

Name: H. Roger Boerma

Rank: Distinguished Research Professor, Director of the Center for Soybean Improvement and Coordinator of Academic Research for the Center for Applied Genetic Technologies



% Salary Budgeted: Instr. 6% Res. 94% Ext. Outreach

Program Overview: Description of Major Responsibilities

Dr. Boerma's responsibilities at the University of Georgia include: i) The development of superior yielding, multiple pest resistant soybean cultivars, ii) The development of molecular technologies to enhance the rate of genetic gain in soybean., iii) The identification and characterization of useful genetic variation for soybean improvement, iv) The training of graduate students and post doctoral fellows in molecular breeding and genetics., v) Teaching a graduate course entitled, "Quantitative Aspects of Molecular Breeding"., vi) Program implementation for the Center for Soybean Improvement., and vii) Academic program development and implementation for the Center for Applied Genetic Technologies.

Education:

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|-------|------|---------------------------|--|
| B.S. | 1968 | Illinois State University | General Agriculture & Agricultural Education |
| M.S. | 1970 | University of Illinois | Agronomy (Plant Breeding & Genetics) |
| Ph.D. | 1973 | University of Illinois | Agronomy (Plant Breeding & Genetics) |

Employment:

| | | |
|--------------|-----------------------------------|----------------------------------|
| 1999-present | University of Georgia, Athens, GA | Distinguished Research Professor |
| 1994-99 | University of Georgia, Athens, GA | Research Professor |
| 1983-94 | University of Georgia, Athens, GA | Professor |
| 1978-83 | University of Georgia, Athens, GA | Associate Professor |
| 1973-78 | University of Georgia, Athens, GA | Assistant Professor |

Membership in Professional Societies:

American Association for the Advancement of Science
American Society of Agronomy
Crop Science Society of America
Council for Agricultural Science and Technology

Awards:

Named University of Georgia Distinguished Research Professorship, 1999
National Council of Commercial Plant Breeders Genetics and Plant Breeding Award, 2003
Crop Science Society of America Research Award, 2004
Renamed University of Georgia Distinguished Research Professorship, 2004
Southern Soybean Disease Workers Recognition Award for Outstanding Contributions in Soybean Rust Research, 2005
Southern Soybean Disease Workers Distinguished Service Award, 2005

Contributions to Teaching:

(1) Undergraduate
Special Problems in CRSS or BIOL (12 students)

- (2) Graduate
 CRSS8880 Quantitative Aspects of Plant Improvement Spring of even years
 average of 8 students/semester
- (3) Service on Graduate Advisory Committees
 M.S. Chair, 4 Member, 3 Total = 7
 Ph.D. Chair, 6 Member, 6 Total = 12
- (4) Post-doctoral Advisor (10)

Contributions to Research and Other Creative Activities:

No. of books = 1

No. of book chapters = 3

No. of refereed papers/by journal (27)

Crop Science = 14

Theoretical and Applied Genetics = 4

Field Crops Research = 2

Journal of Economic Entomology = 2

Journal of Entomological Science = 1

Journal of Heredity = 1

Genetica = 1

Korean Soybean Journal = 1

Journal of Varieties and Seeds = 1

No. of proceedings papers (12)

No. of abstracts (26)

No. of Patents/PVPs

seven soybean cultivars released, PVP applied or granted
 generated \$1.23 million in cultivar royalties

Other activities

released 20 soybean germplasm lines

released one mapping population

hosted and trained 8 visiting scientists

Contributions to Extension:

Sources of Grants/amounts:

| | |
|--|-------------|
| United Soybean Board | \$2,826,634 |
| UGARF-Plant Breeding Fund | \$ 319,530 |
| Monsanto Company | \$ 105,000 |
| USDA-NRICGP | \$ 180,000 |
| Georgia Agr. Commodity for Soybeans | \$ 32,600 |
| American Seed Trade Association | \$ 52,000 |
| Southern Soybean Development Corporation | \$ 46,100 |

TOTAL \$3,561,864

Contributions to Professional Service:

National:

- Appointed to the United Soybean Board Research Priorities Steering Committee (1999-2006)
- Continuing Committee for the World Soybean Research Conference (1999-2004)
- Co-organizer of United Soybean Board Strategic Workshop for Soybean Genomics (1999)
- Co-organizer of United Soybean Board Strategic Workshop for Genetic Enhancement (2000)
- Board of Directors for the Georgia Soybean Association (1999-2005)
- Board of Directors for Southern Elite Genetics Association (1999-2002)
- Co-organizer for Legume Genomics Strategic Planning Workshop (2001)
- Continuing Committee - Molecular and Cellular Biology of the Soybean (1999-2000)
- Co-organizer of United Soybean Board Strategic Planning for Soybean Genomics (2003)
- Co-organizer of United Soybean Board Strategic Planning for Soybean Genomics (2005)
- Co-Editor for the ASA monograph, *Soybean: Improvement, Production, and Uses* (1999-2003)
- Member of American Society of Agronomy Rapid Response Committee (2003- 2004)

University:

- Overall Center for Applied Genetic Technologies Steering Committee (1999-2005)
- Plant Center for Applied Genetic Technologies Advisory Committee (1999-2005)
- UGARF Genetic Marker Facility Advisory Committee (1999-2005)
- Director of Center for Soybean Improvement (1994-2005)
- Coordinator of Academic Research for Center for Applied Genetic Technologies (2004-2005)
- Search Committee for Eminent Scholar in Crop Genomics (2003)

College:

- CAES Liaison to American Soybean Association (1999-present)
- CAES Liaison to Georgia Soybean Association (1999-present)
- CAES Liaison to United Soybean Board (1999-present)
- CAES Promotion and Tenure Committee (2004-2005)

Departmental:

- Plant Sciences Farm Advisory Committee (Chair, 1999-present)
- Greenhouse Advisory Committee (1999-present)
- Search Committee for PSF Supervisor position (Chair, 2005)
- Search Committee for PSF Agric. Specialist position (Chair, 2005)

Goals for the Next Five Years:

1. Work with colleagues and administration to transition the Center for Soybean Improvement to the Center for Legume Genomics
2. Achieve tangible research outcomes from the Center for Applied Genetic Technologies Initiative
3. Develop “breeder friendly” DNA markers and effectively integrate them into the soybean cultivar development program
4. Construct a drought tolerant soybean cultivar by application of marker-assisted breeding
5. Develop herbicide tolerant soybean cultivars possessing value-added traits for the oilseed and poultry industries
6. Develop and release an Asian soybean rust resistant cultivar
7. Identify and molecularly map additional soybean genes for resistance to Asian soybean rust
8. Work with colleagues to revamp the graduate program in plant breeding, biotechnology, and genomics