilseed sunflower germplasms RHA 461, RHA 462, RHA 463, HA 465, HA 466, HA 467, and RHA 468. *J. Plant Registrations* doi:10.3198/jpr2017.04.0023crg.
42. **Hulke, B.S.**, and W.E. May. 2017. Registration of oilseed sunflower restorer germplasms RHA 476 and RHA 477, adapted for short season environments. *J. Plant Registrations* doi:10.3198/jpr2017.07.0048crg.

41. Prasifka, J.R., R.E. Mallinger, **B.S. Hulke**, S.R. Larson, and D. Van Tassel. 2017. Plant-herbivore and plant-pollinator interactions of the developing perennial oilseed crop, *Silphium integrifolium* Michx. *Environmental Ent.* 46:1339-1345. doi.org/10.1093/ee/nvx134
40. Qi, L.L., Z.I. Talukder, **B.S. Hulke**, and M.E. Foley. 2017. Development of diagnostic SNP markers for the downy mildew resistance genes *Pl_{Arg}* and *Pl_β*, and marker-assisted gene pyramiding in sunflower (*Helianthus annuus* L.). *Mol. Genet. Genomics* doi:10.1007/s00438-017-1290-8
39. Van Tassel, D., K. Albrecht, J. Bever, A., Boe, Y. Brandvain, T. Crews, M. Gansberger, P. Gerstberger, L. González-Paleo, **B. Hulke**, N. Kane, P. Johnson, V. Picasso Risso, E. Pestsova, J. Prasifka, D. Ravetta, B. Schlautman, C. Sheaffer, K. Smith, P. Speranza, K. Turner, A. Vilela, P. von Gehren, and C. Weaver. 2017. Accelerating *Silphium* domestication: an opportunity to develop new crop ideotypes and breeding strategies informed by multiple disciplines. *Crop Sci.* doi:10.2135/cropsci2016.10.0834.
38. DeHaan, L., D. Van Tassel, J. Anderson, S. Asselin, G. Baute, D. Cattani, S. Culman, K. Dorn, **B.S. Hulke**, M. Kantar, S.R. Larson, D. Marks, A. Miller, J. Poland, D. Ravetta, E. Rude, M. Ryan, D. Wyse, and X. Zhang. 2016. A pipeline strategy for crop domestication. *Crop Sci.* 56:917-930.
37. Prasifka, J.R., and **B.S. Hulke**. 2016. Relative susceptibility of sunflower maintainer lines and resistance sources to natural infestations of the banded sunflower moth (Lepidoptera: Tortricidae). *The Canadian Entomologist* 148: 736–741.
36. **Hulke, B.S.**, C.J. Grassa, J.E. Bowers, J.M. Burke, L.L. Qi, Z.I. Talukder, and L.H. Rieseberg. 2015. A unified single nucleotide polymorphism map of sunflower (*Helianthus annuus* L.) derived from current genomic resources. *Crop Sci.* 55:1696-1702.
35. **Hulke, B.S.**, and T.J. Gulya. 2015. Registration of the oilseed restorer sunflower germplasms RHA 472, RHA 473, RHA 474, and RHA 475, possessing resistance to *Sclerotinia* head rot. *J. Plant Registrations* 9:232-238.
34. Qi, L.L., G. Ma, Y. Long, L. Gong, **B.S. Hulke**, and S. Markell. 2015. Relocation of a rust resistance gene R2 and its marker-assisted gene pyramiding in confection sunflower (*Helianthus annuus* L.). *Theor Appl Genet* 128:477-488.
33. *Chirumamilla, A.*, J.J. Knodel, L.D. Charlet, **B.S. Hulke**, S.P. Foster, and P.J. Ode. 2014. Ovipositional preference and larval performance of the banded sunflower moth and its larval parasitoids on resistant and susceptible lines of sunflower, *Helianthus annuus*. *Environ. Ent.* 43:58-68.
32. **Hulke, B.S.**, and L.W. Kleingartner. 2014. Sunflower. p. 433-457. In: *Yield Gains in Major US Field Crops: CSSA Special Publication 33*. S. Smith, B. Diers, J. Specht, and B. Carver (Eds.) ASA-CSSA-SSSA, Madison, WI.
31. *Kantar, M.B.*, K. Betts, J.-M. Michno, J.J. Luby, P.L. Morrell, **B.S. Hulke**, R.M. Stupar, and D.L. Wyse. 2014. Evaluating an interspecific *Helianthus annuus* × *Helianthus tuberosus* population for use in a perennial sunflower breeding program. *Field Crops Res.* 155:254-264.
30. Pearson, T.C., J.R. Prasifka, D.L. Brabec, R.P. Haff, and **B.S. Hulke**. 2014. Automated detection of insect-damaged sunflower seeds by X-ray imaging. *Applied Engineering in Agriculture* 30:125-131.
29. Prasifka, J.R., **B.S. Hulke**, and G.J. Seiler. 2014. Pericarp strength of sunflower and its value for plant defense against the sunflower moth, *Homoeosoma electellum*. *Arthropod-Plant Interactions* 8:101-107.
28. Qi, L.L., L. Gong, S.G. Markell, G.J. Seiler, T.J. Gulya, and **B.S. Hulke**. 2014. Registration of two confection sunflower germplasm lines HA-R10 and HA-R11, resistant to sunflower rust. *J. Plant Registrations* 8:329-333.
27. *Talukder, Z.I.*, L. Gong, **B.S. Hulke**, V. Pegadaraju, Q. Song, Q. Schultz, and L. Qi. 2014. A high-density SNP map of sunflower derived from RAD-sequencing facilitating fine-mapping of the rust resistance gene *R₁₂*. *PLoS One* 9 (7):e98628.
26. *Talukder, Z.I.*, **B.S. Hulke**, L. Marek, and T.J. Gulya. 2014. Sources of resistance to sunflower diseases in a global collection of domesticated USDA plant introductions. *Crop Sci.* 54:694-705.
25. *Talukder, Z.I.*, **B.S. Hulke**, L.L. Qi, B.E. Scheffler, V. Pegadaraju, K. McPhee, and T.J. Gulya. 2014. Candidate gene association mapping of *Sclerotinia* stalk rot resistance in sunflower (*Helianthus annuus* L.) uncovers the importance of *COI1* homologs. *Theor Appl Genet* 127:193-209.

24. Gong, L., T.J. Gulya, S. Markell, **B.S. Hulke**, and L. Qi. 2013. Genetic mapping of rust resistance genes in confection sunflower line HA-R6 and oilseed line RHA 397. *Theor Appl Genet* 126:2039-2049.
23. Gong, L., **B.S. Hulke**, T.J. Gulya, S. Markell, and L.L. Qi. 2013. Molecular tagging of a novel rust resistance gene *R₁₂* in sunflower (*Helianthus annuus* L.). *Theor Appl Genet* 126:93-99.
22. Pegadaraju, V., R. Nipper, **B. Hulke**, L. Qi, and Q. Schultz. 2013. De novo sequencing of sunflower genome for SNP discovery using RAD (Restriction site Associated DNA) approach. *BMC Genomics* 14(1):556.
21. **Hulke, B.S.**, B.S. Bushman, E. Watkins, and N.J. Ehlke. 2012. Association of freezing tolerance to *LpCBFIIIb* and *LpCBFIIIc* gene polymorphism in perennial ryegrass accessions. *Crop Sci* 52:2023-2029.
20. Kantar, M., K. Betts, **B.S. Hulke**, R.M. Stupar, and D. Wyse. 2012. Breaking tuber dormancy in *Helianthus tuberosus* L. and interspecific hybrids of *Helianthus annuus* L. x *Helianthus tuberosus*. *HortScience* 47:1342-1346.
19. Qi, L.L., T.J. Gulya, **B.S. Hulke**, and B.A. Vick. 2012. Chromosome location, DNA markers, and rust resistance of the sunflower gene *R₅*. *Mol. Breeding* 30:745-756.
18. Qi, L.L., T.J. Gulya, G.J. Seiler, **B.S. Hulke**, and B.A. Vick. 2011. Identification of resistance to new virulent races of rust in sunflower and DNA marker validation in the gene pool. *Phytopathology* 101:241-249.
17. Qi, L.L., **B.S. Hulke**, B.A. Vick, and T.J. Gulya. 2011. Molecular mapping of the rust resistance gene *R₄* to a large NBS-LRR cluster on linkage group 13 of sunflower. *Theor. Appl. Genet.* 123:351-358.
16. Anderson, J.V., E.P. Fuerst, T. Tedrow, **B.S. Hulke**, and A.C. Kennedy. 2010. Activation of polyphenol oxidase in dormant wild oat caryopsis by a seed-decay isolate of *Fusarium avenaceum*. *J. Agric. Food Chemistry* 58:10597-10605.
15. Charlet, L.D., G.J. Seiler, K.A. Grady, **B.S. Hulke**, and A. *Chirumamilla*. 2010. Resistance in cultivated sunflower germplasm to the red sunflower seed weevil (Coleoptera: Curculionidae) in the northern Great Plains. *J. Kansas Entomological Society* 83:51-57.
14. Glover, J.D., J.P. Reganold, L.W. Bell, J. Borevitz, E.C. Brummer, E.S. Buckler, C.M. Cox, T.S. Cox, T.E. Crews, S.W. Culman, L.R. DeHaan, D. Eriksson, B.S. Gill, J. Holland, F. Hu, **B.S. Hulke**, A.M.H. Ibrahim, W. Jackson, S.S. Jones, S.C. Murray, A.H. Paterson, E. Ploschuk, E.J. Sacks, S. Snapp, D. Tao, D.L. Van Tassel, L.J. Wade, D.L. Wyse, and Y. Xu. 2010. Increasing food and ecosystem security through perennial grains. *Science* 328:1638-1639.
13. Glover, J.D., J.P. Reganold, L.W. Bell, J. Borevitz, E.C. Brummer, E.S. Buckler, C.M. Cox, T.S. Cox, T.E. Crews, S.W. Culman, L.R. DeHaan, D. Eriksson, B.S. Gill, J. Holland, F. Hu, **B.S. Hulke**, A.M.H. Ibrahim, W. Jackson, S.S. Jones, S.C. Murray, A.H. Paterson, E. Ploschuk, E.J. Sacks, S. Snapp, D. Tao, D.L. Van Tassel, L.J. Wade, D.L. Wyse, and Y. Xu. 2010. Response. *Science* 330:33-34.
12. **Hulke, B.S.**, J.F. Miller, and T.J. Gulya. 2010. Registration of the restorer oilseed sunflower germplasm RHA 464 possessing genes for resistance to downy mildew and sunflower rust. *J. Plant Registrations* 4:249-254.
11. **Hulke, B.S.**, J.F. Miller, T.J. Gulya, and B.A. Vick. 2010. Registration of the oilseed sunflower genetic stocks HA 458, HA 459, and HA 460 possessing genes for resistance to downy mildew. *J. Plant Registrations* 4:93-97.
10. Charlet, L.D., G.J. Seiler, J.F. Miller, **B.S. Hulke**, and J.J. Knodel. 2009. Resistance among cultivated sunflower germplasm to the banded sunflower moth (Lepidoptera: Tortricidae) in the northern Great Plains. *Helia* 32:1-10.
9. Johnsen, A.R., B.P. Horgan, **B.S. Hulke**, and V. Cline. 2009. Evaluation of remote sensing to measure plant stress in creeping bentgrass (*Agrostis stolonifera* L.) fairways. *Crop Sci.* 49:2261-2274.
8. Charlet, L.D., R.M. Aiken, G.J. Seiler, A. *Chirumamilla*, **B.S. Hulke**, and J.J. Knodel. 2008. Sunflower resistance to the sunflower moth (Lepidoptera: Pyralidae) in the Central Plains. *J. Agric. and Urban Entomology* 25: 245-257.
7. **Hulke, B.S.**, E. Watkins, D.L. Wyse, and N.J. Ehlke. 2008. Freezing resistance of selected perennial ryegrass accessions and its association with field winterhardiness and turf traits. *Euphytica* 163:131-141.

6. Naeve, S., R. Proulx, T. O'Neill, and **B. Hulke**. 2008. Sample size and heterogeneity effects on the analysis of whole soybean seed using near infrared spectroscopy. *Agron. J.* 100:231-234.
5. Ellram, A., B. Horgan, and **B. Hulke**. 2007. Mowing strategies and dew removal to minimize dollar spot on creeping bentgrass. *Crop Sci.* 47:2129-2137.
4. **Hulke, B.S.** 2007. Using wild and landrace germplasm and current breeding methods to improve winterhardiness in perennial ryegrass (*Lolium perenne* L.). Ph.D. dissertation. Univ. of Minnesota, Twin Cities.
3. **Hulke, B.S.**, E. Watkins, D.L. Wyse, and N.J. Ehlke. 2007. Winterhardiness and turf quality of accessions of perennial ryegrass (*Lolium perenne* L.) from public collections. *Crop Sci.* 47:1596-1602.
2. **Hulke, B.S.** 2004. Influence of reduced phytate on the agronomic and seed characteristics of soybean lines with reduced palmitate. M.S. thesis. Iowa State Univ., Ames.
1. **Hulke, B.S.**, W.R. Fehr, and G.A. Welke. 2004. Agronomic and seed characteristics of soybean with reduced phytate and palmitate. *Crop Sci.* 44:2027-2031.

Grants (wrote or co-wrote funded grants of ~ \$5M USD total)

22. Anderson, N., **B. Hulke**, and D. Wyse. 2018-2021. Perennial flax (*Linum* sp.) breeding to provide unique ecosystem services and high value crop options. Forever Green Initiative, awarded \$139,500.
21. **Hulke, B.** 2018. Early maturing sunflower for double crop use in the Central Plains. National Sunflower Association (pending).
20. **Hulke, B.**, Q. Gao, and N. Kane. 2018. Identification and mapping of genetic factors affecting the stability of oleic acid in inbred lines. National Sunflower Association (pending).
19. **Hulke, B.**, R. Horsley, B. Zenzen, and J. Nowatzki. 2018. High-throughput UAV phenotyping in sunflower. National Sunflower Association (pending).
18. **Hulke, B.**, N. Kane, and J. Corwin. 2018. Refining genomic tools for Sclerotinia resistance and agronomic breeding of sunflower – towards dissection of the resistance phenotype. USDA-ARS National Sclerotinia Initiative (pending).
17. Kane, N.C., **B.S. Hulke**, J. Prasifka, and D. Van Tassel. 2016-2020. Silphium of the future: developing resources and methods to cross the bridge from wild species to domesticated crop. The Malone Family Foundation, awarded \$250,500.
16. Rieseberg, L.H., J.M. Burke, L. Donovan, N. Langlade, E. Marden, **B.S. Hulke**, S. Yeaman, and N. Ramankutty. 2015-2019. Genomics of abiotic stress resistance in wild and cultivated sunflowers. Genome Canada/Genome British Columbia, awarded \$3,215,247 CAD, \$413,000 to Hulke.
15. **Hulke, B.** 2015-2018. Discovery of an inducer-based paternal doubled haploid system for sunflower. National Sunflower Association, awarded \$205,500.
14. **Hulke, B.** and N. Kane. 2014-2018. Using genomic selection to optimize prediction of Sclerotinia and agronomic phenotypes for more efficient breeding. USDA-ARS National Sclerotinia Initiative, awarded \$89,049 in 2014, \$61,750 in 2015, \$116,500 in 2016, and \$128,319 in 2017.
13. Prasifka, J. and **Hulke, B.** 2014-2018. Inheritance and mapping of sunflower insect resistance traits, awarded \$16,720 in 2014, \$11,946 in 2016, and \$15,672 in 2017.
12. **Hulke, B.** and N. Kane. 2013-2018. Identifying and mapping modifiers of high oleic and high oleic, low sat fatty acid composition. National Sunflower Association, awarded \$38,700 in 2013, \$27,945 in 2016, and \$28,845 in 2017.
11. **Hulke, B.S.** 2013-2017. Revising the fatty acid profile of sunflower to meet new industry and consumer demands (postdoc salary award). USDA-ARS, awarded \$140,000.
10. May, W., **B. Hulke**, and D. Petty. 2013-2016. Developing sunflower hybrids for Saskatchewan with improved oil profiles. Saskatchewan Agricultural Development Fund, awarded \$36,500 in 2013, \$36,500 in 2014, \$36,500 in 2015, and \$1,500 in 2016.
9. Prasifka, J., **B. Hulke**, G. Seiler, K. Grady, R. Aiken, and C. Trostle. 2012-2013. Evaluation of sunflower for resistance to seed- and stem-infesting insect pests in the Great Plains. National Sunflower Association, awarded \$44,369 in 2012 and \$23,156 in 2013.

8. **Hulke, B.**, R. Horsley, and M. Hristova-Cherbadzi. 2012. Borlaug Fellowship for Bulgaria (Hristova-Cherbadzi). USDA-FAS, awarded \$26,475.
7. Qi, L., **B.S. Hulke**, and T.J. Gulya. 2011-2013. Deployment of novel sources of Sclerotinia resistance and tools for breeding resistance in sunflower. USDA-ARS National Sclerotinia Initiative, awarded \$115,000 in 2011, \$114,950 in 2012, and \$139,350 in 2013.
6. Gulya, T. and **B. Hulke**. 2011-2012. Phomopsis resistance evaluation of USDA cultivated sunflower germplasm. National Sunflower Association, awarded \$8,488 in 2011 and \$8,635 in 2012.
5. **Hulke, B.** 2009-2011. Field trial expansion for sunflower genetics research. National Sunflower Association, awarded \$67,500 + gift of new planter and used combine in 2009, \$67,500 in 2010, and \$71,500 in 2011.
4. Knodel, J., L. Charlet, G. Seiler, **B. Hulke**, and R. Aiken. 2009-2011. Development of resistance to stem and seed insect pests of sunflower in the Central Plains. National Sunflower Association, awarded \$55,000 in 2009, \$58,000 in 2010, and \$23,900 in 2011.
3. Knodel, J., L. Charlet, G. Seiler, **B. Hulke**, and K. Grady. 2009-2011. Evaluation of sunflower for resistance to seed insect pests in the Northern Plains. National Sunflower Association, awarded \$9,200 in 2009, \$12,200 in 2010, and \$15,040 in 2011.
2. **Hulke, B.S.**, L. Qi, and T.J. Gulya. 2008-2010. Pyramiding Sclerotinia head rot and stalk rot resistances into elite sunflower breeding lines with the aid of DNA markers. USDA-ARS National Sclerotinia Initiative, awarded \$85,000 in 2008, \$85,000 in 2009, and \$105,000 in 2010.
1. **Hulke, B.**, and D. Wyse. 2006-2007. Breeding and development of perennial sunflower and perennial flax varieties for low-input agriculture. NCR-SARE, awarded \$9,700.

Germplasm Releases (lead developer of 20 germplasm lines, co-developer on 5)

9. **Hulke, B.S.** 2017. Notice of release of sunflower oilseed germplasm RHA 476.
8. **Hulke, B.S.** and W. Underwood. 2017. Notice of release of sunflower oilseed germplasms HA 482, RHA 483, and RHA 484.
7. **Hulke, B.S.** and W. Underwood. 2017. Notice of release of sunflower oilseed germplasms RHA 485, RHA 486, and HA 487.
6. **Hulke, B.S.** 2016. Notice of release of sunflower oilseed germplasm RHA 477.
5. **Hulke, B.S.**, and M. Foley. 2016. Notice of release of four oilseed sunflower germplasms RHA 478, RHA 479, RHA 480, and HA 481.
4. **Hulke, B.S.**, and L. Cook. 2015. Notice of release of oilseed sunflower genetic stocks HOLS1, HOLS2, HOLS3, and HOLS4.
3. Qi, L.L., G. Seiler, **B. Hulke**, and T. Gulya. 2013. Notice of release of two rust resistant confection sunflower germplasms (HA-R10 and HA-R11).
2. **Hulke, B.S.**, B.A. Vick, and T.J. Gulya. 2011. Notice of release of four oilseed sunflower germplasm lines (RHA 472, RHA 473, RHA 474, and RHA 475).
1. **Hulke, B.S.**, B.A. Vick, J.F. Miller, and K.A. Warner. 2008. Notice of release of three oilseed sunflower genetic stocks (TOCOB1, TOCOR1, and TOCOR2) with modified tocopherol profiles.

Proceedings, Presentations, and Abstracts (6 plenary invitations for international meetings)

57. **Hulke, B.S.**, Q. Gao, and N.C. Kane. 2018. Using genomic selection to optimize prediction of Sclerotinia and agronomic phenotypes for more efficient breeding. Abstract. 2018 Sclerotinia Initiative Annual Meeting, January 17-18, 2018, Bloomington, MN.
56. **Hulke, B.S.**, S. Markell, Q. Gao, and N.C. Kane. 2018. Phomopsis stalk canker disease in North America: correlation with climate and solutions through breeding. Abstract. Sunflower and Climate Change Symposium, February 5-6, 2018, Toulouse, France. [Invited Plenary]
55. **Hulke, B.S.**, J.R. Prasifka, Q. Gao, S. Reinert, and N.C. Kane. 2018. Update on breeding and genetics work at USDA. Abstract. Proceedings of the 40th Sunflower Research Workshop, National Sunflower Association, January 10-11, 2018, Fargo, ND.

54. Prasifka, J. and **B. Hulke**. 2018. Resistance to banded sunflower moth in USDA inbreds and related germplasm. Abstract. Proceedings of the 40th Sunflower Research Workshop, National Sunflower Association, January 10-11, 2018, Fargo, ND.
53. *Smart, B.*, B. Zenzen, B. Koehler, M. Grove, J. Nowatzki, and **B.S. Hulke**. 2018. UAV assisted phenotyping in agriculture. Abstract. Proceedings of the 40th Sunflower Research Workshop, National Sunflower Association, January 10-11, 2018, Fargo, ND.
52. **Hulke, B.** 2017. Understanding genetic stability of fatty acid profiles over contrasting environments for improvement of oilseed sunflower. 3rd Annu. Northern Great Plains Lipids Conference, 3-4 June 2017, Winnipeg, MB, Canada. [Invited Plenary]
51. **Hulke, B.** 2017. Multi-environment GWAS analysis of sunflower fatty acid profiles. Joint Meeting of the Genomics of Abiotic Stress Resistance in Wild and Cultivated Sunflowers Project and the International Consortium for Sunflower Genomics Resources, 13 January 2017, San Diego, CA.
50. **Hulke, B.** 2017. Phenotyping in large-scale screens: flooding stress. Joint Meeting of the Genomics of Abiotic Stress Resistance in Wild and Cultivated Sunflowers Project and the International Consortium for Sunflower Genomics Resources, 13 January 2017, San Diego, CA.
49. **Hulke, B.S.**, *Q.M. Gao*, and N.C. Kane. 2017. Using genomic selection to optimize prediction of Sclerotinia and agronomic phenotypes for more efficient breeding. Abstract. 2017 Sclerotinia Initiative Annual Meeting, January 18-20, 2017, Bloomington, MN.
48. *Smart, B.*, and **B. Hulke**. 2017. Perennial flax breeding. Abstract. 2017 ASA-CSSA-SSSA Int. Annu. Meeting, ASA-CSSA-SSSA, Madison, WI.
47. *Reinert, S.*, **B. Hulke**, and N. Kane. 2017. Improvement of agronomic traits in Silphium. Abstract. 2017 ASA-CSSA-SSSA Int. Annu. Meeting, ASA-CSSA-SSSA, Madison, WI.
46. *Gao, Q.M.*, and **B.S. Hulke**. 2016. Identifying and mapping modifiers of high oleic and high oleic, low sat (HOLS) fatty acid composition. Abstract. Proceedings of the 38th Sunflower Research Workshop, National Sunflower Association, January 12-13, 2016, Fargo, ND.
45. **Hulke, B.S.**, *Q.M. Gao*, and N.C. Kane. 2016. Using genomic selection to optimize prediction of Sclerotinia and agronomic phenotypes for more efficient breeding. Abstract. 2016 Sclerotinia Initiative Annual Meeting, January 20-22, 2016, Bloomington, MN.
44. **Hulke, B.S.**, *Q. Gao*, *B. Smart*, and N.C. Kane. 2016. Applying the tools of genomics to sunflower breeding issues. Abstract. Proceedings of the 19th International Sunflower Conference, May 29-June 3, 2016, Edirne, Turkey. [Invited Plenary – did not attend, credible terror threat, Istanbul airport bombed that month].
43. **Hulke, B.S.**. 2015. Introduction: Challenges in the development of native crop traits for altered plant-insect interactions. 2015 ASA-CSSA-SSSA-ESA Int. Annu. Meet. Entomological Society of America, Annapolis, MD.
42. Prasifka, J. and **B.S. Hulke**. 2015. Plant resistance traits for sunflower insect pests. 2015 ASA-CSSA-SSSA-ESA Int. Annu. Meet. Entomological Society of America, Annapolis, MD.
41. *Kantar, M.B.*, D.G. Bock, G.J. Baute, **B. Hulke**, D.L. Wyse, R.M. Stupar, and L.H. Rieseberg. 2014. Genetic Basis for Tuber Production in *Helianthus annuus* x *Helianthus tuberosus* interspecific hybrids. Plant and Animal Genome XXII. San Diego, CA.
40. Linz, G., *M. Kantar*, **B. Hulke**, R. Stupar, and D. Wyse. 2014. Developing perennial sunflower for wildlife and insect pollinator habitat. Abstract. The Wildlife Society Annual Conf., Pittsburg, PA.
39. Linz, G., **B. Hulke**, *M. Kantar*, J. Homan, R. Stupar, and D. Wyse. 2014. Potential Use of Perennial Sunflower to Reduce Blackbird Damage to Sunflower. Proceedings of the 26th Vertebrate Pest Conference, Waikoloa Village, HI.
38. Prasifka, J.R., **B.S. Hulke**, D. Prischman, K. Grady, R. Aiken, and T. Lund. 2014. Update on host-plant resistance to seed- and stem-infesting insects. Proceedings of the 36th Sunflower Research Workshop, National Sunflower Association, January 8-9, 2014, Fargo, ND.
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Professional Membership and Service

2017 – present	Editorial Board, Helia
2016 – present	International Sunflower Association Board of Directors
2015 – present	Perennial Grain Development Community, American Society of Agronomy (vice-chair 2016, chair 2017)
2012 – present	Editorial Board, Theoretical and Applied Genetics (<u>17 manuscripts edited, 1 pending</u>)
2012 – present	Mentor, New Scientist Mentorship Program, USDA-ARS- Plains Area
2012 – present	Research Position Evaluation System (RPES) panelist, USDA-ARS
2012 – present	Sunflower Crop Germplasm Committee member, USDA-ARS-National Plant Germplasm System
2008 – present	International Sunflower Association member
2008 – present	AOSCA Sunflower Plant Variety Review Board delegate for USDA-ARS
2007 – present	National Sunflower Association Research Committee member
2004 – 2007	Applied Plant Sciences – Graduate Student Association member and volunteer (University of Minnesota)
2003 – present	Crop Science Society of America member
2002 – 2004	Graduate Agronomy Club member and volunteer (Iowa State University)
1998 – 2002	Agronomy and Conservation Club member and volunteer (South Dakota State University)
1999 – 2002	Agronomy and Conservation Club – Fundraising Committee member (chair, 2001-2002)

Honors

2017	USDA-ARS Plains Area – Area Director Co-Funded Internship (merit-based award for scientists)
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- recruiting interns from under-represented groups).
- 2013 USDA-ARS Northern Plains Area – No Revision Award (joint award with other unit scientists – based on quality and merit of our new 5-year CRIS plan).
- 2011 USDA-ARS-Northern Plains Area – Leadership Training award (tuition paid to attend federal leadership training)
- 2006 Western Seed Association – President’s Award
- 2006 Golf Course Superintendents Association of America (GCSAA) – Dr. James Watson Fellowship
- 2006 National Council of Commercial Plant Breeders – Graduate Student Award
- 2006 University of Minnesota – Hueg-Harrison Fellowship
- 2005 – 2006 Land Institute Fellowship
- 2004 University of Minnesota – Graduate School Fellowship
- 2002 – 2003 Iowa State University – Plant Sciences Institute Fellowship
- 2001 South Dakota State University – D. Boyd Shank Scholarship
- 2000 – 2001 South Dakota State University – William and Byrne Griffith Scholarship
- 2000 South Dakota State University – Plant Science Department Scholarship
- 1999 South Dakota State University – H.W. Lackey Scholarship
- 1999 South Dakota State University – Servi-tech Scholarship
- 1998 South Dakota State University – Keith and Beverly Keltgen Scholarship