Materials linked from the October 24, 2016 Graduate Council agenda.

ACTION PLAN
In Response to the 10-Year Review Assessment Report for the Graduate Program in Crop Science

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in collaboration with Crop Science Graduate Faculty

INTRODUCTION

The Crop Science Graduate Program underwent a 10 year review from May 24-27, 2015. Review team members and details of their visit schedule may be found in the Self Study Document submitted to the OSU Graduate School prior to the review. Subsequent to receipt of the reviewers report, an action plan was developed to guide program response to the review team's recommendations. This document contains the review team recommendations and a generalized approach for responding to those recommendations. It is followed by an *Actions Planned* section. This section describes the response team committee structure, provides a task matrix, lists individuals responsible, and target completion dates. In turn it is followed by the final section, which is for three-year performance metrics.

REVIEW TEAM RECOMMENDATIONS and CONCEPTUAL RESPONSE PLAN

Recommendations submitted by the review team were organized into six areas: (1) Strategic Planning, (2) Student Recruitment, (3) Funding and Support, (4) Quality of Program, (5) Infrastructure, and (6) Community Engagement. A short phrase representing the recommendation is provided below in italics followed by the Crop Science program's action plan.

1. ***Strategic Planning.*** *There is need for strategic planning within the program and department to develop priorities for facility improvement/repair/replacement, programs and future staffing plans for faculty and staff and address the learning outcomes (consider shortening the list and ensure that faculty know the outcomes and are adequately supported so that they can meet those goals).*

The CSS Department is working with the administrative team to develop a revised strategic plan. During 2016, the Crop Science faculty will meet monthly to discuss the vision and goals of the program and develop a plan to continue to strengthen the program and increase its national ranking. Faculty will be incentivized to participate in workshops and small group and individual sessions with Center for Teaching & Learning faculty and staff to develop and address student learning outcomes in Crop Science courses and in mentoring graduate students.

2. ***Student Recruitment.*** *A more formal recruitment process is recommended, to increase the number and quality of students, including diversity. More complete records for tracking diversity and gender data are needed to determine possible bias of student acceptance.*

Currently, the primary recruiting activity is at the annual tri-society meeting (ASA, CSSA, SSSA). Those programs with funding for students provide information to potential students. The challenge is that there are no departmental or college level scholarships or assistantships offered. Thus, recruiting is done on a project by project basis as funds are identified for student support. Discussions will be organized with clientele groups, alumni, commissions, and foundations as part of item 3 to enhance recruitment of Crop Science graduate students.

3. ***Funding and Support.*** *More stable GTA and GRA funding sources need to be developed. Review team recommendations included the following:*

   Create new funding opportunities for tuition and stipends through diversification of funding mechanisms:

   - *further fostering industry sponsorships or endowed fellowships,*
   - *writing training grants (tuition remission provided),*
   - *working with OSU Foundation and Graduate School to develop endowed fellowships,*
   - *developing the option for gifts or estate planning to be directed,*
   - *teaching e-campus courses to increase funding,*
   - *departmental prioritization of a few GTAs for recurring funding,*
   - *increasing grant support of graduate students by providing staff support (e.g. grant writer/editor) for existing, functional teams of faculty.*

   Industry should lead the discussion with the OSU Foundation to develop sustainable funding targeting towards the graduate program. The Department Head, in consultation with key graduate faculty, should develop a strategy to be presented to individual commodity groups for their participation.

   Incent and support existing teams of faculty in their pursuit of grants, such as by hiring short term grant-writers.

   Enhance connection to and with faculty at off campus stations, and even other institutions (e.g. Washington State, University of Idaho, etc.) for more robust and competitive grant applications.

   Securing future funding for this program in the future will depend on everyone, not just administration. From the President of the University to the Deans to the Department Heads and Faculty along with Industry, all are needed to actively work towards the funding of the program. This means each individual participant will be required to look outside of their comfort zone to keep programs funded.

Crop Science faculty, with leadership from the Department Head, will explore these and other options for improving funding for graduate students. Other ideas include identifying university and professional association scholarships, working with the CAS and University Foundation offices, and encouraging faculty to include GRAs on all possible grants.

4. ***Quality of Program.*** *Off-campus faculty should be engaged to strategically add stand-alone courses to the Crops curriculum and to reduce the burden of graduate education felt by on-campus faculty. Consider development of non-traditional, short-duration courses at off campus centers or even Extension offices, making use of the special expertise at these locations.*
   Consider taking efforts to have faculty lead cross-discipline discussions or courses developed along high profile issues in agriculture.

   Consider partnering with other institutions to provide additional courses via technology.

   Remove faculty not actively mentoring graduate students from the list of graduate faculty, including retired faculty, and reassess metrics for better comparison.

   Revise the list of graduate faculty to those who should be considered as fully engaged on a regular basis with the graduate program and with expectation of output in the form of student contact hours, publications, grants, and awards. For further confidence in the validity of the comparative metrics, confirm that aspirational institutions make similar distinctions.

   Increasing the opportunity for scholarly interactions should be a goal of the Crop Science program; particularly with Soil Sciences students and faculty.

Graduate Faculty should have regular training on best practices for mentoring graduate students, with emphasis on timelines, deadlines, and submissions, and links to more information.

Self-recommendations regarding the creation of a coordinating group of faculty for the Crop Science graduate program should be taken with full knowledge and consensus of those affected.

Each item mentioned above will be addressed through discussions with graduate faculty and the department head. Specific courses and instructors will be identified to strengthen the program, including short-duration off-campus courses and linkage with e-campus offerings.

High profile issues in agriculture include water availability and quality, sustainable nitrogen resources (e.g. biologically fixed nitrogen through legumes), climate adaptation of cropping systems, and food security. Linkage with faculty in other agricultural sciences departments, colleges, and institutes will be explored to effectively address important agricultural and societal issues pertaining to the collective scientific expertise of these units.

5. ***Infrastructure.*** *The Crops Building needs several improvements to support program excellence, including: (1) climate control, (2) backup power supply, and (3) ability to deliver large or heavy equipment to upper floors.*

   Modernize existing greenhouses and consider expanding space available for graduate education.

   Reduce time to reimbursement for graduate students or provide alternatives for payment of travel expenses if possible.

   OSU faculty should pursue alternative solutions for short term housing for students at branch experiment stations by asking local industry to provide funding for hotel rooms or by housing them in their personal homes. Efforts to encourage graduate student involvement off-campus should also address the financial constraints related to reimbursement of travel expenses.
   Improve reliability, access and support of distance learning technology.

Building improvements and greenhouse/phytotron facilities will be discussed with college and physical plant personnel to determine an appropriate course of action and potential funding sources. Accounting issues will be discussed with major professors to ensure students do not face financial hardship for project-related expenses. Housing at branch stations will be discussed with college and university administrators and station superintendents to determine what can be done to allow greater integration of on- and off-campus research activities. Technology improvements will be addressed with college IT unit and CAS administrative staff.

6. ***Community Engagement.*** *Local industry should be tapped to help train graduate students, especially about how industry partners with university in areas of: (1) how industry organizations work, (2) how grant programs work, (3) how USDA NIFA and other programs receive funding for grant programs, (4) how industry advocacy secures grant funding in US Congress and State Legislatures.*
   The department chair and/or graduate program director should facilitate interaction with industry annually, and train students to provide meaningful and timely information for stakeholders. The importance of good grant writing skills along with timely reporting will help secure additional grants for the future. All graduates going into the private or public sector need the ability to communicate effectively with industry as well as academia.

Discussions will be arranged with industry/commodity commission representatives to determine an effective structure for sharing ideas for research, teaching, and extension needs

and communicating results of research project and extension training opportunities. Student short-courses will be arranged for grant-writing and effective communication skills.

SPECIFIC ACTIONS PLANNED

Coordinating Committee. To address the review team's recommendations and coordinate the Crop Science Graduate Program, a coordinating committee has been created. The team consists of a coordinator, CSS office staff, 3 additional graduate faculty, a graduate student, and the department head.

Coordinator: David B. Hannaway
Office Staff: Kristin Rifai and Emmalie Goodwin
On-Campus Graduate Faculty: Sabry Elias, Garry Stephenson
Off-Campus Graduate Faculty: Stephen Machado
Graduate Student: Ryan Graebner
***CSS Department Head*:** Jay Noller

Task Matrix. To identify and track progress on review team recommendations and other graduate program plans and activities, a task matrix has been developed listing each of the tasks with each of the recommendations. This initial draft will be further developed with the coordinating committee and reviewed and revised by the entire graduate faculty and graduate school representatives.

Recommendation	Task	Person/Group Responsible	Targeted Completion Month (2016)
1. Strategic Planning	• Develop/Update CSS Strategic Plan • Discuss/Revise Student Learning Objectives	• Jay Noller, Andy Hulting, and Sujaya Rao with CSS faculty • Curriculum Committee with Kay Sagmiller (Center for Teaching and Learning Director)	March April
2. Student Recruitment	• Review/revise recruitment strategies • Chart admission process • Create data needed list and compile (diversity & gender)	• Jay Noller, Andy Hulting, and Sujaya Rao • Kristin Rifai & Emmalie Goodwin • Kristin Rifai & Emmalie Goodwin with student clerks	April February February
3. Funding & Support	• Develop more stable GRA/GTA support: o Identify university, national, foundation scholarships o Meet annually with alumni, commissions, foundations o Establish Dept./CAS merit scholarships	• Department Head Coordination: o CSS Student clerks with Kristin Rifai direction o Jay Noller to organize; Coordinating Committee to meet o Jay Noller with CAS administrative team o Jay Noller	November announcement Continuing activities Quarterly meetings November

	o Provide incentives to faculty to support more students on tuition-paying grants		On-going April
4. Quality of Program	• Review curriculum & identify needed courses • Develop plan for who will develop and teach needed courses	• CSS Curriculum Committee, CC, & all Graduate Faculty • Jay Noller in consultation w/ faculty	March June
5. Infrastructure	• Address physical plant needs (climate control, power, elevator) • Increase branch station housing for graduate students and faculty • Improve technology reliability	• CAS Administration with physical plant personnel • CAS AES Administration with station superintendents • CAS IT unit	Some resolved, others Summer Summer Summer (no classes in session)
6. Community Engagement	• Improve graduate student knowledge of industry organizations and grant funding	• Graduate CC to develop strategy for courses & workshops and attendance at commodity meetings • Producer-Professor (& Student) Exchange Program	September (graduate handbook) January announcement / on-going

THREE-YEAR PERFORMANCE METRICS

To meet the above-listed goals, a set of 3-year performance metrics enumerated below will assist with progress assessment:

1. The CSS Department Head will develop a document describing the CSS Strategic Plan including Crop Science and Soil Science curricula.
2. The Coordinating Committee, with assistance from all Crop Science faculty, will develop a document detailing the vision and goals of the Graduate Program in Crop Science.
3. The Departmental Curriculum Committee will provide recommendations for additional coursework and identify faculty recommended to develop and teach each course.
4. The Departmental Curriculum Committed will disseminate the Learning Outcomes for both Crop Science and Soil Science Graduate Programs.
5. CSS Department Administrative Assistant, with input from the Crop Science Graduate Program Coordinating Committee, will enter into conversations with the College and Graduate School to improve the accuracy of data that is used to assess national ranking.