

Unit Review

Outreach/Service/Extension

Within the University of Georgia (UGA), the College of Agricultural and Environmental Sciences (CAES) is unique because there are Cooperative Extension faculty (public service tract) in 159 counties in Georgia. County faculty depend upon CASE departments such as the Department of Crop & Soils Sciences (CRSS) for technical resources. Often outreach, service, and extension areas are considered synonymous. However, CRSS considers these to be three different areas with varying levels of faculty involvement and appointments.

Outreach

CRSS faculty provide programs, lectures, consultations, expertise to business, public schools, institutions, government, non-government organizations, and the public-at-large on issues of interest related to each faculty member's area of expertise. These activities are normally not included in the traditional responsibilities identified within extension appointments. All faculty members are encouraged to participate in outreach activities. Often, these issues are related to societal concerns that need a level of knowledge that is possessed by members of the University. These concerns range from local issues such as zoning regulations, environmental quality, and K-12 science projects to global initiatives undertaken by U.N. committees. A faculty member's involvement in outreach is directly related to the scope and quality of their program.

Service

CRSS faculty are intimately involved with service activities to CAES, UGA, and a wide range of professional societies. Faculty serve in many leadership roles such as Chair of the University Curriculum Committee. Our department presently has 2 delegates to the University Council and has faculty serving on various other college and university committees. CRSS faculty serve professional societies at the state, regional, national, and international levels. In the past 7 years, CSS faculty have served as Editors or Associate Editors for many refereed journal publications, and have served on grant proposal review panels. Faculty have also been elected to serve as officers, board members, and ex-officio advisors to numerous professional groups.

Extension

How is the unit academic and professional expertise extended to the public and communities?

The role of faculty with extension appointments is to provide technical support to the Cooperative Extension based county faculty in their area of expertise.

Technical support is provided through various methods including annual training meetings or updates, newsletters, web-based publications, e-mails, telephone, and on-site consultations. Extension specialists are routinely invited to present up-to-date information at local meetings that are designed to address a current or specific need. These county meetings reinforce the universities' presence at the local level and the commitment of the university to its clients. Since the last review, extension faculty participated in or conducted over 1500 local county meetings in which direct contact was made with local clientele. Each year, in addition, numerous other types of meetings (field days, industry updates, short courses, workshops, etc) are also conducted by CSS extension faculty. In addition to the local meetings, extension faculty participated or conducted over 750 additional meetings which were not conducted by local county faculty. Typically they represent a more regional approach in which direct contact is made with clientele. For example, the 2006 UGA Turfgrass Field Day attracted over 1000 participants to the Griffin Campus. Another example is each year the Tifton faculty demonstrates research and applied demonstration plots at

the annual Sunbelt Expo which attracts over 250,000 participants.

Faculty also provide electronic media to extend individual programs to the community. Extension faculty websites have proven to be an effective means of communicating information to the public. For example, the Crop and Soil Turfgrass website attracts over 50,000 to 70,000 hits per month. The following departmental extension websites are found on the UGA College of Agricultural and Environmental Sciences servers:

<http://www.griffin.uga.edu/caes/cotton/>
<http://commodities.caes.uga.edu/fieldcrops/forages/>
<http://www.georgiagrains.com>
<http://www.ugapeanuts.com/>
<http://www.griffin.uga.edu/caes/soybeans/>
<http://www.griffin.uga.edu/caes/tobacco/>
<http://www.georgiaturf.com>

Over the past few years, the role of the extension specialist has been expanded to include applied research. The focus of this applied research is to develop new information that can be used to solve problems. Historically, this type of applied research was conducted by university faculty with formal research appointments.

Although the first user of the extension specialist is the county extension agent, the expertise of the specialist is also available to other clients such as growers, agribusiness and government personnel, private consultants, media, and the general public. Each extension faculty member uses a multitude of methods to convey their expertise. Examples include written materials such as refereed extension bulletins which are comprehensive and detailed publications addressing specific topics that are used as a technical resource by the public. Since the past review, extension faculty have published over 80 journal articles and 200 bulletins and other refereed articles. Other materials include yearly updates of production guides, popular press articles, and newsletters. These are time-sensitive publications that address issues of immediate importance to the public. During the same period of time since the previous review, extension faculty produced more than 1850 various publications, newsletters or fact sheets. Most are available in written and electronic formats.

How is faculty/student/staff knowledge linked with significant human needs and societal problems, issues, or concerns?

CRSS extension faculty stay current on important issues and needs by maintaining frequent daily contact with county extension faculty and other clientele via telephone, e-mail, or face-to-face contact and through professional interaction at the state, regional, and national levels. CRSS extension faculty respond to these issues both proactively and reactively. It is not uncommon for an extension specialist to identify needs or issues that may not be immediately obvious to the local end user. For example, the threat of herbicide resistant weeds has the potential to influence every county in Georgia but may currently be causing a problem in just a few counties. On the other hand, an extension specialist frequently responds to very specific needs that may develop only at the local level.

CRSS extension faculty serve as advisors to various organizations such as the Georgia Certified Crop Advisors, Georgia Plant Food Society, and the Georgia Crop Production Alliance. These groups are in a unique position to identify needs and how the CSS extension faculty can help to address them.

Lastly, the UGA Cooperative Extension organization has an official needs assessment process in which local and statewide emerging issues are identified through county extension faculty.

What type of service-based instruction, applied research, technical assistance, and programs and activities does the Unit engage in that are tied to the Unit's mission but that also meet community needs? The mission of CRSS is to provide quality education in the basic and applied sciences as they relate to environmental and agricultural systems; to seek, verify, publish and/or make widely available and apply scientifically based knowledge related to agriculture and the environment. More specifically, extension faculty inquire into the nature of crops, soils, and the environment, through scientific discovery of new knowledge, and apply that knowledge in sustaining environmental quality and enhancing the viability of agricultural systems. CRSS extension faculty serve the public through timely technology development and education of producers, consumers, policy makers, and agribusiness using relevant, accurate and unbiased information.

CRSS faculty strive to develop service programs that meet the needs of their clientele. For example, the expertise and leadership of our faculty is needed by growers who produce agricultural commodities and must compete in a global environment. CRSS extension faculty have conducted over 1,500 county meetings in the last seven years. County meetings are conducted on an invitational basis only (from county extension agents) and place academic faculty in direct contact with the citizens of Georgia. In addition to these meetings, CRSS extension faculty have given invited presentations at approximately 750 state and regional meetings that are attended by farmers, turfgrass managers, state and federal agencies, and persons employed in agriculture related industries.

Applied research is conducted by CRSS extension faculty to meet the needs of specific clientele groups by ensuring information is scientifically based. For example, the emergence of herbicide-resistant (glyphosate) weeds in cotton has resulted in 49 research projects to develop effective and economical management strategies to control new weed species that have become problematic since the development of herbicide-tolerant crops. In the past five years, the weed science extension and research group has established a national reputation in herbicide-resistant weeds, and weed species shifts, that have occurred due to the widespread use of herbicide-tolerant crops. During this same time period, this weed science group has given invited presentations on these issues in Australia, Colorado and North Carolina. In 2005, this weed science group held a symposium in Tifton, Georgia on the emergence of Benghal dayflower, a weed that has recently emerged due to annual use of herbicide-resistant crops. Over 100 scientists attended this event. Results from applied research programs are published and disseminated through various outlets. CRSS are also active with professional societies and involved in graduate education.

Technical assistance is provided by CRSS extension faculty on a free-of-charge basis to county extension agents and various clientele groups (farmers, agri-industry personnel, consultants, state and federal agencies, etc.). Each year CRSS extension faculty answer thousands of phone calls, and make numerous on-site visits on a myriad of production agriculture, turfgrass, and environmental problems. Technical assistance is also extended to agencies such as EPA and the Georgia Department of Agriculture. Since 1999, CRSS extension faculty have prepared Section 18 Emergency Use Herbicide Exemptions for the Georgia Department of Agriculture. Georgia growers of various commodities have saved over 1.5 million dollars per year due to this effort. We also identify approximately 1,000 weed species per year, and provide technical assistance (weed control and fertility recommendations for vegetable crops) to the Horticultural Department.

In addition, extension faculty share their expertise with UGA students in the classroom via either guest lectures or by taking on the responsibility of specific classes. We assist in providing baccalaureate and graduate education in crop, soil, and environmental sciences that prepare students to effectively contribute and excel in a global community.

How do unit service activities contribute to the University goal of “competing” in a global economy?

Our technology and economy has significantly increased the opportunity for UGA’s clientele to participate in a global economy. Georgia’s and the United States economies are directly influenced by global markets and political/economic changes of our trading partners. CRSS extension faculty are keenly aware of the need for growers, agribusiness, students and other clientele to remain competitive and engaged in global activities, trends, and opportunities. Extension faculty take opportunities to seek new knowledge outside the U.S. that may contribute to the strengthening, advancement and competitiveness of our own technology by studying other production systems or sharing technology that is mutually beneficial. A few examples follow:

- Rising energy cost have significantly increased fertilizer prices throughout the world. Extension faculty have investigated numerous ways to be more efficient nutrient users to compete with other countries. Examples of this research include rate and timing studies, fertilizer application methods and placement and comparisons of different fertilizer materials and fertilizer additives. The benefits and economics of foliar fertilization have also been studied and promoted to Georgia growers.
- Conservation tillage has been investigated and the benefits promoted to farmers through county agents. Various ways to conserve fuel, labor and equipment have been studied and promoted. This not only increases grower’s economic competitiveness on a global basis, but also has long-term benefits by increasing soil organic matter improving soil quality.
- CRSS extension faculty routinely update and post information on variety selection by working closely with the variety testing program. The latest information on other cultural practices such as planting dates, row spacings, etc. are continuously updated to maximize yield and profits and therefore remain competitive globally.
- Extension faculty have been invited on numerous occasions to visit other countries to work on special topics that can benefit Georgia farmers and help them compete globally. For example, extension weed scientists have visited Australia to work on controlling tropical spider wort, a highly competitive weed in cotton and peanuts. The extension grain specialist has explored for new grain germplasm in China and the extension soil scientist has studied potassium nutrition for cotton in Australia and soil fertility for peanuts in Guyana, South America. The extension Tobacco specialist has visited and studied other countries production systems to ensure Georgia tobacco growers remain competitive, globally.

CRSS extension faculty strive to strengthen the competitiveness of Georgia’s agriculture while preserving the sustainability of its natural resources and are committed to being the state’s leading provider of scientifically based knowledge and education.