Annual Report 2007

CAST

Council for Agricultural Science and Technology

www.cast-science.org
CAST Board of Directors

Executive Committee
Presidents: Kassim Al-Khatib, Kansas State University, Manhattan; President-Elect: Henry L. Shands, USDA-ARS, Fort Collins, Colorado; Past President: Edward C. A. Runge, Texas A&M University, College Station; Treasurer: Edward A. Hanlon, University of Florida, Immokalee

Representatives: Dale Layfield, Clemson University, Clemson, South Carolina; Todd A. Peterson, Pioneer Hi-Bred International, Johnston, Iowa; R. B. Sleeth, Paradise Valley, Arizona; Judy A. Thies, Charleston, South Carolina

Executive Vice President: John M. Bonner, CAST, Ames, Iowa

Representatives of Member Societies
AACC International: Mary Ellen Camire, University of Maine, Orono
American Academy of Veterinary and Comparative Toxicology: Robert H. Poppenga, University of California, Davis
American Agricultural Economics Association: Mechel S. Paggi, California State University, Fresno
American Association for Agricultural Education: James R. Flowers, North Carolina State University, Raleigh
American Association of Avian Pathologists: Nathaniel Tablante, University of Maryland, College Park
American Association of Pesticide Safety Educators: Robert Wolf, Kansas State University, Manhattan
American Bar Association, Section on Environment, Energy, and Natural Resources, Agricultural Management Committee: Tom Redick, Global Environmental Ethics Council, Clayton, Missouri
American Board of Veterinary Toxicology: Robert H. Poppenga, University of California, Davis
American Dairy Science Association: John Bruhn, University of California, Davis
American Forage and Grassland Council: Bill Tucker, Amherst, Virginia
American Meteorological Society: Joyce F. Strand, University of California, Davis
American Peanut Research and Education Society: John Sherwood, University of Georgia, Athens
American Phytopathological Society: Turner B. Sutton, North Carolina State University, Raleigh
American Society for Horticultural Science: Jeff Iles, Iowa State University, Ames
American Society for Nutrition: Marla Reicks, University of Minnesota, St. Paul
American Society of Agricultural and Biological Engineers: David B. Beasley, North Carolina State University, Raleigh
American Society of Agronomy: Representative not appointed
American Society of Animal Science: Representative not appointed
American Society of Plant Biologists: Gary H. Heichel, Martinsburg, West Virginia

American Veterinary Medical Association: David Scharfe, American Veterinary Medical Association, Schaumburg, Illinois.
Aquatic Plant Management Society: Jim Petta, Syngenta, New Braunfels, Texas
Association for the Advancement of Industrial Crops: David Dierig, USDA-ARS, Maricopa, Arizona
Association of American Veterinary Medical Colleges: Ralph C. Richardson, Kansas State University, Manhattan
Council of Entomology Department Administrators: Robert Wiedenmann, University of Arkansas, Fayetteville
Crop Science Society of America: Representative not appointed
Institute of Food Technologists: Representative not appointed
North American Colleges and Teachers of Agriculture: Richard Joost, University of Tennessee, Martin
North Central Weed Science Society: Karen Renner, Michigan State University, East Lansing
Northeastern Weed Science Society: Robert D. Sweet, Cornell University, Ithaca, New York
Poultry Science Association: Representative not appointed
Society for In Vitro Biology: David Songstad, Monsanto, St. Louis, Missouri
Society for Nutrition Education: Ardyth Gillespie, Cornell University, Ithaca, New York
Society of Nematologists: Jonathan D. Eisenback, Virginia Tech, Blacksburg
Soil Science Society of America: John Havlin, North Carolina State University, Raleigh
Southern Weed Science Society: Peter A. Dotray, Texas Tech University, Lubbock
Weed Science Society of America: James J. Kells, Michigan State University, East Lansing
Western Society of Weed Science: Phillip Stahlman, Kansas State University, Hays

Board Ex Officio Members
Agricultural Institute of Canada: Evans N. Estabrooks, New Maryland, New Brunswick, Canada
American Institute of Biological Sciences: Richard T. O’Grady, Washington, D.C.
Association of Research Directors: P. S. Benepeal, USDA, Colonial Heights, Virginia; Samuel Donald, University of Maryland, Princess Anne

On the cover: CAST celebrates 35 years, from its local beginnings in Ames, Iowa, to current global impact (clockwise from bottom right): CAST’s first published paper (1973); newly planted tree dedicated to Norman Borlaug (Iowa State University, CAST’s 10th anniversary, 1982); recently published CAST Issue Paper (2007); CAST’s Executive Committee by Borlaug tree (Iowa State University, CAST’s 35th anniversary, 2007).
2007 Highlights

Publications and Rollout Events

The Role of Transgenic Livestock in the Treatment of Human Disease, Issue Paper 35, May. Chair: Carol L. Keefer, University of Maryland, College Park.

This paper, number 6 of the nine-part series titled “Animal Agriculture’s Future through Biotechnology,” describes the potential for transgenic livestock to advance the development of new medications and treatments of human disease and offers a brief overview of current production methods and challenges. Rollout and presentations:

- National Coalition for Food and Agricultural Research (NC-FAR), Washington, D.C.
- Federation of Animal Science Societies Scientific Advisory Committee on Food Safety, Animal Drugs, and Animal Health Symposium, Washington, D.C.
- 2007 Joint Annual Meeting of the American Dairy Science Association, the Poultry Science Association, the Asociación Mexicana de Producción, and the American Society of Animal Science, San Antonio, Texas


This publication describes the characteristics of probiotics, discusses the microbes that colonize the human body, explains how probiotics can treat and prevent disease, and suggests future research and policy measures. Rollout and presentations:

- International Food Information Council, D.C.
- USDA “Diverse Voices in Agriculture,” D.C.
- NC-FAR “Lunch ’n Learn Seminar” Series, D.C.
- Biotechnology Industry Organization, D.C.
- American College of Gastroenterology Meeting, Philadelphia, Pennsylvania
- Yale Continuing Medical Education Conference, New Haven, Connecticut

Avian Influenza Vaccination: A Commentary Focusing on H5N1 High Pathogenicity Avian Influenza, CAST Commentary QTA2007-3, October. Chair: Karen Burns Grogan, Chicken Scratch, LLC, Dacula, Georgia

The Commentary text is excerpted from the larger Special Publication.


This Commentary addresses the necessary balance between designing biofuel feedstock crops to require minimal inputs and preventing them from surviving outside the cultivated environment. Rollout and presentations:

- Tri-Societies Annual Meeting, New Orleans, Louisiana
- USDA “Diverse Voices in Agriculture,” D.C.
- NC-FAR “Lunch ’n Learn Seminar,” D.C.
- American Farm Bureau Federation, D.C.


This Commentary provides a scientific assessment of the production potential and regional impacts of large-scale cellulosic ethanol production. Rollout and presentations:

- Tri-Societies Annual Meeting, New Orleans, Louisiana
- USDA “Diverse Voices in Agriculture,” D.C.
- NC-FAR “Lunch ’n Learn Seminar,” D.C.
- American Farm Bureau Federation, D.C.


This Issue Paper reviews the concept of gene flow and its distinctions from adventitious presence, its occurrence in nature, containment approaches for mitigation, regulation and risk assessments, economic and commercial implications, and emerging policy issues. Rollout and presentation:

- North Central Weed Science Society Meeting, St. Louis, Missouri

Three of the new publications that were released this year.
New Society Joins CAST

The Society for Nutrition Education (SNE) joined CAST in May 2007, bringing the total number of CAST Societies to 38. The SNE is dedicated to promoting healthy, sustainable food choices and has a vision to be recognized as the premier organization for food and nutrition education professionals. Members of the SNE educate individuals, families, fellow professionals, and students, and influence policymakers about nutrition, food, and health. SNE’s mission is to advance the food and nutrition education profession to impact healthful food choices and lifestyle behaviors at the individual, community, and policy levels. The SNE offers opportunities for members to share best practices, evidence-based knowledge, and diverse perspectives.

CAST Supports 2007 National Ag Day Essay Contest

CAST continued its tradition of being an enthusiastic sponsor and supporter of the National Ag Day Essay Contest. The theme for the 2007 contest was “America’s Agriculture in 2025,” and was open to students in grades 7–12. LaTasha Cote, Briar, Missouri, was selected as the national winner and awarded a $1,000 cash prize. LaTasha was recognized during the National Agriculture Day Luncheon at the National Press Club in Washington, D.C., and read her winning essay — “The Convergence of Food and Fuel” — to the group. CAST EVP John Bonner attended the event.

2007 Charles A. Black Award

CAST presented the Charles A. Black Award March 21, 2007, in Washington, D.C., to David H. Baker, a comparative nutritionist who has published extensively in the areas of protein-amino acid nutrition, trace-mineral and phosphorus utilization, and vitamin bioavailability. At the University of Illinois, Urbana, he holds emeritus appointments in Animal Sciences, Nutritional Sciences, and Internal Medicine. He has been a member of the Illinois faculty since 1967. His research work involves poultry, pigs, companion animals, laboratory rodents, and humans. Dr. Baker has published 490 peer-reviewed papers, 285 abstracts, and 200 popular-press articles. As part of the Charles A. Black Award Dinner, Dr. Baker made a presentation to CAST’s Board of Directors and invited guests.

The Charles A. Black Award is presented annually to a food or agricultural scientist engaged actively in research who has made significant scientific contributions to his/her scientific field, and who communicates the importance of this work and of food and agricultural science to the public, policymakers, and the media.

Year at a Glance

- CAST kicked off its 35th Anniversary year with “History Highlights” in each issue of “Friday Notes” (January)
- CAST’s new Education Program for graduate students at U.S. Land-Grant Colleges and agricultural schools began (January)
- Feedstuffs Foodlink began listing CAST publications as resources on its website (January)
- CAST announced Dr. David H. Baker, Professor Emeritus of Animal Sciences at the University of Illinois, Urbana, as the 2007 recipient of the Charles A. Black Award (January)
- CAST was invited to participate in the National Association of State Universities and Land-Grant Colleges 2007 Annual Agricultural Science and Education Exhibition and Reception in Washington, D.C. CAST’s display was titled, “Protecting Our Nation with Science-based Information” (February)
- CAST began offering selected publications on the Web through Amazon.com (February)
- CAST EVP John Bonner began service on the Ag Council of America, a national board that plans the annual “Ag Day” events (March)
- CAST launched its newly redesigned website (March)
- The Journal of Poultry Science published an article about CAST (March)
- CAST EVP John Bonner represented CAST on the program of the American Seed Trade Association and USDA–National Resources Conservation Service Plant Materials Program/Bureau of Land Management/U.S. Forest Service. His presentation was titled “Communicating Science to Government and Society” (March)
- CAST’s Spring Board Meeting was held in Washington, D.C. Several guest speakers addressed the Board, and David H. Baker was presented CAST’s Charles A. Black award (March)
- CAST’s website was linked to the website of the
2007 Highlights

World Agricultural Forum (March)
- CAST Issue Paper 35, *The Role of Transgenic Livestock in the Treatment of Human Disease*, was published and distributed (May)
- CAST submitted comments to the World Bank as part of a review of their recently published comprehensive report, *International Assessment of Agricultural Science and Technology for Development* (May)
- CAST began the process of applying for a federal trademark on the use of the name “CAST.” Research and legal work on this application are progressing (June)
- CAST Staff and Past President Don Beitz hosted Ms. Julia Kloeckner, member of the German Parliament’s Agricultural Committee, at the CAST Office (July)
- John Bonner gave a presentation at a meeting of the Board of Directors of the Agribusiness Association of Iowa (September)
- CAST published its *2006 Annual Report* (October)
- John Bonner and Don Beitz met with Jimmy Smith, Senior Livestock Adviser for the World Bank during his visit to Iowa State University (October)
- CAST Issue Paper 36, *Probiotics: Their Potential to Impact Human Health*, was published and distributed (October)
- John Bonner and Managing Scientific Editor Linda Chimenti represented CAST at the World Food Prize, staffing a CAST display booth and distributing information about CAST’s newest biofuels publications. Dr. Bonner was interviewed by journalists from the USDA’s Communications Service and Learfield Communications (October)
- CAST received a request from *AgroJournal* to publish Russian translations of some recent CAST publications (October)
- *Highlights of CAST History*, an annotated archival document listing CAST activities and publications from 1980 through 2007, was published (October)
- *Celebrating Our Past ~ Reaching Out with Our Harvest*, a fully illustrated history of CAST’s first 3½ decades, was published (October)
- CAST’s Fall Board Meeting was held in Ames, Iowa. (For more details, see “2007 Board Meetings,” p. 7) (October)
- CAST Special Publication 26, *Avian Influenza Vaccines: Focusing on H5N1 High Pathogenicity Avian Influenza (HPAI)*, was published and distributed in cooperation with the U.S. Agency for International Development (October)
- CAST Commentary QTA2007-3, *Avian Influenza Vaccination: A Commentary Focusing on H5N1 High Pathogenicity Avian Influenza*, was released (October)
- CAST Commentary QTA2007-1, *Biofuel Feedstocks: The Risk of Future Invasions*, was released (November)
- John Bonner represented CAST at a USDA–Cooperative State Research, Education, and Extension Service workshop on stakeholder priorities in the area of plant and pest biology, where he presented a statement based on priorities identified by CAST Work Groups (November)
- CAST Commentary QTA2007-2, *Convergence of Agriculture and Energy: II. Producing Cellulosic Biomass for Biofuels*, was released (November)
- John Bonner spoke at the Annual Meeting of the Society for Environmental Toxicology and Chemistry in Milwaukee on the topic “Communicating Science: Model Approaches and Forums” (November)
- CAST Issue Paper 37, *Implications of Gene Flow in the Scale-up and Commercial Use of Biotechnology-derived Crops: Economic and Policy Considerations*, was published and distributed (December)

CAST Celebrates 35th Anniversary

As part of CAST’s 35th Anniversary celebration in Ames, Iowa, October 23–26, 2007, the following special events were held:

- **Fireworks**
  Former CAST EVP Richard Stuckey (1992–2001) and Interim Adviser (2005) traveled from Arizona to join current EVP John Bonner in burning the CAST Office mortgage. Dr. Stuckey presided at CAST during the time the building was originally purchased.
- **CAST President’s Award Presented to Richard Stuckey**
  Dr. Stuckey received the CAST President’s Award for his outstanding leadership, valuable input, and continuous advocacy and support.
- **CAST Service Award Presented to Bob Sweet**
Dr. Robert Sweet, Professor Emeritus, Horticulture Department, Cornell University and CAST Board Member representing the Northeastern Weed Science Society for the past 29 years, received CAST’s “Distinguished Service Award” for his long-time service on the CAST Board and for his commitment to CAST’s mission.

- **George Washington Carver Visits CAST**
  Board Members attended a one-man play titled “Listening to the Still Small Voice: The Life of George Washington Carver,” presented by Paxton J. Williams, an Iowa State University graduate.

- **Iowa Beef Industry Council/Iowa Cattlemen’s Association Add to CAST “Meating”**
  CAST Board Members, Staff, and invited guests enjoyed a delicious “taste of Iowa” dinner Thursday evening at the Iowa Cattlemen’s Association headquarters in Ames. The Iowa Beef Industry Council donated, prepared, and served the beef main dish.
  A special team-building activity hosted by John Bonner and involving antique farm implements comprised the rest of the evening’s program.

- **CAST Office Open House**
  The CAST Staff hosted a reception at “headquarters” for Board Members and invited guests. For most of the Board, this was the first opportunity to be “on-site” and see the inner workings of the CAST Office. More than 50 people attended.

- **CAST’s Official History Updated**
  Dr. Kassim Al-Khatib, newly installed CAST President, updated the official CAST History and presented it to the Board. This document includes a year-by-year, month-by-month outline of CAST publications, conferences, staff/leadership changes, and CAST impacts.

- **“Celebrating Our Roots ~ Reaching Out with Our Harvest,” 35th Anniversary Publication**
  A fully illustrated history of CAST’s first 3½ decades was prepared by the CAST Staff and presented at the Board’s opening breakfast meeting. Contents include highlights of the 1970s, 1980s, 1990s, and 2000s; CAST history with Norman Borlaug; development of various CAST publication formats; CAST connections now and into the future; and lists of CAST Presidents, Executive Vice Presidents, and Charles A. Black winners.

- **Guest Presentations**
  • Dr. Joe Colletti, Iowa State University College of Agriculture and Life Sciences, Senior Associate Dean, welcomed CAST Board Members to Ames as part of the opening breakfast on Wednesday October 24.
  • Senator Tom Harkin (D-IA), Chair of the Senate Ag Committee, sent a video message congratulating CAST on its achievements of the past 35 years. Mr. Harkin concluded that the work CAST does will be critical in the new Farm Bill.
  • Norman Borlaug’s Life and Work. Dr. Borlaug, originally scheduled as a guest speaker at the Board Meeting, was unable to attend for health reasons. He sent both a personal letter and a video reviewing his life’s work.

- **How Did/Do Our Gardens Grow? Tour and Dinner Meeting at Reiman Gardens**
  CAST Board, Staff, and invited guests toured the grounds of Iowa State University’s Reiman Gardens, one of the largest public gardens in Iowa, and an ongoing living educational laboratory. At a Board dinner, Dr. Don Beitz, recently released Past President of CAST, reviewed the development of Reiman Gardens.

- **Board Hosted at Animal Disease Facility and ISU Biorenewables Programs**
  Members of the CAST Board experienced some of the latest developments in animal science and biofuels first-hand during the Board Meeting, as they were hosted at presentations at two venues in the Ames area.
  • **Office of Biorenewables Programs (OBP)**
    Presenters, including Dr. Robert Brown, Director of the OBP, and several other specialists provided an overview of the organization, programs, and funding model, and gave examples of research programs.
    • **The USDA’s High Containment Large Animal Facility (HCLAF).**
    The HCLAF unit is the second component of a multi-phase project, due to be completed in 2009, that will make the Ames complex one of the largest animal health centers in the world. Because the facility has not yet begun receiving animals, CAST participants were able to visit areas not accessible to visitors once the building is in full operation.

- **Personnel Notes**
  • Kayla Down, an ISU student majoring in Finance, returned as Administrative Assistant following a 5-month internship in Cedar Rapids, Iowa (May).
  • Mitch Whiley, an ISU student majoring in pre-med, began working at CAST on an as-needed basis for grounds upkeep, office maintenance, and relocation of CAST’s warehouse (May).
  • Laura DeBoer, an experienced freelance editor, was hired as CAST Assistant Editor (August).
2007 Board Meetings

Spring 2007

The Spring 2007 Board of Directors’ Meeting, held March 20–23 in Washington, D.C., began with a welcome reception for CAST Board Members, Stakeholder Representatives, and invited guests. A New Board Member Orientation Dinner followed, at which CAST President Ed Runge and other officers and Staff members presented information to help those new to the Board become familiar with their role as directors.

Four guest speakers addressed the Board during the meeting: Charles Stenholm, Congressman from Texas from 1979 to 2005; Mr. Greg Crosby, National Program Leader, CSREES; Dr. Gale Buchanan, Under Secretary of Agriculture for Research, Education, and Economics and former CAST President; and David Schmidt, CEO and President of the International Food Information Council.

At an evening dinner attended by Board Members and invited guests, the Charles A. Black Award was presented to Dr. David H. Baker, an outstanding scientist from the University of Illinois. In his remarks, Dr. Baker outlined seven qualities necessary to be a player in the academic world: integrity, persistence, efficiency, relationships, teaching and learning, altruism, and the ability to communicate research.

Work Group and Committee break-out sessions were productive, resulting in a number of publication project proposals moving forward to the National Concerns Committee or the Executive Committee for further consideration.

Fall 2007

The Board of Directors held its Fall 2007 meeting in Ames, Iowa, October 23–26. Kassim Al-Khatib was named President, Edward C. A. Runge became Past President, and Henry B. Shands began service as President-Elect. A vote to change the name of the Plant and Soil Sciences Work Group to the Plant, Soil, and Environmental Sciences Work Group was passed. Several publication projects were moved forward during break-out discussion sessions. The Board approved one new Issue Paper, and the Executive Committee approved one new CAST Commentary. For additional meeting details, see “CAST Celebrates 35th Anniversary” on page 5.

Celebrating Our Roots = Reaching Out with Our Harvest
CAST 1972–2007
It is a great honor to serve as CAST President. Last year was an exciting and productive year for CAST, thanks to the efforts of our exceptional Board of Directors, Staff, publication Task Forces, and volunteers. We are proud that CAST’s work has been well recognized and widely received; the credibility of our organization today is admirable and the quality of our publications is exceptional.

In October 2007, we celebrated CAST 35th anniversary in Ames, Iowa, the birthplace of CAST. Both Senator Tom Harkin and Nobel Prize Laureate Norman Borlaug addressed the Board of Directors and congratulated CAST for serving agriculture through the years. They emphasized the importance of CAST and encouraged us to continue providing much-needed reliable scientific information to policymakers, regulators, the media, the private sector, and the public. These sectors value and are benefited by CAST’s role in addressing policy options. We are proud that CAST has established itself as an organization critical to the health, safety, and security of our society.

During the past 35 years, CAST has been very successful in fulfilling its mission to assemble, interpret, and communicate credible science-based information regionally, nationally, and internationally. Since its founding in 1972, CAST has released more than 300 scientific Reports, Special Publications, Issue Papers, and Commentaries, written and reviewed by top scientists from the United States and around the world. These publications have been timely, relevant, and consistent, addressing critical agricultural issues.

During 2007, we produced a record number of publications, including three Commentaries, three Issue Papers, and one Special Publication (see “Publications and Rollout Events,” p. 3). CAST broadened its global involvement by completing a large project supported by the U.S. Agency for International Development on avian influenza vaccination, which served an international audience and has brought more credibility and recognition to CAST. We hope to continue working on similar projects in the future.

This was an important year for membership. CAST welcomed the Society for Nutrition Education onto the Board, bringing the total number of societies to 38. CAST Staff and the Membership and Marketing Committee worked hard to broaden CAST’s individual and sustaining membership. We all need to work hard to introduce societies and individuals to the activities of CAST. A successful and vibrant organization must have a strong individual and sustaining membership base. We need to continue providing value and must ensure current and prospective members are aware of the importance of their CAST membership.

We have a strong and relevant organization, and I am excited about the future of CAST. As we look forward to the year ahead, we need to focus on how we can work together to improve CAST and serve agriculture far into the future. I hope CAST will continue communicating with policymakers and others on timely issues in 2008. Our challenge is to maintain and improve what we have been doing so well.

Kassim Al-Khatib, President of CAST
2007 CAST Membership

KEY
◊ Lifetime Member
• Millennium Club
☑ President’s Club
▲ Friends of CAST
Individual Member

List as of December 2007

UNITED STATES

Alaska
James V. Drew, Fairbanks
Natalie D. Howard, Fairbanks
Fredric M. Husby, Fairbanks

Arizona
Filmore E. Bender, Sun City
Bartley P. Cardon, Tucson
Wayne Coates, Sonoita
P. Thomas Cox, Phoenix
Jack M. Doughty, Phoenix
Patty E. Encinas, Tucson
C. F. Foreman, Sun City
Charles Y. Hoyt, Phoenix
J. Rukin Jelks Jr., Elgin
Gerald L. Jubb, Sierra Vista
Colin Kaltenbach, Tucson
Thomas J. Kennedy, Phoenix
Bruce A. Kimball, Maricopa
Charles R. Kraeger, Mesa
Chuck Lakin, Avondale
W. Gerald Matlock, Tucson
Francis S. Nakayama, Maricopa
John S. Niederhauser, Tucson
James M. Rigs, Willcox
Eugene G. Sander, Tucson
Jeffrey C. Silvertooth, Tucson
R. B. Sleeth, Paradise Valley
Richard E. Stuckey, Surprise
Kai Umeda, Phoenix
Robert Lee Voigt, Tucson
James W. Webb, Phoenix

Arkansas
James L. Barrentine, Fayetteville
Ralph F. Boulware, Staples
Fred M. Bourland, Keiser
George C. Brown, Cabot
Richard H. Forsythe, Fayetteville
Nicholas Gyles, Fayetteville
John W. Hardiman, Siloam Springs
J. O. Legg, Rogers
Keith Lusby, Fayetteville
Teresa A. Maurer, Fayetteville
Justin R. Morris, Fayetteville
Milo J. Shult, Little Rock
Carroll E. Walth, Little Rock
Samuel H. Weaver, Bella Vista
Duane C. Wolf, Fayetteville

California
Julie G. Adams, Modesto
M. J. Bakke, Clovis
Robert Bossart, Modesto
G. Eric Bradford, Davis
Wade Brant, Davis
Christine M. Bruhn, Davis
John Bruhn, Davis
Janet Caprite, Pleasant Hill
Fred M. Carasso, Van Nuys
Joseph H. Connell, Orovile
Charles Consiglio, Delhi
Dennis D. Crenwelge, Turlock
Dennis A. Daugherty, Denair
M. Steven Daugherty, San Luis Obispo
Frank J. Delfino, Bakersfield
Richard E. Dresser, Fortuna
J. A. Driver, Knights Landing
Robert C. Ehn, Clovis
Ralph A. Ernst, Davis
Tad H. Gantienbein, Carmichael
Constantin Genigeorgis, Sacramento
W. R. Gomes, Oakland
Stanley G. Goodrich, Oakdale
Donald W. Grimnes, Reedley
Russell H. Gripp, Palo Cedro
Robert C. Hargreaves, Bakersfield
John S. Herfly, Turlock
Mahlon M. Hile, Fresno
John W. Inman, Salinas
Carl W. Johnson, Chico
Lowell L. Jordan, Merrieta
Adel Kader, Davis
Franz R. Kegel, Stockton
Mark Kreul, Baldwin Park
Edward Kurz, Salinas
Charles M. Lawrence, Eureka
Peggy Lemaux, Berkeley
Gary Markegrad, Fortuna
Pam Marrone, Davis
Ernest R. Marshall, Carmel Valley
George C. Martin, Paradise
Roland D. Meyer, Davis
Henry Miller, Stanford
Gerard L. Morris, Valley Springs
Ishwar P. Murarka, Cupertino
Robert F. Norris, Davis
James W. Otjen, Davis
Mechele Paggi, Fresno
Franklin Parks, Pinedale
Robert C. Pearl, Davis
G. Stuart Pettgayrove, Davis
William Plummer, San Luis Obispo
Parker F. Pratt, Riverside
Calvin O. Quasat, Rohnert Park
Israel Rabinowitz, Santa Barbara
Robert G. Robinson, San Marino
Dan Y. Rosenberg, Sacramento
Charles Roudubesh, Visalia
Matthew Ruark, Davis
John F. Schafer, Santa Rosa
Carol Shennan, Santa Cruz
Richard F. Steer, Sonoma
Joyce F. Strand, Davis
David Theno, San Diego
Andrew J. Thulin, San Luis Obispo
Joe Traylor, Bakersfield
John E. Trei, Rancho Santa Fe
George B. E. West, Davis
Brock Gerald Zoller, Kelseyville

Colorado
John S. Avens, Fort Collins
Franklyn Garry, Fort Collins
Carl Hittle, Fort Collins
Thomas O. Holtzer, Fort Collins
Marvin E. Jensen, Fort Collins
Albert R. Johnson
Wayne F. Keim, Fort Collins
Kirvin L. Knox, Fort Collins
E. Gordon Kruse, Fort Collins
W. Dennis Lamm, Fort Collins
Delbert G. Miles, Greeley
Jim Miller, Lakewood
Paul J. Ogg, Longmont
Jerry Olson, Fort Collins
William A. Orendorff, Denver
Norm Poppe, Arvada
Laura S. Quakenbush, Lakewood
Howard Ramsdell, Fort Collins
James O. Reagan, Centennial
Jack L. Rhodes, Holyoke
I. D. Russell, Longmont
Howard F. Schwartz, Fort Collins
Henry L. Shands, Fort Collins
Lee E. Sommers, Fort Collins
Jeff Tichota, Centennial
Peter H. Van Schaik, Montrose
Stephen Wallner, Fort Collins
James R. Watson Jr., Littleton
Nora E. Wineland, Fort Collins

Connecticut
John F. Ahrens, Bloomfield
John D. Brand, Storrs
Lyman R. Brown, West Willington
W. A. Cowan, Storrs
Michael Darre, Storrs
Ian C. Hart, Storrs
Todd L. Mervosh, Windsor
Louis J. Pierro, Manchester
Raymond P. Pincelot, Fairfield
John Riesen, Storrs
James S. Rock, Norwich

Delaware
Richard A. Barczewski, Dover
Conrad R. Pope, Newark
T. D. Van Horn, Dover
Mark Van Gessel, Georgetown
Thomas H. Williams, Newark

District of Columbia
Philip H. Abelson, Washington
Jeffrey T. Barach, Washington
Annmaria Castiglia, Washington
Teresa A. Gruber, Washington
Debra L. Hamemik, Washington
Bronda F. Harrison, Washington
Kenneth Hinga, Washington
James Hodges, Washington
Peter Barton Hutt, Washington
James V. Parochetti, Washington
David Schmidt, Washington
Fred R. Shank, Washington
Ann Tho, Washington
Annmaria Castiglia, Washington
Teresa A. Gruber, Washington
Debra L. Hamemik, Washington
Bronda F. Harrison, Washington
Kenneth Hinga, Washington
James Hodges, Washington
Peter Barton Hutt, Washington
James V. Parochetti, Washington
David Schmidt, Washington
Fred R. Shank, Washington
Ann Tho, Washington

Florida
L. Gene Albrigo, Lake Alfred
Clarence B. Ammerman, Gainesville
Daniel A. Bots, Maitland
Barry J. Brecke, Jay
Joel H. Brendenmuhl, Gainesville
Robert G. Cassens, Naples
Paul J. Driscoll, Fort Pierce
John W. Dunckelman, Immokalee
John F. Gerber, Gainesville
Daniel W. Gorbet, Marianna
Melvin G. Greeley, Mount Dora
Edward A. Hanlon, Immokalee
Gerald Kidder, Gainesville
Richard L. Lower, St. Petersburg
David L. Matthews, New Port
Richey
Donald J. McFeeters, DeLand
H. Charles Mellinger, Jupiter
Harry J. Mersman, Palm Harbor
Richard D. Miles, Gainesville
Lorraine Mott, Gainesville
Rosa M. Muchovej, Fort Myers
George A. O’Connor, Gainesville
Gilberto Olaya, Vero Beach
Bill Orendorff, Sarasota
Lynn E. Sollenberger, Gainesville
Arthur A. Teixeira, Gainesville
H. H. (Jack) Van Horn, Gainesville
Earl Watson, Clewiston
Ralph W. White, Tavares

Georgia
Elizabeth L. Andress, Athens
Holly Taylor Ballantine, Hiram
John P. Beasley, Tifton
C. Reese Berdanie, Watkinsville
Louis J. Boyd, Bogart
William Branch, Tifton
Gale A. Buchman, Adel
Robert N. Carrow, Griffin
Jerry A. Cherry, Athens
Bobby C. Darst, Cumming
David W. Dibb, Duluth
William Flatt, Athens
Stanley M. Fletcher, Peachtree City
Ralph W. Fogelman, Savannah
Will R. Getz, Fort Valley
James E. Hook, Tifton
Roger Howard, Gainesville
Keith J. Karnok, Athens
David A. Knauff, Athens
Andrew P. Nyczepir, Byron
Albert E. Pope, Alpharetta

Journal of Agricultural Science and Technology
Council for Agricultural Science and Technology
Annual Report 2007
9
2007 CAST Membership

Benjamin W. Harmon, Ashland
Virgil W. Hays, Lexington ◊
Merlin D. Lindemann, Lexington
Jerry Lucietta, Lexington
James R. Martin, Princeton
Daniel A. Niffenegger, Lexington
Charles H. Slack, Lexington
David A. Smith, Lexington

Jeanne X. Kasperson, Worcester
John M. Gerber, Amherst ◊
Frederick J. Francis, Amherst ◊
Nickolas G. Zimmermann, College
Lester R. Vough, College Park
Elymar V. Vea, Crownsville
Paul V. Twining, Princess Anne
Alan V. Tasker, Silver Spring
Jac Smit, Silver Spring
David S. Ross, College Park
Ronald L. Ritter, Laurel
Richard D. Reynnells, Laurel
Arthur Miller, Bowie
Jacques J. Kozub, Bethesda
Richard L. Hall, Towson
Henry M. Engster, Salisbury
Jamal E. Hall, Towson
Jacques J. Kozub, Bethesda
Susan McCarthy, Beltsville
Arthur Miller, Bowie
Robert R. Peters, College Park
Richard D. Reynnells, Laurel
Ronald L. Ritter, Laurel
Jane F. Robens, Beltsville ◊
David S. Ross, College Park
Kay Simmons, Beltsville
Jac Smit, Silver Spring
Donald A. Spencer, Silver Spring ◊
Alan V. Tasker, Silver Spring
Paul V. Twining, Princess Anne
Elymar V. Vea, Crownsville
Lester R. Vough, College Park
Edgar Young, Stevensville
Nickolas G. Zimmermann, College Park

Massachusetts

Prasanta C. Bhowmik, Amherst ◊
Frederick J. Francis, Amherst ◊
John M. Gerber, Amherst ◊
Jeanne X. Kasperson, Worcester
Naomi Martin, Worcester
Paul J. Peters, Brimfield
Norman L. Slack, Westbrook

Michigan

John Baker, East Lansing
Max E. Benne, Sturgis
J. Roy Black, East Lansing
Douglas D. Buhler, East Lansing
Catherine W. Ernst, East Lansing
Russell Freed, East Lansing
Harold D. Hafs, Davidson ◊
Craig K. Harris, East Lansing
James Herbert, Lansing
James Kells, East Lansing
Dean M. Krauskopf, Parma
E. Roland Lanning, Midland ◊
James W. Lauderdale, Augusta
O. Donald Meaders, Okemos
Robert E. Ogle, East Lansing
Donald Penner, East Lansing
Karen Renner, East Lansing
Jerald W. Riekels, Muskegon
Harlan D. Ritchie, East Lansing
Donald R. Smucker, Stanton
J. William & Carolyn Thomas, East Lansing ◊
Ewen Todd, East Lansing
Darryl D. Warncke, East Lansing
Andrew Watson, Midland

Minnesota

Richard Behrens, St. Paul ◊
James J. Boedicker, Grand Rapids
Michael Brunnm, N. Mankato
Francis F. Busta, St. Paul ◊
Vernon Cardwell, Wyoming ◊
Stephen Carpenter, St. Paul
H. H. Cheng, St. Paul ◊
Charles J. Clanton, St. Paul ◊
E. Joe Dahmer, Shakopee
Alfredo DiConstatino, St. Paul
John Fetrow, St. Paul
Burle G. Gengenbach, Roseville
John H. Gohl, Shakopee
David W. Harlan, Minneapolis
Lyle E. Henning, Montevideo
William F. Hegg, St. Paul ◊
William D. Hueston, St. Paul
Jacqueline Jacob, St. Paul
Kevin A. Janni, St. Paul ◊
Kent Kutnik, Farmington
Rita A. Kuznia, Janesville
William E. Larson, St. Paul
James Linn, White Bear Lake
Gordon C. Marten, Roseville
Cynthia K. Moen, Windom
R. Vance Morey, St. Paul
William S. Niehaus, Moorhead ◊
Donald E. Otterby, New Brighton
Mary Raeth-Knight, St. Paul
Duane Rathmann, Wascosa
Howard W. Rines, St. Paul
Christopher M. Roe, Mankato
Michael P. Russelle, St. Paul
Joseph W. Rust, Grand Rapids
Kip W. Sander, Lakeville
Eric Spandl, St. Paul
Deon D. Stuthman, St. Paul ◊
Dennis Swan, Balaton
Roy Thompson, Roseville
Jessica Waker, St. Paul
Carol E. Wendels, Crookston

Mississippi

H. D. Bunch, Starkville
Roy G. Creech, Mississippi State ◊
Seth M. Dabney, Oxford
Kurt D. Getinger, Vicksburg
Harry F. Hodges, Starkville
Johnnie N. Jenkins, Starkville
William Mikkel, Mississippi State
Lyle E. Nelson, Starkville

Missouri

Thomas F. Armstrong, Ballwin
Ken Bruene, Platte City
Brett H. Bussler, St. Louis
Harold D. Cleberg, Kansas City ◊
Gary W. Collier, Stover
Pradip K. Das, Olivette
Mario De Figueiredo, Chesterfield
Natalie DiNicola, St. Louis ◊
Neal Hageman, Wildwood
Ib Hagsten, Gladstone
Gary Hartnell, St. Louis
David C. Heering, St. Louis
Jeffery D. Hill, Princeton
Gary Hoette, Montgomery City
David R. Ledoux, Columbia
Joe Lucas, Lake St. Louis
Charles McFarlitch, Washington
C. Jerry Nelson, Columbia
Thomas J. Peters, St. Louis ◊
Matt Renkoski, Town & Country
Thad W. Simons, St. Louis
David Songstad, St. Louis
James Spain, Columbia
R. Phillip Uphurche, Chesterfield ◊
John L. Vicini, St. Louis
Glen W. Wolford, St. Joseph

Montana

Rodney Heitschmidt, Miles City
Jeff Jacobsen, Bozeman
Andrew Lenssen, Sidney
Donna Coffin, Dover-Foxcroft
R. Vance Morey, St. Paul
William F. Hegg, St. Paul ◊
William D. Hueston, St. Paul
Jacqueline Jacob, St. Paul
Kevin A. Janni, St. Paul ◊
Kent Kutnik, Farmington
Rita A. Kuznia, Janesville
William E. Larson, St. Paul
James Linn, White Bear Lake
Gordon C. Marten, Roseville
Cynthia K. Moen, Windom
R. Vance Morey, St. Paul
William S. Niehaus, Moorhead ◊
Donald E. Otterby, New Brighton
Mary Raeth-Knight, St. Paul
Duane Rathmann, Wascosa
Howard W. Rines, St. Paul
Christopher M. Roe, Mankato
Michael P. Russelle, St. Paul
Joseph W. Rust, Grand Rapids
Kip W. Sander, Lakeville
Eric Spandl, St. Paul
Deon D. Stuthman, St. Paul ◊
Dennis Swan, Balaton
Roy Thompson, Roseville
Jessica Waker, St. Paul
Carol E. Wendels, Crookston

Nebraska

Melonee H. Baker, Lincoln ◊
Donald H. Beermann, Lincoln
Michael C. Brunn, Concord
Chris R. Calkins, Lincoln
Kenneth Lee Carlson, Lincoln
Larry V. Cundiff, Clayton Center
Charles A. Francis, Lincoln
Glenn W. Froning, Lincoln
Ann C. Grandjean, Omaha
Ronnie D. Green, Sutton
Dee Griffin, Hastings
G. LeRoy Hahn, Hastings
Donald G. Hanway, Lincoln

New Hampshire

John M. Hodsdon, Meredith
J. Brent Loyer, Epping
Charles Schwab, Stafford

New Jersey

William E. Bangs, Camden
C. Andrew Beagle, South Plainfield
Brant Cali, Union ◊
Bruce B. Clarke, New Brunswick
Maarten DeVries, Franklin Lakes
C. Reed Funk, East Brunswick
Zane R. Helsh, New Brunswick
Melvin R. Hening, East Windsor
Larry Katz, New Brunswick
John Meade, East Brunswick ◊
Walther H. Ott, Bridgewater ◊
Donald Schaffner, New Brunswick
William M. Seymour, Parsippany
James E. Wohlt, New Brunswick

New Mexico

Philip A. Banks, Las Cruces
LeRoy A. Daugherty, Las Cruces
Robert Hageman, Clovis
Jill Schroeder, Las Cruces
Stephen H. Thomas, Las Cruces
Dorothy Vaughan, Fort Summer ◊

New York

Robert B. Harris, Lincoln ◊
DeLynn R. Hay, Lincoln
Gary W. Hergert, Scottsbluff
Lloyd L. Lipska, Gothenburg
Daryl Long, Peru
Drew Lyon, Scottsbluff
Derel L. Martin, Lincoln
Martin A. Massengale, Lincoln ◊
Z. B. Mayo, Lincoln
Robert J. Olsen, McCook
John C. Owens, Lincoln
Carole Peet, Omaha
Brad Ramdas, Curtis
Fred W. Roeth, Lincoln ◊
Gary P. Rupp, Clay Center
William G. Schmutz, Omaha
Joan Schrader, Elkhorn
Larry Schulze, Lincoln
Charles A. Shapiro, Concord ◊
Patrick J. Shea, Lincoln
David P. Shelton, Concord
Gary Snowclay, Clay Center
Robert C. Sorensen, Lincoln
Leroy V. Svec, York
Steve L. Taylor, Lincoln
Dale D. Van Vleet, Lincoln
Edward F. Vitzthum, Lincoln
Steve S. Waller, Lincoln
Raymond Ward, Kearney ◊
Ted R. Warfield, Kearney ◊

Vermont

Dorothy Vaughan, Fort Sumner ◊
Stephen H. Thomas, Las Cruces
Robert Hagevoort, Clovis
LeRoy A. Daugherty, Las Cruces
James E. Wohlt, New Brunswick
William M. Seymour, Parsippany
William M. Seymour, Parsippany
James E. Wohlt, New Brunswick

Annual Report 2007
Council for Agricultural Science and Technology
2007 CAST Membership

**New York**
Lawrence P. Abrahamson, Syracuse
Dale E. Bauman, Ithaca
Gary C. Bergstrom, Ithaca
Karyn Bischoff, Ithaca
Sarah Davidson, Ithaca
A. Joseph J. Fairbank, Ashville ◊
Dale D. Fisher, Conklin
Richard Girsch, New York
Russell R. Hahn, Ithaca ◊
John Huntley, Albany
Alan N. Lasko, Geneva
Wendall Norvell, Ithaca
W. D. Pardee, Ithaca
Wilson G. Pond, Ithaca
Marvin P. Pratts, Ithaca
David A. Rosenberger, Highland
Cynthia Rosenzweig, New York
Robert C. Seem, Geneva
Robert D. Sweet, Ithaca ◊
Markus Andres, Research Triangle
Neil K. Allen, Goldsboro
Norman Turkistt, Ithaca

**North Carolina**
Don V. Allemann, Greensboro ◊
Neil K. Allen, Goldsboro
Markus Andres, Research Triangle Park
David B. Beasley, Raleigh
Roy Blaser, Greensboro
Garth W. Boyd, Topsail Beach ◊
J. V. Boyne, Research Triangle Park
Cecil F. Brownie, Raleigh
Wayne Buhler, Research Triangle Park
Leonard S. Bull, Raleigh
Steven Clark, West Jefferson
Harold D. Coble, Cary ◊
James R. Collins, Research Triangle Park
Maurice G. Cook, Raleigh
James Cropper, Greensboro
Charles B. Davey, Raleigh
Philip Denlinger, Mt. Olive
E. J. Dunphy, Raleigh
Robert E. Eplee, Whiteville
Kenneth L. Esbenshade, Raleigh
Gary Feltows, Apex
Edward W. Glazener, Raleigh
David Hardy, Raleigh
John L. Havlin, Raleigh
Robert E. Holm, Holly Springs
Leland R. House, Bakersville ◊
Todd J. Jones, Research Triangle Park

**Ohio**
Dwight Armstrong, Lewisburg
David L. Ashworth, Findlay
Mark A. Bennett, Columbus ◊
Keith J. Brown, Wooster ◊
Verin R. Cahill, Columbus
Larry E. Davis, Cincinnati ◊
Michael Fry, Celina
Fredrick H. Galehouse, Doylestown
Robert J. Gustafson, Columbus
Robert W. Harriman, Marysville ◊
Walter R. Harvey, Columbus
James Henry, Apple Creek
Stanley W. Joehlin, Curitice
Michael P. Kelty, Marysville ◊
Benson J. Lamp, Dublin ◊
Gregory A. Leyes, Concord
John H. Litchfield, Worthington
Eric K. Nelson, Marysville ◊

**Oregon**
Holyoke P. Adams, Corvallis
Arnold P. Appleby, Corvallis
B. K. Bhat, Corvallis
Peter Bloome, Corvallis
W. James Clawson, Dallas
Stella M. Coakley, Corvallis
Thayne R. Dayton, Corvalis ◊
Russell S. Karow, Corvallis
Kelvin Koong, Corvalis
Lone Rock Timber, Roseburg
James R. Males, Corvallis
Carol Mallory-Smith, Corvallis
Benjamin J. Mason, Grants Pass ◊
Mark Mellbye, Albany
Donald Oldemeyer, Nyssa
James Oldfield, Corvallis ◊
Polly Owen, Aurora
Manuel Silveira, Stayton
Rick Sohn, Roseburg
Loydce S. Stonebrink, Rickreall ◊
Stan Timmermann, Pendleton
Dale W. Weber, Corvalis ◊
J. Lowell Young, Corvalis ◊
William C. Young, Corvalis ◊

**Pennsylvania**
John E. Ayers, University Park
John E. Baylor, State College
J. Russell Bishop, Lansdale
David Blumenfeld, New Britain
Linda G. Carter, Kennett Square
Robert E. Graves, University Park ◊
Robert D. Grogensier, Lancaster
Earl Haas, Harrisburg
Marvin H. Hall, University Park
Owen D. Keene, Annville
Verdean E. Keyser, Boswell ◊
David Kriterckvy, Philadelphia
John R. Lake, Harrisburg
David G. Latz, New Holland
Harold G. Marshall, Bellfonte ◊
Gregory P. Martin, Elizabethtown
Lawrence D. Muller, University Park
David Nash, Hulmeville
Joe M. Regenstein, Pittsburgh
George A. Somkuti, Lansdale ◊
Peter E. Spangler, Greensburg ◊
Donald W. Waddington, Boalsburg
Kurt M. Walker, Somerset
Paul J. Wangsness, University Park
Robert H. Whitlock, Kennett Square
Lowell L. Wilson, State College
Roy E. Young, Bellefonte

**Puerto Rico**
Fred Fernandez Coll, San Juan

**South Carolina**
Susan F. Barefoot, Clemson
Dale Layfield, Clemson
Alfred Manwiller, Florence ◊
Judy A. Thies, Charleston
Howard J. van Dijk, Columbia

**South Dakota**
Darrell W. DeBoer, Brookings
Paul E. Fiken, Brookings
David J. Schingoethe, Brookings

**Tennessee**
Clark J. Brekke, Knoxville
Michael W. Cook, Memphis ◊
Randall M. Ford, Brentwood
Paula Gale, Martin
Steve Gibbs, Philadelphia
Warren Gill, Nashville
Norman Goldenberg, Memphis
Kater Hake, Germantown
David E. Harmon, Morristown ◊
Richard E. Joost, Martin
Richard L. Large, Memphis ◊
Daryl E. Ray, Knoxville
Robert P. Seifert, Collierville ◊
J. Paul Sutton, Jackson
Troy Wakefield Jr., Nashville ◊
Dennis R. West, Knoxville

**Texas**
Vivien G. Allen, Lubbock
David B. Balltensperger, College Station
Alberto Bartek, Killeen
James B. Bond, College Station
Marla Binzel, College Station
B. E. Brokaw, Abilene
John B. Carey, College Station
Audrey L. Cartwright, College Station
Esper Chandler, Edinburg
James M. Chandler, College Station
Neville P. Clarke, College Station
Brad Clyburn, Little Elm
2007 CAST Membership

Charles Cobb, Hereford
Noel Andy Cole, Bushland
Carl E. Coppock, San Antonio
Elvis R. Cozart, Santa Anna
H. Russell Cross, College Station
Tim D. Davis, College Station
Peter Dotray, Lubbock
Jackie Driver, Crawford
Gary L. Eilrich, Willis
Cady R. Engler, College Station
Paul F. Engler, Amarillo
Larry James Ernis, Bryan
Morgan Brian Farnell, College Station
Hank Fitzhugh, Fort Worth
Richard W. Griffin, College Station
Ross C. Hamilton, Irving
Paul G. Harms, College Station
Ernest M. Harper, Bloomington
Delbert C. Hess, Abilene
Edward A. Hiler, Runaway Bay
David Holland, Arlington
Allan C. Jones, College Station
Eluned C. Jones, College Station
Jimmy T. Keeton, College Station
William C. Keller, San Antonio
Herman Kiesling, San Angelo
Willie Krueger, College Station
Harriott O. Kunkel, College Station
A. Bruce Maunder, Lubbock
John Lopez, Keller
Wesley Masters, Cotton Center
A. Bruce Maunder, Lubbock
Tom McDonald, Dalhart
John L. Merrill, Crowley
Rhonda K. Miller, College Station
Hilmar G. Moore, Richmond
A. Gene Nelson, College Station
Paul D. Olenbusch, Georgetown
Alfred L. Parks, Prairie View
James F. Petta, Corpus Christi
Randy Rosiere, Stephenville
Edward C. A. Range, College Station
Wilson Scaling, Henrietta
Stephen W. Searcy, College Station
Edward Smith, Bryan
Harry E. Snyder, Longview
Tom Speed, Lubbock
L. R. Sprott, College Station
John W. Sweeten, Amarillo
Ann Thurston, Plano
Nancy D. Turner, College Station
David K. Waggoner, Hillsboro
John W. Walker, San Angelo
Neil F. Walter, Oglesby
R. Mike Watkins, Denton
J. Leon, Young, Nacogdoches
Robert G. Zimbelman, Georgetown
David A. Zuberec, College Station

Utah
Howard M. Deer, Logan
Steven Dewey, Logan
Keith Fairbank, Provo
Mark C. Healey, Logan
R. Dwain Horrocks, Woodland Hills
J. T. Huber, Orem
Homer M. LeBaron, Heber City
Jennifer MacAdam, Logan
Darrell H. Matthews, Cedar City
Denise Moore, Salt Lake City
Allen J. Young, Logan

Vermont
Richard E. Nelson, Brattleboro

Virginia
Dennis T. Avery, Churchville
John A. Becker, Falls Church
Mahlon A. Burnette III, Great Falls
David Coia, Arlington
Robert G. Coon, Fairfax
Joseph D. Eisfelt, Blacksburg
Jonathan Eisenbach, Blacksburg
Mark J. Estienne, Suffolk
Joseph Fontenot, Blacksburg
Michael J. Goldblatt, Arlington
Hans R. Herren, Arlington
Patricia A. Hipkins, Blacksburg
Candi Kelly, Blacksburg
George J. Kriz, Winchester
Adria Mannion, Blacksburg
W. Kirk Miller, Arlington
Robert A. Moore, Woodbridge
Thomas W. Orme, Purcellville
Ronald Pearson, Blacksburg
Fred Shokes, Suffolk
John F. Shoulders, Blacksburg
Charles M. Smith, Alexandria
Martha Smith, Arlington
Robert M. Smith, Dulles
David E. Starner, Orange
J. Richard Storey, Williamsburg
Michael J. Weaver, Blacksburg
Cynthia M. Wood, Blacksburg
Lucien Zelazny, Blacksburg

Washington
Rhoda M. Benson, Wapato
Rick Boydstun, Prosser
Gaylon S. Campbell, Pullman
Murray D. Dawson, Bothell
Tanyaee Erwin, Tacoma
David W. Evans, Prosser
Paul F. Figueroa, Chelan
Almon S. Fish Jr., Bellevue
Lawrence K. Fox, Pullman
C. B. Harston, Albion
Larry K. Hiller, Pullman
Joe K. Hillers, Coupeville
Eugene K. Keating, Veradale
Charles Matthei, Tumon
Bernalyn McGaughey, Lakewood
John P. McNamara, Pullman
Barton R. Nelson, Walla Walla
Robert Parker, Prosser
Lawrence E. Schrader, Wannachee
Robert G. Stevens, Prosser
Steven E. Ulrich, Pullman
Leavitt S. White, Olympia
Michael J. Willett, Yakima
Tom Young, Walla Walla

West Virginia

Wisconsin
Robert F. Barnes, Madison
Joel D. Berry, Rhinelander
Larry L. Borchert, Madison
Mike Cody, Kenoshia
Arthur Cole, Prairie du Sac
Richard B. Corey, Madison
Michael Crotser, River Falls
Jerry Doll, Madison
Meganne W. Finerty, Appleton
Louis J. Greub, River Falls
Jane Homan, Hillpoint
Paul G. House, Whitehall
William Johnson, Portage
Kenneth C. Killian, Platteville
Tom Kriegl, Baraboo
David J. Miller, Arlington
J. Mark Powell, Madison
Dwayne A. Rohweder, Middleton
Ryan C. Sander, Sussex
Triveni P. Shukla, Mukwonago
Rodrigo Tarte, Madison
Leo M. Walsh, Madison
Aaron Waltz, Janesville

Wyoming
John L. Baker, Lander
Richard Gray, Moorcroft
Roy and Jacqueline Holland, Gillette
Farrel G. Hoopes, Atton
Conrad J. Kercher, Laramie
Stephen D. Miller, Laramie
Alvin L. Young, Cheyenne

John Bargoloh, Mineral Wells
Robert L. Cochrane, Morgantown
Gary H. Heichel, Martinsburg

John N. Mitchell, Hamilton, ON
Rob Mitchitson, Truro, NS
Erasmus Okine, Edmonton, AB
Darcy Pawlik, Saskatoon, SK
Arnold B. Pierce, Calgary, AB
Judy Shaw, Guelph, ON
Sunterra Farms Ltd., Acme, AB
Janice Tranberg, Saskatoon, SK
John Vanderstoep, Surrey, BC
W. Woodbury, Winnipeg, MB

COLOMBIA
Sergio Martinez, Cartagena

COSTA RICA
Jorge M. Sanchez, Heredia

CROATIA
Jasmina Lukac Havranek, Zagreb, Hrvatska

DENMARK
Arne Moller, Hundested

IRELAND
Brendan Lynch, Fermoy, County Cork

JAPAN
Tetsushika Goto, Kami Ina
Hidesuke Karl Sera, Tokyo

MEXICO
Norman Bourlaug, Colonia, Juarez
Francisco Mayorga, Zapopan

NEW ZEALAND
Shaun Coffey, Lower Hutt

NIGERIA
Elaine E. Grings, Ibadan, Oyo
Onyebuchi J. Umeh, Ibadan, Oyo

PHILIPPINES
Lourdes M. Labrador, Mandaluyong City, Metro Manila

TAIWAN ROC
Sha-Kong Chen, Taipei
Kou-Joong Lin, Chia-Yi

UNITED KINGDOM
Leon Gorris, Sharnbrook, Bedfordshire
Kevin Moran, The Industrial Est., Pockington

Nome

Annual Report 2007 Council for Agricultural Science and Technology 13
Sustaining Members 2007

Member Societies
AACC International
American Academy of Veterinary and Comparative Toxicology
American Agricultural Economics Association
American Association for Agricultural Education
American Association of Avian Pathologists
American Association of Pesticide Safety Educators
American Bar Association Section of Environment, Energy, and Resources, Committee on Agricultural Management
American Board of Veterinary Toxicology
American Dairy Science Association
American Forage and Grassland Council
American Meat Science Association
American Meteorological Society
American Peanut Research and Education Society
American Phytopathological Society
American Society for Agricultural and Biological Engineers
American Society for Agriculture
American Society of Animal Science
American Society of Plant Biologists
American Veterinary Medical Association
Aquatic Plant Management Society
Association for the Advancement of Industrial Crops
Association of American Veterinary Medical Colleges
Council of Entomology Department Administrators
Crop Science Society of America
Institute of Food Technologists
North American Colleges and Teachers of Agriculture
North Central Weed Science Society
Northeastern Weed Science Society
Poultry Science Association
Society for In Vitro Biology
Society for Nutrition Education
Society of Nematologists
Soil Science Society of America
Southern Weed Science Society
Weed Science Society of America
Western Society of Weed Science

Associate Societies and Organizations
Animal Agriculture Alliance
Institute for Food Safety and Security
International Association for Food Protection
National Alliance of Independent Crop Consultants

Ex Officio Members
Agricultural Institute of Canada
Association of Research Directors

Companies and Cooperatives
Agribusiness Association of Iowa
Agrilience LLC
Alico, Inc.
American International Charolais Association
American Proteins, Inc.
BASF Corp., Chemicals Division
Bayer Animal Health
Campbell Scientific, Inc.
Cargill, Inc.
CHS, Inc.
Church & Dwight Company, Inc.
Cobb-Vantress
Coca-Cola Company
Compliance Services International
Deere & Company
Diamond Pet Foods
Dow AgroSciences
DPI Global
Eli Lilly and Co., Elanco Animal Health
EMD Crop Bioscience
Feed Energy Company
Flying A Cattle Co.
Fort Dodge Animal Health
GROWMARK, Inc.
Hoard’s Dairyman Magazine
Hy-Line International
ISK Biosciences Corporation
Ivy Animal Health, Inc.
Land O’Lakes Croplan Genetics
Land O’Lakes Purina Mills Feed LLC
McGregor Company
Midwest Laboratories, Inc.
Monsanto Life Sciences Company
Morning Star Company
Novus International, Inc.
Perdue Farms, Inc.
Philip Morris USA
Pioneer, A DuPont Company
Potash Corporation of Saskatchewan, Inc.
Riceland Foods, Inc./Riceland Foods Foundation
Stork Townsend
Sukup Manufacturing Company
Summit Helicopters, Inc.
Sunkist Growers
Syngenta Crop Protection, Inc.
Van Diest Supply Company
Viagen
Wilcox Farms, Inc.
Yosemite Farm Credit
Zeigler Brothers, Inc.
Zinpro Corporation

Nonprofit Organizations
American Agri-Women
American Farm Bureau Federation
American Feed Industry Association
American Meat Institute
American Seed Trade Association
American Sheep Industry Association
American Society of Sugar Beet Technologists
Animal Health Institute
Arkansas Crop Protection Association
Association of American Plant Food Control Officials
Association of Equipment Manufacturers
Association of Official Seed Certifying Agencies
Association of Texas Soil and Water Conservation Districts
Biototechnology Industry Organization
California Citrus Quality Council
California Crop Improvement Association
California Farm Bureau Federation
California Fig Institute
Canadian Agri-Food Research Council
Sustaining Members 2007

CropLife America
Delmarva Poultry Industry, Inc.
Indiana Crop Improvement Association, Inc.
Indiana Horticultural Society
Indiana Soybean Alliance, Inc.
International Food Information Council
International Plant Nutrition Institute
Iowa Beef Industry Council
Iowa Farm Bureau Federation
Iowa Pork Producers Association
Iowa Soybean Association
Iowa State University Agronomy Department
Iowa Turkey Federation
Irrigation Association
Kansas Agribusiness Retailer Association
Louisiana Farm Bureau Federation
Mid America CropLife Association
Mississippi Soybean Association
Missouri Agricultural Industries Council, Inc.
National Association of Animal Breeders
National Cattlemen’s Beef Association
National Chicken Council
National Corn Growers Association
National Cotton Council of America
National Council of Farmer Cooperatives
National Grain and Feed Association
National Meat Association
National Pork Board
National Renderers Association
National Sorghum Producers
Nebraska Agri-Business Association
Nebraska Farm Bureau Federation
New York State Vegetable Growers Association
North Carolina College of Agriculture and Life Sciences
North Carolina Farm Bureau Federation
Ohio Poultry Association
Oklahoma Seed Trade Association
Oregon Department of Agriculture
Oregon Seed Council
Pennsylvania Pork Producers Council
Purdue College of Agriculture
Rice Research Board
Southern Crop Production Association
Sugar Association, Inc.
Texas Farm Bureau
Texas Pork Producers Association
Texas Poultry Federation
U.S. Poultry and Egg Association
United Egg Producers
United Soybean Board
Virginia Farm Bureau Federation
Wyoming Farm Bureau Federation

Subscribers

Abilene Christian University
Agriculture and Agri-Food Canada
Albert R. Mann Library, Cornell University
Colorado State University Library
Congressional Research Service
Corporate Library, Anheuser-Busch, Inc
Cunningham Library, Commonwealth Scientific and Industrial Research Organisation
Deere & Company Library
Evans Library, Texas A&M University
Federal Reserve Bank of Kansas City Research Library
Greiner Seeds
Harold B. Lee Library, Brigham Young University
Hawaii Agriculture Research Center Library
Hilton M. Briggs Library, South Dakota State University
Indiana University Libraries
Lehigh County Cooperative Extension
Library of Science and Medicine, Rutgers University
Life and Health Science Library, University of Nevada, Reno
Magrath Library, University of Minnesota
Margaret and Herman Brown Library, Abilene Christian University
McKeldin Library, University of Maryland
McLaughlin Library, University of Guelph
McRae Library, Nova Scotia Agricultural College
Michigan State University Libraries
Mississippi State University Library
National Agricultural Library, USDA
New York Center for Agricultural Medicine and Health
North Carolina State University Libraries
North Dakota State University Libraries
Northeast Wisconsin Technology College
Ohio State ATI Library
Oregon State Library
Parks Library, Iowa State University
Pennsylvania State Libraries
Pesticide Regulation Library
Purdue University Libraries
Section des Acquisitions, Quebec
Steenbock Memorial Library
Texas Tech University Libraries
The Librarian
University of California at Berkeley Library
University of California at Davis Library
University of Georgia Library
University of Idaho Library
University of Illinois
University of Surrey
University of Tennessee Library
Wageningen University

Educational Institutions

Agricultural Research Division, University of Nebraska
Iowa State University College of Agriculture
Kansas State University
Kansas State University Agricultural Experiment Station
North Carolina College of Agriculture and Life Sciences
Oregon State University
Purdue University College of Agriculture
Texas A&M University College of Agriculture and Life Sciences
University of Georgia
University of Nebraska Pesticide Education Office

Grantors

National Pork Board
U.S. Agency for International Development Special Grant/DAI
USDA Agricultural Research Service
USDA Cooperative State Research, Education, and Extension Service

For More Information about CAST

Call 515-292-2125
E-mail cast@cast-science.org
Visit the website at www.cast-science.org
Order Form and Membership

Instructions: Mark the publications you want on the order form at right. Individual Members may receive one copy of any report within 1 year of its publication. New members may order one free copy of any recent publication. Please enclose shipping fees (see below).

Shipping: Shipping will be charged on all orders except Issue Papers. CAST can ship only prepaid orders to nonmembers outside the United States. U.S. and Canada: $3.00 for the first publication plus $1.00 per additional. Other international: $4.00 per publication. For airmail service, $10.00 per publication.

Payment: Send your order with payment to CAST, 4420 West Lincoln Way, Ames, IA 50014-3447. You may fax your credit card order to 515-292-4512; you will be invoiced for publications and shipping.

Credit Cards: A $3.00 processing fee is automatically added if payment is made by credit card.

Card Number
Expires
Signature

Quantity Discounts: Discounts are offered for purchases of 6 copies of the same publication sent to a single address. Orders of 6 through 99 copies are discounted 25% from listed prices. Orders of 100 or more copies are discounted 35%.

Name of Publication | Pub. No. | Qty. | Price Each | $ Total
--- | --- | --- | --- | ---

Membership

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LifeTime ($2,500)</td>
<td>Millennium Club ($1,000)</td>
<td></td>
</tr>
<tr>
<td>President’s Club ($500)</td>
<td>Friends of CAST ($250)</td>
<td></td>
</tr>
<tr>
<td>Individual ($100)</td>
<td>Retired ($30)</td>
<td></td>
</tr>
<tr>
<td>Student ($25)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CAST is a qualified 501 (c)(3) tax-exempt organization. Therefore, your membership dues and additional contributions may qualify as charitable contributions under IRS guidelines.

Subtotal ________
Shipping ________
Total ________

Name
Address
City State/Province Zip/Postal Code
Country Telephone E-mail (optional)

The CAST Staff (from left to right): Back row: Laura DeBoer, Donna Freeman, John Bonner, Linda Chimenti, and Lynette Allen. Front row: Kelsey Whiley, Thuy Ton, and Kayla Down

Personal Membership Options

Lifetime Members receive Reports, Special Publications, Issue Papers, and “Friday Notes.” Lifetime Members outside of North America receive publications via airmail. ($2,500 contribution or pledge)

Millennium Club Members receive the same benefits and mailing services as Lifetime Members. ($1,000/calendar year)

President’s Club Members receive the same benefits and mailing services as Lifetime Members. ($500/calendar year)

Friends of CAST Members receive the same benefits and mailing services as Lifetime Members. ($250/calendar year)

Individual Members receive Reports, Special Publications, Issue Papers, and “Friday Notes.” Individual Members outside of North America receive publications via airmail ($100/calendar year)

Retired Members receive the same benefits and mailing services as Individual Members. ($30/calendar year)

Student Members receive the same benefits and mailing services as Individual Members. ($25/calendar year)