

Department of Horticulture

2009 Program Review

Final Report

Review Committee

W. Dale Greene
Forestry & Natural Resources

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Art

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March 2010

Procedures and Timeline of Review Process

Review Committee Meeting with Julie Noelke	October 9, 2009
Review Committee Meeting with Dr. Doug Bailey	October 22, 2009
Web-based Survey of Horticulture Department Faculty, staff, and students	November 2-6, 2009
Results of Web-based survey shared with Review Committee	November 9, 2009
Review Committee Meetings	
Athens	November 12, 2009
Meetings with Horticulture Department faculty, staff, and students Tour labs, office space, and greenhouses on Main Campus, South Milledge, and Riverbend Road Tour Durham Farm in Oconee County	
Griffin	December 10, 2009
Meetings with Horticulture Department faculty, staff, and students Tour labs, greenhouses, office space, and farms on Griffin Campus	
Tifton	December 11, 2009
Meetings with Horticulture Department faculty, staff, and students Tour labs, greenhouses, office space, and farms on Tifton Campus	

Executive Summary

This review was conducted during Fall Semester of 2010. Meetings with department faculty, staff, and students along with visits to facilities in Athens, Griffin, and Tifton took place during November and December 2009.

We sincerely thank Dr. Doug Bailey and everyone in the Department of Horticulture for their cooperation and hospitality while we performed this review. They began the review process by providing an exhaustive report detailing the performance of their programs. Faculty, staff, and students were at all times very open and willing to share their input on departmental strengths and weaknesses at each step of our evaluation. This department's greatest strength is clearly the quality of its people and their commitment to high performance despite the challenges they face.

The department is facing several challenges that must be effectively addressed if it is to continue to function effectively and be considered a top horticultural program in the United States. Many of these issues are not unique to this department but are shared with other programs at UGA and solutions will require actions or changes outside of the department.

Key issues facing the department include:

- Faculty – Research and extension programs are challenged to meet their objectives after significant reduction in faculty EFT in these areas. The department is to be commended for finding novel ways to continue to deliver outreach programs, but additional cuts appear impossible without significant reductions in service to the industry and clientele.
- Technical Support Staff – Horticulture requires talented technical support staff to successfully operate research programs that rely upon greenhouses, molecular laboratories, and operating farms. The department is blessed with an outstanding and dedicated staff, but their numbers have significantly declined and today some faculty members with significant research appointments have no technical support staff. More worrisome is the fact that many technical support staff will have the option to retire in the near future and if not replaced the ability of the program to maintain the present quality level will be doubtful.
- Named Professorships – The department worked diligently to add these in recent years with the support of client groups in the state. However, the minimum funding level for such recognition accepted by UGA is inadequate to fully support the positions, thus creating a political dilemma for the department with donors and occupants of the named positions. This issue requires attention by the university administration.
- Equipment Replacement & Repair – The department relies upon a significant investment in laboratory, greenhouse, and farm infrastructure that is shared across programs and missions. To remain effective, this infrastructure must be regularly maintained and periodically updated with new or replacement equipment. These budgets have been cut to the point that shared equipment such as autoclaves and tractors are unable to be repaired when they fail.

- Space – This was a top concern in the 2002 review and much has been done in recent years to address some of these issues. The department still has no teaching laboratory space on the Athens main campus. The new greenhouses added on South Milledge Avenue are limited in their use for teaching by a lack of reliable transportation to them by University van or bus.

Faculty & Staff

The Horticulture faculty is a highly accomplished group dedicated to the department's missions of teaching, service and research. The majority of them are recognized regionally and nationally for their contributions to their fields. They have a solid publication record and have been highly successful in efforts to garner increased external research funding. This is particularly laudable since the Horticulture client base consists of relatively small businesses devoid of the major agribusiness concerns capable of funding major research.

Since 2002, the department has experienced a 24% reduction in faculty EFT, representing a 40% reduction in extension and 17% in research positions. Such losses severely restrict the department's abilities to meet its goals.

There was a consensus among faculty at all locations that the most pressing hire for the department is an extension specialist in vegetables, followed by one in peaches and small fruits, and the Dirr Professorship in Ornamentals. The PRAC self-evaluation includes a prioritized listing of additional positions to be sought over time.

The Dirr Professorship is vacant due to a retirement. This has caused frustrations for the faculty, students, and alumni across the State. Several expressed a concern that the chair is endowed at a level insufficient to sustain it. This simultaneously causes frustrations from donors, alumni, and industry supporters while placing additional pressures on limited departmental faculty resources. In fact, this is an issue for each named professorship.

The faculty members at all locations note that since Dr. Bailey became Department Chair, there has been more collaboration among faculty. They specifically noted that the newer faculty members have broadened research into more basic areas including molecular research.

Many concerns were expressed at all three locations by faculty and staff relevant to equipment and technology. Significantly, these concerns reflected desires to do better jobs. Concerns about replacing and repairing equipment are discussed elsewhere in this report. The PRAC team recognizes that this is a University-wide concern.

Faculty in Griffin felt their setting was best for faculty focusing primarily on teaching. Distance learning does not seem to be well-received within the department. Although equipment and technology have improved, it is not perceived as effective as same-space interaction. The Tandberg system does not have enough bandwidth available at all locations for the system to work properly.

Faculty members in Tifton are more involved in research. They expressed desires for more assistance with grant writing and statistical analyses. Statistical support from CAES has been drastically reduced in recent years and many senior scientists rightfully express concerns that this lack of support put UGA programs at a competitive disadvantage to programs at other institutions. The review team agrees with this assessment.

A few faculty and several staff members at both Griffin and Tifton have concerns that horticulture is not perceived to be effectively represented administratively on their campuses. This perception appears to stem from the department's recent practice of not formally designating a faculty member as a Research-Extension-Instruction (REI) Coordinator to represent their needs and concerns.

Staff at all three locations were very complimentary of the faculty and departmental administration. There were concerns expressed about the potential for individual advancement beyond positions currently held. Most of this issue appeared to relate to the limitations of the UGA promotion system for staff, not problems within the Department of Horticulture. The PRAC Review Team encourages the department to continue to proactively seek training opportunities staff and where possible advance them within the UGA system.

Teaching & Academic Programs

The Department of Horticulture is assigned 5.15 EFT to teaching, representing 17% of their total EFT assignment of 29.97. By comparison, research accounts for 51% of the assigned faculty time while extension/service/outreach represent another 29%. Despite the relatively low percentage of EFT assigned to instruction, the returns to these investments appear to be quite rich in terms of credit hours generated (a leader in the College of Agricultural and Environmental Sciences), student satisfaction with the program, and the overall reputation of the program. Seventeen (17) faculty members have assigned teaching time, which represents half of the faculty statewide with active appointments in the program. Of the 16 Athens-based faculty, 13 have instructional EFT and those without official appointments also contribute to teaching on a regular basis. The Athens faculty is fully engaged with the instructional program. This has increased in recent years due to necessity imposed by tight state budgets. In addition, two faculty members at Griffin and another two in Tifton also have small instructional appointments to support fledgling programs there.

The undergraduate program offers a BSA in Horticulture with three areas of emphasis. In addition, the program provides general courses to the University community. These courses are in high and increasing demand. The Department is responding to society demands by adding courses in organic gardening and sustainable agriculture. Their study abroad programs are popular with students and build upon the resident instruction program in a logical manner. The department also administers the Certificate in Organic Agriculture program for CAES as well as Project FOCUS (Fostering Our Communities Understanding of Science). The department evaluates the performance of the teaching program on a regular basis with student evaluations, exit interviews, and external assessments of learning outcomes (see Appendix).

The departmental faculty achieves success in spite of the limitations it faces with physical facilities. (See Facilities & Technical Infrastructure below.) A single classroom is used for nearly all courses taught in the Plant Sciences building. In addition, a small computer lab serves the entire needs of the program. There is no teaching laboratory available, forcing Horticulture classes to use research labs. This reduces research productivity and creates potential risks with research underway in the lab. They have had to share teaching laboratory facilities with Crop & Soil Science for some classes creating significant constraints on both departments. Use of distance education to incorporate faculty from Griffin or Tifton into the Athens program is limited by the technology and lack of bandwidth particularly at Griffin. This undermines the effectiveness of the teaching program. Most courses in horticulture past the basic introductory level involve significant use of actual specimens in a laboratory or greenhouse setting, further limiting the ability to effectively utilize the current distance education technology.

Greenhouses are available for teaching on-campus, at Riverbend Road and South Milledge Drive, but transportation issues limit the utility of off campus sites. It is difficult for students to schedule courses immediately preceding or following classes held at the off campus sites. University administration assurances that transportation assistance would be available (when the teaching greenhouses were removed from campus, forcing teaching programs to these sites) have not been honored in full. These issues were heard from teaching faculty as well as undergraduate and graduate students. Despite their complaints on these matters, they rate the quality of the program highly and their pride in the program was obvious.

This academic program clearly excels at both the undergraduate and graduate level in exposing students to actual horticultural practice while at UGA. This is accomplished through laboratory classes, internships, student jobs in greenhouses, study abroad opportunities, and club competitions. This aspect of the program was uniformly praised by students at all levels. Likewise the advising provided by the department to students received high marks from students.

The department has been responsive to many of the needs and issues raised by its graduate students. For example, it added new courses at the 8000-level in response to student requests and supported the creation of a “journal club” where students discuss scientific papers. At the request of students, the club remains student led rather than becoming a formal course. Allowing the graduate students ownership of some this effort is to be commended. Each Thursday morning the department has a beverage (coffee, tea, etc.) time in the conference room to facilitate further interaction between graduate students and faculty. A Friday department seminar is also a tradition, although the conference room where it is held is too small for the audiences it regularly draws. Graduate students regularly attend professional meetings within the state and are supported for travel to out of state meetings when they have presentations on the programs (budgets permitting). It was clear to the review committee that the graduate student body is diverse and is particularly welcoming of students from outside the USA. Graduate students serve as teaching assistance for a minimum of one course per year and development of their teaching skills is supported by the department.

Research Programs

The faculty members conduct a highly diverse research program in the following areas: plant breeding/genetics/genomics, plant physiology, post-harvest biology, plant production management, resource management and native plant conservation. Faculty members serve primarily the citizens of Georgia and surrounding states through research on commercial and garden fruit and vegetables, ornamentals, herbs, medicinal plants, endangered native species and some row crops.

Though the number of research EFTs (15.2 in 2009) have declined since the previous review (18.29 in 2003) by 17%, the department has maintained considerable diversity of research capable of serving the clientele it has identified. While there is a fair balance of basic and applied research, much of the research appears to be more applied. Given this direction, the departmental faculty has maintained a close relationship with local and state clientele. This is typical of research supported by growers, commodity groups, and associated industries and ultimately, represents a commitment to the Georgia Horticulture industry. Departmental faculty productivity and effectiveness is measured by the total number of peer reviewed publications, books or book chapters, experiment station bulletins, state and national awards, grants and gifts since the last review. In addition, the impact and outcome of research efforts have been well documented and described on the CAES Impact Statement website page. Given the decline in research faculty, the productivity appears to be very commendable.

The department recognizes the need for additional research attention on behalf of the vegetable and fruit industry particularly in the area of plant nutrition and soil fertility. This will present a challenge to the department over the next few years given the severe limitations in state funding. In addition, the faculty has identified the challenge of equipment repair/replacement and purchasing in support of current research activities and the difficulty in funding maintenance and purchasing. More emphasis will be needed in attracting federal grants where specific equipment requests are recognized and supported.

Research funding comes via state taxed based support through the College, other government agencies, commodity check-off funding, private grants, and federal and international agencies. The department has added emphasis since the last review to the varietal development program which provides additional funding through royalties. This can be a unique resource depending on the emphasis of the faculty. Of particular notice during the review was the increase in extramural funding (73%) over the last several years to support research. In view of declining state support, faculty will rely more heavily on extramural funding sources which will make it more difficult for faculty to maintain focus on local and state needs. While an increasing number of faculty are involved in seeking federal and/or external grants, more emphasis will be needed to support technical, graduate assistantship, and over-head support. This was identified by the faculty in a program review questionnaire conducted by the Office of Institutional Effectiveness on behalf of the review team. Twelve of twenty two replies identified the need for funding more graduate students, technicians and equipment. The department appears to be very productive and well recognized regionally and nationally and should be able to be highly competitive given any federal grant opportunities.

Faculty provide an annual report through the “Faculty Activity Repository System” (FARS) detailing their accomplishments for the calendar year. This report provides the basis for the department head’s annual evaluation and salary justification report for each member of the faculty. The department head meets annually to discuss their accomplishments and performance and offer suggestions for improvement and for continued professional development. A written summary of this discussion is developed by the department head, given to the faculty member for an acknowledgment signature, and both the department head and faculty member maintains a file copy.

The Office of Institutional Effectiveness of the University of Georgia conducted a faculty questionnaire to assist in the program review. Within the questionnaire, statements were made for each faculty member to rate their agreement regarding departmental governance. A majority of the faculty members (52%) were either neutral, didn’t know or disagreed that the criteria for merit raises were clearly stated. In addition, 62.5% responded similarly (disagreeing or neutral) to the statement that the criteria for merit raises were fairly applied. While the FARS report appears to be a satisfactory means to identify and reward research activities, the department head should seek to clearly explain the department’s criteria for future merit raises.

The total farm gate value of Georgia’s horticultural industry (fruits, nuts, vegetables, ornamentals, containers, field nursery, and greenhouse ornamentals) exceeded 1.81 billion dollars in 2008 (2008 Georgia Farm Gate Value Report, AR-09-01, May 2009). The total value is roughly equal to the row crop value and second to poultry industry. Horticulture represents some of the most profitable industries in Georgia. Given this, the research program of the Department of Horticulture has the potential to have lasting impact on the economy of Georgia and the quality of life for its citizens. Any future degradation of the research programs will negatively affect the industry, resulting in significant losses to the economy. The impact of the current research program is certainly cost effective (based on impact statements, publications, experiment station reports, and research summaries) in terms of returns on investments in knowledge obtained and applied, training of undergraduate and graduate students and subsequent employment of students.

Additional commitment to basic research in areas where the department has some critical mass of faculty would potentially increase funding and expand training of both undergraduate and graduate students. In addition, it would possibly provide for needed equipment updating and generate overhead to the department and ultimately support the tremendous horticultural industry in Georgia and the surrounding states.

Service to Society, University, and Profession

The department’s Service and Outreach program serves a broad clientele; from students to growers, retail garden centers, homeowners, Master Gardeners, landscape and outdoor service industry, trade associations, commodity commissions, county Extension faculty and ultimately the consumer. The department like many others within the College of Agriculture and Environmental Sciences (CAES) distinguishes between service, outreach and Extension. Within

the CAES is the Cooperative Extension. The county-based faculty of the Cooperative Extension Service relies heavily on the department for technical resources and Extension faculty expertise in all areas of consumer and horticultural commodity production.

The faculty, in general provide educational programs, lectures, consultations and expertise to public schools, organizations, civic groups and the public at large on issues and topics of interest related to each faculty member's expertise. These activities are not solely associated with the traditional responsibilities identified with Extension appointments. Usually these issues are associated with societal concerns that need the expertise found throughout the University community. In addition, the faculty members provide the appropriate service to the governance of the department, College and University through committee membership and leadership. Faculty members also serve in leadership roles within professional societies, as editors of refereed journal publications and various review panels.

The department currently has 8.62 EFT's of formal Extension responsibility distributed among 16 faculty members. Most if not all of these faculty members conduct applied research programs to develop the technical material and resources for distribution to the clientele. They interact directly with county Extension faculty by providing agent training and technical support in county educational programs. In addition, Extension faculty routinely interacts directly with commodity and public clientele groups. This direct link serves as a main conduit through which problems, issues and concerns are communicated to the department. This helps generate ideas for effective applied research programs that lead to new knowledge and improvement in production, post-harvest handling, utilization and ultimately, a more efficient and profitable horticultural industry.

The Horticulture department supports the horticultural industry and consumers through direct dissemination of information via newsletters, production workshops, descriptive publications, email updates, websites, podcasts and formal classroom seminars. The contributions and impact of the department are vital to the success of Cooperative Extension county faculty and growers they serve. In addition to rural horticultural production, there is an increase in consumer horticulture demand. The nationally recognized Master Gardener program is an excellent example of Extension, outreach and service provided by the Horticulture Department. The faculty are recognized nationally by their peers and have an excellent record of service to both growers and consumers in the state.

Faculty with Extension appointments and outreach programs record and publish their activities through FARS. The department head is able to review, recognize, and reward their service to the public. It is worthy to note, that the external Extension honors and awards bestowed to the faculty since the last review is commendable and reflects the quality of programming provided to the public locally, regionally, nationally and international. Any future reduction in faculty and staffing will cause considerable damage to the Service and Outreach programs.

The faculty is nearly unanimous in recognition of the need for the addition of Extension faculty with vegetable and small fruit production responsibility. The loss of key faculty members in this area has left a critical void in both Extension programs in Tifton and should be filled as soon as

possible. The department also should give attention to better communications and foster better relations and interaction among faculty and staff in Athens, Tifton, Griffin, and Byron.

Facilities & Technical Infrastructure

The Horticulture facilities in Athens are dispersed widely. This was an issue in the last PRAC review in 2003 and many of the same concerns persist today.

Faculty offices are located both in the Miller Plant Sciences Building and in the Hoke Smith Building two blocks away. Faculty members in Hoke Smith are Extension specialists, but also direct graduate students. This separation creates either a sense of division or a sense of unique identity, depending on one's perspective. The Review Team suggests that the College and University consider the negative impact that this has on departmental unity and faculty responsibility. This issue cannot be addressed without the full commitment of the College and University.

The Miller Plant Sciences Building lacks a dedicated instructional lab for Horticulture. While the department expresses appreciation for access to combined teaching and research labs within other departments in the building, there appears to be unsatisfactory compromise of the integrity of faculty and graduate student research when projects are moved to free up space for instructional purposes. Long-term this is not a satisfactory means to meet either instructional or research objectives for the department and potentially pose a risk to students from research activities during instructional times.

Undergraduate and graduate students, faculty, and administration all noted that the Miller Plant Science building lacks spaces for students to study or gather between classes. Many students resort to sitting on the floor along corridor walls or gathering in the computer lab. This should be considered unacceptable given the College's desire to expand undergraduate programs. It should be noted that these limitations negatively impact programs in CAES other than Horticulture. This is another issue that will require the full commitment of the College to address.

The computer lab operated by the Office of Instructional Technology has 14 stations, although classes typically have 20 students. This shortage is exacerbated by the fact that the students are generating computer-aided design (CAD) and geographic information system (GIS) plans that require additional workspace next to each computer. The lack of computer access undermines an otherwise excellent teaching program.

The Horticulture Department expressed appreciation for access to the Miller Learning Center to teach HORT 2000. The Miller Learning Center's location provided easy access for students on both North and South Campus and ready access for those whose departments are housed on East Campus. This has been a contributing factor to the success of that course, which generates a large number of credit hours and has helped recruit undergraduate majors.

The greenhouses on South Campus have served the department well for both research and teaching purposes. Their location is convenient for faculty, students, and staff. It is understood that these will move off campus at some point, although logistical issues associated with off-campus greenhouses must be addressed first. In general, greenhouse management works well across the department. There appears to be a need, though for more consistency among the greenhouses.

Faculty in Athens expressed a reluctance to teach at the new greenhouses on South Milledge. They find the greenhouses on Riverbend Road to be more convenient to use than those on South Milledge. This same sentiment was expressed by staff responsible for maintaining greenhouses and supporting research conducted in them. UGA bus/van service to the South Milledge greenhouses is irregular at best. Students have been stranded and are reluctant to tend experiments outside class time when van service is not available. Students have expressed reservations about taking classes scheduled at South Milledge because of transportation problems. The time between classes is insufficient to travel from the main campus and this is compounded by sporadic and unreliable UGA transport to and from the campus. The department and the PRAC Review Committee recognize that the relocation of greenhouses from South Campus is a reality. The transportation and scheduling concerns associated with this location will hopefully dissipate as a critical mass of students and activities grow at the South Milledge location. The department appears to have vigorously sought solutions to this issue but it remains a major obstacle to fully utilizing the excellent new greenhouse facilities. This is yet another issue that will require the involvement of the University and College to resolve.

Land space and allocation at both Griffin and Tifton campus appear to be adequate in meeting the needs of each faculty member. Faculty at both Tifton and Griffin though expressed concerns about access to growth chambers and storage space. In addition, concerns were expressed by Tifton faculty members about losing access to land known as "Hort Hill" to the "Future Farmstead" demonstration project. Similar concerns were expressed about losing space for pesticide storage, farm equipment shelters, and equipment repair space. It was noted that the department's dedicated storage area on the Hort Farm is too dangerous to enter and poses a serious physical threat to anyone entering and potential litigation threat to the University.

Surprisingly, multiple water leaks in the NESPAL building persist even after the Facilities Maintenance and Operations staff has been notified. This could easily compromise faculty research and cause serious deterioration to the interior areas of lab and offices but put at reach extremely expensive and sensitive laboratory equipment. This should be addressed immediately by campus administration. In addition, departmental greenhouse facilities on the Tifton campus were in disrepair and should be made a priority by the College to upgrade or replace. The loss of field services support at Tifton, Griffin and Durham Horticulture Farm undermines the ability of faculty members to conduct and maintain high quality plot research. Relying on the scientist to provide individual field support has significantly added to the cost of research plus create tension and confusion among departmental staff and College facilities support staff.

Faculty and staff at the Tifton campus have expressed concerns over the quality of water in the Tifton campus Horticulture building used for consumption and experimental purposes. This issue needs to be resolved as it undermines faculty/staff morale and may pose a health risk. It is

also noted that the lack of janitorial staff in Griffin and intermittent staffing at Tifton creates an unprofessional appearance to the Universities clientele. This is the responsibility of the Campus administrator and should be resolved as quickly as possible.

Faculty and staff at all locations expressed concern about limited resources for repairing and replacing laboratory equipment. They acknowledged reluctance by external funding agencies to cover the cost of basic equipment repair and replacement. Moreover, the Department does not appear to have dedicated resources for such funding.

Recommendations

The Department should seek funding for their most pressing needs for extension specialists.

The Department should seek an increased funding level for their named professorships. The basis should be raised to a level that supports self-sufficiency for the professorships. Alternately, the Department may need to consider renegotiating the use of the endowment with the original donors.

The Department should seek private and corporate resources to develop on-going resources dedicated to equipment replacement and repair. Given the unpredictable nature of these demands, it seems prudent to develop resources dedicated to addressing atypical operating expenses in manners that bridge fiscal years.

With the aid of the College and University, the Department should develop comprehensive facilities master plans for the Athens, Griffin, and Tifton campuses to examine the physical needs of the Horticultural Department among the three locations. Plans should encompass all resources needed for research, teaching, service, and extension. This review should include, but not be limited to adequate and consistent provisions addressing the following concerns.

- Instructional lab(s)
- Faculty offices and labs
- Research greenhouses
- Growth chambers
- Space for repairing farm and laboratory equipment
- Computer lab appropriately sized for large-sized CAD and GIS drawings
- Undergraduate and graduate student lounges

The Department Chair should consider designating REI Coordinators at Griffin and Tifton after discussions with the faculty and staff on those campuses.

The department should continue to seek a permanent solution with the UGA Transit System to offer frequent and dependable access to the South Milledge Avenue Horticulture facilities. The University and College should fully support this effort to permit full use of new infrastructure.

Program Review and Assessment Committee

Learning Outcomes Assessment Evaluation Report Degree Program: Horticulture, BSA

Evaluation Process:

1. As part of their Self-Assessment Reports, Review Units submit learning outcomes assessment plans and reports for each educational program in their unit.
2. A subcommittee of the Program Review and Assessment Committee evaluates learning outcomes assessment plans and reports using a rubric based on the PRAC Criteria for Outcomes Assessment Practice at UGA.
3. The Committee's evaluations are forwarded to Review Teams for inclusion in their Draft and Final Reports.

The Committee's summary remarks are provided below. The attached evaluation rubric includes (1) aggregate ratings for each LOA criterion, (2) individual comments for each LOA criterion, (3) additional comments for each program, and (4) an overall rating for each program.

Summary Remarks

Although the Assessment Plan includes a list of learning outcomes and assessment methods, it lacks development in several key areas. The faculty should update their plan by (1) describing how they will be involved in the assessment process, (2) describing the methods the department will use to collect data, (3) describing the methods the department will use to analyze data, and (4) describing how the department will use information gathered from the analysis to improve its assessment practices. For a guide on how to do this, please see the OIE's webpage on "Developing an Assessment Plan" at <http://www.uga.edu/effectiveness/assess/prepareplan.html>.

In terms of assessment measures, the Horticulture Department makes good use of the Senior Exit Survey and the Alumni Survey; however, these are the only measures for which data has been collected and analyzed. PRAC strongly recommends that the Horticulture Department follow-up on its Assessment Plan by implementing the direct assessment methods that are listed in the plan. For a guide on how to write a comprehensive assessment report, please see the OIE's webpage "Developing a Full Assessment Report" at <http://www.uga.edu/effectiveness/assess/preparefull.htm>.

PRAC Subcommittee

Dr. Gayle Andrews	Dr. Betina Kaplan
Dr. Dennis Duncan	Dr. Ray Noblet
Dr. Tom Holland	Dr. Rob Phillips
Dr. David Jackson	

For questions concerning this evaluation, please contact David Jordan, Associate Director of Assessment, Office of Institutional Effectiveness (dmjordan@uga.edu.)

Assessment Report Evaluation Rubric

Degree Programs: Horticulture, BSA

3 = Excellent, 2 = Acceptable, 1 = Needs Improvement/Clarification, 0 = No Description

Criterion	Rating	Comments
1. Programs have clearly defined, measurable student learning outcomes that focus on knowledge, skills, and competencies.	2	<ul style="list-style-type: none"> Very long list of learning outcomes. Some of the outcomes are not clearly defined. <p>Outcomes are stated in terms of knowledge <i>areas/topics</i> and, in the Plan only, skills. Knowledge outcomes are perhaps measurable in the self-report sense of the surveys used, but not easily (and not actually at all) measured by faculty or others due to lack of statement in the form of behavioral objectives (as is done with skills). Separately listed Skills outcomes do not seem to have been measured even by self-report, except in the sense that the few broad categories in the alumni survey might be considered skills rather than knowledge areas.</p>
2. Assessment measures clearly address the degree to which students attain the defined learning outcomes.	1	<ul style="list-style-type: none"> Surveys address the degree, but they are the only measures included in the report. Yes, by degrees (5-point scale), within the self-report paradigm, for knowledge areas.
3. Assessment measures are independent from course grades and teaching evaluations.	1	<ul style="list-style-type: none"> Yes, but only two measures of the ten listed in the plan are included in the report. Yes, strictly speaking. Are student self-reports significantly different in spirit from “cumulative” course evaluations?
4. Multiple assessment methods are used.	1	<ul style="list-style-type: none"> Two surveys; no direct methods. Multiple sources, of a sort, with current graduates and alumni. One method (self-report survey). The planned Department Head Exit Interviews either did not take place or their results are not reported for some reason. Extensive list of Assessment Methods seems to apply primarily to courses - standardized certification tests in two areas are mentioned but their role is unclear and results not reported.
5. Data and information has been collected over time and analyzed longitudinally.	1	<ul style="list-style-type: none"> Yes, but only for the Senior Exit Survey. Plan and instruments developed in 2003 and 2004, and survey of seniors stated to have been administered since 2006, but results reported only for data gathered in 2009.
6. The analysis of data results in findings relevant to the program.	1	<ul style="list-style-type: none"> Yes, but indirect measures (self-reports) are not as reliable as direct measures. Yes, in that even self-reports can potentially identify relatively stronger and weaker areas.
7. Improvements in the program have been planned and enacted in response to the findings.	1	<ul style="list-style-type: none"> Only 2 improvements over 7 years? Yes, in the cases of several topic areas that are planned to be more greatly emphasized in new or modified courses in the future.
8. The faculty who teach in the program are	1	<ul style="list-style-type: none"> The only indication of this is that 3 members of the Undergraduate Teaching Committee developed the Senior Exit Survey in the fall of

involved in defining the learning outcomes, selecting the related assessment measures, analyzing the results, and determining appropriate improvements in the program.		2004. <ul style="list-style-type: none"> • A three-person committee developed the survey, and the faculty as a whole are said to have discussed changes in courses.
Total Score	1.13	
Additional Comments		<ul style="list-style-type: none"> • Need to follow through on the plan. • Technically, only one of the three survey formats is actually a Likert Scale (5-point scale, ranging from Strongly Agreeing to Strongly Disagreeing with an item in the form of a statement). • Is an “acceptable threshold” of 3 out of 5 (“neutral” or “don’t know” on most Likert Scale instruments) an appropriately ambitious goal? • What is the meaning of “acceptable threshold” in the context of a scale measuring the degree to which either more or less coverage of a topic in coursework is recommended by alumni? It seems to be implied that the desired outcome is to avoid recommendations that less coverage be recommended. Wouldn’t a recommendation that more coverage is advisable also be of concern? Isn’t the desired outcome “the same” (2 on a scale of 1 to 3), and therefore shouldn’t there be a second acceptable threshold of 1.5 in the other direction?

Program Review and Assessment Committee

Learning Outcomes Assessment Evaluation Report Degree Program: Horticulture, MS and Ph.D.

Evaluation Process:

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The Committee's summary remarks are provided below. The attached evaluation rubric includes (1) aggregate ratings for each LOA criterion, (2) individual comments for each LOA criterion, (3) additional comments for each program, and (4) an overall rating for each program.

Summary Remarks:

1. This report does not include assessment data from 2003-2008. An explanation from the Department of Horticulture should be provided to the Review Team.
2. The Committee commends the Horticulture Department for developing a new Graduate Student Learning Outcomes Assessment Plan. The new plan defines measurable student learning outcomes and describes several direct and indirect assessment methods. The Committee looks forward to reviewing a comprehensive assessment report with a full set of assessment data for each learning outcome in 2012.

PRAC Subcommittee

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Assessment Report Evaluation Rubric

Degree Programs: Horticulture, MS and Ph.D.

3 = Excellent, 2 = Acceptable, 1 = Needs Improvement/Clarification, 0 = No Description

Criterion	Rating	Comments
1. Programs have clearly defined, measurable student learning outcomes that focus on knowledge, skills, and competencies.	2.2	<ul style="list-style-type: none">• In Section 1 (“Student Learning Objectives) the list of items include both objectives and learning outcomes. Graduate participation in professional societies is more of a goal than a program learning objective.• Ongoing discussions with grad students and faculty are mentioned and presented as resulting in findings. How are these discussions conducted? Could they measure student learning outcomes?• Objectives 1 through 3 are clearly important but so broad as to be difficult to measure in practice. Objectives 4 through 6 are vitally important and could potentially be measured or at least characterized (by, e.g., lists of presentations and/or publications of students and alumni).
2. Assessment measures clearly address the degree to which students attain the defined learning outcomes.	1.8	<ul style="list-style-type: none">• How are GRE and undergrad GPAs of students before entering the program an assessment tool of the program?• In the event that no student receives an award in a certain year, what would that fact say about the program?• Communication skills (oral and written) are assessed only during PhD exams and thesis. How are they evaluated in MS students?• Data such as comprehensive exam and thesis/dissertation defense results are reported only on a pass/fail basis, as is customary (and required by the Graduate School). Results for assessment measures developed for the purposes of this

		<p>report and for which data are available include a detailed scale in some cases (e.g., annual performance evaluation by the student's major advisor), but are reported only as uniformly "satisfactory" rather than in detail.</p> <ul style="list-style-type: none"> • Data such as student awards won and positions held after graduation are detailed and useful for this purpose, although the degree to which these represent success is often difficult to judge for those not in the field. • Objectives 4 through 6, as mentioned above, are potentially measurable but no specific data are either presented or even part of the plan.
3. Assessment measures are independent from course grades and teaching evaluations.	2.6	<ul style="list-style-type: none"> • Yes, although (like the undergraduate plan/report), it is unclear how much student self-report data differ in kind from individual course evaluations.
4. Multiple assessment methods are used.	1	<ul style="list-style-type: none"> • Yes, <i>when</i> all plans are implemented – standard comprehensive exams, surveys, faculty evaluations of students, placement of graduates
5. Data and information has been collected over time and analyzed longitudinally.	1	<ul style="list-style-type: none"> • Does the department have data that was collected before 2009? • Except for the recently added measures. • Not at all except for irrelevant admissions data.
6. The analysis of data results in findings relevant to the program.	2.2	<ul style="list-style-type: none"> • Through the new surveys, valuable data will be collected. • So far the findings presented in the report seem to come from discussions with students and faculty (under "other input regarding the status of our graduate program"). • Potentially, when data are actually available from the new plan.
7. Improvements in the program have been planned and enacted in response to the findings.	1	<ul style="list-style-type: none"> • Not really possible due to lack of data from the assessment plan as such. Noted based on a general summary of widespread and longtime perceptions of weaknesses in the program (e.g., facilities, number of graduate courses, geographical distance from other key campuses). Only the graduate course issue is seen as a possible area of realistically possible improvement.
8. The faculty who teach in the program are involved in defining the learning outcomes, selecting the related assessment measures, analyzing the results, and determining appropriate improvements in the program.	2	<ul style="list-style-type: none"> • Exact extent of faculty involvement is unclear except, as already mentioned, in the effort to develop and implement new graduate courses in Horticulture (vs. Plant Sciences).
Total Score	1.73	