

21st Century Systems Agriculture: An Update of the 1989 NRC Report "Alternative Agriculture"

Committee

Julia L. Kornegay

Chair

Julia Kornegay is Professor and Head of the Department of Horticultural Science at North Carolina State University. She has a PhD in Plant Breeding and Genetics from Cornell University, and a MS in Plant Pathology and BS in Horticultural Science from North Carolina State University. She went to high school in Nairobi, Kenya. Prior to 2003, Dr. Kornegay served as Director of Fairchild Tropical Botanic Garden (1999-2003) and as Director of Research (1997-1999). Fairchild Tropical Botanic Garden is one of the world's premier tropical botanical gardens with international research, horticulture, and educational programs in palm biology, plant systematics, tropical fruit crops, endangered species conservation, and graduate studies. She also served as Adjunct Professor at Florida International University and the University of Miami. During her tenure, the Fairchild's programmatic activities and budgets increased over 30 percent. From 1985 to 1997, Dr. Kornegay worked at the International Center for Tropical Agriculture (CIAT) in Cali, Colombia as Leader of the Bean Program (1993-1996) and senior plant breeder. She was responsible for an international team of scientists based in six countries in Latin America and Africa, working to increase sustainable bean production and income for farmers and their communities in third world countries. She organized five regional research networks in Latin America and Africa and obtained \$10 million from international donor agencies to support their activities. She also spearheaded the Seeds of Hope program in Africa in 1994 to help Rwanda recover its crop germplasm after the end of the civil war. In 1996, she was recognized by the regional bean program PROFRIZA and the national agricultural research programs of Colombia, Ecuador, Peru, and Bolivia for her work in increasing bean production and research capacity in the Andean Region. Over 30 cultivars from her breeding program have been released in eight countries.

Richard R. Harwood

Vice Chair

Richard R. Harwood is the retired Chair for Sustainable Agriculture at Michigan State University. He is an agronomist with a personal research interest in the management of soil biological activity for enhancement of nutrient flow. Ongoing research includes the contribution of cover crops to soil biological activity and to nutrient flow. He was director (Research Center) at Rodale and subsequently director (Asian Program) at Winrock International prior to his arrival at Michigan State University. Dr. Harwood held the C.S. Mott Chair for Sustainable Agriculture position at Michigan State University from 1990 to 2003. He provided leadership in research, teaching and extension of sustainable agricultural systems for Michigan's agriculture. He brought national and international perspectives to Michigan from his service on the Boards of Agriculture and Sustainable Development (NRC), on the Technical Advisory Committee (CGIAR) and as former Chair of the Board of Management (TSBF).

Paul Willis

Member

Paul Willis is the manager of Niman Ranch Pork Company. He lives on the farm where he grew up, in Thornton, IA about 100 miles north of Des Moines. Paul's passions have always included animals and taking care of the land. It is this passion that led him to join the Peace Corp where he worked as the Young Farmers Club Organizer for the Nigerian Ministry of Agriculture. During his tenure, he grew the club's membership to over 10,000. In 1995, Paul was looking for a way to market natural "free range" pigs when he met Bill Niman. Paul wanted to revitalize traditional hog farming in the Midwest at a time when economics forced many farmers to sell out or turn to factory/confinement hog growing. Niman Ranch offered the opportunity to raise pigs the humane, old-fashioned way and these outdoor-raised pigs quickly became a favorite among Niman Ranch customers. Today, Paul manages a network of over 500 family hog farmers. In addition to managing the Niman Ranch pork operation, Paul still raises 2,500 Farmers' Hybrid hogs with his wife, Phyllis, and business partner, Jon Carlson, on the Willis Free Range Pig Farm. He also grows his own non-GMO soybeans and organic alfalfa and oats which are used for feed and bedding.

Sandra S. Batie

Member

Sandra S. Batie is the Elton R. Smith Professor in Food and Agricultural Policy, and she conducts research on food, agricultural and environmental policy issues at the state, federal and international level. Prior to joining MSU in 1993, she was on the faculty of Virginia Polytechnic Institute and State University since 1973. She has actively served on commissions and boards that are related to her expertise, including the National Academy of Sciences, Board on Agriculture and Natural Resources; the Academy's Center for Central Europe and Eurasia Affairs; and the Office of Technology Assessment. She is a trustee of Winrock International and was the trustee of International Rice Research Institute. She is past president of the American Agricultural Economics Association as well as the Southern Agricultural Economics Association. She is a Fellow of the American Agricultural Economics Association. She teaches a graduate course in environmental economics and conducts extension programming on food, agricultural and environmental policies.

Dale Bucks

Member

Dale Bucks is President of Bucks Natural Resources Management. In his 36 years of service to ARS, Dale was both a highly regarded scientist and an exceptional leader. He was one of the first agricultural scientist to conduct drip (micro) irrigation research, provide innovative solutions to clogging problems that plagued drip irrigation systems, demonstrate the feasibility of continuous cropping systems using subsurface drip irrigation, improve methods for conducting research on crop water requirements and irrigation scheduling; and revitalize guayule research efforts. He led research studies to develop technologies and salinity control methods for the Colorado River Salinity Control Project. He also led a team of scientists that conducted original research on quantifying the effects of spatial and temporal variability of water applications on crop yields for drip and level-basin irrigation systems that has resulted further efforts on the merits of precision agriculture throughout the nation. He authored or co-authored over 150 scientific publications while he was research scientist in Arizona for 18 years (1970-1988). He received his PhD from The University of Arizona in Soil and Water Science.

Cornelia Flora

Member

Cornelia Flora is Director and Charles F. Curtiss Distinguished Professor of Agriculture and Life Sciences and Sociology at Iowa State University. Dr. Flora has conducted ground-breaking sociological research on the impacts of human communities and the ecosystem, community processes, and gender and social institutions. Many of her articles have been widely used by nonprofit organizations that work with farmer groups, particularly in sustainable agriculture, to build stronger communities and a stronger economic base. She has held several academic positions and has also been a program officer for the Ford Foundation. In addition to her responsibilities at the Center, she also works on international development issues with World Bank and the U.S. Agency for International Development. Dr. Flora received a bachelor's degree from the University of California, Berkeley and a master's degree and doctorate degree from Cornell University, which recognized her with an Outstanding Alumni Award in 1994. She joined the Iowa State University faculty and was named director of the Center in 1994.

James C. Hanson

Member

James C. Hanson is an Extension Economist at the University of Maryland, College Park. His research interests include sustainable agriculture, cropping systems, organic agriculture, agricultural extension systems, environmental policy, and farm management. He received his PhD in agriculture and resource economics from the University of Maryland, an MS in plant breeding and genetics from University of Minnesota, and a BS from University of MD in agronomy.

Douglas Jackson-Smith

Member

Douglas Jackson-Smith is an Associate Professor of Sociology at Utah State University. Dr. Jackson-Smith joined the faculty at Utah State University in the summer of 2001, where he currently serves as the Director of Graduate Studies in the Sociology Program. He received his BS degree (Rural Sociology) at Cornell University, and his MS (Sociology), MA (Agricultural Economics), and PhD degree at the University of Wisconsin-Madison. His principal teaching and research interests include the sociology of agriculture, natural resource and the environment, rural community studies, economic sociology, and applied research methods. He is also interested in international development, social studies of science and technology, and political sociology. Currently he is engaged in research focusing on dynamics of economic and technological change in the dairy industry and their effects on farm families, rural communities, and the environment. He has also developed methods to track the spatial dimensions of rural and agricultural land use changes, and has worked with rural governments to develop locally appropriate land use and agricultural plans. Before coming to Utah State University, he served as Assistant Professor of Rural Sociology and Urban and Regional Planning at the University of Wisconsin-Madison. He also was Co-Director of the Program on Agricultural Technology Studies (a research and extension unit of the College of Agriculture) which examined the impacts of technological change and public policies on farm families in Wisconsin.

William A. Jury

Member

William A. Jury (NAS) is Distinguished Professor of Soil Physics in the Department of Environmental Sciences at UC-Riverside. His principal research interests are measurement and modeling of organic and inorganic chemical movement and reactions in field soils; development and testing of organic chemical screening models; characterization volatilization losses of organic compounds. At present, Dr. Jury is conducting research in field measurement and modeling of preferential flow of chemicals, chemical transport at low water content, unstable flow of water in soil, global water management, and sequential reuse of agricultural drainage water. Dr. Jury received his Ph.D. in Physics from the University of Wisconsin.

Deanne Meyer

Member

Deanne Meyer is Livestock Waste Management Specialist in the Department of Animal Science at the University of California, Davis. Her research activities focus on current and future needs of livestock operators related to environmental sustainability, regulatory compliance, and economic feasibility. She also looks at manure management systems, operational efficiency of manure equipment, interactions between manure management and utilization and water and air resources, and dietary manipulation to reduce nutrient excretion. She received her PhD in Animal Science from the University of Florida.

John P. Reganold

Member

John P. Reganold is Regents Professor of Soil Science at Washington State University where he teaches soil science and organic farming classes, and conducts research. Dr. Reganold has completed numerous studies measuring the effects of conventional, integrated, and organic farming systems on soil health, crop quality, financial performance, and environmental quality in the United States, Canada, Australia, and New Zealand. Dr. Reganold has more than 120 publications, some of which have appeared in Science, Nature, Proceedings of the National Academy of Sciences USA, Scientific American, and New Scientist. He has also co-authored the widely used college text, Natural Resource Conservation (9th edition), and co-edited the book, Organic Agriculture: A Global Perspective. His research in sustainable agriculture has been featured in hundreds of newspapers, several science magazines, and on many radio and TV programs. He has given more than 150 invited presentations all over the world.

August Schumacher, Jr.

Member

August Schumacher, Jr. is Advisor to SJH and Company. He is the former Under Secretary for Farm and Foreign Agricultural Services at the U.S. Department of Agriculture (USDA). He was responsible for the domestic commodities, insurance and farm credit operations of USDA. In addition, he was in charge of USDA's international trade and development programs. Prior to his appointment in August 1997, he was the Administrator of the Foreign Agricultural Service for 3 years. Before coming to USDA, Mr. Schumacher served as the Massachusetts Commissioner of Food and Agriculture, and as a Senior Agricultural Project Officer at the World Bank. From a farm family in Lexington, Massachusetts, Mr. Schumacher attended Harvard College and the London School of Economics, and was a Research Associate in Agribusiness at the Harvard Business School.

Henning Sehmsdorf

Member

Henning Sehmsdorf was appointed Adjunct Professor in the Center for Sustainable Agriculture and Natural Resources in November 1999 to implement a for-credit internship in ecological farming and sustainable living for WSU students at S&S Homestead Farm. From 1968–1994, Henning taught in the humanities at universities in the U.S., England, Germany and Scandinavia. Since 1970, he has been developing an holistically managed, integrated farm on Lopez Island that produces as many inputs required for growing food and fiber on the farm as possible. The farm presently grows vegetables, fruit, flowers, beef, dairy, pork, lamb, poultry and eggs, animal forages, grain, and fertilizers. The internship program was established in 1994 and to date has trained 20 students in sustainable agriculture, agronomy, soil science, nutrition, environmental education and related fields, with most of the trainees going on to graduate study after completing the internship. Interns also collaborate in grant-supported, on-farm research with WSU and extension faculty. Dr. Sehmsdorf has a Ph.D. in the Humanities from the University of Chicago, a B.S. in general science from the University of Rochester, New York, and is a graduate in business administration from Kaufmännische Berufsschule in Rastatt, Germany.

Carol Shennan

Member

Carol Shennan is Professor of Environmental Studies and until June 30, 2007 served as Director for the Center for Agroecology and Sustainable Food Systems at the University of California, Santa Cruz. She joined the Environmental Studies Department from the Department of Vegetable Crops at the University of California, Davis. Dr. Shennan's interests encompass interdisciplinary studies of agro-ecosystems, including watershed, on-farm, experimental, social science and participatory research approaches. Topics include: nutrient cycling and interactions between cropland management and surface water, ground water and wetland ecosystems, biodiversity conservation on farmland, understanding farmer decision making, farmer and consumer attitudes, opportunities to enhance farm viability and sustainability through market, policy and educational approaches, international agriculture development, resource management in resource-poor systems, and gender issues. Dr. Shennan's current research examines the ecological and social dimensions of agricultural sustainability in a number of contrasting systems; a) intensive vegetable/strawberry production systems in the Monterey Bay region; b) irrigated rice production in Senegal; c) Subsistence maize production in Southern Malawi; d) Enset based agriculture in southwestern Ethiopian highlands; and e) grazing, crop production and grassland conservation in Inner Mongolia (project in development stage). All studies involve working closely on-farm with groups of farmers and other interested parties.

Lori A. Thrupp

Member

Lori Ann Thrupp is Manager of Sustainability and Organic Development at Fetzer Vineyards. She undertakes outreach and educational events about organic and sustainable farming practices for growers and the broader community. She develops partnerships with growers, scientists, government agencies, and other stakeholders involved in sustainability initiatives. She also serves as a consultant and was formerly Managing Director for the California Sustainable Winegrowing Alliance, a non-profit organization supporting sustainable practices. Previously Dr. Thrupp worked with the EPA's Agriculture Initiative, managing partnerships and a grant program for growers and agricultural organizations involved in sustainable agriculture and pest management. She also has been a consultant in sustainable agriculture for Robert Mondavi Winery, the Roots of Change Fund, and several other organizations and companies. She has many years of experience in international agriculture education, research and policy analysis. From 1990-1998, she was Director of Sustainable Agriculture at the World Resources Institute. Dr. Thrupp received a PhD and MA from Sussex University and a BA from Stanford University, and speaks Spanish fluently. She has over 70 publications, is a graduate of the California Agriculture Leadership Program, and serves on the Fellows Council for CALP. She is a current Board Member of the Organic Farming Research Foundation.