

DEPARTMENT OF PLANT AND SOIL SCIENCE

Strategic Plan (2011-2015)

MISSION STATEMENT

Plant and Soil Science (PSS) is a leading academic department in the College of Agricultural Sciences and Natural Resources (CASNR) at Texas Tech University. The Department is committed to providing the highest standard of excellence in education, research, and engagement with current and emerging plant and soil science issues.

VISION STATEMENT

The Department of Plant and Soil Science will be recognized as one of the top 20 academic Plant and Soil Science departments in the nation. The Department's reputation and integrity will be based on excellence in teaching, research and engagement regarding current and emerging aspects of plant and soil sciences.

The Department of Plant and Soil Science is committed to:

- being one of the top 20 departments in the area of plant and soil sciences in the nation;
- preparing students to become global leaders in plant and soil sciences;
- discovering and applying knowledge through research and creative activity;
- fostering social and cultural development and economic growth.

The Department of Plant and Soil Science is committed to a culture that values:

- mutual respect, trust, integrity and a supportive environment;
- open communication, teamwork, and partnership;
- creativity, innovation, and pursuit of excellence;
- community service, leadership, and public accountability;
- diversity;
- academic and intellectual freedom.

OUTCOMES, ASSESSMENT METHODS, OBJECTIVES AND STRATEGIES

Outcome 1: Increase Student Enrollment, Access to Higher Education, and Preparedness.

KEY OUTCOME: Grow and diversify PSS's student population to increase participation in higher education and to prepare a qualified workforce for the State of Texas (relates to Texas Higher Education Board's "Closing the Gaps in Participation" and "Closing the Gaps in Success").

Assessment Methods:

- Enrollment of 174 undergraduates. (2005: 97; 2010 Outcome: 110)
- Enrollment of 125 graduate students. (2005: 52; 2010 Outcome: 75)
- 50% of the first-time entering freshman class students at the institution are in the top 25% of their high school class (as measured by Mean Class Rank of entering freshmen)
- Mean SAT score of 1100 for first-time entering freshman class students
- Achieve 20% ethnic diversity of entering freshman.
- 80% first year undergraduate retention rate. (2005: 80%; 2010 Outcome: 90%)
- 65% 4-year undergraduate graduation rate. (2005: 65%; 2010 Outcome: 60%)
- 100 students enrolled in courses at distance per year.
- Offer 1 undergraduate degree program at distance. (2005: 1; 2010 Outcome: 1)
- Offer 15 undergraduate courses at distance. (2005: 9; 2010 Outcome: 12)
- Offer 3 graduate degree programs through distance learning. (2005: 3; 2010 Outcome: 3)
- Offer 22 graduate courses through distance learning. (2005: 19; 2010 Outcome: 19)
- Offer 4 certificate programs for professional development and continuing education. (2005: 0; 2010 Outcome: 4)
- 20 undergraduates involved in formal internships per year. (2005: 8; 2010 Outcome: 5)
- 20 undergraduates involved in study abroad and international experience per year. (2005: 20; 2010 Outcome: 20)
- 75 undergraduates involved in research per year. (2005: 51; 2010 Outcome: 70)
- Mean GRE score of 1000 for entering Masters students.
- Mean GRE score of 1100 entering Ph.D. students.
- 67% Master's graduation rate.
- 85% Doctoral graduation rate.
- Median time to Doctoral degree completion of 4.2 years.
- 30 undergraduate degrees awarded per year. (2005: 20; 2010 Outcome: 19)
- 10 Master degrees awarded per year.
- 5 Ph. D. degrees awarded per year.

Objectives:

Objective 1.1: Increase student numbers and diversity

Strategies:

- Enhance recruiting efforts and collaborative programs targeting four-year colleges, community colleges, and science and advanced placement classes at selected high schools.
- Strengthen recruiting efforts to attract high-quality graduate students
- Increase recruiting efforts in areas with high minority student populations.
- Increase overall scholarship funds, and focus on scholarships targeted at minority students.

Objective 1.2: Increase recruitment of high achievement students into freshman class

Strategies:

- Use scholarships that target high-achievements students.
- Participate in bridge programs such as Upward Bound

Objective 1.3: Increase recruitment of high achievement students into freshman class

Strategies:

- Emphasize STEM and pre-professional options for undergraduates.

Objective 1.4: Increase distance learning opportunities

Strategies:

- Provide technical and financial assistance for distance learning.
- Increase number of distance education courses/sections offered.
- Partner with other universities (e.g., AG*IDEA) in providing distance-based degrees.

Objective 1.5: Provide undergraduate, graduate, and professional curricula and programs that enhance disciplinary knowledge and analytical, creative thinking, and leadership skills

Strategies:

- Conduct comprehensive curriculum reviews to assess the capacity of current programs and needs for change.
- Incorporate input from PSS Advisory Committee members in evaluation of curricula in the PSS department.

Objective 1.6: Increase participation in study abroad, exchange programs, and involvement in research

Strategies:

- Increase student awareness of study abroad and exchange programs.
- Provide special problem and internship opportunities for undergraduate students involved in research.

Objective 1.7: Increase the number of high-quality graduate students

Strategies:

- Increase scholarships and fellowships for graduate students.
- Provide scholarships that will cover the cost of all tuition and fees for Ph.D. students.
- Provide funding for recruitment of high-quality graduate students.

Outcome 2: Enhance Academic Quality and Reputation

KEY OUTCOME: Attain national recognition in undergraduate, graduate, and professional education and increase national and international stature and recognition of faculty, staff and students.

Assessment Methods:

- 5 traditional and targeted faculty (replacement) hires by 2015.
- 2 staff involved in professional development activities per year.
- 1 staff award per year.
- 1 tenured/tenure-track faculty who have achieved professional recognition as a fellow of a national society by 2015.
- 10 tenured/tenure-track faculty holding officer/board positions in professional societies by 2015.
- 3 tenured/tenure-track faculty serving on special Federal/State/Regional committees/boards/review panels by 2015.
- 6 endowed chairs and professorships by 2015. (2005: 5; 2010 Outcome: 5)
- 2 formal student exchange programs with international institutions by 2015.

Objectives:

Objective 2.1: Recruit, mentor, retain, recognize, and reward outstanding, diverse faculty and staff

Strategies:

- Leverage strategic/targeted hiring opportunities provided by the Office of the Vice President for Research.
- Hire new faculty in areas that have been identified as strategic opportunities in research and teaching.
- Ensure PSS has strong, consistent effort to mentor young faculty.
- Facilitate and encourage faculty participation in professional development opportunities including international activities by establishing a “Faculty Development Endowment.”
- Facilitate and encourage staff participation in Service Plus, TLTC, and other professional development opportunities by establishing a “Staff Development Endowment.”

Objective 2.2: Increase national recognition of faculty and students

Strategies:

- Ensure PSS has a mechanism to consistently evaluate and nominate faculty for university and professional society awards and honors.
- Charge the PSS Scholarship Committee with annually evaluating students for nomination to university, regional, and national awards.

Objectives 2.3: Increase the number and effectiveness of formal exchange programs with international institutions.

Strategies

- Evaluate current exchange programs to determine return on investment.
- Examine opportunities for new exchange programs in the context of how they will complement PSS teaching and strategic research efforts.

Outcome 3: Expand and Enhance Research and Creative Scholarship

KEY OUTCOME: Increase national recognition in research and creative scholarship (relates to Texas Higher Education Board’s “Closing the Gaps in Research”)

Assessment Methods:

- 5 Postdoctoral appointments per year.
- 75 undergraduates involved in research per year. (2005: 61; 2010 Outcome: 60)
- 10 multi-department, college, and institutional research proposals submitted per year
- 6 multi-department, college, and institutional research proposals funded per year
- 60 refereed journal publications per year.
- 1:4 leveraging of state funds. (2005: 1:4.33; 2010 Outcome: 1:5.94)

- 1 significant new patent, license agreement, or commercial entity per year. (2005: 0; 2010 Outcome: 0)
- 1 significant sponsored research agreement tied to licensing agreements per year.
- 60 research proposals submitted per year. (2005: 50; 2010 Outcome: 54)
- \$12,000,000 worth of research proposals submitted per year. (2005: \$10,215,515; 2010 Outcome: \$9,942,744)
- \$8 million total research funding per year. (2005: \$2.4 M; 2010 Outcome: \$6.1 M)
- 100% faculty generating sponsored research funding per year.
- \$1,000,000 Annual institutional dollars spent on research equipment and facilities and renovation by 2015.

Objectives:

Objective 3.1: Enhance existing research programs and develop new research initiatives

Strategies:

- Establish a prioritized list of areas of research excellence in PSS.
- Provide seed funding to promote research in the areas of research excellence.

Objective 3.2: Promote and support collaborative research

Strategies:

- Secure and provide seed funding to promote collaborative and multidisciplinary research priorities.
- Develop methods to reward PIs and Co-PIs involved in collaborative research.

Objective 3.3: Foster research programs that contribute to local and regional economic development and entrepreneurship

Strategies:

- Use the PSS advisory committee and interactions with other industry groups to establish priorities for economic development and entrepreneurial opportunities.

Objective 3.4: Increase research funding

Strategies:

- Provide incentives (salary, release time, graduate student support, post doctoral support, etc.) to faculty who obtain significant competitive grant funding.
- Facilitate efforts to secure more research funding from international funding agencies, corporations and foundations.

Objective 3.5: Construct, renovate, and modernize research facilities

Strategies:

- Construct a new PSS wing.
- Increase access to and use of state-of-the-art technology in research.

Outcome 4: Strengthen Outreach, Engagement, and Pride in PSS

KEY OUTCOME: Increase outreach and engagement activities and public knowledge and support of the Department of Plant and Soil Science.

Assessment Methods:

- 21 workshops, symposia, and other events per year sponsored or supported for governmental agencies, non-governmental organizations, producers, industry groups, trade associations, and consumers. (2009: 21; 2010 Outcome: 21)
- Establish 12 joint appointments between PSS and the Texas AgriLife Research. (2005: 11; 2010 Outcome: 12)
- Establish 3 joint appointments between PSS and the Texas AgriLife Extension. (2005: 3; 2010 Outcome: 3)
- PSS Quarterly Newsletters with an emailing list of 200. (2005: NA; 2010 Outcome: 130)
- PSS Distance education Newsletters with an emailing list of 200. (2005: NA; 2010 Outcome: 100)
- Presence in social networks such as Facebook, blogs, etc.

Objectives:

Objective 4.1: Strengthen partnerships and collaborations with all groups involved in education and research in agriculture and natural resources.

Strategies:

- Increase cooperative efforts with TAMU AgriLife Research and Extension and USDA-ARS.

Objective 4.2: Strengthen and initiate partnerships and cooperation within the Texas Tech University System and with other institutions.

Strategies:

- Enhance partnerships and cooperation with other units of the Texas Tech University System.
- Expand partnerships to other universities in the region (e.g., Angelo State University, West Texas A&M University and Eastern New Mexico University).

Objective 4.3: Enhance public awareness of PSS

Strategies:

- Increase articles in local and regional newspapers about high-visibility PSS research and teaching.

Objective 4.4: Inform alumni of PSS accomplishments and encourage them to be ambassadors for PSS

Strategies:

- Develop social media-based applications for alumni that will share PSS news and information.
- Send e-news letters to distance students three times per year.

Outcome 5: Attain Resource Sufficiency and Efficiency and Ensure Accountability

KEY OUTCOME: *Increase funding and optimize resource allocation for scholarships, professorships, endowments, and facilities while enhancing our stewardship of those resources.*

Assessment Methods:

- Balanced unrestricted direct revenues and expenditures.
- 30% undergraduate and graduate students on scholarship per year.

Objectives:

Objective 5.1: Develop and integrate a new budget model (that tracks unrestricted revenues and expenditures) into PSS decision-making process to maximize fiscal performance.

Strategies:

- Apply approaches for development of teaching and research priorities for PSS.

Objective 5.2: Raise more money for scholarship endowments

Strategies:

- Increase coordinated efforts among PSS department and faculty with CASNR Dean's Office, and CASNR Development Office to obtain endowed scholarships, particularly from alumni and friends of the college.

Objective 5.3: Raise more money for faculty professorships and endowments

Strategies:

- Increase coordinated efforts among PSS department and faculty with CASNR Dean's Office, and CASNR Development Office to obtain endowed chairs and professorships, particularly from non-traditional sources.