

National Research Agenda

Agricultural Education and Communication

Research Priority Areas



USDA Agricultural Research Service



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A joint project of the

American Association for Agricultural Education (AAAE)

Association for Communication Excellence (ACE)

Association for International Agricultural and Extension Education (AIAEE)

Association of Leadership Educators (ALE)

NCAC-24, Experiment Station Committee on Organization and Policy

The National Council for Agricultural Education



This document is the first national research agenda to be developed and formally embraced by the broader discipline of agricultural education and communication. Members of the profession have long recognized the value of such a document for effectively communicating research priorities to numerous state and national interests, including Agricultural Experiment Station directors, USDA program administrators, and funding agencies. Further, coordination of research efforts within the discipline—from research priorities in individual academic departments to regional and national initiatives led by research teams—will be enhanced by this work. The development of a national research agenda coincides with increasing recognition in colleges of agricultural and life sciences and related agencies of the value and unique contributions of social science research in developing sound solutions for complex agricultural problems. Effective education and communication strategies are indeed integral to the development, acceptance, and evaluation of creative solutions in agriculture and natural resources.

The 27-member development team met in Orlando, Florida in December 2005 to begin work on this national research agenda. The initial product from this three-day session included draft research priorities for each of the five major dimensions of the discipline. This final product uses a four-level framework for detailing these research priorities. The *National Research Agenda* is first organized into the five broad disciplinary dimensions: agricultural communications, agricultural leadership, extension and outreach education, agricultural education in university and postsecondary settings, and school-based agricultural education. *Research Priority Areas* (RPAs) are broad research imperatives within each of these five disciplinary dimensions. Each RPA includes up to four *Key Research Questions*, or critical research problems. Finally, specific dimensions of each key research question, designated as *Priority Initiatives*, have also been identified. Due to the level of detail provided in the full research agenda, this document contains only the *Research Priority Areas* and *Key Research Questions* for each of the five disciplinary dimensions. The complete research agenda is posted on the Web sites of the professional societies and organizations that collaborated on this project. Comments and suggestions for future updates may be directed to the president or other designated representative in each of those organizations.

Ed Osborne
Project Coordinator
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As used in this document, *Agricultural Education and Communication* includes agricultural education in schools, universities, and other postsecondary institutions; extension and other nonformal, community education, and outreach programs; leadership development in individuals, communities, organizations, and agencies; and communication within and throughout the agricultural and natural resources industries. Also included are university programs designed to develop educators, leaders, and professional communicators for all aspects of the vast agriculture industry. Agricultural Education and Communication is a broad, applied field that draws foundational knowledge from psychology and sociology, while focusing on the human dimensions of science and practice in agriculture and natural resources management.

National Research Agenda Agricultural Education and Communication

Research Priority Areas

Agricultural Communications

- ⌘ Enhance decision making within the agricultural sectors of society.
- ⌘ Within and among societies, aid the public in effectively participating in decision making related to agriculture.
- ⌘ Build competitive societal knowledge and intellectual capabilities.
- ⌘ Develop effective agricultural work forces for knowledge-based societies.

Agricultural Leadership

- ⌘ Develop and disseminate effective leadership education programs.
- ⌘ Support leadership opportunities for underrepresented populations.
- ⌘ Ensure leader succession in sustaining agricultural enterprises, and enhance citizen engagement in rural and urban community development.
- ⌘ Engage citizens in community action through leadership education and development.

Agricultural Education in Domestic and International Settings: Extension & Outreach

- ⌘ Ascertain the public's knowledge, views and openness regarding the agri-food and natural resource system.
- ⌘ Identify the needs and competencies of stakeholders and professional practitioners in nonformal agricultural extension education.
- ⌘ Identify appropriate learning systems to be used in nonformal education settings.
- ⌘ Examine appropriate nonformal educational delivery systems.
- ⌘ Identify and use evaluation systems to assess program impact.

Agricultural Education in University and Postsecondary Settings

- ⌘ Recruit and prepare students for the future workforce in the agricultural and life sciences.
- ⌘ Improve the success of students enrolled in agricultural and life sciences academic and technical programs.
- ⌘ Enhance the effectiveness of agricultural and life sciences faculty.
- ⌘ Assess the effectiveness of educational programs in agricultural and life sciences.

Agricultural Education in Schools

- ⌘ Enhance program delivery models for agricultural education.
- ⌘ Provide a rigorous, relevant, standards-based curriculum in agricultural, food, and natural resources systems.
- ⌘ Increase access to agricultural education instruction and programming.
- ⌘ Prepare and provide an abundance of fully qualified and highly motivated agricultural educators at all levels.
- ⌘ Determine the effects of agricultural education instruction.

Research Priority Areas and Key Research Questions

Agricultural Communications

Agricultural communications seeks to support and improve human interaction and decision-making related to agriculture, broadly defined. With special traditions and strengths in journalism and mass communications, agricultural communications partners with other social sciences, including school-based interests of agricultural education and nonformal education endeavors, such as extension services. Communication interests range across all levels, settings, and means of communicating – intrapersonal, interpersonal, group, and mass. Agricultural interests include all subject areas related to the complex global enterprises of food, feed, fiber, bio-based energy, genomics, natural resources management, and rural development. The concept of agricultural knowledge management serves as the framework for an integrated, comprehensive research agenda in agricultural communications.

RPA 1: Enhance decision making within the agricultural sectors of society.

- Who are the relevant agricultural audiences with respect to high priority issues?
- What are the most effective ways to identify and communicate information that has economic and social value?
- What information do various stakeholders need to make informed decisions?

RPA 2: Within and among societies, aid the public in effectively participating in decision making related to agriculture.

- How do we reach, create awareness, and constructively engage the public in high priority agricultural issues?
- How do we identify, assimilate, disseminate, format, and evaluate relevant information that facilitates public decision making about high priority agricultural issues?
- How do we improve the effectiveness of mass media coverage of agricultural issues?
- How will emerging technologies impact the flow of agriculture-related information in support of public participation?

RPA 3: Build competitive societal knowledge and intellectual capabilities.

- How do we improve thinking processes and problem solving capabilities through the effective use of information systems?
- How does information and media delivery affect thinking processes, problem solving, and decision making related to agriculture?
- How can we gather and make available the widely scattered literature about agriculture-related communications internationally?
- How do we use communications networks, linkages, and approaches more effectively in agricultural knowledge management?

RPA 4: Develop effective agricultural work forces for knowledge-based societies.

- What are the theoretical underpinnings of and synergistic relationships between the knowledge management concept and agricultural communications as a field of research, education, and practice?
- What are the skills and competencies necessary to improve the communications and knowledge management effectiveness of all in the agriculture-related workforces of societies?
- What are the skills, competencies, and resources necessary to prepare professional agricultural communicators for success in various aspects of agricultural knowledge management?



Agricultural Leadership

An overarching research paradigm in leadership education considers the factors that affect the quality and success of agricultural leadership education programs. Curricula considerations include the selection of appropriate theory, teaching methods, delivery media, and program designs. Research is also needed to explain the influence of a wide array of student attributes on personal leadership development and ability. Finally, the skills, behaviors, and practices of effective agricultural leaders should be investigated to determine their importance in leadership education programs. Research in agricultural leadership drives programming, practice, and development, while generating new knowledge and theory to support effective leadership practices in industry and community settings.

RPA 1: Develop and disseminate effective leadership education programs.

- ⌘ How can leadership education programs be designed and implemented to increase the leadership capacity of youth, communities, higher education, agribusiness, and allied organizations in domestic and international settings?

RPA 2: Support leadership opportunities for underrepresented populations.

- ⌘ How will the inclusion of underrepresented populations enhance leadership capacity in youth, communities, higher education, agribusiness, and allied organizations in domestic and international settings?

RPA 3: Ensure leader succession in sustaining agricultural enterprises, and enhance citizen engagement in rural and urban community development.

- ⌘ How can sustainable leadership transitions be achieved in youth organizations, communities, higher education, and agribusiness and allied organizations?



RPA 4: Engage citizens in community action through leadership education and development.

- ⌘ How can rural, urban, and international community development be sustained and enhanced by incorporating leadership education and development programs into community activities?

Agricultural Education in Domestic and International Settings: Extension & Outreach

Extension systems the world over represent one of the largest nonformal educational entities available to the public. The concept of developing a domestic and global network of nonformal educators focused on enhancing the engagement of learners in the context of agriculture provides the foundation for an integrated, comprehensive research agenda in agricultural extension education.

RPA 1: Ascertain the public's knowledge, views, and openness regarding the agri-food and natural resource system.

- ⌘ How do the knowledge, views, and opinions of stakeholders and the public at large influence the agri-food and natural resource system and shape the role of agricultural extension education in this system?
- ⌘ What is the role of agricultural extension education in the global marketplace?
- ⌘ How can agricultural extension education help develop an international perspective in all nonformal educational programs?

RPA 2: Identify the needs and competencies of stakeholders and professional practitioners in nonformal agricultural extension education.

- ⌘ What are the various knowledge bases and skills required by practitioners in nonformal agricultural extension education programs?
- ⌘ How can agricultural extension education contribute to the sustainability of local and global communities and cultures and their unique identities?
- ⌘ What professional competencies are required of all agricultural extension educators that prepare them to be successful agents of change?

RPA 3: Identify appropriate learning systems to be used in nonformal education settings.

- ⌘ What learning systems are most appropriate for nonformal agricultural extension education program participants?
- ⌘ How can the principles of learning most appropriately be applied in a global context?
- ⌘ How does learning theory influence program development in nonformal agricultural extension education?



RPA 4: Examine appropriate nonformal educational delivery systems.

- ⌘ What nonformal educational delivery systems are most likely to promote learning?
- ⌘ What technologies will increase the effectiveness of agricultural extension education programs worldwide?
- ⌘ What are the guiding teaching principles for successful delivery of nonformal educational programs based upon cultural and regional differences?

RPA 5: Identify and use evaluation systems to assess program impact.

- ⌘ What is the impact of the agricultural and extension education/leadership and communications programs as delivered via nonformal delivery systems?
- ⌘ How can agricultural extension education make a difference in an increasingly complex global arena?
- ⌘ How do the principles of teaching and learning in a nonformal educational setting influence sustainable development and enhancement of the global community?

Agricultural Education in University and Postsecondary Settings

University and postsecondary academic programs in agricultural and life sciences vary widely from campus to campus in terms of enrollments, curricula, student development programs, and faculty expertise. As the public at large becomes more removed from and less aware of the inputs and investments required to support our global food and fiber system, university and postsecondary agriculture programs continue to play a critical role in sustaining and advancing the industry. These programs must attract adequate numbers of capable students and faculty, provide meaningful and relevant learning and professional development experiences, and prepare students who are ready and able to make significant contributions in the industry.

RPA 1: Recruit and prepare students for the future workforce in the agricultural and life sciences.

- What strategies are effective in recruiting students into colleges of agricultural and life sciences and technical agriculture postsecondary programs?
- What is the current and future supply and demand for employment in the agricultural and life sciences?

RPA 2: Improve the success of students enrolled in agricultural and life sciences academic and technical programs.

- What factors are predictive of student success in college?
- What teaching, advising, and mentoring strategies most effectively and efficiently yield desired student outcomes with particular groups of students?
- How do experiential learning applications contribute to student success?
- To what extent is the leadership ability of students enhanced through leadership experiences, curricula, and student organizations?

RPA 3: Enhance the effectiveness of agricultural and life sciences faculty.

- How do specific faculty development interventions improve the teaching and learning process?

- What interventions contribute to faculty success and retention?
- What factors contribute to faculty motivation to participate in professional development programs?
- What is the value of industry-education partnerships and exchanges for enhancing instructor effectiveness?

RPA 4: Assess the effectiveness of educational programs in agricultural and life sciences.

- What are the effects of educational programs in agricultural and life sciences?
- How well do program graduates perform in the workplace?



Agricultural Education in Schools

School-based agricultural education is a systematic program of instruction available to students desiring to learn about the science, business, and technology of plant and animal production and/or about the environmental and natural resources systems. School-based agricultural education first became a part of the public education system in 1917 when the U.S. Congress passed the Smith-Hughes Act. Today, over 800,000 students participate in formal agricultural education instructional programs offered in grades seven-adult throughout the 50 states and three U.S. territories.

RPA 1: Enhance program delivery models for agricultural education.

- ⌘ What types of program delivery models best respond to the changing population?
- ⌘ How do agricultural education program delivery models enhance food, fiber, and natural resource systems?
- ⌘ How do the components of an agricultural education program influence student success and overall program quality?

RPA 2: Provide a rigorous, relevant, standards-based curriculum in agricultural, food, and natural resources systems.

- ⌘ What instructional strategies in agricultural education programs promote increased student achievement in the traditional academic areas?
- ⌘ How can agricultural education programs most effectively prepare students for career success in a competitive world marketplace?

RPA 3: Increase access to agricultural education instruction and programming.

- ⌘ What models are effective for recruiting and retaining students in agricultural education programs?
- ⌘ What strategies show promise in expanding enrollment in quality agricultural education programs?
- ⌘ What marketing strategies are effective in garnering support for agriculture programs?



RPA 4: Prepare and provide an abundance of fully qualified and highly motivated agricultural educators at all levels.

- ⌘ What models of agriscience teacher preparation are most effective in preparing agricultural educators for middle and secondary schools and postsecondary institutions?
- ⌘ What are the professional development needs of agricultural educators?
- ⌘ What models are most effective in preparing university teacher education faculty?

RPA 5: Determine the effects of agricultural education instruction.

- ⌘ How does student participation in agricultural education programs contribute to premier leadership, personal growth, and career success?
- ⌘ How do agricultural education programs contribute to student achievement and performance?
- ⌘ How do quality agricultural education programs contribute to school and community vitality?

Development Team for the National Research Agenda

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Project Planning Team

The overall strategy for the project, including the identification of development team members, was determined by members of the project planning team as listed below. Also provided are the institutional affiliations and professional society leadership positions held by planning team members at the time the project was initiated.

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Dr. Jim Dyer – Chair, AAAE Research Committee (University of Florida)
Doug Loudenslager – Chief Operating Officer, FFA (National FFA Organization)
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Professional Society and Organizational Partners

American Association for Agricultural Education (AAAE)

The American Association for Agricultural Education is dedicated to studying, applying, and promoting teaching and learning processes in agriculture. AAAE serves as an advocate for teaching improvement, provides a forum to address issues in agricultural education, supports the conduct and dissemination of research, and provides opportunities for professional development and collaboration within and outside agricultural education. (<http://aaaeonline.org>)

Association for Communication Excellence (ACE)

The Association for Communication Excellence in Agriculture, Natural, Life, and Human Sciences is an international association of communicators and information technologists. ACE develops the professional skills of its members in extending knowledge about agriculture, natural resources and life and human sciences to people worldwide. Members work in universities, government agencies and research organizations in the public sector, as well as companies and firms in the private sector. (<http://www.aceweb.org/>)

Association for International Agricultural and Extension Education (AIAEE)

The Association for International Agricultural and Extension Education (AIAEE) was established in 1984 to provide a professional association to network agricultural and extension educators who share the common goal of strengthening agricultural and extension education programs and institutions worldwide. (<http://www.aiaee.org>)

Association of Leadership Educators (ALE)

The Association of Leadership Educators, Inc. was established in 1990 to strengthen the leadership skills and competencies of professional educators who work to strengthen the leadership capabilities of others and to strengthen and broaden the knowledge base which supports research, teaching, and outreach, student services, consulting, and other programs in leadership. (<http://www.leadershipeducators.org>)

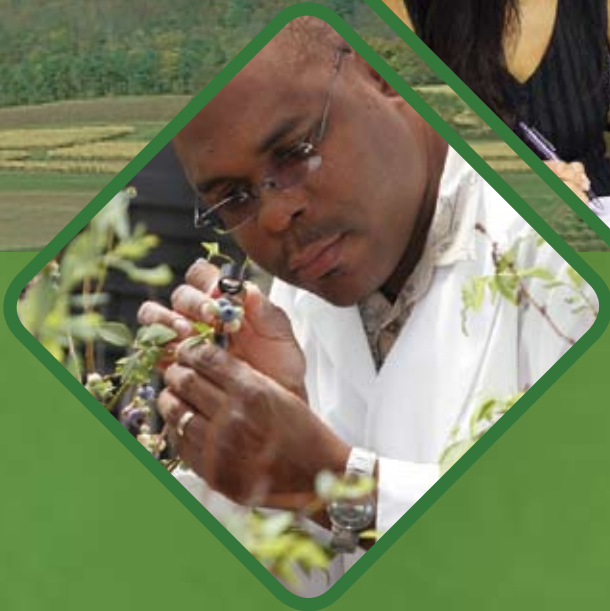
NCAC-24, Experiment Station Committee on Organization and Policy

The North Central Advisory Committee for agricultural education research operates under approval of the North Central Regional Association of Agricultural Experiment Station Directors. NCAC-24 includes agricultural education academic department chairs/heads from across the nation. The committee exchanges information, reviews multi-state research activities, and identifies priorities and strategies for enhancing research in agricultural education. (http://lgu.umd.edu/lgu_v2/)

The National Council for Agricultural Education

The National Council for Agricultural Education strives to stimulate positive growth in agricultural education. Since its formation in 1983, The Council has provided leadership for stakeholders in agriculture, food, fiber and natural resources systems education. The Council serves as a common meeting ground for agricultural education with a membership that includes organizational representatives from student, teacher, teacher educator, state leader, alumni, industry, and government groups. The Council promotes success for students and teachers who participate in formal agricultural education instructional programs offered in grades seven through adult throughout the 50 states and three U.S. territories. (<http://www.teamaged.org/councilindex.cfm>)





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