

# Mohamed Mergoum (CV)

Professor, Small Grains Breeding and Genetics; The University of Georgia, GA, USA.

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## PERSONAL DATA

- **Address:** The University of Georgia, 1109 Experiment Street, Redding Building Room 262, Griffin, GA 30223
- **Telephone:** **Office:** (770) 228-7321; **Cell.:** (770) 467-7831,
- **Fax:** (770) 229-3215
- **Email:** [mmergoum@uga.edu](mailto:mmergoum@uga.edu)
- **Languages:**
  - 1) English
  - 2) French
  - 3) Riffia (1<sup>st</sup> Native language)
  - 4) Arabic (2<sup>nd</sup> Native language)
  - 5) Spanish (good)

## EDUCATION

- 1991: PhD in Agronomy (Plant Breeding/Genetics), Colorado State University, Fort Collins, CO. Major: Plant breeding and genetics. Dissertation "Effects of infection by Fusarium acuminatum, Fusarium culmorum, or Cochliobolus sativus on wheat".
- 1982: MS in Agronomy (Plant breeding/Genetics)/Diplome d' Ingenieur d' Etat: University of Minnesota, St. Paul, MN, USA/IAV Hassan II, Rabat, Morocco. Major, plant breeding and minor, Plant Pathology. Thesis "Inheritance of resistance of stripe rust in barley" and "Use of near isogenic lines for yield loss assessments due to powdery mildew in barley".
- 1980: B. S. Degree in General Agronomy ("Diplome d'Agronomie Generale (DAG)"), IAV Hassan II, Rabat, Morocco.

## NATIONAL/INTERNATIONAL AWARDS

- **2012: Fellow of the American Society of Agronomy (ASA)**
- **2014: Fellow of the Crop Science Society of America (CSSA)**

## PROFESSIONAL EXPERIENCE

- 2015-Present: Professor, Small Grains Breeding and Genetics, Department of Crop and Soil Sciences, The

University of Georgia, GA.

- **2009- 2015: “Richard C. Frohberg Spring Wheat Breeding/Genetics Endowed Professor”**, Spring Wheat Breeder, North Dakota State University, Fargo, ND
- **2008- 2009: Professor**, Spring Wheat Breeder, North Dakota State University, Fargo, ND
- **2002- 2008: Associate Professor**, Hard Red Spring Wheat Breeder, North Dakota State University, Fargo, ND.
- **1999-2002: Senior Scientist**, International Winter Wheat Improvement Program (IWWIP), CIMMYT-Turkey.
- **1997- 1999: Scientist, Head** of the CIMMYT Triticale Improvement Program, Mexico.
- **1995- 1997: Associate Scientist**, Durum Wheat and Triticale breeder at CIMMYT, Mexico.
- **1988- 1995: Bread Wheat and Triticale breeder:** National Coordinator of Triticale program and Bread Wheat Breeder for the dryland zones of Morocco, MIAC-project/INRA (National Institute of Agricultural Research), Morocco.
- 1985- 1988: PhD Laureate: Winter wheat breeding program, Colorado State University, Fort Collins, CO, USA.
- **1984-85: Head of the “Central Cereals Research Station”** (Chef de Station Centrale des Cereales d’Automne) and National Cereal Breeding Program Coordinator, INRA, Rabat, Morocco.
- **1982- 1984: National Bread wheat Breeder** INRA, Rabat, Morocco.
- 1980-1982: Barley breeding for malting, University of MN, USA and IAV Hassan II, Morocco (M S student).

## RESEARCH ACTIVITIES

- 2015-Present: Professor, Small Grains Breeding and Genetics, The University of Georgia, Griffin, GA, USA: Lead the small grains (including wheat mainly but also barley, oats and triticale) breeding program which focuses on developing modern and adapted cultivars to GA environments in particular and to the South East US regions. The Breeding and Genetics research program at GA emphasizes using modern technologies and classical breeding program to achieve its goals.
- **2009-2015:** Richard C. Frohberg Spring Wheat Breeding/Genetics Endowed Chair Professor; Spring Wheat Breeder at North Dakota State University, ND, USA. Activities as described in previous position.
- **2008- 2009:** Professor, Spring Wheat Breeder, North Dakota State University, Fargo, ND, USA. Continue to develop adapted and superior wheat cultivars/ germplasm for North Dakota and regions in the Central Northern US plains using modern technologies. This includes both Hard Red and White Spring Wheat germplasm. Breeding for herbicides (mainly Clearfield, BASF) resistance is also a major component in our breeding program.
- **2002- 2008:** Associate Professor and Hard Red Spring Wheat at NDSU, Fargo, ND, USA: Develop adapted and superior wheat cultivars/ germplasm for North Dakota and regions in the Central Northern US plains using modern technologies. This also includes breeding for herbicides (mainly Clearfield, BASF) resistance.
- **1999- 2002: (CIMMYT- Turkey):**
  - Winter wheat: Improving, developing and distributing enhanced, superior and elite germplasm to National Agricultural Research Systems (NARS) in the world, particularly in West Asia and North Africa (WANA), East European and Central Asia and Caucasus (CAC) regions.
  - Winter durum improvement: Initiating a winter durum wheat program.
  - Screening wheat for root rot diseases in WANA region.

- Triticale adoption in WANA: Promotion of triticale in WANA region.
- Collaboration with NARS (Consultations/Training,...etc) in WANA and CAC regions.

➤ **1997- 1999 (CIMMYT- Mexico):**

- Triticale improvement at CIMMYT:
  - Germplasm development for different mega-environments worldwide.
  - Distribution of elite germplasm for NARS.
- Triticale production technologies and promotion/adoption:
  - Crop management
  - Collaboration with NARS/promotion of triticale
  - Consultation
- Human resources development:
  - Training/teaching of scientists/students
  - Consultation

➤ **1995- 1997 (CIMMYT- Mexico):**

- Durum wheat and triticale improvement at CIMMYT: germplasm development for the different mega-environments in the developing countries.
- Triticale and durum wheat: production technologies and enhancing adoption
  - Crop management
  - Collaboration with NARS
  - Training/teaching/Consultation

➤ **1988- 1995 (Morocco):**

- Breeding improved varieties of triticale for different agro-ecological zones of Morocco
- Breeding improved breadwheat varieties for Moroccan dryland zones
- Germplasm development for:
  - Drought tolerance in both bread wheat and triticale
  - Foliar diseases resistance in wheat (rusts, septoria and mildew)
  - Root rot diseases tolerance in durum and breadwheat
  - Hessian fly resistance in wheat
 Training/teaching students and young scientists.

➤ **1986- 1988 (CSU, CO., USA):**

- Involved in the winter wheat breeding program at CSU as a Ph. D. student
- Root rot diseases: Inoculation techniques, genetic studies and yield loss assessments

➤ **1982- 1985 (Morocco):**

- Breeding improved varieties of bread wheat for different agro-ecological zones of Morocco
- Germplasm development:
  - Source of resistance to rusts, septoria and powdery mildew
  - Screening for Hessian fly resistance
  - Coordination and leadership for cereal breeding (1984-85): bread and durum wheat, barley and triticale programs

## GRADUATE COMMITTEES

- Dissertation/thesis (Advisor/Co-advisor): More than 15 M.S. and 8 PhD
- Committee Member: 18 B.Sc., 15 MS, 12 PhD.

## TEACHING

- **2008- Present:** Professor at NDSU Plant Science Dept., Fargo ND.
  - Teaching PLSC 780 (Population Genetics), a two credit graduate course.
  - Teaching part of PLSC 785 (Crop Breeding Programs Management), a graduate course.
  - Participate in teaching of PLSC 727 (Topics in Plant Breeding)
- **2003- 2008:** Associate Professor at NDSU Plant Science Dept., Fargo ND.
  - Teaching PLSC 780 (Population Genetics), a two credit graduate course.
  - Participate in teaching of PLSC 727 (Topics in Plant Breeding)
  - Elaborate and design of PLSC 785 (Crop Breeding Programs Management), two credit graduate course that starts in 2007.
- **1999 – 2002:** As CIMMYT outreach staff, I am involved in different training and consultations activities in the WANA region in addition to all activities related to winter wheat improvement.
- **1995-1999:** Since 1995, I have been involved in the CIMMYT training and/or teaching program on crop improvement (wheat and triticale), including breeding and selection methodologies, statistical analysis...etc. This program benefits trainees, scientists, students and visitors from different parts of the world that come visit CIMMYT wheat program for up to 6 months.
- **1982 – 1995:** During this period, I was involved in training and/or teaching scientists and/or students on aspects related to plant breeding in general, and wheat and triticale improvement for different environments in Morocco or North Africa region.

## ADVISING GRADUATE STUDENTS

### 1- UGA 2015- Present

Name	Advisor	Year of Graduation	Degree	Dissertation/Thesis Topic
<i>S. Sapotka</i>	Advisor	2016	PhD	<i>Wheat diseases</i>

### 2- NDSU 2002- 2015

Name	Advisor	Year of Graduation	Degree	Dissertation/Thesis Topic
<i>S. M. Hisam Al Rabbi</i>	Advisor	2015	PhD	<i>DROUGHT TOLERANCE QTL IDENTIFICATION IN SPRING WHEAT OF NORTHERN USA</i>
<i>Sepehr Mohajeri Naraghi</i>	Advisor	2015	PhD	<i>Genetics of End-use Quality Characteristics in Spring Wheat (Triticum aestivum L.). Expected graduation</i>

<i>Akram Ahmed Abdo Qasem</i>	<b>Co-advisor</b>	<b>2015</b>	<b>MS</b>	<i>Effects of Okra Gum Extract on the Rheological, Chemical and Sensory Properties of Sponge Cake and Pudding</i>
<i>Ahmed EL Doliefy</i>	<b>Advisor</b>	<b>2014</b>	<b>PhD</b>	<i>Molecular Mapping of Fusarium Head Blight Resistance in two adapted Spring Wheat Cultivars.</i>
<i>Mona Mazaheri</i>	<b>Co-Advisor</b>	<b>2014</b>	<b>PhD</b>	<i>Radiation Hybrid Mapping of Barley</i>
<i>Ali Soltani</i>	<b>Co-advisor</b>	<b>2014</b>	<b>PhD</b>	<i>Nuclear-Mitochondrial Communication Defects Analysis: a Critical Step to Increase wheat and Rice Productivity</i>
<i>Morgan Echeverry</i>	<b>Advisor</b>	<b>2014</b>	<b>PhD</b>	<i>WHEAT SPIKES CHARACTERISTICS: GENETICS AND ASSOCIATIONS WITH AGRONOMIC AND QUALITY TRAITS</i>
<i>Vibin Harilal</i>	<b>Advisor</b>	<b>2013</b>	<b>MS</b>	<i>GENETICS AND QUANTITATIVE TRAIT LOCI MAPPING OF SEPTORIA TRITICI BLOTCH RESISTANCE, AGRONOMIC AND QUALITY TRAITS IN WHEAT</i>
<i>Mory Rugg</i>	<b>Advisor</b>	<b>2012</b>	<b>MS</b>	<i>Evaluation of Hard Red and White Spring Wheat Genotypes for Tolerance to Pre-Harvest Sprouting</i>
<i>Edwardo Mantovani</i>	<b>Advisor</b>	<b>2011</b>	<b>MS</b>	<i>WHEAT TRAITS VARIATIONS, SSOCIATIONS, AND POTENTIAL IMPROVEMENT FROM CROSSES OF ELITE X NON-ADAPTED GERMPASM</i>
<i>Dalitso Noble Yabwalo</i>	<b>Advisor</b>	<b>2009</b>	<b>MS</b>	<i>CHARACTERIZING CHROMOSOMES FOR FUSARIUM HEAD BLIGHT RESISTANCE IN A SPRING WHEAT (<i>Triticum aestivum</i> L.) CULTIVAR, 'FRONTANA'</i>
<i>Juan Carlos Cafarel</i>	<b>Advisor</b>	<b>2008</b>	<b>PhD</b>	<i>Allocation of resources for quality traits of Hard Red Spring Wheat grown in North Dakota</i>
<i>Brian Otteson</i>	<b>Advisor</b>	<b>2007</b>	<b>MS</b>	<i>RESPONSE OF HARD RED SPRING WHEAT UNDER VARYING SEEDING RATE AND NITROGEN MANAGEMENT IN NORTH DAKOTA</i>
<i>Guorong Zhang</i>	<b>Advisor</b>	<b>2007</b>	<b>PhD</b>	<i>KERNEL SHATTERING AND ITS RELATIONSHIP WITH FUSARIUM HEAD BLIGHT AND OTHER TRAITS IN WHEAT</i>
<i>Jesse Underdahl</i>	<b>Advisor</b>	<b>2006</b>	<b>MS</b>	<i>GENETIC IMPROVEMENT AND CHARACTER ASSOCIATIONS IN SPRING WHEAT (<i>TRITICUM AESTIVUM</i> L.) CULTIVARS DEVELOPED FOR NORTH DAKOTA</i>
<i>Clint Ostby*</i>	<b>Advisor</b>	<b>2004</b>	<b>MS</b>	<i>Pollen Mediated Gene Flow In Bread Wheat</i>

\* C. Ostby left without defending his MS Thesis.

## ORGANIZATIONS AND SOCIETY

- American Society of Agronomy (ASA)
- Crop Science Society of America (CSSA)
- Member of the International Triticale Association (ITA) (1990-2005)

## COMMITTEES

- **Member** of the Plant Sciences Department Promotion, Tenure, and Evaluation (PTE) of Faculty Committee: 2009-Present
- **Member** of the “Crop Science Society of Agronomy (CSSA) Young Crop Scientist Award Committee”: 2006-Present.
- **Member** of the “Crop Science Society of America Crop Registration Subcommittee (Wheat)”: 2003-Present.
- **Member** of the “Spring Wheat CP- (VDUN) of the US Wheat and Barley Scab Initiative (USWBSI) Committee”: 2008-Present.
- **Chair** of the “Variety Development and Uniform Nursery (VDUN) of the US Wheat and Barley Scab Initiative (USWBSI) Committee”: 2005-2007.
- **Member** of the “Variety Development and Uniform Nursery (VDUN) of the US Wheat and Barley Scab Initiative (USWBSI) Committee”: 2003-2005.
- **Member** of the “Advisory and Evaluation Committee of the Wheat Quality Council”: 2002-Present.
- **Member** of the “National Wheat Improvement Committee”: 2002-Present.
- **Member** of the "Editorial Committee" of the ITA

## VARIETIES and GERMPLASM RELEASE/ DEVELOPMENT

- **Hard Red Spring Wheat varieties/and germplasm released in North Dakota: 2002-Present.**
  - HRSW Cultivars

<b>Name</b>	<b>Year Released</b>	<b>Registration</b>	<b>Plant variety Protection (PVP)</b>
<b>Elgin (ND818)</b>	<b>2013</b>	<b>In progress</b>	<b>PVP# 201300367</b>
<b>Velva (ND811)</b>	<b>2012</b>	<b>PI 665417</b>	<b>PVP# 201200396</b>
<b>Prosper (ND808)</b>	<b>2011</b>	<b>PI 662387</b>	<b>PVP# 201100402</b>
<b>Mott</b>	<b>2009</b>	<b>-</b>	<b>PVP# 201000057</b>

<b>Barlow (ND809)</b>	<b>2009</b>	<b>PI 658018</b>	<b>PVP# 200900342</b>
<b>ND901 CLPLUS</b>	<b>2008</b>	<b>PI 655233</b>	<b>PVP#201000315</b>
<b>Faller (ND805)</b>	<b>2007</b>	<b>PI 648350</b>	<b>PVP# 200700328</b>
<b>Howard (ND800)</b>	<b>2006</b>	<b>PI 642367</b>	<b>PVP# 200700003</b>
<b>Glenn (ND747)</b>	<b>2005</b>	<b>PI 639273</b>	<b>PVP# 200500280</b>
<b>Steele-ND (ND 740)</b>	<b>2004</b>	<b>PI 634981</b>	<b>PVP# 200400188</b>
<b>Dapps</b>	<b>2003</b>	<b>PI 633862</b>	<b>PVP# 200300316</b>

○ HRSW Germplasm

<b>Name</b>	<b>Year Released</b>	<b>Registration</b>
<b>ND 816</b>	<b>2015</b>	<i>In preparation</i>
<b>ND 810</b>	<b>2015</b>	<i>In preparation</i>
<b>ND 807</b>	<b>2015</b>	<i>In preparation</i>
<b>ND 803</b>	<b>2012</b>	<b>Journal of plant Registration (PI 665931)</b>
<b>ND735/Steele- ND RILs</b>	<b>2009</b>	<b>Journal of plant Registration 3 (3):300- 303</b>

<b>ND 756</b>	<b>2007</b>	<b>Journal of Plant Registration Vol. 2, No.1:61-64. (PI 648034)</b>
<b>ND 751</b>	<b>2006</b>	<b>Crop Sci. 47:455-457 (PI 642781)</b>
<b>ND 744</b>	<b>2005</b>	<b>Crop Sci. 45:430-431 (PI 634936)</b>
<b>ND 652</b>	<b>2005</b>	<b>Crop Sci. 45:2667-2668 (PI 639177)</b>
<b>ND 735</b>	<b>2005</b>	<b>Crop Sci. 46:1003-1004 (PI 639729)</b>
<b>ND 2710</b>	<b>2004</b>	<b>Crop Sci. 44:1498-1499 (PI 633976)</b>

➤ **Contribution in the selection and the release of the following triticale cultivars:**

➤ Released cultivars in Mexico:

- **TCLW-ANPELON** released by the UAAAN in **2014**
- **TCLF-AN38** released by the UAAAN in **2014**
- **TCLF-AN105** released by the UAAAN in **2010**
- **AN 31** released by the UAAAN in **1998**
- **AN 34** released by the UAAAN in **1998**
- **Milenio TCL3** released by ICAMEX in **1999**
- **Siglo-TCL21** released by ICAMEX in **1999**
- **Supremo TCL 2000** released by ICAMEX in **1999**
- **Quebrantahuesos –TCL99** released by UAEM in **1999**
- **Maravilla-TCL99** released by UAEM in **1999**
- **Cerrillo-TCL99** released by UAEM in **1999**

➤ Other lines were subsequently released by different Mexican Universities.

➤ Released cultivars in Morocco:

- **Beagle** released in **1988**
- **Juanillio** released in **1988**



- **Drira out cross** released in **1988**
  - **Borhane** released in **1994**
  - **Moumtaz** released in **1994**
  - Other cultivars subsequently, released by the INRA breeder
- **Contribution to unknown number TCL genotypes selected form the CIMMYT germplasm included in ITYN, ITSN and FWTCL CIMMYT international nurseries since 1995. Some of these genotypes were used as a parental lines, others were released or are in the process of release such as in:**
- Canada: 'DAGRO/IBEX//CIVET#2' was released in **1999**
  - Bangladesh: 3 cultivars: "WRF3", "WRF5" and "BAT1" were released in **1999**.
  - Colombia: "ABONUCO TRITICALE 89" (150.83/2\*TESMO 1/MUSX 603) was released in **1998** by Instituto Colombiano Agropecuario (ICA).
  - Turkey: "FAHAD\_8" released in 1999; "PRESTO 2000" and "KARAMAN 2000" released in **2000**.
  - Morocco: two lines are candidates for release
  - Brazil, Argentina, Australia,...etc,: many CMMYT lines were released.
- **Contribution for the selection and the release of the following spring bread wheat in Morocco:**
- **Marchouch-8** released in 1984
  - **Jouda-1646** released in 1984
  - **Mahdia-1710** released in 1984
  - **Sais-1615** released in 1985
  - **Sibara** released in 1985
  - **ACSAD 59** released in 1985
  - **Saada** released in 1988
  - **Saba-1710** released in 1988
  - **Kanz-1712** (released in 1988)
  - **Khair-1925** released in 1988
  - **Achtar-1923** released in 1988
  - **Baraka-1724** released in 1988
  - **Tilila-1736** released in 1989
  - **Massira-1747** released in 1993
  - **Rajae-1755** released in 1993
  - **Amal-1756** released in 1993
- **Involved in unknown number of durum wheat genotypes selected form the CIMMYT germplasm and the IDYN, IDSN and EDUYT international nurseries distributed during 1995-1997 period which are released or in the process of release in several countries.**

## REFERENCES

1. Jerry Johnson, Professor, The University of GA, 1109 Experiment Street, Griffin, GA 30223; Tel: (770) 468-5101; E-mail- [jjohnso@uga.edu](mailto:jjohnso@uga.edu)

2. **Elias Elias, University Distinguished and Endowed Professor, Durum wheat breeder, Plant Sciences Department, NDSU, Fargo, ND, USA. Tel. (701) 231-8159; e-mail: [elias.elias@ndsu.edu](mailto:elias.elias@ndsu.edu)**
3. **P. Stephen Baenziger, Eugene W. Price Distinguished Professor, 330 Keim Hall University of Nebraska--Pioneering New Frontiers Lincoln, NE 68583-0915. Tel.: 402-472-1538. FAX: 402-472-7904; e-mail: [pbaenziger1@unl.edu](mailto:pbaenziger1@unl.edu)**
4. **Ravi Singh, Distinguished Scientist, pathologist and Project leader, Wheat program, CIMMYT. Apartado Postal 6-641, C P. 06600, Mexico, D.F. (595-421-00/420-11), e-mail: [R.SINGH@CGIAR.ORG](mailto:R.SINGH@CGIAR.ORG)**
5. **J. Paul Murphy, Professor of Crop Science, North Carolina State University, 840 Method Road, Unit 3, Raleigh NC 27695, Phone: 919-513-0000, Fax: 919-515-5657, E-Mail: [Paul\\_Murphy@ncsu.edu](mailto:Paul_Murphy@ncsu.edu)**
6. **Scott Haley. Professor. Department of Soil and Crop Sciences, Colorado State University, Fort Collins, CO, USA. (970-491-6483), e- mail: [shaley@lamar.colostate.edu](mailto:shaley@lamar.colostate.edu)**

Other references:

7. **Hans-Joachim Braun, Director Principal Scientist, Winter wheat breeder and Project leader, CIMMYT/Turkey, P.K. 39 Emek, 06511 Ankara, Turkey, Tel: 90-312-2873595, Fax: 90-312-2878955, Email: [H.J.Braun@cgiar.org](mailto:H.J.Braun@cgiar.org)**
8. **Sanjaya Rajaram, director of research and development for Resource Seed Mexicana (RSM), Mexico. E-mail: [rajaram\\_sanjay@yahoo.com](mailto:rajaram_sanjay@yahoo.com)**

## **PUBLICATIONS**

### **1. Dissertation and thesis**

1. **Mergoum M.** 1991. Effects of *Fusarium Acuminatum*, *Fusarium Culmorum*, or *Cholchliobolus Sativus* on Wheat. Ph.D. Dissertation, Colorado State University. 146 pp.
2. **Mergoum M.** 1982. Etudes sur les maladies de l'orge (*Hordeum Vulgare L.*). I: Les pertes de rendement causees par l'oidium (*Erysiphe Graminis f.sp. hordei*) II: L'heredite de la resistance a la rouille jaune (*Puccinia Striiformis westend.*). Memoire de fin d'etudes de 3eme Cycle Agronomie. IAV Hassan II, Rabat.

### **2. Journal Articles**

#### **In preparation:**

1. Mory Oliver Paul Rugg, William Berzonsky, Senay Simsek, Mohammed S. Alamri, Muhammad Javed Iqbal **and Mohamed Mergoum. 2015.** Tolerance to Pre-harvest Sprouting, Agronomic Performance and their Associations in Adapted Hard Red and White Spring Wheat Cultivars to the US Northern Plains. *Crop Sciences/Agronomy Journal (In preparation)*
2. Ahmed ElFatih ElDoliefy, Ajay Kumar, Jim Anderson, Karl Glover, Mohammed S. Alamri, Shahryar

- Kianian, Senay Simsek, Shaobin Zhong, and Shiaoman Chao, **Mohamed Mergoum**. 2016. Revealing the Genetic Basis of Fusarium Head Blight Resistance in a Major Adapted High Quality USA Spring Wheat Cultivar. The plant Genome (will be Submitted)
3. Ahmed ElFatih ElDoliefy, Ajay Kumar, Jim Anderson, Karl Glover, Mohammed S. Alamri, Shahryar Kianian, Senay Simsek, Shaobin Zhong, and Shiaoman Chao, **Mohamed Mergoum**. 2015. Revealing the Genetic Basis of Fusarium Head Blight Resistance in ‘Parshall’, a Major Adapted High Quality USA Spring Wheat Cultivar. **Theoretical and Applied Genetics (In preparation)**
  4. **Mergoum et al.** 2015. Registration of ND807 Spring Wheat Germplasm. **Journal of plant Registration (In preparation)**
  5. **Mergoum et al.** 2015. Registration of 810 Spring Wheat Germplasm. **Journal of plant Registration (In preparation)**
  6. **Mergoum et al.** 2015. Registration of ND812 Spring Wheat Germplasm. **Journal of plant Registration (In preparation)**
  7. **Mergoum et al.** 2015. Registration of 813 Spring Wheat Germplasm. **Journal of plant Registration (In preparation)**
  8. **Mergoum et al.** 2015. Registration of 814 Spring Wheat Germplasm. **Journal of plant Registration (In preparation)**
  9. **Mergoum et al.** 2015. Registration of 815 Spring Wheat Germplasm. **Journal of plant Registration (In preparation)**
  10. **Mergoum et al.** 2015. Registration of ND816 Spring Wheat Germplasm. **Journal of plant Registration (In preparation)**
  11. **Mergoum et al.** 2015. Registration of 817 Spring Wheat Germplasm. **Journal of plant Registration (In preparation)**
  12. **Mergoum M.**, P. K. Singh, J. K. Ransom, K. D. Glover, J. A. Anderson, D. Gigax, and J. Berg. Transgenic Roundup Ready Spring Wheat: Quality Performance in North Central Plains of USA. **Cereal Chemistry (In preparation)**
  13. Caffarel, J. and **M. Mergoum**, J. Crossa, and J. Hammond. Differentiation among Testing Sites for Spring Wheat Quality Traits in North Dakota using Genotype x Environment Interaction. **(In preparation)**

**Published/In press/Accepted/Submitted**

**2016**

1. Bassi, Filippo; Ghavami, Farhad; Hayden, Matthew; Wang, Yi; Forrest, Kerrie; Kong, Stephan; Dizon, Rhoderissa; Michalak de Jimenez, Monika; Meinhardt, Steven; **Mergoum, Mohamed**; Gu, Yong-qiang; Kianian, Shahryar. 2016. Fast-forward genetics by radiation hybrids to saturate the locus regulating nuclear-cytoplasmic compatibility in Triticum. **Plant Biotechnology (Accepted)**
2. Ajay Kumar, Raed Seetan, **Mohamed Mergoum**, Vijay K. Tiwari, Muhammad J. Iqbal, Yi Wang, Omar Al-Azzam, Hana Šimková, Ming-Cheng Luo, Jan Dvorak, Yong Q. Gu, Anne Denton, Andrzej Kilian, Gerard R. Lazo, Shahryar F. Kianian. 2016. Radiation hybrid maps of D-genome of Aegilops tauschii and their application in sequence assembly of large and complex plant genomes. **BMC Genomics (Accepted)**
3. **Mohamed Mergoum**, Senay Simsek, Shaobin Zhong, Maricelis Acevedo, Timothy L. Friesen, Pawan K. Singh, Tika B. Adhikari, Jack W. Rasmussen, Mohammed S. Alamri, and Richard C. Froberg. 2016. ‘Elgin-ND’ Spring Wheat: An Adapted cultivar to North Central Plains of the USA with High Agronomic and Quality Performance. **Journal of plant Registration (In press)**
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### Plant Variety Protection (PVP)

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4. PVP for 'Mott' was submitted and approved in 2009. PVP no. 201000057
5. PVP for 'Barlow' was submitted and approved in 2009. PVP no. 200900342
6. PVP for 'Faller' was submitted and approved in 2007. PVP no. 200700328
7. PVP for 'Howard' was submitted in 2006 and approved in 2007. PVP no. 200700003
8. PVP for 'Glenn' was submitted and approved in 2005. PVP no. 200500280
9. PVP for 'Steele-ND' was submitted and approved in 2004. PVP no. 200400188
10. PVP for 'Dapps' was submitted and approved in 2003. PVP no. 200300316

### **Book Editor**

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### Reports

Numerous annual reports including the reports for the Departments, Institutions, different grants agencies,... etc.

### *Editing Scientific Journal Articles*

- As a member of the Crop Registration Committee (Wheat), I review many (10-15 manuscripts/year) on variety or germplasm release submitted to Crop Science Journal.
- Regular reviewer of research papers for Crop Science Journal. I review about 10 papers/year.
- Reviewer for Agronomy Journal.
- Reviewer for Phytopathology
- Reviewer for Canadian Journal of Plant Sciences
- Reviewer for Australian Plant Pathology Journal
- Reviewer for other Journals.

## Grants and Funding

### PI- Projects

Grant	Source	Position	Funds PI (Co-PI)	Dates
<b>2015-UGA</b>				
CULTIVAR DEVELOPMENT OF WHEAT	The University of Georgia Research Foundation	PI	\$115,150	01/01/2016-12/31/2016
Development of Scab Resistant Wheat Varieties Adapted to the Southeast	USDA-ARS	PI	\$51,298	05/01/2015-04/30/2016
Testing Syngenta wheat germplasm under GA conditions	Syngenta	PI	\$6,624	05/01/2016-04/30/2016
<b>Total 2015:.....</b>			<b>\$ 173,072</b>	
<b>2015-NDSU</b>				
Continuing Breeding Adapted Spring Wheat Cultivars to Better Serve MN Wheat Growers	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$67,000	01/01/2016-12/31/2017
Development of Hard Red Spring Wheat Cultivars Resistant to Scab Disease.	USDA-ARS	PI	\$132,000	05/01/2015-04/30/2016
White and Specialty Spring Wheat Breeding Technician Specialty	ND-Wheat Commission	PI	\$50,000	05/01/2014-04/30/2015
Hard Red Spring Wheat breeding program	ND Wheat Commission	PI	\$ 90,000	06/01/2014-05/30/2015
Developing Specialty Spring Wheat Germplasm/Cultivars with insect resistance and adapted to North Dakota	ND Wheat Commission	PI	\$30,000	06/01/2014-05/31/2015
<b>Total 2015:.....</b>			<b>\$ 369,000</b>	
<b>2014-NDSU</b>				
Continuing Breeding Adapted Spring Wheat Cultivars to Better Serve MN Wheat Growers	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$65,000	01/01/2014-12/31/2014

Expanding FHB testing facilities	ND State Funds	PI	\$67,400	05/01/2012-04/30/2014
Development of Hard Red Spring Wheat Cultivars Resistant to Scab Disease.	USDA-ARS	PI	\$132,930	05/01/2014-04/30/2015
White and Specialty Spring Wheat Breeding Technician Specialty	ND-WC	PI	\$50,000	05/01/2014-04/30/2015
Hard Red Spring Wheat breeding program	ND Wheat Commission	PI	\$ 90,000	06/01/2014-05/30/2015
Developing Specialty Spring Wheat Germplasm/Cultivars with insect resistance and adapted to North Dakota	ND Wheat Commission	PI	\$30,000	06/01/2014-05/31/2015
Breeding wheat for Clearfield resistance	BASF	PI	\$5,000	06/01/2014-05/31/2015

**Total 2014:.....\$ 440,330**

**2013-NDSU**

Positioning NDSU Spring Wheat Breeding Program to Better Serve MN Wheat Growers	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$100,000	01/01/2013-12/31/2013
Expanding FHB testing facilities	ND State Funds	PI	\$67,400	05/01/2012-04/30/2014
Genetic Characterization of Fusarium Head Blight Resistance in Two Elite Spring Wheat Cultivars.	USDA-ARS	PI	\$ 28,602	05/01/2013-04/30/2014
Development of Adapted Hard Red Spring Wheat Cultivars and Germplasm Resistant to Scab Disease.	USDA-ARS	PI	\$132,930	05/01/2013-04/30/2014
Technician Specialty Wheat Breeder	ND-WC	PI	\$50,000	05/01/2013-04/30/2014
HRSW breeding program	ND Wheat Commission	PI	\$ 95,000	06/01/2013-05/30/2014
Modernizing HRSW breeding equipment.	ND-WC	PI	\$40,000	05/01/2013-04/30/2014
Breeding for White and Specialty wheat	ND Wheat Commission	PI	\$30,000	06/01/2013-05/31/2014
Breeding wheat for Clearfield resistance	BASF	PI	\$5,000	06/01/2013-05/31/2014

**Total 2013:.....\$548,932**

**2012-NDSU**

Positioning NDSU Spring Wheat Breeding Program to Better Serve MN Wheat Growers	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$100,000	01/01/2012-12/31/2012
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Evaluation of White and Specialty Spring Wheat Germplasm to Scab Disease	USDA-ARS	PI	\$17,500	05/01/2012-04/30/2013
Expanding FHB testing facilities	ND State Funds	PI	\$67,400	05/01/2012-04/30/2014
Genetic Characterization of Fusarium Head Blight Resistance in two Elite Spring Wheat Cultivars.	USDA-ARS	PI	\$ 39,859	05/01/2012-04/30/2013
Development of Adapted Hard Red Spring Wheat Cultivars and Germplasm Resistant to Scab Disease.	USDA-ARS	PI	\$108,613	05/01/2012-04/30/2013
Providing the wheat growers with adapted spring wheat cultivars using efficient and rapid modern methods	ND-SBARE	PI	\$20,000	06/01/2012-05/31/2013
Providing the wheat growers with adapted spring wheat cultivars using efficient and rapid modern methods	ND Wheat Commission	PI	\$12,000	06/01/2012-05/31/2013
Development of hard red spring wheat cultivars resistant to saw fly insect.	ND-SBARE	PI	\$10,000	06/01/2012-05/31/2013
Development of hard red spring wheat cultivars resistant to saw fly insect.	ND Wheat Commission	PI	\$6,000	06/01/2012-05/31/2013
Technician Specialty Wheat Breeder	ND-WC	PI	\$60,750	05/01/2012-04/30/2013
HRSW breeding program	ND Wheat Commission	PI	\$ 99,350	06/01/2012-05/30/2013
Modernizing HRSW breeding equipment.	ND-WC	PI	\$70,000	05/01/2012-04/30/2013
Breeding for White and Specialty wheat	ND Wheat Commission	PI	\$40,000	06/01/2012-05/31/2013
Breeding wheat for Clearfield resistance	PI	BASF	\$10,000	06/01/2012-05/31/2013
<b><u>Total 2012:.....\$ 661,472</u></b>				
<b>2011-NDSU</b>				
Positioning NDSU Spring Wheat Breeding Program to Better Serve MN Wheat Growers	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$100,000	01/01/2011-12/31/2012
Development of Spring White and Specialty Wheat Cultivars Resistant Scab	USDA-ARS	PI	\$34,755	05/01/2011-04/30/2012
Expanding FHB testing facilities	ND State Funds	PI	\$64,000	05/01/2011-04/30/2012
Genetic Characterization of Fusarium Head Blight Resistance in two Elite Spring Wheat Cultivars.	USDA-ARS	PI	\$ 46,315	05/01/2011-04/30/2012

Development of hard red spring wheat resistant to scab	USDA-ARS	PI	\$118,167	05/01/2011-04/30/2012
Providing the wheat growers with adapted spring wheat cultivars using efficient and rapid modern methods	ND-SBARE	PI	\$20,000	06/01/2011-05/31/2012
Providing the wheat growers with adapted spring wheat cultivars using efficient and rapid modern methods	ND Wheat Commission	PI	\$6,666	06/01/2011-05/31/2012
Development of HESBreeding for Solid Stem Spring wheat cultivars	ND-SBARE	PI	\$16,000	06/01/2011-05/31/2012
Breeding for Solid Stem Spring wheat cultivars	ND Wheat Commission	PI	\$5,333	06/01/2011-05/31/2012
Technician Specialty Wheat Breeder	ND-WC	PI	\$54,000	05/01/2011-04/30/2012
HRSW breeding program	ND Wheat Commission	PI	\$ 90,000	06/01/2011-05/30/2012
Equipping HRSW: Combine	ND-WC	PI	\$80,000	05/01/2011-04/30/2012
Breeding for White and Specialty wheat	ND Wheat Commission	PI	\$25,000	06/01/2011-05/31/2012
<b>Total 2011:.....\$ 660,236</b>				
<b>2010-NDSU</b>				
Evaluation, screening, and introgression of Pre-harvest Sprouting into Spring Wheat Adapted for Western Minnesota and Eastern North Dakota	MNWRPC	PI	\$34,000	01/12/2010-12/31/2010
Development of Spring White and Specialty Wheat Cultivars Resistant Scab	USDA-ARS	PI	\$34,755	05/01/2010-04/30/2011
Breeding for White and Specialty wheat	ND-WC	PI	\$25,000	05/01/2010-04/30/2011
Technician Specialty Wheat Breeder	ND-WC	PI	\$52,650	05/01/2010-04/30/2011
Equipping HRSW: Combine	ND-WC	PI	\$80,000	05/01/2010-04/30/2011
Expanding FHB testing facilities	ND State Funds	PI	\$64,000	05/01/2010-04/30/2011
Genetic Characterization of Fusarium Head Blight Resistance in two Elite Spring Wheat Cultivars.	USDA-ARS	PI	\$ 46,315	05/01/2010-04/30/2011



Development of hard red spring wheat resistant to scab	USDA-ARS	PI	\$118,167	05/01/2010-04/30/2011
Develop wheat cultivars tolerant to Imidazolinone herbicide.	BASF	PI	\$5,000	01/01/2010-12/31/2010
Introgression of valuable traits into HRS wheat using efficient and rapid modern methods	ND-SBARE	PI	\$20,000	06/01/2010-05/30/2011
Introgression of valuable traits into HRS wheat using efficient and rapid modern methods	ND Wheat Commission	PI	\$6,666	06/01/2010-05/30/2011
Breeding for resistance to leaf spotting diseases in spring wheat	ND-SBARE	PI	\$16,000	06/01/2010-05/30/2011
Breeding for resistance to leaf spotting diseases in spring wheat	ND Wheat Commission	PI	\$5,333	06/01/2010-05/30/2011
HRSW breeding program	ND Wheat Commission	PI	\$ 85,000	06/01/2010-05/30/2011
<b><u>Total 2010:.....\$ 592886</u></b>				
<b>2009-NDSU</b>				
Developing Winter Wheat Varieties and a Sustainable Winter Wheat Production System for the Prairie Pothole Region of the Northern Plains	Ducks-Unlimited - BAYER	Co-PI	\$870,000	2009-2013
Evaluation, screening, and introgression of Pre-harvest Sprouting into Spring Wheat Adapted for Western Minnesota and Eastern North Dakota	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$34,000	01/01/2009-12/31/2009
Combining Resistance Sources to Produce FHB Resistant Specialty Spring Wheat Varieties.	USDA-ARS	PI	\$33,907	06/01/2009-05/30/2010
Breeding for White and Specialty wheat	ND-WC	PI	\$15,000	01/01/2009-12/31/2009
Technician Specialty Wheat Breeder	ND-WC	PI	\$42,000	01/01/2009-12/31/2009
Equipping HRSW: Combine	ND-WC	PI	\$20,000	01/01/2009-12/31/2009
Expanding FHB testing facilities	ND State Funds	PI	\$64,000	01/01/2009-12/31/2009
Developing leaf spotting resistant hard red spring wheat cultivars adapted to Western MN and Eastern ND	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$30,000	01/01/2009-12/31/2009

Screening Newly Introduced Spring Wheat Germplasm for Novel Sources of Resistance to Scab.	USDA-ARS	PI	\$17,923	06/01/2009-05/30/2010
Development of hard red spring wheat resistant to scab	USDA-ARS	PI	\$115,285	06/01/2009-05/30/2010
Develop wheat cultivars tolerant to Imidazolinone herbicide.	BASF	PI	\$10,000	01/01/2009-12/31/2009
Identifying high hard red spring wheat cultivars with high yield potential to meet special end-uses	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$35,650	01/01/2009-12/31/2009
Introgression of valuable traits into HRS wheat using efficient and rapid modern methods	ND-SBARE	PI	\$20,000	06/01/2009-05/30/2010
Introgression of valuable traits into HRS wheat using efficient and rapid modern methods	ND Wheat Commission	PI	\$6,666	06/01/2009-05/30/2010
Breeding for resistance to leaf spotting diseases in spring wheat	ND-SBARE	PI	\$16,000	06/01/2009-05/30/2010
Breeding for resistance to leaf spotting diseases in spring wheat	ND Wheat Commission	PI	\$5,333	06/01/2009-05/30/2010
HRSW breeding program	ND Wheat Commission	PI	\$ 25,000	06/01/2009-05/30/2010
Support to HRSW breeding enhancement (Combine)	ND Wheat Commission	PI	\$ 20,000	06/01/2009-05/30/2010
<b><u>Total 2009:.....\$1,380,764</u></b>				
<b>2008-NDSU</b>				
Combining Resistance Sources to Produce FHB Resistant Specialty Spring Wheat Varieties.	USDA-ARS		\$33,907	06/01/2008-05/30/2009
Technician Specialty Wheat Breeder	ND Wheat Commission	Co PI	\$42,000	01/01/2008-12/31/2008
FHB White wheat	ND Wheat Commission	Co-PI		01/01/2008-12/31/2008
Expanding FHB testing facilities	ND State Funds	PI	\$70,000	01/01/2008-12/31/2008

Developing leaf spotting resistant hard red spring wheat cultivars adapted to Western MN and Eastern ND	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$30,000	01/01/2008-12/31/2008
Screening Newly Introduced Spring Wheat Germplasm for Novel Sources of Resistance to Scab.	USDA-ARS	PI	\$18,371	06/01/2008-05/30/2009
Development of hard red spring wheat resistant to scab	USDA-ARS	PI	\$118,167	06/01/2008-05/30/2009
Develop wheat cultivars tolerant to Imidazolinone herbicide.	BASF	PI	\$12,000	01/01/2008-12/31/2008
Identifying high hard red spring wheat cultivars with high yield potential to meet special end-uses	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$35,650	01/01/2008-12/31/2008
Drought tolerance of Mannitol-accumulating wheat: Mechanisms and agronomic evaluation	USDA-CSREES	PI	\$2,138 (\$118,161)	06/01/2008-05/30/2009
Mixolab: Is it a new tool to evaluate bread-making quality of HRSW?	ND Wheat Commission	PI	\$2,700 (\$12,500)	01/01/2008-12/31/2008
Introgression of valuable traits into HRS wheat using efficient and rapid modern methods	ND-SBARE	PI	\$24,000	06/01/2008-05/30/2009
Introgression of valuable traits into HRS wheat using efficient and rapid modern methods	ND Wheat Commission	PI	\$8,000	06/01/2008-05/30/2009
Breeding for resistance to leaf spotting diseases in spring wheat	ND-SBARE	PI	\$20,000	06/01/2008-05/30/2009
Breeding for resistance to leaf spotting diseases in spring wheat	ND Wheat Commission	PI	\$6,667	06/01/2008-05/30/2009
HRSW breeding enhancement	ND Wheat Commission	PI	\$ 25,000	06/01/2008-05/30/2009
Equipping HRSW breeding program: Combine	ND Wheat Commission	PI	\$ 20,000	06/01/2008-05/30/2009
<b><u>2008 TOTAL .....</u></b>			<b><u>\$ 468,600</u></b>	
<b>2007-NDSU</b>				
Development of hard red spring wheat resistant to scab	USDA-ARS	PI	\$120,572	06/01/2007-05/30/2008

Introgression of valuable traits into HRS wheat using efficient and rapid modern methods	ND-SBARE	PI	\$20,000	06/01/2007-05/30/2008
Develop wheat cultivars tolerant to Imidazolinone herbicide.	BASF	PI	\$22,000	01/01/2007-12/31/2007
Identifying high hard red spring wheat cultivars with high yield potential to meet special end-uses	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$35,650	01/01/2007-12/31/2007
Drought tolerance of Mannitol-accumulating wheat: Mechanisms and agronomic evaluation	USDA-CSREES	PI	\$2,138 (\$118,161)	06/01/2007-05/30/2008
Incorporation of new resistance genes for tan spot in adapted common wheat and durum varieties	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI*	10,000	01/01/2007-12/31/2007
Mixolab: Is it a new tool to evaluate bread-making quality of HRSW?	ND Wheat Commission	PI	\$2,700 (\$12,500)	06/01/2007-05/30/2008
Introgression of valuable traits into HRS wheat using efficient and rapid modern methods	ND Wheat Commission	PI	\$9,285	06/01/2007-05/30/2008
Breeding for leaf spot resistance in hard red spring wheat	ND-SBARE	PI	\$20,000	06/01/2007-05/30/2008
Breeding for leaf spot resistance in hard red spring wheat	ND Wheat Commission	PI	\$6,700	06/01/2007-05/30/2008
HRSW breeding enhancement	ND Wheat Commission	PI	\$ 10,000	06/01/2007-05/30/2008
Support for the hard red spring breeding efforts	Burlington Northern Santa Fe Foundation	PI	\$10,000	01/01/2007-12/31/2007
<b><u>2007 TOTAL .....</u> \$ 269,045</b>				
<i>* The PI of these Projects is my Post-doctoral fellow. Funds are channeled to the HRSW project</i>				

<b>2006-NDSU</b>				
Develop wheat cultivars tolerant to Imidazolinone herbicide.	BASF	PI	\$15,000	01/01/2006-12/31/2006
Regional testing of HRSW for yield potential	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI	\$5,000	01/01/2006-12/31/2006

Drought tolerance of Mannitol-accumulating wheat: Mechanisms and agronomic evaluation	USDA-CSREES	PI	\$16,466 (\$139,032)	06/01/2006- 05/30/2007
Incorporation of new resistance genes for tan spot in adapted common wheat and durum varieties	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI*	10,000	01/01/2006- 12/31/2006
Development of hard red spring wheat resistant to Scab	USDA-ARS	PI	\$121,532	06/01/2006- 05/30/2007
Molecular mapping and pyramiding of new scab resistance genes	USDA-ARS	PI	\$27,205	06/01/2006- 05/30/2007
Efficient & rapid introgression of valuable traits into HRS wheat	ND-SBARE	PI	\$27,250	06/01/2006- 05/30/2007
Efficient & rapid introgression of valuable traits into HRS wheat	ND Wheat Commission	PI	\$9,750	06/01/2006- 05/30/2007
Grain and spike morphology in durum and bread wheat	ND-SBARE	PI	\$19,038	06/01/2006- 05/30/2007
Grain and spike morphology in durum and bread wheat	ND Wheat Commission	PI	\$7,300	06/01/2006- 05/30/2007
Screening for leaf spots resistance in spring wheat and durum	ND-SBARE	PI*	\$13,000	06/01/2006- 05/30/2007
Screening for leaf spots resistance in spring wheat and durum	ND Wheat Commission	PI*	\$4,300	06/01/2006- 05/30/2007
Screening for leaf spots resistance in hard red spring wheat	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI*	\$6,500	01/01/2006- 12/31/2006
HRSW breeding enhancement	ND Wheat Commission	PI	\$ 7,500	06/01/2006- 05/30/2007
Support for the hard red spring breeding efforts	Burlington Northern Santa Fe Foundation	Co-PI	\$20,000	01/01/2006- 12/31/2006
<b><u>2006 TOTAL .....</u> \$ 309,841</b>				
<i>*The PI of these Projects is my Post-doctoral fellow. Funds are channeled to the HRSW project</i>				

<b>2005-NDSU</b>				
Laboratory equipment (Growth Chamber,...etc) for double haploid production to an efficient & rapid introgression of valuable traits into HRS wheat	ND Wheat Commission	PI	\$60,000	06/01/2005- 05/30/2006

Screening transgenic wheat for FHB resistance	Syngenta	PI	\$85,044	01/01/2005-12/31/2005
Drought tolerance of Mannitol-accumulating wheat: Mechanisms and agronomic evaluation	USDA-CSREES	Co-PI	\$17,025 (\$142,665)	06/01/2005-05/30/2006
Enhanced scab resistance in wheat germplasm by transformation	USDA-ARS	PI	\$10,000 (\$ 65,853)	06/01/2005-05/30/2006
Biotechnology extension	NDSU-Extension	PI	\$12,000 (\$31,500)	06/01/2005-05/30/2006
Development of hard red spring wheat resistant to scab	USDA-ARS	PI	\$90,000	06/01/2005-05/30/2006
Molecular mapping and pyramiding of new scab resistance genes	USDA-ARS	PI	\$28,000	06/01/2005-05/30/2006
Develop wheat cultivars tolerant to Imidazolinone herbicide.	BASF	PI	\$30,000	01/01/2005-12/31/2005
Develop wheat cultivars tolerant to Imidazolinone herbicide: New Zealand winter nursery support.	BASF	PI	\$15,731	01/01/2005-12/31/2005
Efficient & rapid introgression of valuable traits into HRS wheat	ND-SBARE	PI	\$28,315	06/01/2005-05/30/2006
Efficient & rapid introgression of valuable traits into HRS wheat	ND Wheat Commission	PI	\$9,438	06/01/2005-05/30/2006
Screening for leaf spots resistance in spring wheat and durum	ND-SBARE	PI*	\$14,522	06/01/2005-05/30/2006
Screening for leaf spots resistance in spring wheat and durum	ND Wheat Commission	PI*	\$4,840	06/01/2005-05/30/2006
Screening for leaf spots resistance in hard red spring wheat	Minnesota Wheat Research and Promotion Council (MNWRPC)	PI*	\$6,500	01/01/2005-12/31/2005
HRSW breeding enhancement	ND Wheat Commission	PI	\$ 7,500	06/01/2005-05/30/2006
Pollen transfer distances and gene flow in spring wheat cultivars	Monsanto	PI	\$30,000	01/01/2005-12/31/2005
Support for the hard red spring breeding efforts	Burlington Northern Santa Fe Foundation	Co-PI	\$10,000	01/01/2005-12/31/2005
<b>2005 TOTAL .....</b>			<b>\$458,915</b>	
<i>* The PI of these Projects is my Post-doctoral fellow. Funds are channeled to the HRSW project</i>				

<b>2004-NDSU</b>				
Development of hard red spring wheat resistant to scab	USDA-ARS Grant# 59-0790-9-036	PI	\$85,379	06/01/2004-05/30/2005
Develop wheat cultivars tolerant to Imidazolinone herbicide.	BASF	PI	\$25,000	01/01/2004-12/31/2004
Laboratory equipment to develop wheat cultivars tolerant to Imidazolinone herbicide.	BASF	PI	\$30,000	01/01/2004-12/31/2004
Introgression of glyphosate resistance into HRS wheat germplasm	Monsanto	PI	\$50,000	01/01/2004-12/31/2004
Pollen transfer distances and gene flow in spring wheat cultivars	Monsanto	PI	\$30,000	01/01/2004-12/31/2004
Efficient & rapid introgression of valuable traits into HRS wheat	ND-SBARE	PI	\$26,426	06/01/2004-05/30/2005
HRSW breeding enhancement	ND Wheat Commission	PI	\$ 7,500	06/01/2004-05/30/2005
Efficient & rapid introgression of valuable traits into HRS wheat	ND Wheat Commission	PI	\$8,808	06/01/2004-05/30/2005
Support for the hard red spring breeding efforts	Burlington Northern Santa Fe Foundation	Co-PI	\$10,000	01/01/2004-12/31/2004
<b><u>2004 TOTAL .....</u> \$ 273,113</b>				

<b>2003-NDSU</b>				
Development of hard red spring wheat resistant to scab	USDA-ARS	PI	\$75,212	06/01/2003-05/30/2004
Develop wheat cultivars tolerant to Imazamox	BASF	PI	\$20,000	01/01/2003-12/31/2003
Introgression of glyphosate resistance into HRS wheat germplasm	Monsanto	PI	\$47,461	01/01/2003-12/31/2003
Enhanced spring wheat breeding	ND Wheat Commission	PI	\$ 7,500	06/01/2003-05/30/2004
Efficient & rapid introgression of valuable traits into HRS wheat	ND Wheat Commission	PI	\$8,808	06/01/2003-05/30/2004
Efficient & rapid introgression of valuable traits into HRS wheat	ND-SBARE	PI	\$26,460	06/01/2003-05/30/2004
Gene flow via pollen drift	NDSU-RF	PI	\$10,000	01/01/2003-12/31/2003

Pollen transfer distances and gene flow in spring wheat cultivars	Monsanto	PI	\$15,000	01/01/2003-12/31/2003
Support for the hard red spring breeding efforts	Burlington Northern Santa Fe Foundation	Co-PI	\$10,000	01/01/2003-12/31/2003
<b><u>2003 TOTAL .....</u> \$ 220,441</b>				

<b>2002-NDSU</b>				
Development of hard red spring wheat resistant to scab	USDA-ARS	PI	\$79,800	06/01/2002-05/30/2003
Develop wheat cultivars tolerant to imazamox	BASF	PI	\$20,000	01/01/2002-12/31/2002
Introgression of glyphosate resistance into HRS wheat germplasm	Monsanto	PI	\$25,403 (50,907)*	01/01/2002-12/31/2002
Enhanced spring wheat breeding	ND Wheat Commission	PI	\$ 7,500	06/01/2002-05/30/2003
<b><u>2002 TOTAL .....</u> \$ 132,703</b>				
* 50% of this grant went to Specialty Wheat breeding program.				

*Co-PI Projects (funds are indirectly benefiting HRSW program)*

<b>2002-2008</b>				
Development of markers linked to FHB resistance in durum and hexaploid wheat.	USDA	Co-PI	\$39,024	May 2007- April 2008
Identification of new sources of resistance to major leaf spot diseases in mini-core subset of the wheat germ plasm	ND-SBARE and ND Wheat Commission	Co-PI	\$ 17,000	Jan. 2007-Dec. 2007
Enhancing resistance to Fusarium head blight in wheat using alien species	USDA-ARS	Co-PI	\$ 39,272	May 2007- April 2008
Development of markers linked to FHB resistance in durum and hexaploid wheat.	USDA-ARS	Co-PI	\$ 83,189	May 2006 - April 2007
Mixolab: Is it a new tool to evaluate bread-making quality of HRSW?	ND Wheat Commission	PI	\$12,500	Jan. 1, 2007- Dec. 31, 2007



Drought tolerance of Mannitol-accumulating wheat: Mechanisms and agronomic evaluation	USDA-CSREES	Co-PI	\$399,858	August 1, 2005-July 31, 2008
Enhancing resistance to Fusarium head blight in wheat using alien species	USDA-ARS	Co-PI	\$ 39,202	May 2006- April 2007
Acquisition of high throughput genetic analysis instruments	NSI-MRI	Co-PI	\$477,643	Jan. 2006-Dec. 2006
Development of markers linked to FHB resistance in durum and hexaploid wheat.	USDA-ARS	Co-PI	\$ 104,273	May 2005- April 2006
Enhancing resistance to Fusarium head blight in wheat using alien species	USDA-ARS	Co-PI	\$ 37,995	May 2005- April 2006
Association mapping of FHB resistance genes in spring wheat-A pilot study	USDA-ARS	Co-PI	\$ 84,840	May 2005- April 2006
Enhancing resistance to Fusarium head blight in wheat using alien species	USDA-ARS	Co-PI	\$ 28,103	May 2004- April 2005
Biotechnology extension	NDSU-Extension	Co-PI	\$31,500	August 1, 2004- July 31, 2005
Identification of novel source of resistance to FHB from wild relatives of wheat and transfer of the resistance to wheat	ND-SBARE	Co-PI	\$10,000	Jan. 1, 2004- Dec. 31, 2004
Introgression of FHB resistance genes from <i>T. Dicoccoides</i> to HRS wheat	ND-SBARE	Co-PI	\$13,500	Jan. 1, 2004- Dec. 31, 2004
Introgression of FHB resistance genes from <i>T. Dicoccoides</i> to HRS wheat	ND Wheat Commission	Co-PI	\$4,500	Jan. 1, 2004- Dec. 31, 2004
Development of markers linked to FHB resistance in durum and hexaploid wheat.	USDA-ARS	Co-PI	\$ 96,803	May 2004- April 2005
Identification of novel source of resistance to FHB from wild relatives of wheat and transfer of the resistance to wheat	ND-SBARE	Co-PI	\$19,304	Jan. 1, 2004- Dec. 31, 2004
Development of markers linked to FHB resistance in durum and hexaploid wheat.	USDA-ARS	Co-PI	\$ 100,032	May 2003- April 2004
Enhancing resistance to Fusarium head blight in wheat using alien species	USDA-ARS	Co-PI	\$ 23,482	May 2003- April 2004