

**PROGRAM REVIEW IMPLEMENTATION
PLAN PROGRESS REPORT
Department of Plant and Soil Sciences
2021 - 2022**

Recommendation 1.

Develop an overall vision and direction for the HPLS undergraduate degree considering future opportunities that will allow the department to compete successfully for potential students. Plan to engage stakeholders in this process.

Assessment method: We will use student metrics (incoming student numbers, student retention, graduation rates, graduation exit surveys, and employer surveys) to gauge how our new undergraduate degree program (Agricultural Ecosystem Sciences; AES) is performing.

Results: We launched our new undergraduate degree program (AES) in Fall 2019, as an option within the Agriculture Individualized Curriculum 'incubator program' within the College. Student enrollment in the program is now at 27 (enrollment has been Fall 2019=7; Fall 2020=14; Fall 2021=19; Fall 2022=25). The degree program graduated its first cohort Spring 2022 (n=3).

Analysis of results and reflection: PSS faculty are broadly supportive of the new AES degree program, as a much better representation of what we all do and where agriculture is headed than the old HPLS degree. Student recruitment is going well, though we will need it to continue to grow. We have high caliber students coming into the program. Through new courses, we are engaging with our stakeholders and getting the current students introduced to them and to jobs in relevant fields.

Ongoing improvement actions: We must substantially increase our recruitment efforts and work to engage other faculty in supporting the AES program. Although a steering committee has been formed, one individual is doing all student advising, as well as spearheading all other academic efforts. We hope to submit paperwork to convert AES to an independent program (stand alone, outside of the Ag Individualized Curriculum) within the next year or two, but to get there we must double or triple our student numbers.

Recommendation 2.

Explore ways to enhance scientific collaboration and transformative ideas by facilitating faculty interactions, particularly with extension faculty and new faculty hires.

Assessment method: The Chair will annually request that faculty self-report new collaborative efforts they are involved in within our Department and beyond that were initiated through Departmentally sponsored events.

Results: Since the Department Review, the Department has supported five faculty retreats, five academic calendar year seminar series, and occasional workshops and field days for PSS folks and other stakeholders. Additionally, the Department Chair supports internal calls for proposals yearly, and favors

collaborative, multi-user proposals for funding. From these efforts, several successful grants have emerged that include new collaborations within the Department and beyond.

Analysis of results and reflection: This is a challenging thing to track, and the connections between Departmental support and new developing initiatives may be somewhat tenuous and take time to turn into successful collaborations.

Ongoing improvement actions: The Chair is constructing a database of Departmentally stimulated new collaborations, in an attempt to gauge effectiveness of different strategies, but this data is dependent on faculty self-reporting, which isn't fantastic. The Chair will continue to look for opportunities to stimulate and support scientific collaboration amongst the faculty.

Recommendation 3.

Construct a management plan and process for North Farm operations that will allow all faculty to have access to plots, equipment, and personnel.

Assessment method: In 2018-19, the Chair convened an 'ad-hoc' North Farm committee of relevant and diverse faculty and staff to figure out how best to move forward with this recommendation. Several priorities and actions came from this committee, which are detailed below. Moving forward, faculty and staff perceptions regarding the improvements at the North Farm will be obtained from periodic surveys.

Results: The Chair reconstituted the Land Use Management committee, and this group has developed and instituted an online 'land use request' form that aims to streamline aspects of planning and process at the North Farm. We have gone through five growing cycles with the new land use request form. Complaints have been few and it appears to be functioning well, though use is somewhat spotty and varies across faculty members. The retirement of a long-time staff member allowed for a re-shuffling of farm staff to create a new position – PSS North Farm Coordinator. This person has become the 'point' person for our people at the North Farm and is widely viewed as contributing to the improvement of process, facilities, management, and access. In 2019, we successfully transitioned the long-term no-till plots at the Farm from single PI control to committee control, effectively broadening inclusion and transparency for how this Departmental resource is managed and is available for research. This committee is functioning well and has vetted and approved several new projects over the past year.

Analysis of results and reflection: We have dismantled many of the barriers that existed at the Farm for new faculty and staff. We continue to actively work to improve the culture of the Farm: to have greater buy-in and regard for safety, to eliminate exclusionary practices, to improve access and transparency of various processes, and to correct a variety of farm employee issues that stem from limited supervision/oversight. We have improved our communication with Matt Peake and William Simpson.

Ongoing improvement actions: We continue to have issues regarding shared use equipment and buy-in on safety practices and training remains challenging.

The Chair and the PSS North Farm Coordinator will continue to work closely together over the next year to try to find solutions.

Recommendation 4.

Devise a departmental strategy for providing all staff with the opportunity for professional development, including participation in scientific meetings where appropriate.

Assessment method: Internally monitor the number of staff applying for the College-level staff profession development awards.

Results: In the first year of the College-level staff professional development program (2017), our Department had only one application, which was granted, to attend and present at a scientific meeting. In 2018, we had three staff members apply (and receive funds) for a diverse set of experiences: learning new techniques, better communication skills, and how to lead a state-wide water quality program. In 2019, we have had four staff members apply for a similarly diverse set of professional development opportunities and receive awards. We also received four staff-led Research Activity Awards 2019. Due to COVID-19, no staff members applied for professional development awards in 2020, as frequently those awards involved travel. However, in 2020, we had a staff member lead a successful Sustainability Challenge Grant, at the University-level. In 2021, we have had three staff members apply for (and receive) professional development awards to attend scientific meetings. So far in 2022, we have had one staff member apply to attend a professional meeting.

Analysis of results and reflection: The College's Professional Development Award has been a very positive thing for our staff. I remind them of the program at our bi-annual meetings, and the Department has budget committed to match what they receive from the College. Staff value having these experiences, and the application is easy to fill out.

Ongoing improvement actions: The Department will continue to support staff that apply for the College-level awards as well as other opportunities that arise.

Recommendation 5.

Explore opportunities for developing online courses for Extension Agents interested in pursuing master's degrees.

Assessment method: We have worked with the Assoc. Dean for Instruction's office to help support the College-level effort to create an online MS in Agriculture – STO.

Results: We had two faculty respond to the call for online course proposals put forward by the new online STO program. Drs. Henning and C. Lee developed online Forage Management & Use and Grain Crops courses, respectively, for the STO program. Both courses have now been taught and are being offered. Additionally, Dr. Coyne created an online version of his Soil Microbiology course to be offered to STO students. Several Extension faculty advise STO students.

Analysis of results and reflection: COVID changed the online course world

dramatically, as all instructors were forced to go online. I think many discovered there are some benefits to online instruction, though some challenges remain.

Ongoing improvement actions: Dr. Jimmy Henning has taken on the Director of Graduate Studies for the STO program. We are currently evaluating whether we, as a faculty, think our primary MS/PhD program - IPSS - should have an online option. We will stay involved in the College- and University-wide discussions regarding online education and try to think creatively about what additional offerings we can create and programs we can be involved in.

Recommendation 6.

Evaluate departmental committee structure and improve procedural transparency.

Assessment method: Every year, the Chair reviews the Departmental committee structure, checks with various committees to see whether they are still functioning or not, solicits input from faculty and staff, and makes appropriate revisions. The Chair also modifies and creates new policies, as needed, with input from faculty and staff, to improve procedural transparency. As part of our Departmental response to the UK@Work effort, we deployed a survey to staff asking a variety of questions regarding communication of information. The Chair has made efforts to increase procedural transparency by explaining things at both faculty and staff meetings.

Results: We now have fewer Departmental committees (only those that are active and serving a real purpose), and faculty and staff appear pleased with improved communication and procedural transparency. In an attempt to better incorporate staff in decision-making, the Chair created a 'staff advisory committee' that is tasked with advising the Chair on staff-related issues.

Analysis of results and reflection: So far the staff advisory committee has only met once. It isn't clear whether this committee is going to be useful or not. The Chair will continue to monitor and make changes as needed.

Ongoing improvement actions: Continue to assess effectiveness and usefulness of our committees and make changes were needed.

Recommendation 7.

Continue to evaluate space and equipment needs for the program and develop a long-term strategy for improving these aspects of the program.

Assessment method: The Chair works with various faculty-led efforts to improve space utilization and access to equipment. This includes holding spring calls for internal equipment proposals, when the budget allows.

Results: The Chair continues to support the Departmental shared-use lab (S-104) by supporting the lab manager position associated with it and providing funds for needed equipment upgrades in the space. In 2021-2022, the Chair used substantial Departmental funds to support a range of lab and field research needs. This year, the Chair and several faculty members are helping design the new USDA-ARS building that will be on campus, as we anticipate members of

our unit will become denizens of the new space. This past year, the Chair worked to improve the utilization of a large, high quality lab space in PSB.

Analysis of results and reflection: Our Department has been lucky to have funds available to help programs achieve space and equipment needs.

Ongoing improvement actions: The Chair will continue to help the faculty achieve their goals with regard to equipment acquisition and space utilization, as long as the budget allows her to do so.

Recommendation 8.

Work with the Office of Philanthropy and Alumni to develop specific goals and objectives for future philanthropic efforts.

Assessment method: Track gifts to the Department. Track reads/hits on the Alumni newsletter. Track participants of Alumni events.

Results: The Chair engaged with the Office of Philanthropy and is developing relationships with potential donors. One such relationship has generated a \$50K donation for graduate student development. We worked with Philanthropy to generate an Alumni database and mailing list. We have produced three Alumni newsletters (Winter 2020, Fall 2021, Fall 2022). The Winter 2020 newsletter was sent to 658 email addresses, had a 90% successful delivery rate, and generated 127 (21.5%) unique opens. We reached 31 states and 4 countries. We threw our first-ever PSS Alumni Round-Up event in October 2021 - a catered evening dinner in the grounds between PSB and Garrigus. We had ~30 people attend, with 8-10 being alums. We threw our second PSS Alumni Round-Up event October 2022, and had 50 people in attendance, with 8-10 alums in attendance - at least 3 of which were different from the prior year.

Analysis of results and reflection: We have made major headway in this arena. We hope that as the newsletters and Round-Up event become regular (yearly) we will attract more participants.

Ongoing improvement actions: Continue discussions with Philanthropy and Alumni and watch for opportunities. Continue to hone plans to engage with alumni.

Recommendation 9.

Consult with current and past graduate students on ways to improve the overall graduate student experience in the program.

Assessment method: We conducted a satisfaction survey of current IPSS graduate students in 2018 and conducted a second this year (summer 2022). We created an exit survey to extract similar information from students moving forward. The exit survey has been deployed for five years now, though there was a blip in data collection last year as the new DGS didn't realize this was something he should be doing. This has been rectified. We are doing every other year analysis of the data that comes in through the survey. We are engaging in in-depth conversations with IPSS faculty and students regarding

strengths and weaknesses of the degree program and potential changes.

Results: The PSS Chair created a formal IPSS Steering Committee, which has representation from all IPSS Departments (PSS, Hort, FNR), one outside Department, and current graduate students. This committee has revised the IPSS handbook (twice) and completed several major curricula changes: eliminating the Forest Science specialty area and replacing it with an Environmental Science and Ecosystem Science specialty, increasing the MS-thesis total credit hour minimum requirement (24 to 30 hrs), and altering the structure of the IPSS Graduate Student Symposium. We also created a new IPSS GSA Alumni Early Career Award to recognize the achievements of a recent IPSS graduate. This award is being administered by the IPSS Graduate Student Association and occurs as part of the PSS seminar series.

Analysis of results and reflection: Turnover of the DGS position this past year has been challenging. The new DGS is learning the ropes but needs to better integrate/collaborate with the IPSS Steering Committee. The summer 2022 survey (by both students and faculty) provided interesting data and illustrated that our students are more concerned about money and mental health than they were in 2018. This is not surprising, given the pandemic and persistent inflation. This information led us to raise our minimum stipend amounts by ~\$3K/yr. This change went into effect in August 2022. The IPSS Graduate Student Association remains remarkably organized and active. The PSS Chair and IPSS DGS support their activities in a variety of ways, including financially.

Ongoing improvement actions: The Chair will continue to support the efforts of the IPSS Steering Committee and Graduate Student Association moving forward. The IPSS Steering Committee is beginning a curriculum review process.