

# RHODA L. BURROWS

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Western Agricultural Research Center, South Dakota State University  
1905 Plaza Blvd., Rapid City, SD 57702  
(605)-394-2236 rhoda.burrows@sdstate.edu

## EDUCATION:

<b>Ph.D in Plant Pathology</b> , University of Minnesota, St. Paul, Minn.	2001
<b>M.S. in Horticultural Science</b> , University of Minnesota, St. Paul, Minn.	1987
<b>B.S. in Horticultural Science</b> , Montana State University, Bozeman, Mont.	1983
<b>A.A. in Liberal Arts</b> , Golden Valley Lutheran College, Minneapolis, Minn.	1979

## Additional Professional Training:

Permaculture design, Permaculture Research Institute, The Channon, Australia, 2008  
Great Plains Diagnostic Network *Greenhouse Pest & Disease Diagnostic Workshop*, Denver, CO, 2007

## PROFESSIONAL EXPERIENCE:

Extension Specialist and Associate Professor (2006-10)/Full Professor (2011-present)

*Agronomy, Horticulture, and Plant Science Dept., SDSU*

Provide support commercial fruit and vegetable production and marketing in South Dakota. Organize production and food safety workshops and obtain funding for educational and research publications and programs; collaborate with regional and national extension efforts. Coordinated statewide Master Gardener volunteer program (2006-2012); currently teach food plant and disease portions. Online co-instructor for undergraduate production courses. (90% extension / 10% academic)

Extension Specialist and Assistant Professor

*Horticulture, Forestry, and LA Dept., SDSU*

Provide information and support for both home and commercial fruit and vegetable production and marketing in South Dakota. Master Gardener program coordinator and instructor. Research production techniques and mycorrhizal effects. (60% extension / 40% research) 2001 - 2006

Graduate Research Assistant

*Plant Pathology Dept., University of Minnesota*

Researched host plant diversity interaction with the mycorrhizal fungi community. 1996 - 2001

Research Technologist

*Tree Fruit Research & Extension Center, Washington State University*

Implemented and maintained field and greenhouse experiments on tree fruit. Soil and plant tissue analyses, Supervised seasonal employees and coordinated work with cooperating commercial orchards. 1994- 1996

Research Associate

*Plant & Soil Science Dept., Montana State University*

Maintained germplasm; responsible for all field and greenhouse trials for winter wheat breeding project. Compiled and analyzed data from eight sites. Supervised student & seasonal employees. 1991- 1994

Research Assistant

*Dept. of Agricultural Sciences, Tennessee State University*

Planned, implemented, and analyzed water stress physiology experiments on woody ornamental nursery plants. Co-authored several multi-year nursery crop cooperative CSRS research grant proposals. 1990- 1991

Research Fellow

*Dept. of Horticulture, University of Minnesota*

Coordinated national Alternative Agricultural Opportunities (AAO) Extension Workshop; Developed national database of AAO educational materials. Analyzed and published vegetable research data. 1988- 1990

## FUNDED PROPOSALS

- “Strategy for Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement Framework.”** PI: A. Shaw, Iowa State Univ., NIH- FDA, 2016- 2019, \$. SD Subaward \$24,000
- “Food Safety Training Program for Specialty Growers”** PI- R Burrows, Joan Hegerfeld-Baker, co-PI. SDDA/USDA Specialty Crop Block grant, 2015-2018. \$46,126.
- “Enhancing the market of Aronia berry products through innovative healthy food products”** PI: J. Hegerfeld-Baker, Co-PIs: S. Anand, R. Burrows. SDDA/USDA Specialty Crop Block grant, 2015-2018. \$56,130.
- “Use of Conservation Strips for Increasing Beneficial Insects and Decreasing Plant Pests in Pumpkin Plantings,”** PI- R. Burrows, SDDA/USDA Specialty Crop Block grant, 2014-2016, \$16,225.
- “Adding to the Harvest – Reducing the Risk of Unsafe Food Handling Practices while enhancing the marketability of specialty crops”** 2012-2015; *Co-Program leader*. SD Dept Ag/USDA Specialty Crops Block Grant, \$49,791.
- “Cultivar ripening parameter profiles and preharvest grape ripening parameter training workshops”** Co-PI’s A. Fennell & R. Burrows, SDDA/USDA Specialty Crop Block Grant, 2013-2016, \$49,565.
- “Healthy Food, Healthy Communities: Educating towards food sovereignty on Cheyenne River, Pine Ridge and Rosebud Reservations”** USDA-BFRDP, 2014-2017, \$657,401. PI-S. Burke, Co-PIs – M. Gilbert, R. Lindval, J. Schoch, R. Burrows.
- “Movable High Tunnels: Outreach & Research to Increase Yield, Quality, and Market Penetration”** 2012-2014. SDDA/USDA Specialty Crops Block Grant, \$10,709.
- “Northern Grapes: Integrating viticulture, winemaking, and marketing of new cold-hardy cultivars supporting new and growing rural wineries.”** 2011-2013; 2014-2016. Co-PD (1 of 29) USDA-NIFA. \$2.5 million; \$2.6 million.
- “GAP (Good Agricultural Practices) Training”** 2011-2013. Rhoda Burrows, PI. SDDA/USDA Specialty Crops Block Grant, \$11,306.
- “Technology Transfer for the Burgeoning Midwest Grape Industry”** 2010. NCR-SARE to University of Nebraska. Partner. \$68,828.
- “South Dakota Specialty Crops Workshop”** 2010. SDDA/USDA Specialty Crops Block Grant to SD Specialty Producers Association, Co-PI. \$16,970
- “High Tunnels: A Demonstration and education project for South Dakota Growers”** 2008-2011. SDDA/USDA Specialty Crops Block Grant Program. PI. \$11,484
- “Recruitment and retention of a Diverse Population of Food Safety students using Market Research for Enhanced Programs”** 2008-2011. Submitted by NDSU, SDSU & NMSU to the USDA-CSREES Higher Education Challenge Program. Co-PI. \$135,643.
- “Evaluating Native Fruits for Commercial Production in South Dakota.”** 2008-2010. SD Dept of Agric Specialty Crops Block Grant Program, P.I. \$15,000
- “Evaluation and Selection of Juneberry Cultivars for South Dakota”** 2008-2009. SD Dept of Agric Specialty Crops Block Grant Program, Collaborator, \$10,000

- “Identifying priorities for regional Integrated Pest Management consumer horticulture outreach.”** 2008. Consumer Horticulture Working Group, North-Central IPM Center, Co-P.I. \$30,000
- “Climate Changes and Microclimate Impact on Grape Cultivars in the Upper Midwest”** 2007-2009 SDSU Integrated AES Proposal, Co-PI. \$50,000.
- “Enhancing Wine Grape Productivity: Growers Workshop Series”** 2007 S.D. Specialty Crops Block Grant to SDSPA, Coordinator, \$17,400.
- “Grape Training for CES personnel”** 2006, Co-PI, Viticulture Consortium-East grant to support a regional (four state) two-day training for extension educators in grape production. \$20,000
- “Reducing the Foodborne Illness Risks associated with Direct Marketed Food Produced in South Dakota”** Co-PI. CSREES Research Proposal. Focused on testing fresh and dried produce and meat products, correlating results with production methods. Collaboration with researchers at Ogallala Lakota College in developing testing protocols. \$500,000
- “Farmers Market workshop”** 2006 ND/SD SARE minigrant program, PD. \$4000
- “Mycorrhizal impacts on grapevine establishment and acclimation”** P.I., Competitive SDSU Research Support Fund grant, 2004-05. \$3450
- “Entrepreneurship, Production and Agritourism in Horticulture Specialty Crops”** Fennell, A., R. Burrows, R. Stubbles and R. Tosterud. SD Dept. of Agriculture, Specialty Crop/Agriculture Promotion Grant 2002, \$15,000.

## RESEARCH PUBLICATIONS

- Burrows, R. 2017. *Shoot position effects on fruit characteristics of Brianna grape.* Proc. S.D. Acad. Sci. 95:169-173.
- Burrows, R.L. 2014. *Glomalin Production and Infectivity of Arbuscular-Mycorrhizal Fungi in response to Grassland Plant Diversity.* Am. J. Plant Sci. 5(1). [http://file.scrip.org/Html/13-2601013\\_41944.htm](http://file.scrip.org/Html/13-2601013_41944.htm)
- Burrows, R. 2010. *Integrated Pest Management in Yards and Gardens: Comparing South Dakota and regional Master Gardeners.* Proc. S.D. Acad. Sci. 89:227-236
- Meyer, M.H., R. Burrows, K. Jeannette, C. Welty, and A.R. Boyson. 2010. *Master Gardener's Confidence and Use of Integrated Pest Management.* HortTech. 20:812-816.
- Stahnke, A., M. Hayes, K. Meyer, K. Witt, J. Weideman, A.P. Fernando, R. Burrows & R.N. Reese. 2008. *Prairie turnip Pediomelum esculentum (Pursh) Ryb.: Historical and modern use, propagation, and management of a new crop.* Native Plants Journal 9(1):46-58.
- Burrows, R., A. Fennell, M. Redlin and L. Verschoor. 2007. *Agri-Cultural Tourism: Linking the arts and humanities with agricultural direct marketers and specialty producers.* J. Extn. 45(6):6IAW3 (on-line at [www.joe.org/joe/2007december/iw3.shtml](http://www.joe.org/joe/2007december/iw3.shtml).)
- Burrows, R.L. and I. Ahmed. 2007. *Fungicidal Seed Treatments Minimally Affect Mycorrhizal Colonization of Selected Vegetables.* J. Biol. Sci. 7 (2): 417-420.
- Burrows, R., A. Fennell, M. Redlin and L. Verschoor. 2007. *Agri-Cultural Tourism: Linking the arts and humanities with agricultural direct marketers and specialty producers.* J. Extn. 45(6):6IAW3 (on-line at [www.joe.org/joe/2007december/iw3.shtml](http://www.joe.org/joe/2007december/iw3.shtml).)
- Burrows, R.L. and N. Reese. 2007. *Plastic mulch color effects on Echinacea growth, survival, and root phenolic marker compounds.* Proc. S.D. Acad. Sci. 86:55-58.

- Burrows, R. 2004. *Accuracy of Home Soil Test Kits on South Dakota Soils*. Proc. SD Acad. Sci. 83:69-74.
- Burrows, R.L. 2002. *Goldenrod: Plants with multipurpose potential*. HortTechnology 12:711-716.
- Burrows, R.L. and F.L. Pflieger. 2002. *Arbuscular mycorrhizal fungi respond to increasing native plant diversity*. Can. J. Bot. 80:120-130.
- Burrows, R.L. and F.L. Pflieger. 2002. *Host plant responses to AMF from plots differing in plant diversity*. Plant and Soil 240:169-179.
- Burrows, R. and F.L. Pflieger. 2001. "Mycorrhizal Relationships," pp. 31-32. In: *Compendium of Potato Diseases, 2<sup>nd</sup> ed.*; Stevenson, et al., eds. APS Press, St. Paul, Minn.
- Peryea, F.J., and R.L. Burrows. 1999. *Soil acidification caused by four commercial fertilizer nitrogen solutions and subsequent pH rebound*. Commun. Soil Science and Plant Analysis 30:525-533.
- Burrows, R., F.L. Pflieger, and L. Waters, Jr. 1990. *Growth enhancement of seedling asparagus by inoculation with Glomus fasciculatum and phosphorus supplementation*. HortScience 25(5):519-521.
- Waters, L., B.L. Blanchette, R.L. Burrows and D. Bedford. 1990. *Effects of sphagnum peat in the growing medium and nitrogen application on asparagus growth*. HortScience 25(12):1609-1612.
- Waters, L. Jr., R.L. Burrows, M.A. Bennett, and J. Schoenecker. 1990. *Seed moisture and transplant management techniques influence sweet corn stand establishment, growth, development and yield*. J. Amer. Soc. Hort. Sci. 115(6):888-892.
- Burrows, R.L., L. Waters, Jr., and A. Markhart, III. 1989. *Cold Acclimation of Asparagus seedlings subjected to low temperatures or water stress*. HortScience 24(5):812-814.
- Burrows, R.L. and L. Waters, Jr. 1989. *Fall Establishment of Asparagus utilizing seedling transplants*. HortScience 24(4):611-613.

### PROCEEDING ABSTRACTS

- M.H. Meyer, R.L. Burrows, C. Welty, V. Kruschik, M. Grabowski. 2015. *Webinars Teach IPM to National Audience*. 2015 ASHS Annual Conference, oral presentation <https://ashs.confex.com/ashs/2015/webprogram/Paper21437.html>
- E. Stafne, R.L. Burrows, M.W. Fidelibus, L. Greer, P. Jenkins, K. Ker, M. Moyer, P. A. Skinkis, H. Walter-Peterson. 2014. *Reach, Engagement, and Impact of eViticulture and the eXtension Grape Community of Practice*. HortScience 49(9):S27-28 (Abstr).
- Burrows, R.L. and K. James. 2011. *Integrating Extension Instruction and Traditional Student Learning using a Hybrid Course format*. HortScience 46(9):S364. *Abst.*
- Burrows, R. and A. Fennell. 2006. "Mycorrhizal Impacts on Grape Establishment and Acclimation" HortScience 41(4):1068 *Abstr.*

### EXTENSION PUBLICATIONS

- Burrows, R. 2017. **Growing Tomatoes in South Dakota**, ASHS HortIM™, accessed February 7, 2018, <http://hortim.ashsmedia.org/items/show/55> (HortIM is a national juried review system for innovative teaching & outreach materials.)
- Burrows, R. and A. Fennell. **Strawberries in South Dakota**. 7 pp. 2016: <http://igrow.org/up/resources/06-2001-2016.pdf>

- Burrows, R. and D. Graper. 2015. **Growing asparagus in South Dakota.** 5 pp. <http://igrow.org/up/resources/06-2002-2016.pdf>
- Burrows, R. and A. Fennell. 2015. **Strawberries in South Dakota.** 7 pp. <http://igrow.org/up/resources/06-2001-2016.pdf>
- Burrows, R. and A. Fennell. 2015. **Growing Raspberries in South Dakota.** 6 pp. <http://igrow.org/up/resources/06-2000-2015.pdf>
- Burrows, R. and A. Fennell. 2015. **Grape Varieties for South Dakota.** 4 pp. <http://igrow.org/up/resources/06-2000-2016.pdf>
- Burrows, R. and J. Hegerfeld-Baker. 2014. **Food Safety Practices for Growers.** 06-1000-2014. 2 pp. <http://igrow.org/up/resources/06-1000-2014>
- Burrows, R. **Storage of Fresh Vegetables** 2014. 06-1002-2014. 2 pp. <http://igrow.org/up/resources/06-1002-2013.pdf>
- Burrows, R. and M. Roduner. **Blossom End Rot on Tomatoes and Other Vegetables.** 2014. 06-1001-  
<http://igrow.org/up/resources/06-1001-2014.pdf> 2 pp.
- Burrows, R. **Vineyard Work Calendar.** 2014 (rev). 06-1010-2014. 3 pp. <http://igrow.org/up/resources/06-1010-2014.pdf>
- Burrows, R. **Soil Testing for Vineyards in South Dakota.** 2014 (rev). 06-2002-2014. 2 pp. <http://igrow.org/up/resources/06-2002-2014.pdf>
- Burrows, R. **Starting a Commercial Vineyard in South Dakota.** 2014 (rev.) 06-2001-2014. 4 pp. <http://igrow.org/up/resources/06-2001-2014.pdf>
- Hegerfeld-Baker, J. C. Zdorovtsov, and R. Burrows, eds . 2014. **Farmers Market Resource Manual.** 2015 (print). <http://igrow.org/community-development/local-foods/south-dakota-farmers-market-online-guidebook/>
- Burrows, R. 2012. **Vegetable Gardening.** 18 pp. SDSU Extension 06-2024-2012. *Approved in 2015 for inclusion in peer-reviewed ASHS Instructional Materials listing*
- Burrows, R. and A. Fennell. 2012. **Fruit Varieties for South Dakota.** 6 pp. SDSU Extension 06-3001-2012.
- Zdorovtsov, C., A. Fennell, and R. Burrows. 2011. **Growing raspberries in South Dakota.** 4 pp. FS909.
- Burrows, R. 2010. **Starting a Commercial Vineyard in South Dakota.** 2 pp. FS 955
- Burrows, R. and R. Gelderman. 2009. **Soil Testing for South Dakota Vineyards.** 2 pp. ExEx6038.
- Burrows, R. and D. Graper. 2009. **Cultivando Tomates en el huerto** 6 pp. FS915-S
- Burrows, R. 2008. **Vineyard Work Calendar.** 2 pp. FS948.
- Ruden, K., M. Draper and R. Burrows. 2006, updated 2008. **Managing Plant Diseases in the Home Garden.** 32 pp., FS 934
- Draper, M., R. Burrows and K. Maxson-Stein. 2007. **Apple Scab.** 4 pp. FS 939.
- Burrows, R. and A. Fennell. 2006. **Fruit Varieties for South Dakota, 2006-2007.** 4 pp. ExEx 6035.
- R. Gelderman, J. Gerwing, and R. Burrows. 2005. **Fertilizing Gardens in South Dakota.,** 6 p., B744.
- Burrows, R. and S. Munk. 2004. **Choosing Vegetable Varieties for South Dakota.** 4 pp. FS 926.
- Draper, M., R. Burrows, and J. Mills. 2003. **Fireblight.** 4 pp. FS 916.
- Burrows, R. 2002. **Saving Seed for next year.** 4 pp. FS 911.

**Public / Homeowner Extension:**

- **South Dakota Master Gardener (MG) Training and Service Coordinator,** 2003-2012
- “Ask an Expert” eXtension: trained SD volunteers and back-up responder
- **GardenLine** Panelist on weekly live call-in television program 2001-2010

- **SD MG Annual Conference** Organizer and Host, 2006
- **Children's Gardening Workshops** Organizing team member, 2006, 2007, 2008
- **Team Nutrition School Gardening** Grant program administrative team member 2007-08
- **Fruit pruning workshops**, Faulkton, SD, Spring 2005-2010

## **SOCIAL MEDIA**

- Listserv owner: Tribal Gardening, Grape growers, Farmers Markets, Master Gardeners
- Facebook: Viticulture Extension, Extension Master Gardeners, SD Specialty Producers, SD Local Foods

## **SOUTH DAKOTA SERVICE ACTIVITIES**

- Co-coordinator, SD SARE 2018
- College of ABS Promotion and Tenure Review Committee 2007-2009; Plant Science Promotion and Tenure Standards Committee 2013, 2014; Plant Science Dept. Promotion and Tenure Review Committee, 2014, 2015, 2016
- SDSU Academic Senate 2005 – 2009
- SDSU Native American Studies Advisory Committee 2006-2008
- Gamma Sigma Delta, SDSU chapter, Vice-President 2006-07; President 2007-08
- S.D. Cooperative Extension Service Internal Review Committee; State Extension Advisory Board Extension Specialist representative 2002-2005

## **NATIONAL or REGIONAL ACTIVITIES**

- **Consumer Horticulture eXtension Community of Practice**, 2006-2014
- **Grapes eXtension Community of Practice** 2010-2015
- **North Central Region IPM Consumer Horticulture working group**
- **Great Plains Vegetable Growers Conference** planning committee 2002-08 (program chair, 2007)
- **Extension Advisory Council**, American Society for Horticultural Science (ASHS), 2004, 2005
- **ASHS Extension Materials Awards** reviewer, 2006, 2007, 2008, 2015, chair for 2016.
- **ASHS Outstanding Extension Educator Award** committee, 2005-2007; chair for 2008.
- **Journal Peer Reviewer** for *HortScience*, *HortTechnology*, *J. Natural Resources and Life Sciences Education*, *J. Forestry Research*, *Mycorrhiza*, *Native Plants Journal*, *Intl. J. of Vegetable Science*, *Intl. J. of Plant and Soil Science*, and *Plant and Soil*
- **Proposal Reviewer:**
  - USDA-NIFA Community Foods Review Panel 2013, 2014
  - USDA-NIFA Pest Management Alternatives
  - Missouri Wine and Grape Board
  - North Central Region-Sustainable Agriculture Research and Education (SARE)
  - SD SARE Travel grants and projects
  - South Dakota Dept. of Agriculture Specialty Crop Block grants
  - South Dakota Master Gardener Endowment grants

## **INTERNATIONAL ACTIVITIES**

**Australia**, 2008. Permaculture Research Institute. Two-week training.

**Poland**, 2007. European Center for Ecological Agriculture and Tourism, Stryszow; Warsaw Agricultural University – Study visit of small sustainable farms & Agric. outreach

**England, Scotland & the Netherlands**, 2004– Horticulture student study trip

**Bolivia**, 2004. Faculty Visit, Universidad Academe, Carmen Pampa