

Program Review Report

Crop and Soil Sciences Department

College of Agricultural and Environmental Sciences

April 2007

1. Preface

The program review team (PRT) consisted of:

- Dr. J.T. Sims, Professor of Plant & Soil Science and Associate Dean of Agriculture and Natural Resources, University of Delaware.
- Dr. U. Dietrich-Hensel, Small Animal Medicine, College of Veterinary Medicine (PRAC representative).
- Dr. J.W. Fisher, Environmental Health Science, College of Public Health.
- Dr. D.A. Bailey, Horticulture, College of Agricultural and Environmental Sciences (chair).
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The review team was formed the week of 13 November 2006, and the initial orientation meeting took place on 20 November 2006. The UGA PRT site visit took place from the morning of Monday, 27 November 2006 through the evening of Thursday, 30 November 2006. The site visit included stops at the Griffin and Tifton campuses as well as facilities on the Athens campus. Faculty, staff, and student questionnaires were initiated on 5 December 2006 with an ending response date of 12 December 2006.

2. Overview

The Crop and Soil Sciences Department (CRSS) is a multifunctional, inter-disciplinary, multilocal department and is, through its strong programs in breeding/genetics/genomics, crop management and physiology, soil and environmental sciences, and weed science an essential component of the College of Agricultural and Environmental Sciences (CAES) at UGA. The mission of the CRSS is threefold: to provide quality education for the undergraduate and graduate students; to develop and generate new knowledge that enhances the viability of agricultural systems and sustains environmental quality; and to serve the public through information for and education of producers, consumers, policy makers and agribusiness communities. The review team considered the effectiveness of the Department in light of the stated mission. The faculty members are to be commended for their recent efforts to further enhance the environmental sciences component of the department's mission and to develop interdisciplinary majors. Further emphasis in these areas is encouraged given the changing nature and interests of undergraduate students today. College administration gave positive feedback regarding the department's rate of publications, success in grantsmanship and multi-disciplinary research, innovative teaching programs, commitment to excellence in extension programming, and the level and quality of their interactions with stakeholders/clientele. External

cooperators expressed great appreciation for extension education programs and research support received from the department. It is obvious that the department is held in high regard both within and outside UGA. The graduate program is well regarded by current students and has a comprehensive and well-designed system in place to admit, advise, and mentor students. Recruitment innovations to attract high quality students, increased teaching and extension/outreach opportunities, and expanded departmental efforts in professional development are the main programmatic needs for graduate education. The greatest challenge the department currently faces is their increasingly complex, multi-locational teaching program (undergraduate and graduate); particularly the task of managing interdisciplinary majors and coordinating course and curricula offerings at the three campus locations, Athens, Griffin, and Tifton.

There is general satisfaction with the Department Head's efforts to manage programs at the three campuses and with the quality of administrative support provided to faculty and students. Some faculty, however, expressed a desire to see the Head engage the faculty in the development of a clearer long-term vision for the department and in a discussion of the strategic actions needed to attain that vision. During interview sessions, faculty members expressed satisfaction with the level of input they have on faculty position creation and the hiring process. They also expressed the belief that there is equity of distribution of departmental resources (state dollars). However, two points of concern regarding departmental administration were noted from interviews and questionnaire responses. First, there was confusion as to the duties of the Research / Extension / Instruction (REI) Coordinators. The role of the REI coordinators was also an issue during the 1999 departmental review. Though there is a paragraph in the departmental bylaws describing the REI coordinator positions, there are no specific responsibilities listed. Support staff members were uncertain as to whether personnel issues should be taken to their REI or to the Department Head. It is suggested that a "position description" be drafted and communicated to faculty members and support staff to eliminate any confusion regarding the function of these positions and to clarify areas of administrative responsibility. Related to this, there were also some concerns about the responsibilities, budgetary authority, and level of programmatic oversight of the Assistant Deans at the Griffin and Tifton campuses, relative to the Department Head and the REIs. This is another area where efforts should be made to clearly delineate the roles and responsibilities of administrators who impact faculty and staff performance. Second, the procedures and current plans for evaluation of the Department Head are somewhat unclear. As per the College of Agricultural and Environmental Sciences (CAES) guidelines (<http://www.caes.uga.edu/intranet/policy/section1/01-04.html>), Department Heads are to be reviewed by faculty of the department at least every three years. Dr. Shilling became Department Head in 2004 and therefore should be evaluated in 2007. It is assumed that the CAES Dean's office will administer this evaluation and will communicate the process to faculty and staff members in the near future.

3. Faculty / Staff

A. Faculty:

The CRSS has 36 tenure track faculty positions with 5 additional positions presently being filled; 1 public service track, and 3 research scientist faculty which are distributed at three campuses

(Tifton, Griffin and Athens) throughout the state. In addition CRSS supports 4 Teaching Assistants. Faculty ranks include Assistant, Associate, and Full Professors; Assistant and Associate Research Scientists; and Public Service Assistant and Associate positions. Faculty members at all three campuses report directly to the Department Head. Though the department lost four Assistant Professors in recent years, all were due to overwhelming external offers and were not due to internal factors. Adequate counter offers were made yet not accepted. Circumstances such as moving back home, spousal hire issues, and moving out of academia for career change are difficult to overcome with counter offer packages. The department has been successful with other counter offers to retain more senior faculty and has been able to attract faculty from other universities as well. The department and college appear to aggressively attempt to retain high quality faculty. Their commitment to maintaining excellence is commendable.

Although there is general camaraderie within the department, it is evident that there are challenges in the management of a multilocal department. Faculty members in Griffin view the Environmental Resource Science (ERS) major as a Griffin major rather than a departmental or interdisciplinary college major. While local ownership of a program can be good, a broader view and inclusive attitude would enhance the likelihood of success for this program. For example, many of the soil science faculty members in Athens and Tifton have expertise that could enhance the quality of the ERS major and should be encouraged to become involved not only in teaching, but also in planning for the growth of this program. Tifton faculty expressed concern that the Agriscience and Environmental Sciences (AES) major offering proposed in Athens will not reflect the original intent nor afford the same experience of the original major that was designed to fit strengths and resources available at the Tifton campus. To some, it seems inevitable that an AES major offered in Athens will be significantly different from the existing major. The Review Committee is not convinced that this is the case, but suggests that the faculty at Athens and Tifton discuss this major in depth and determine if there needs to be separate “areas of emphasis” that take advantage of the unique strengths at each location. This will assure the integrity of the original major while allowing Athens-based undergraduates the opportunity to major in a similar program without having to transfer to Tifton. It could also allow students at Tifton to take advantage of faculty expertise in Athens, particularly if the quality of the distance education infrastructure at the two locations can be improved and expanded. Overall, communications regarding curricula issues between the three departmental locations needs to be greatly improved. Lack of sufficient dialogue among locations regarding courses and curricula is hampering program effectiveness unnecessarily. For example, it was reported to the Review Committee that the curriculum committee in Athens almost removed a course from being offered without realizing it was being taught by and was needed by programs at the Tifton campus. The department needs to take stronger and more consistent actions to facilitate coordination in the planning and implementation of multi-local teaching programs. These new majors offer tremendous opportunity to faculty and students and should be advanced through collegial discussions and planning that should begin as soon as possible.

Faculty in Tifton pointed out discrepancies in how teaching programs are handled (appears to be more difficult to get responses from the registrars office regarding acceptance of students for the Tifton program than for Athens-based programs) and in the processing of course and major changes (much more paperwork and steps involved for Tifton) as compared to identical program

changes undertaken for the Athens campus. They expressed a general feeling that Tifton is not treated as a sibling campus, rather the campus is treated like a second tier location compared to Athens. The Review Committee notes that such procedural inequities are UGA-based and can often fall outside the control of the department and college. However, these situations serve to fuel the perceived insensitivity of the Athens campus to other UGA locations and are unfortunately eroding the department's unity. It is extremely difficult to maintain a strong sense of unity among multiple locations at all universities, yet both the strength of multiple locations and of unity of planning are essential to the continued programmatic excellence of the department. As previously mentioned, enhanced communications among locations is strongly encouraged to assist in establishing more common ground among faculty members at the three campuses.

Concern was expressed that there is not ample "critical mass" of biotechnology faculty in Tifton to sustain that area of work and that lack of certain types of advanced equipment was a limiting factor. The review team encourages greater interaction between CRSS Tifton faculty members, with those housed in other departments, and within USDA at Tifton. The campus overall does appear to have ample critical mass and resources; better networking is encouraged.

The review team observed a significant lack of diversity within the faculty ranks. Diversity enhancement is a major challenge within the department and within agriculture in general, and both the department and college administration noted that this issue was a top priority. Having more minority and women faculty members would help recruit a more diverse departmental undergraduate and graduate student population.

Junior faculty members indicated that expectations for promotion and tenure are clearly laid out. While no formal mentoring program exists for Assistant Professors, the junior faculty members felt informal mentoring and guidance from senior faculty and the Department Head was more than adequate to shepherd them through the process. The annual review process by the Department Head was also mentioned as an effective means of obtaining feedback for the tenure process.

B. Staff:

In general, faculty at all campuses were pleased with the quality and dedication of their staff, but concerned about the declining numbers of staff members and the methods used to coordinate staff activities. There are 43 staff plus additional administrative staff support given to faculty on the Tifton and Griffin campuses from their respective Assistant Deans. Administrative staff members on the Athens campus report directly to the Department Head, whereas administrative staff members at Griffin and Tifton report to the respective Assistant Dean. Interviews with faculty members and questionnaire responses both indicate general satisfaction with the quality of support staff. Staff members participate in classes and workshops that are part of the instituted training and development programs, and they are viewed as well trained and supportive of the needs of faculty and students. There was however, concern over reduced accounting support in Athens, mainly due to the loss of the primary bookkeeper and turnover in that position since that retirement. The issue is being addressed by the addition of another administrative support position. There were concerns expressed at Griffin and Tifton that transfer of

administrative support staff out of departments and into the Assistant Deans' offices has hurt departmental identity and communications both internally and with external clientele. This concern is accentuated in Tifton where there appears to be an inadequate number of phone lines to handle the incoming call load and a concern that there is insufficient staff to handle the current work load (some faculty have resorted to hiring additional administrative support staff on grant funds). Rectifying these support issues cooperatively with the respective Assistant Dean should be a priority at these locations.

The Department Head routinely meets with staff at all locations; effective lines of communication appear to be open. Survey results and interviews with staff both indicate that faculty members treat staff members with professional courtesy and that staff members feel appreciated. Departmental and college staff appreciation functions are in place in Athens, and college staff appreciation functions are in place in Griffin and Tifton. The department and the college are to be commended for their staff appreciation efforts. Departmental administrative support staff is given time off for and encouraged to participate in professional development activities. Both administrative support staff and farm staff feel "empowered" under the current administration to make decisions and to be an active part of an administrative team. Problems were encountered at the Griffin campus where the Griffin administrative support staff members (housed outside the department) were not as positive about their situation. They indicated that the "cluster system" doesn't work; each cluster of administrative staff members operates independently, so back-up among clusters doesn't work because procedures / job responsibilities differ among clusters. While this situation lies outside the control of the department, the problem directly affects the department and was thus noted by the review team. The Griffin staff expressed concern over the new college policy of only guaranteeing 3 years of hard funding for technicians. They feel that this will reduce the quality and quantity of staff position applicants, since staff members in Griffin see the position as a career rather than a career step. They feel that personnel in Griffin view their jobs as more permanent than their counterparts in Athens and that this may not be as much of a concern on the Athens Campus as it is in Griffin. Griffin staff also reported they did not feel like they had anyone to address on-site personnel issues between staff and supervisors. Though they indicated there were no problems at this time, the REI is not viewed as someone to take conflict issues to, nor did they feel comfortable contacting the Department Head (though they acknowledged an open door policy and frequent meetings with the Head). It may be beneficial to assure staff that there are means of having any issues addressed through either the departmental or the campus administration.

4. Academic Programs

A. Undergraduate:

The needs and composition of students served by CRSS have changed dramatically since the last PRAC review, and CRSS is to be commended for the curricula changes made in response to these dynamics. Most students in the department are transfers from other UGA majors or other colleges and very few have an agricultural background. The department is now home to five undergraduate majors, two of which are interdisciplinary in scope; two areas of emphasis; and one minor. Current programs are: Turfgrass Management (TRF) major, Water and Soil

Resources (WSR) major; Environmental Chemistry (ECHM) major; the interdisciplinary BSA in Agriscience & Environmental Sciences (AES) major offered at the Tifton campus since 2003; the interdisciplinary Environmental Resource Science (ERS) major taught at the Griffin campus since 2005; a Plant Science area of emphasis in Applied Biotechnology (PSE in BTEC); a Plant Science area of emphasis in Biological Sciences (PSE in BIO SC); and a minor in Crop Sciences. Changes in the curricula reflect an increased emphasis in the environmental sciences area and are seen as very positive moves.

The review team met with undergraduate students at all three campuses, and the students were very pleased with their programs of study. Specific strengths noted by students (both in the interviews and in questionnaire responses) were 1) all courses are taught by tenure-track faculty, although lab sections are conducted by Teaching Assistants; 2) students feel like they have very good access to advisors and professors; 3) all advising is done by tenure track faculty; 4) WebCT is used extensively and effectively by instructors in many courses; and 5) computer support facilities are excellent. Students felt like they are exposed to ample speaking / writing / presentation opportunities in their courses. However, the Review Team suggests that a specific undergraduate course in professional development be considered that would provide students more direct training in these and other career-related areas. Students in the TRF major indicated that they found out about the major either by word of mouth or by taking the introductory turf seminar course. The department may want to consider offering a series of 1 hour freshman seminar courses or other recruitment courses with broad interest to increase student exposure to programs within CRSS and to help recruit needed majors. Given the reliance of the department on transfer students as opposed to new freshmen, significant resources need to be devoted to innovative programs that will inform students at UGA and 2-year colleges about the opportunities provided through the department's teaching programs.

Some concerns surfaced during student interview sessions: 1) the ERS major and TRF majors do not have an internship requirement. Given the CAES thrust to enhance student learning outside the classroom (*The Dean's Promise*), it is recommended that a formal internship be considered for these majors. Establishing high quality internship programs is an area where faculty in Athens and Griffin can and should collaborate for the good of the students. 2) Students indicated that they feel there are many more fall semester course offerings as compared to spring semester (not only for CRSS courses, but also other required courses in other departments), making it difficult to schedule required courses. This is a greater problem for external transfer students, which accounted for 50% of majors that we interviewed. It is recommended there be an evaluation of when courses are offered and changes be made, if warranted. 3) There is only one study abroad course offering within CRSS. It is unclear if this is due to a lack of interest on the part of faculty or a lack of support from the college and UGA administration. When asked about study abroad, there was not widespread knowledge about this course or the value of study abroad programs in general among students. CRSS is encouraged to promote study abroad opportunities more effectively and to consider offering more study abroad opportunities for students in the future. 4) Students we interviewed also said no CRSS courses had a service learning component. Service learning is rapidly becoming an important part of many UGA courses and should be considered as courses are revised. 5) Students requested that CRSS develop a semester-by-semester guide (of courses to take) to aid in registration and general student advisement.

The TRF major has averaged an enrollment of 29 and averaged 9 degrees conferred annually over the past seven years. Though the number of degrees conferred per year is low, the department has initiated an aggressive recruitment program including flyers for majors, the development and offering of recruitment courses at the Student Learning Center, departmental participation at majors fairs, interaction with advisors from the College of Arts and Sciences, and student club activities. Multiple job offers for graduates (assessed from discussions with current students, faculty members, and departmental graduate faculty data) and discussions with prospective employers indicate that the TRF major is extremely valued and needed to support Georgia's turf and golf industries. Communicating these opportunities to students at UGA should continue and expand to 2-year colleges as well.

The WSR and the ECHM majors were designed and first offered in 2005. The development of these majors shows responsiveness to student and industry needs. It is anticipated that the attractiveness of these programs in conjunction with the aggressive recruitment program of the department will lead to increased enrollment.

CRSS also houses two multidisciplinary majors, AES and ERS. Enrollment in the 3-year-old AES major appears to be increasing and has averaged 23 since its inception. The ERS major has only been offered one semester. Students at both Griffin (ERS) and Tifton (AES) expressed great satisfaction with their program of study and with program support (faculty advising, computer facilities, laboratory facilities, etc.).

In general, the departmental faculty involved in teaching courses for these four majors are very positive about the future of each one. As mentioned earlier, a positive feeling of ownership was conveyed to the review team. However, there is no coordinated departmental or college plan to offer oversight to these multi-disciplinary and soon to be multi-locational majors. Both CAES and CRSS are encouraged to thoughtfully develop a plan to assure efficiency in course offerings of the same courses at different locations. Efforts to develop internship programs and to provide advisement to students on career and graduate school opportunities are needed as well. The Review Team stresses that lack of a coordinated plan to manage undergraduate teaching among campuses appears to be leading to redundancy in course offerings and inefficient use of teaching EFT. A teaching retreat and extensive dialogue about coordination in undergraduate programs is essential and recommended for CRSS and for other departments involved in multi-locational course offerings. As previously mentioned, the offering of the AES major at the Athens campus needs more consideration and may best be implemented via a unique "area of emphasis" within the major. The department is encouraged to explore this or another option to assure the integrity of the major at both at the Tifton and the Athens locations.

It was noted that a lack of ownership was reducing CRSS interest in and support for the PSE in BTEC. We received feedback such as: "this (BTEC) major is housed in Entomology and is not handled as true interdisciplinary major; no advisees interested in the plant science area are ever referred to the advisors in CRSS; no curriculum committee meetings have been held; no 'ownership' felt in CRSS, only frustration with lack of growth in a potentially viable major; this is a college problem with all CAES interdisciplinary majors, yet the college appears to look to department where majors are housed for leadership; this is a flawed system." This is unfortunate, as the BTEC major has great potential and should be a program supported by all

departments in the college. It appears that UGA does not have provisions for college-wide oversight for interdisciplinary majors. Such oversight would allow for more cross-departmental ownership and participation in and ultimate success of interdisciplinary majors. The college is strongly encouraged to design a management strategy for all interdisciplinary majors to assure their maximum success.

It appears that no additional teaching EFT was given to the department when they were given oversight responsibility for the AES and the ERS majors. Athens-based departmental teaching EFT was distributed to the Griffin and Tifton Campuses. Also we were told CRSS was not given additional resources when these new majors were instituted. It is critical that there be statewide planning to insure the most effective / efficient use of limited EFT resources—what is the most critical goal? Is it to raise the number of majors credited to the department, to produce graduates to fill applicant deficiencies in specific fields, and/or to increase student contact hour generation in the department? It is suggested that CRSS and CAES define these goals / needs, and then assign EFT and other resources based on these goals. There does not appear to be a cohesive plan for managing the undergraduate programs in the department and in managing (by the College) the multidisciplinary majors residing in the department.

Finally, there were two additional observations made by the review committee with respect to the overall undergraduate program in CRSS. It appears that the majority of CRSS faculty are not directly involved in undergraduate education; instead, the majority of the teaching load now falls on relatively few faculty members. This is unfortunate, as students are missing out by not being exposed to the broad pool of expertise available within the department. Interactions of more faculty members with undergraduate students could also lead to their increased enrollment in CRSS graduate programs – helping to overcome the difficulty in finding qualified graduate students, a fact that was regularly mentioned by most faculty. There is also very limited diversity in the undergraduate student population. Enhancing student diversity is an extremely challenging task. We encourage the Department Head to become more engaged in this area and faculty to participate regularly in recruitment programs such as Young Scholars to help attract minority students. Having additional minority role models in the classroom may also help with minority student enrollment.

B. Graduate:

The Graduate Program in the Department of Crop and Soil Sciences offers four degrees: 1) Master of Crop & Soil Sciences (MCSS, non-thesis); 2) Master of Plant Protection and Pest Management (MPPPM, interdepartmental with Entomology and Plant Pathology); 3) Master of Science in Agronomy (M.S.) and 4) Doctor of Philosophy in Agronomy (Ph.D.). Enrollment trends from 1998–2005 show the MCSS degree is rarely undertaken by students (1 degree conferred in 7 years out of 4 enrolled students), and the Review Team agrees with the decision to deactivate this major. Both the M.S. and Ph.D. degrees in Agronomy have had relatively stable enrollments during this period, averaging 21 and 16 students, respectively. The average degree completion time and number of degrees conferred for the M.S. degree during this period was 2.7 years and 7 degrees per year; for the Ph.D. these values were 4.5 years and 3 degrees per year. These trends are reasonably similar to those at other universities; however enrollment trends for both M.S. and Ph.D. degrees are rather flat and in some disciplines there is serious concern about the ability to sustain the “critical mass” needed for high quality graduate programs. Faculty

commented that identifying and recruiting high quality students is one of the greatest challenges the department faces in graduate education. Despite this concern, there does not appear to be a concerted departmental effort or long-term recruitment plan for graduate students and the Review Team recommends that this be considered. For example, a number of current graduate students completed their B.S. or M.S. degrees at UGA and this could be an avenue for expanded recruitment efforts in the future, particularly with the advent of undergraduate degrees in Griffin and Tifton. Efforts to obtain competitive fellowships from within UGA and externally (e.g., USDA National Needs, NSF) should be pursued more aggressively as these fellowships can be useful in the recruitment of high quality graduate students.

Faculty and departmental administration have developed and implemented a comprehensive approach to admit, advise, and mentor graduate students once they are enrolled. Current students surveyed in this review commented very favorably on most aspects of their graduate education experience in CRSS. Typically, >80% of the students responded that they agreed or strongly agreed that: graduate courses were reasonable, grading policies were fair, adequate time was provided for interactions with advisors and advisory committees, that equipment, space, and facilities were adequate for their research, and that they were satisfied or very satisfied with classroom instruction and professional development opportunities. In clear testimony to the faculty's commitment to graduate education, the 16 graduate students surveyed rated their overall satisfaction with the graduate program at 4.2 on a scale of 1–5.

Some suggestions for improvement in graduate education were made by students and faculty and the Review Team concurs with these: 1) as noted above, there is a need for an improved recruitment strategy for graduate students; 2) while the department has developed a communications course (Advanced Agronomy Seminar) they should consider the need for a more comprehensive professional development course that addresses other issues of importance to graduate students (e.g., career opportunities, job-seeking skills, how to succeed in industry, academia, and government careers) and exposes them to outside speakers who can provide different perspectives on these issues; 3) graduate students need more teaching and extension/outreach opportunities – the department has initiated a “guided teaching experience” program but students feel this could be expanded to help prepare them better for the future; 4) perhaps most important, CRSS faculty should meet and achieve consensus on the need for and management of multi-locational, and increasingly interdisciplinary, graduate degree programs or specialized graduate programs offered solely at the Griffin or Tifton campuses; and 5) the Review Team notes that only 27 out of 40 CRSS faculty participate in graduate student education (with respect to graduate faculty status) and suggests there is a need to bolster this number.

5. Research

The CRSS department has a strong research presence at UGA and within the CAES. Some faculty members are exceptional in their ability to maintain extramurally supported research programs. These faculty members are primarily funded from competitive federal grant programs, which pay IDCs. Many faculty members are supported by ‘gifts’ or small non-competitive grants or service contracts, which do not generate IDCs. This is a common land

grant business model not only for this department and the CAES, but also for many other state universities. However, this business model is not endorsed at some land grant schools. A strategic research vision is needed for the department relative to state or gift supported research versus competitive grants. Several faculty members mentioned the need for the Department Head to lead such an effort and to think more strategically in the future. Building a strong consensus around this vision will lead to success in new faculty hires and set in motion a plan for a strong and sustainable research program over the next decade. With the large number of faculty and new hires, flexibility exists to be proactive and meet a new vision for this department. One approach to identify new research directions and foster faculty involvement in the interdisciplinary programs (which are the increasing focus of national and international agencies providing competitive grants) is for faculty to take more advantage of study leaves. Very few faculty members in CRSS have taken study leaves recently or appear to have plans to do so in the future. Study leaves provide an excellent opportunity for faculty to learn new skills, develop new research networks, and identify new opportunities for their research programs. The Review Team encourages the Department Head to more actively promote the value of and support of study leaves for all research and extension faculty.

The Department Head is encouraged to move in a leadership and management path that is beneficial to the future success and well being of the department, even if it means departing from historical policies and procedures prior to his tenure in the department.

6. Service

A. Extension:

The Crop and Soil Science extension faculty have developed a strong team-oriented approach that allows for rapid response to emerging issues. They have served as a model for past extension programming throughout the nation. There has been a significant loss of extension EFT; yet remaining faculty members have worked diligently towards maintaining as much support as possible for clientele. However, this loss of EFT plus the increasing expectation and need to develop and disseminate high impact issue-based technology in a timely fashion dictates that specialists now need to seriously reevaluate how they interface with clientele. Conducting applied research is now an expectation of all extension faculty members and will place additional demands on their already limited time. We were told that currently extension faculty members dedicate 30 to 70% of their time in the field addressing county field faculty and grower (and other clientele) problems. Although this is a very responsive mode of action, it perhaps is not the most efficient long-term method of responding to county field faculty and commodity clientele needs. A more equal balance of time should be given to archiving resources / developing hard copy or electronic copy resources to assist agents in addressing problems without real-time visits by specialists. The department is making efforts to allow for more efficient information delivery such as outsourcing web posting of materials. Specialists are encouraged to explore additional time conserving alternatives to numerous individual county meetings (over 1,500 last year alone). Related to this, there is a need to develop a clearer, departmental plan for the expanding role of extension faculty in research. This clearly can impact the type of new hires made by the department in the future and needs healthy discussion among all faculty and extension

professionals. CAES extension administration appears supportive of this transition, but in order for this change to occur, it needs to be a College-wide policy rather than singly based in CRSS.

There is also a concern that extension faculty are in jeopardy of “burn out,” and that recruitment of new faculty for these positions will be difficult due to excessive time expectations (many meetings are in the evenings). This is an additional reason for encouraging a reduction in county meetings. However, as previously mentioned, any change in extension delivery has to be college-wide / not just solely within CRSS; otherwise a mixed message will be sent to clientele. This is not an easy issue to address, as CRSS crop extension teams are well-known and respected throughout the state and the region. The challenge is, can the current level of support be maintained given the current reduced extension EFT level and the increased expectation for applied research contributions?

B. Service Facilities/Programs:

There are three major service centers within CRSS: the statewide variety testing program; the soils testing service lab; and the laboratory for environmental analysis. All three programs are serving an essential role and are appreciated by user clientele. There is also a new septic management training program initiative underway. The department is to be commended on their expansion into addressing and servicing the environmental arena to a greater degree. These programs are directly in line with departmental, college, and UGA major initiatives.

C. Service to Profession / University

Faculty members in CRSS are extremely active in and supportive of their respective professional societies. This is indicated by the vast number of committees and editorships reported in faculty member CVs. There was some concern over the distribution / participation in UGA service by faculty members. Only 25% of faculty members participate in UGA service activities according to current committee assignments. With such a large department, it is hoped that additional faculty would contribute towards faculty governance and university service activities.

7. Facilities

The current office and laboratory space is adequate for supporting existing faculty, staff and students at all three locations in Athens, Griffin and Tifton. Questionnaire results from students, faculty members and staff indicate general satisfaction with current facilities and equipment. However, during the site visits at all three locations it became obvious that many of the CRSS laboratories need significant renovation. This concern was also raised by faculty, staff and students; concern was also raised about the age of many essential pieces of equipment.

A. Athens Campus.

The addition of the Center for Advanced Genetic Technology in 2001 provided the Athens based faculty, involved in breeding, genetics and genomics research programs outstanding laboratory and office space. The AgTech building houses a state-of the art genomics core, five academic plant science research programs, and the Georgia BioBusiness Center. However, the space in the AgTech building is not under the long-term direct control of CRSS, as it was established under the initiative by faculty from several departments through UGARF and GRA. Teaching

classrooms and laboratories are mainly located in the Miller Plant Science Building. Space in this building is heavily utilized and cramped; and there is little potential for expansion. The computer lab has been updated and most faculty, staff, and students have adequate access to information technology and equipment. The CRSS faculty utilizes the college based GSAMS system to videoconference. This system can be inconvenient and requires significant technical support, which is not always available. Also, the CRSS department has recently invested in a new IP based videoconferencing system. This system should allow faculty, staff and students to more effectively communicate without extensive travel. Some of the CRSS laboratory space in the Plant Science Building has been renovated, but additional renovation is needed. One of the main space problems is that Athens faculty members have lost space to other departments and colleges. Some of the applied programs that do not generate large amounts of indirect costs (IDC) yet do generate other forms of extramural funding (i.e. commodity support, royalty streams, gifts) are perceived to be of less priority to the University than those that generate IDC. The University Administration needs to recognize the importance of non-overhead generating extramural funding and take them into account when assigning or redistributing laboratory space.

Greenhouses are nearly 40 years old. Greenhouse spaces are heavily utilized and the need for additions and renovations is obvious.

The Athens Plant Science Farm is a 525 acres farm in Oconee County, which was acquired in 1970. The mission of the PSF is to provide support for field research, demonstrations, and a teaching laboratory used by CRSS researchers and other departments and agencies. Significant renovation of existing building and infrastructure in the Plant Science Farm in Athens is critical to support the field-based programs. Faculty and farm managers raised great concern about the decline in the extremely old farm equipment and infrastructure (buildings). There are currently no departmental or college funds available for upgrading and/or replacing obsolete and nonfunctional equipment or to undertake urgently needed repair of existent buildings. Significant investment is needed to support the continuation of the field-based programs at the Plant Science Farm. Of the 522 acres approximately 350 acres are under cultivation during the growing season. Due to budget reductions the PSF is now operating with three full time workers, but has historically operated with six full-time workers.

In summary, additional facility renovation and institutional support for equipment replacement and/or maintenance must continue at the Plant Science Building and Plant Science Farm. Completion of the genomics greenhouse, continued renovation of the Plant Science farm and greenhouses and faculty and teaching laboratories need to be funded.

B. Griffin Campus

The strong focus on increasing the teaching programs at the Griffin Campus will require large efforts from the University and State to improve the current infrastructure. There is an urgent need to implement plans for the construction and/or renovation of teaching facilities and laboratories, which are essential to the future success of the teaching and research programs in Griffin. The existent plans to build a student learning center (similar to the one than in Athens) which may accommodate up to 1,000 students should be pursued. Questionnaire results from students indicated an urgent need for a cafeteria on campus, student dorms, and better access to computer labs and libraries. During interviews faculty and staff raised concerns that research

and extension programs will lose facilities as the teaching program increases; people are under the impression that the teaching program will take priority over other station mission areas. New turf equipment storage building, maintenance shop, and offices for support staff will be required since existing facilities will be removed to provide space for the new Griffin Campus “Learning Center”. Additional molecular genetics laboratories and supporting equipment will be needed in the near future to support existing breeding and genetics and water chemistry research and teaching efforts in Griffin.

C. Tifton Campus

Tifton has excellent facilities for academic pursuits. There are some prestigious and impressive facilities on site which foster educational programs and interdisciplinary research efforts, such as the NESPAL center. The UGA Cotton Micro Gin, a \$2 million facility began operating in 2004 and does not only function as a research facility, but also serves as a means for education and outreach. Despite all those additions, funding of resources, space and equipment remains one of the most commonly raised concerns of faculty and staff at Tifton in order to maintain high quality research programs. The quality of greenhouses and growth chamber space are both very limited. Some Tifton faculty members have been relocated to a recently renovated building, which improved laboratory and office space for those faculty. Plans to renovate the Rural Development Center to accommodate teaching programs in Tifton should proceed. Tifton staff expressed concern over the limited office space for staff (both administrative support and technical); especially the Horticulture Building is overloaded and cannot house all staffing needs.

In summary, the department has currently adequate facilities for teaching, research and support service. However, there is a strong need to renovate and update laboratory spaces and to replace very outdated equipment, especially at the Athens and Griffin Campus. It appears that the CRSS departmental budget is too heavily oriented into personal services leaving insufficient operations and equipment dollar to maintain department facilities at all three locations.

Faculty members at all three locations presently provide funding for most of the equipment acquisition and maintenance. Teaching supplies, equipment, facilities and information technology infrastructure must be provided by the University, as extramural funding cannot be obtained for this purpose. Even with new facilities and possible future renovations, CRSS faculty will remain separated both by location and physically separated in different buildings at each location which can make cooperation challenging.

8. Summary of Recommendations

- The Review Team strongly feels that the most pressing issue facing the CRSS department is the rather urgent need to attain departmental consensus on future direction and management of undergraduate and graduate degree programs that are multi-locational and interdisciplinary in nature. We recommend that the Department Head convene a faculty workshop/retreat on this matter and invite the Dean of CAES, the Associate Dean for Instruction, and Heads of other departments engaged in interdisciplinary majors to participate.

- The Review Team believes that CAES administration needs to be more proactive in providing leadership and day-to-day management of multi-locational and interdisciplinary majors. In particular, the administration needs to: (i) clarify the current and future roles of Assistant Deans and REIs at the Griffin and Tifton campus; (ii) develop a governance structure that sustains the viability of interdisciplinary majors rather than have them degenerate into programs administered by a single department; and (iii) become more engaged in efforts to use the new majors as a means to attract new undergraduate and graduate students to various departments within the College.
- There is clearly a need for significant improvement and CAES investment is needed in technology resources and IT staff to support distance education for the Athens-Griffin-Tifton campuses. As newly created undergraduate majors expand and research and graduate programs grow at Tifton and Griffin, it is critical to provide and support a rapid means to link faculty and students at the campuses together for teaching, graduate student advisement, and in the planning of multi-location research and extension programs.
- Extension faculty need to develop a strategic plan and identify resources that will facilitate “mass delivery” of basic extension education programs while allowing faculty to devote their personal interactions to high priority and emerging issues. As with teaching, support for technology and IT staff is a key need in this area.
- The CAES Dean and CRSS Department Head should increase efforts to personally engage departmental faculty at all three campuses in long-range planning and in the development of any new visions or strategic plans now being conceived by administration for CAES and CRSS.
- The Review Team encourages the initiation of a systematic process to provide college, UGA, or external funding for core equipment and facilities that can be shared by scientists in various CAES departments.
- Increased efforts are necessary to attract and recruit minority students and faculty to enhance the diversity in this traditionally white/male dominated Department. This could be achieved through the establishment of and/or increased participation in existing recruitment programs, such as the Young Scholars program.