

CURRICULUM VITA

(November 2008)

NAME: C. Reed Funk
George Hammell Cook Emeritus Professor, Plant Biology and Pathology
Dept., Cook College, New Jersey Agricultural Experiment Station,
Rutgers University, 59 Dudley Road, New Brunswick, New Jersey
08901-8520

BORN: September 20, 1928 - Richmond, Utah

CITIZENSHIP: U.S.A.

EDUCATION:

B. S. in Agronomy, Utah State University	1952
M. S. in Agronomy, Utah State University	1955
Studied Plant Breeding, Iowa State University	1956
Ph.D. in Agronomy, Rutgers University	1961

EMPLOYMENT:

2nd and 1st Lt., U. S. Army	1952 to 1954
Instructor at Rutgers University	1956 to 1961
Assistant Professor, Rutgers University	1961 to 1964
Associate Research Professor, Rutgers University	1964 to 1969
Research Professor, Rutgers University	1969 to 1981
Professor II, Rutgers University	1981 to 2003
George Hammell Cook Emeritus Professor	2003-present

RESEARCH ACTIVITIES AND ACCOMPLISHMENTS:

1. Project leader of one of the world's most productive turfgrass breeding programs from 1962 to 1996.
2. Developed first successful method of producing Kentucky bluegrass cultivars by means of intraspecific hybridization of apomictic parents. Participated in the development of Adelphi, Able I, America, Bonnieblue, Bristol, Classic, Challenger, Eclipse, Liberty, Majestic, Midnight, Princeton P-104, Washington, Shamrock, Princeton P-105, Nu Blue, Langara, Moonlight, Nassau, SR-2000,

Livingston, Blackstone, SR-2100, Champagne, Jefferson, Cabernet, Bordeaux, Dragon, Brooklawn, Boutique, Lakeshore, Blueridge, Mallard, SR-2284, Royale, Bluestone, Royce, Bedazzled, Moonshadow, Monte Carlo. Sonoma, Glenmont, Diva, and SR-2109 using this technique. This technique is used in bluegrass improvement programs throughout the United States and Europe.

3. Developed Manhattan perennial ryegrass. Manhattan is considered a landmark cultivar which significantly enhanced the usefulness of perennial ryegrass for turf. Manhattan was extensively used on soccer fields throughout much of northwest Europe and the UK for over two decades. Its success caused a number of plant breeding institutions throughout the world to redirect their programs towards the development of improved turf-type ryegrasses. Manhattan and other germplasm sources developed at Rutgers have been widely used in many breeding programs in North America and Europe. Directed and/or participated in the breeding and release of Citation, Omega, Yorktown II, Diplomat, Fiesta, Dasher, Blazer, Pennant, Premier, Palmer, Prelude, Repell, Gator, All*Star, Manhattan II, Manhattan 3, Tara, SR-4000, SR-4100, Citation II, Sherwood, Pinnacle, Fiesta II, Blazer II, Dandy, SR-4200, Seville, Assure, Calypso, Advent, Legacy, APM, Affinity, Envy, Repell II, Palmer II, Yorktown III, SR-4300, Elf, Prelude II, Gettysburg, Prizm, Palmer III, Citation III, Catalina, Roadrunner, Divine, Affirmed, Exacta, Churchill, Paragon, Secretariat, Windstar, Calypso II, Monterey, Panther, Prelude III, Advantage, Top Hat, Calypso II, Applaud, Gator 3, Integra, Amazing, Kokomo, Premier II, Legacy II, Brightstar II, Solataire, Seville II, Repell III, Bullet, Mardi Gras, Sonata, SR-4010, Accolade, Riviera II, Lynx, Citation Fore, Manhattan 4, Grande Slam, SR-4220, Hawkeye, Charismatic, SR-4420, Brightstar SLT, Inspire, Pinnacle II, Palmer IV, Prelude IV, Sunkissed, Dazzle, 1G2, Repell GLS, Paragon GLR, and Gator II. Many of these cultivars are widely used.
4. Accumulated one of the most valuable collections of *Poa* and *Festuca* germplasm available in North America. Developed techniques for screening this collection for turf performance, response to important management practices, and resistance to many important stress conditions and disease problems. The cultivars Touchdown, Voyager, Columbia, Plush, Ram I, Preakness, Cache, Sonic, and Glade originated from the *Poa* collection. Participated in the development of Banner, Victory, Longfellow, SR-5000, Banner II, SR-5100, Shadow II, Brittany, Bridgeport, Southport, Ambassador, Tiffany, Treasure, Victory II, Longfellow II, Five Point, Seven Seas, and Proformer Chewings fescues; Jasper, Jasper II, Salem, Flyer, Flyer II, Trapeze, Fenway, Pathfinder, Rose, Celestial, Navigator, SR-5210, Cindy Lou, Aberdeen, Razor, and Audobon strong creeping red fescues; Reliant, Reliant IV, Spartan, Ecostar, SR-3000, Warwick, SR-3100, Oxford, Predator, Viking, and Nordic hard fescues; and Azure, SR-3200 and SR-3210 blue fescues.
5. Developed Rebel tall fescue. Rebel is considered a landmark cultivar being the first of a new class of turf-type tall fescues. These new turf-type tall fescues have

finer leaves, greater density, a slower rate of vertical growth, better shade tolerance, a brighter darker green color and greater wear tolerance. Seed production has increased to meet current demands in North America and southern Europe. Rebel and other turf-type tall fescue germplasm sources developed at Rutgers have contributed to the development of many new turf-type tall fescue cultivars. Participated in the development of Falcon, Olympic, Houndog, Mustang, Tribute, Cimmaron, Arid, Mesa, Titan, Rebel II, Wrangler, Chieftain, Shenandoah, Winchester, Thoroughbred, Amigo, Phoenix, Austin, Duke, Montauk, Safari, Virtue, Rebel Jr., Tomahawk, Cochise, Hubbard 87, Avanti, Rebel 3D, Maverick II, Houndog V, Pixie, Jaguar III, Coronado, Gazelle, Coyote, Regiment, Tulsa, Duster, Finelawn Petite, Rembrandt, Renegade, Titan II, Picasso, Masterpiece, Tarheel, Wolfpack, Shenandoah II, Plantation, Bandana, Millennium, Tuscany, Cortez, Reserve, Wyatt, Arcade, Rebel Sentry, Rebel 2000, Grande, Omni, SR-8210, SR-8010, Forte, Prospect, Signia, Titan LTD, Katahari, Grande II, Da Vinci, WAF, Finesse II, Falcon III, Rendition, Silverstar, Greystone, Justice, 2nd Millennium, Lexington, Gremlin, Riverside, Rebel Pro, and Coronata Gold tall fescues.

6. Directed the development of the first and most widely used turf-type cultivar of *Poa trivialis* L. released in North America (Sabre). Participated in the development of Laser, Laser II, and Winterplay.
7. Participated in the development of Southshore and L-93 creeping bentgrass, Glory colonial bentgrass, and Legendary velvet bentgrass.
8. Participated in the discovery that endophytic fungi are associated with many instances of enhanced performance in perennial ryegrass, tall fescue, hard fescue, blue fescue, strong creeping red fescue, and Chewings fescue. Showed an association between the presence of endophytic fungi and enhanced resistance to sod webworms and billbugs, improved summer performance and fall recovery, and resistance to crabgrass invasion in tall fescue and perennial ryegrass. Found that endophytic fungi are associated with resistance to cinch bugs and the dollar spot disease in hard fescue, strong creeping red fescue and Chewings fescue. Developed breeding methods and procedures for developing cultivars possessing endophyte-enhanced performance. Participated in the development of a number of turf-type perennial ryegrasses (Pennant, All*Star, Repell, SR-4100, SR-4000, Citation II, Assure, SR-4200, Elf, Seville, Sherwood, Dandy, APM, Affinity, Advent, Legacy, Gettysburg, Citation III, Palmer III, Affirmed, Secretariat, Pinnacle, Repell II, Yorktown III, Palmer II, Prelude II, Calypso II, Premier II, Manhattan III, Palmer III, and Brightstar II) and fine fescues (SR-3000, SR-3100, Jasper II, Warwick, SR-5000, Pathfinder, Oxford, SR-3200, and SR-5100) and many other cultivars containing high levels of useful endophytes.
9. Initiated a program for genetic enhancement of underutilized perennial food crops in 1996. Assembled germplasm needed to greatly expand the adaptation of Persian walnuts, hazelnuts, pecans, almonds, apricots, and other perennial tree crops. Much of this germplasm was collected or obtained from the fruit forests of

Central Asia, the Vavilov and Shreder Institutes in Uzbekistan and the Nikita Botanic Gardens of the Ukraine. With the assistance of Dr. David Zaurov, established contacts and developed relationships with leading research and educational institutions, and scientists in Uzbekistan, Kyrgyzstan, Russia and the Ukraine. Helped facilitate useful germplasm exchange of cotton, fruit, vegetables, melons, nuts, grasses, legumes, and forbes. Arranged visits of Central Asian scientists, administrators, and students to Rutgers and other institutions throughout the USA. Helped develop proposals for genetic improvement of perennial food and bioenergy crops on an international level. The development and use of adapted, highly productive, perennial food crops could be of great help in eliminating hunger, and improving health, prosperity, self reliance, and productivity of nearly one billion inadequately nourished people throughout the world. These crops could be grown on an environmentally friendly, sustainable basis on steep slopes and other lands not suitable for cultivated annuals. They would help ensure adequate food and a permanent, sustainable agriculture for an increasingly populous and more affluent society. Bioenergy crops will reduce our dependence on fossil fuels and harvest carbon dioxide.

10. Continuing work on genetic improvement of apomictic species. A better understanding and control of apomixis would improve the efficiency and effectiveness of developing superior cultivars of Kentucky bluegrass. A real breakthrough could result in the utilization of hybrid vigor in important food, forage, fiber and bioenergy crops such as wheat, rice, soybeans, alfalfa, cotton, and tree crops. Farmers in developing countries could save their own seed without loss of hybrid vigor.
11. Enhanced turfgrass research, teaching and service at Rutgers by assisting in attracting world class scholars and teachers to our faculty. These include Drs. William A. Meyer, James White, Bingru Huang, Thomas Molnar, and James Murphy.
12. Assisted in recruitment and mentoring of many exceptionally capable and productive students, technicians, and other participants in the turfgrass improvement program. Technicians include: Bill Siebels, William K. Dickson, Ronald F. Bara, Jennifer Johnson-Cicalese, Suichang Sun, Janice Bara, Dirk Smith, Sara Baxer, and Melissa Mohr. Post docs include: Mohammed K. Ahmed, David Huff, Jennifer Johnson-

Cicalese, David Zaurov, Beth Baikan, Dhanonjoy Saha, and Richard Wang. Graduate students include: San Joo Han, G.W. Pepin, Michael Dale, Kevin J. Mc Veigh, Bangalore Phaneedranath, William K. Dickson, Gregory Mazur, David Kopec, Richard Hurley, Jennifer Johnson-Cicalese, Suichang Sun, Melodee Kemp (now Melodee Fraser), Jane Breen (now Jane Breen Pierce), Nancy Shih-ying Lee, Geng Yun Zhang, and Thomas J. Molnar. There have also been many hourly student employees who made special contributions publishing papers and performing critical research. These include: Bruce Johnson, Wayne Leydsman, William Boyd, Cara Johnson, Rachael Bara, David Funk, Carol Jean Petersen, Bonnie Adams, Christine Constantelos, Robert R. Peterson, Richard Schmit, Jennifer Johnson-Cicalese, Ronald Bara, Joseph Clark, Betsy Clark, Mary Beth Ruh, David Park, Wayne Park, Allan Wolford, Dwayne Wolford, Randy Wolford, Kenneth Yourstone, Thomas Molnar, Greg Mazur, David Kopec, Jeffrey Adams, Robert Glennon, M.P. Asokan, Marie Williams, M.K. Ahmed, Janice Budney (now Janice Bara), Nicholas Bachar, Roger Lee, Lora Betts, Gharban Niroomand, Pedro Perdomo, Dominick Stanzione, Ivan Payne, James O'Connor, David Grande, Jennifer Carson, Michelle Da Costa, Thomas Hardy, Gregory Mazur, Eugene Szerszen, Charles Kupatt, Jr., David Dougan, Bruce Altavian, Srinivasa Govindarajan, Jeffrey Seidenstein, Gwyneth Mansue, Carrie Mansue, Daniel Johnson, Kevin Mc Veigh, Sara Baxer, David Wells, Jackie Chesney, Wudeneh Letchamo, Ryan Yergensen, and many others. They are continuing productive careers in science, teaching, business, service, and other professions.

MEMBERSHIP IN PROFESSIONAL AND HONORARY SOCIETIES:

1. American Society of Agronomy (Fellow)
2. Crop Science Society of America (Fellow)
3. International Turfgrass Society
4. American Association for the Advancement of Science (Fellow)
5. The New Jersey Academy of Science
6. New Jersey Turfgrass Association (honorary member)
7. American Sod Producers Association (honorary member)
8. Golf Course Superintendents Association of America (honorary member)
9. New Jersey Golf Course Superintendents Association (honorary member)
10. Phi Kappa Phi
11. Council for Agricultural Science and Technology
12. Sigma Xi
13. American Society for Horticultural Science
14. New Jersey Agricultural Society
15. Northern Nut Growers Association
16. American Chestnut Foundation.
17. Uzbek Academy of Science (honorary member)
18. Kyrgyz Academy of Agricultural Sciences (honorary member)
19. Walnut Council
20. International Oak Society
21. Pennsylvania Nut Growers
22. Iowa Nut Growers
23. Nebraska Nut Growers
24. New York Nut Growers
25. Ontario Nut Growers

HONORS AND AWARDS:

1. Graduated with highest average grade, School of Agriculture, Utah State Agricultural College, 1952 (Now Utah State University)
2. Scholarship A, Utah State University, 1955
3. New Jersey Turfgrass Association, Achievement Award, 1976
4. Faculty Merit Award, Rutgers University, 1977
5. Lawn Institute Achievement Award, 1977
6. Distinguished Service Award, Golf Course Superintendents Association of America, 1979
7. Research Award, Northeast Section of the American Society of Agronomy, 1979
8. Green Section Award, United States Golf Association, 1980
9. Invited to present keynote address to the Breeding and Cultivar Evaluation Section of the Fourth Research Conference, International Turfgrass Society, July 1, 1981
10. Merit Award, Rutgers University, 1981
11. Invited to join a select group of Americans for a visit to The Netherlands to commemorate the 200th Anniversary of unbroken diplomatic and trade relations between the United States and The Netherlands, 1982
12. Listed in Who's Who in America (1982 and subsequent editions)
13. Listed in Who's Who in the World (1982-1983 and subsequent editions)
14. New Jersey Turfgrass Association Hall of Fame Award, 1982
15. Named Man of the Year for 1982-83, Oregon Seed Trade Association
16. Fellow, American Society of Agronomy, 1984
17. Fellow, Crop Science Society of America, 1984
18. Named Man of the Year by Landscape and Irrigation magazine, 1985
19. Honorary Board of Directors, Musser Foundation, 1985
20. Turf Master Award, Grounds Maintenance Magazine, 1986
21. Research Award, New York Farmers, 1986
22. Research Award, Seed Research of Oregon, Inc., 1986
23. Presidential Award, Turfgrass Council of North Carolina, 1987
24. Invited to present the first keynote address to the 6th International Turfgrass Research Conference, International Turfgrass Society, Tokyo, Japan, July 31 - August 5, 1989
25. Received Distinguished Service Award for Agricultural Research from the United States Dept. of Agriculture, 1990
26. Named "Jerseyan of the Week" by The Newark Sunday Star Ledger, June 24, 1990
27. Fred V. Grau Turfgrass Science Award, Crop Science Society of America, 1990
28. Inducted into New Jersey Inventors Hall of Fame, 1991
29. Recipient of the Board of Trustees Award for Excellence in Research at Rutgers, The State University of New Jersey, 1991
30. Faculty Academic Service Increment Award, Rutgers University, 1991
31. Fellow, American Association for the Advancement of Science, 1992
32. Research Excellence Award, New Jersey Agricultural Experiment Station, Cook College, Rutgers University, 1992
33. Medal of the Garden Club of New Jersey, 1992
34. Annual Seed Achievement Award, Canadian Seed Trade Association, 1992
35. Honorary Degree of Doctor of Agricultural Sciences, Utah State University, June 1994

36. Invited to present the second annual Walter Wilkie Lectureship in Turfgrass Science at Michigan State University, March 1, 1995
37. The C. Reed Funk turfgrass equipment storage building was dedicated and donated to Rutgers University by the New Jersey Turfgrass Association, July 31, 1996
38. Distinguished Service Award, Golf Course Superintendents Association of New Jersey, 1997
39. Elected to Membership (Honorary) in the Academy of Sciences of the Republic of Uzbekistan, July 15, 1999
40. Faculty Merit Award, 1999
41. Turfgrass Breeders Association named their award “The C. Reed Funk Achievement Award”
42. June 2000. Selected by Turf News as “Editor’s Choice: Green Industry Pioneers”. This profiles four individuals whose accomplishments in the 20th Century greatly influenced the direction of the turfgrass industry at the beginning of the 21st Century
43. Faculty Merit Award, 2001
44. Elected to Membership (Honorary) in the Kyrgyz Academy of Agricultural Sciences, April 2001
45. Inducted into “Hall of Distinguished Alumni”, Rutgers University, 2002
46. Named George Hammell Cook Emeritus Professor, 2003
47. Lifetime Recognition for Distinguished Leadership - Cook College, 2004

PUBLICATIONS:

Author or co-author of over 600 scientific and technical publications, patents, and United States plant variety protection certificates concerning germplasm and environmental enhancement..

OTHER ACTIVITIES:

1. National

a. Crop Science Society of America

- (1) Organization, Policy, and By-Laws Committee, 1981-1984
- (2) Variety Registration Committee (Grass subcommittee 1976 - 1990)
- (3) Subcommittee (C-5) for Glossary of Crop Science Terms, 1976-1985

b. American Seed Trade Association Committee on Fluorescence (Chairman of subcommittee on genetics)

c. National Turfgrass Evaluation Program - Member Policy Committee (1980 to 1990)

d. National Germplasm System - Member Turf and Forage Crop Advisory Committee (1986 - 1987)

e. Member Fellows Committee, Crop Science Society of America (1985 to 1987)

2. Regional

- a. NE-57 Breeding Evaluation of Kentucky Bluegrass for Turf - Chairman 1967
- b. NE-139 Efficient Turfgrass Culture with Limited Inputs of Water and Energy
 - (1) Chairman Seed Labeling Committee
 - (2) Chairman Germplasm Committee
- c. Member Genetics and Breeding Subcommittee of Northeastern Florist, Nursery and Turf Crops Research Program Steering Committee

3. Rutgers University

- a. Patent Committee, 1988 to 1992
- b. Grievance Committee, 2000 to 2001
- c. Many search committees and Cook College

4. New Jersey Agricultural Experiment Station

- a. Patent and Copyright Policy Task Force
- b. Plant Variety Release Committee (Chairman, 1978-1990)
- c. Cook College Professor II Review Committee, (1982 through 1983, 1987 to 1988, also 1990 - 1992).
- d. Appointments and Promotions Committee 1983-1984 and 1991-1994)
- e. Grievance Committee (2002-2003)

5. Teaching

- a. Member of Graduate Faculty since April 25, 1965
- b. 930:503 Advanced Plant Breeding (1962 to 2002), also taught an undergraduate course in Plant Breeding.
- c. Participate in New Jersey Turfgrass Conferences, Symposia, Field Days, Expo, and ten week winter course for turfgrowers.
- d. Presented invited papers and lectures at turfgrass and plant breeding conferences at Cornell, Pennsylvania State University, University of Maryland, Virginia Polytechnic Institute, Purdue University, University of Illinois, University of Missouri, University of Massachusetts, Michigan State University, Oregon State University, Ohio State University, Utah State University, and University of North Carolina.
- e. Member of many graduate committees (Chair of 16).
- f. Supervised research of seven post-doctoral scientists.