K-State 2025 Strategic Action and Alignment Plan
College or Major Unit: Agriculture & K-State Research and Extension
Department: Plant Pathology

1. **What are your Department's mission and vision and how does your organization contribute to achieving the University's and your College's/Major Unit's vision for K-State 2025?**

The Plant Pathology department has 21 state faculty, 8 adjunct faculty (housing 2 USDA-ARS and I USDA-APHIS scientists within the department), and 50-60 graduate students, post-docs, and visiting scientists, from 20+ countries on 6 continents. We are a diverse Department with a global climate in which ideas thrive and people excel. Three faculty are University Distinguished Professors, five are fellows of the American Phytopathological Society, and three are fellows of the American Association for the Advancement of Science. Faculty annually publish an average of 50 refereed journal articles in excellent journals, receive $5 to $7 million in outside grants, and bring in numerous invited seminar speakers from around the world. The *Fusarium* Laboratory Workshop has brought 40-50 scientists to campus in June of odd years since 2000. The department was ranked as the number 1 Plant Pathology department and the number 10 Plant Sciences Department in the National Research Council report of 2012.

[Mission: To understand and improve plant health**.**

Vision: The K-State Department of Plant Pathology will be recognized as one of the best departments in the field worldwide and will be a global leader in plant health research, education, and extension for grass systems with specific strengths in the pathology and genetics of model systems, wheat and grain sorghum**.]**

Purpose: Conduct research necessary to advance plant health and secure food production systems and to educate the next generation of scientists that will provide leadership in the plant health sciences.

2. **What are your Department's _key_ strategic activities and outcomes?**

3. **Identify [in brackets] which of your Department's strategic outcomes are directly linked to your College's/Major Unit's outcomes. *(If your Department or similar unit is not in a College or Major Unit, skip this question.)***

Key Activities	Short Term (2013 - 2015) Key Outcomes	Intermediate (2016 - 2020) Key Outcomes	Long Term (2021 - 2025) Key Outcomes
What we plan to do…	*What we expect to happen…*	*What we expect to happen…*	*What we expect to happen…*
I. Retain a broad based approach to Plant Pathology, including basic molecular expertise, applied field capabilities, and expertise in the four major pathogen groups (viruses, nematodes, bacteria and fungi) and host plants important or unique to Kansas.	**A. Maintain overall department capabilities** A1. Refill vacant Molecular Plant-Pathogen Interactions faculty position in FY16. [I4] A3. Major department faculty retreat to update curriculum and discuss research emphases. A4. Develop professional development plan for graduate students and postdoctoral trainees (e.g., Extension/Engagement experience, international experience, professional development skills course	**A. Maintain overall department capabilities** A1. Refill anticipated retirement of Applied Wheat Pathologist in FY17. [I4] A2. Refill Director of Wheat Genetics Resource Center faculty position in FY 18. [i3, I4] A3. Major department faculty retreat to update curriculum and discuss research emphases. A4. Develop and deliver professional skills course.	**A. Maintain overall department capabilities** A1. Replace up to five faculty members and Department Head, who will be 65 years of age or older by 2025. [I4] A3. Major department faculty retreat to update curriculum and discuss research emphases.

	A5. Develop, in conjunction with BRI and Australian Plant Biosecurity CRC, a graduate distance education program in Plant Biosecurity. [i1]	A5. Develop, in conjunction with BRI and Australian Plant Biosecurity CRC, a graduate distance education program in Plant Biosecurity. A6. Develop a plan for an interdepartmental cluster hire in Plant Biosecurity. [i1, i3]	A6. Serve as the "anchor" department for the interdepartmental Plant Biosecurity program. [i3]
II. Enlarge and diversify graduate, undergraduate and postdoctoral education and research programs.	**B. Graduate Students & Postdocs** B1. Increase number of graduate students by 5%. [a2, f1, f2] B2. Increase number of postdoctoral trainees by 10%. [a3] B4. All grant-funded GRAs have tuition paid from the grant. [e3, e4] B5. Graduate stipends comparable with peer institutions. [e3, e4]	**B. Graduate Students & Postdocs** B1. Increase number of Ph.D.s awarded by 10%. [a2, f2] B2. Increase number of postdoctoral trainees will grow by 10%. [a3] B3. At least 2 graduate students or postdoctoral trainees participated in Extension/Engagement or international experience.	**B. Graduate Students & Postdocs** B1. Number of Ph.D.s awarded comparable with benchmark institutions. [a2, f2] B2. Number of postdoctoral trainees will remain constant. [a3] B3. At least 3 graduate students or postdoctoral trainees participated in Extension or engagement or international experience.
	C. Undergraduate Students C1. Develop a coordinated departmental plan for tracking and encouraging undergraduate research. [d3]	**C. Undergraduate Students** C1. Establish undergraduate research baseline. [d3] C2. Identify sources for external funding for undergraduate research program.	**C. Undergraduate Students** C1. Undergraduate research program established with participating students from K-State and other universities. [d3] C2. Funding secured to support program.
III. Increase Department prestige and visibility	**D. Stakeholder & Alumni Interactions** D1. Develop alumni list. [j1] D2. Prepare bi-annual department newsletter. [j1, j3] D3. Develop plan for stronger web presence. [j1, j8, j9]	**D. Stakeholder & Alumni Interactions** D1. Update alumni list. [j1] D2. Regularly distribute newsletter. [j1, j3] D3. Increase web presence. [j1, j8, j9]	**D. Stakeholder & Alumni Interactions** D1. Update alumni list. [j1] D2. Regularly distribute newsletter. [j1, j3] D3. Maintain significant web presence. [j1, j8, j9]
	E. Awards E1. Activate and appoint department awards committee. [l3] E4. Department is recognized as one of the three best Plant Pathology Departments and one of the 20 best Plant Sciences Departments by US National Research Council.	**E. Awards** E2. 30% of the faculty receive national awards and/or recognition in previous 5 years. [l3] E3. 25% of graduate students receive regional or broader recognition in previous 5 years. E4. Department is recognized as one of the three best Plant Pathology Departments and one of the 20 best Plant Sciences Departments by US National Research Council.	**E. Awards** E2. 50% of the faculty receive national awards and/or recognition in previous 5 years. [l3] E3. One-third of graduate students receive regional or broader recognition in the previous five years. E4. Department is recognized as one of the three best Plant Pathology Departments and one of the 20 best Plant Sciences Departments by US National Research Council.

IV. Maintain/increase faculty quality	**F. Faculty Development & Evaluation** F1. Alter department evaluation instrument to align evaluations with 2025 COA/KSRE and university strategic goals. [n1]	**F. Faculty Development & Evaluation** F1. Revise and update department evaluation instrument in line with changes in 2025 COA/KSRE and university strategic goals. [n1] F2. Develop better methods to recognize and reward activities in inter-disciplinary activities and centers. [n1]	**F. Faculty Development & Evaluation** F1. Revise, update and evaluate department evaluation instrument. [n1]
	F3. Average 50 scientific publications per year. [g1] F4. Average 8 new/revised extension publications per year. F5. 20-year *h*-factor for department of 70. [g2]	F3. Average 50 scientific publications per year. [g1] F4. Average 8 new/revised extension publications per year. F5. 20-year *h*-factor for department of 72. [g2] F6. Recruit a National Academy of Science member. [l2, l4]	F3. Average 50 scientific publications per year. [g1] F4. Average 8 new/revised extension publications per year. F5. 20-year *h*-factor for department of 75. [g2] F6. Maintain at least one National Academy of Science member within the department. [l2]
V. Increase measures of department quality	**G. Department funding** G1. Average external funds of $6-9 million per year. [h1] G2. Increase % time of staff member devoted to IT/web support form 1/3 to 2/3. [q]	**G. Department funding** G1. Average external funds of $7-10 million per year. [h1] G2. Add full-time department office staff person. G3. Increase number of hard-funded GRAs to three. G4. Develop "safety net" strategy for sustaining research programs during lapses of grant funding. G5. Add one endowed chair. [l1]	**G. Department funding** G1. Average external funds of $8-12 million per year. [h1] G2. Fully fund staff person for managing safety, renovations, etc. G3. Increase number of hard funded GRAs to six. G5. Add a second endowed chair. [l1]
Maintain adequate support staff and facilities	**H. Department Space and Facilities** H1. Hi-speed access (10 Gb) to Beocat. [q] H2. Improved and enlarged computer server room (external pod). [q] H3. Replace 4WD vehicle and add diesel pick-up truck and trailer. H4. Replace 3 non-functional growth chambers. H5. Add 20% additional greenhouse space. [p] H6. Add 10% additional laboratory space. [p] H7. Add 20% additional office space. [p]	**H. Department Space & Facilities** H1. 10Gb wiring for internet access to all labs and offices. [q] H3. Replace two departmental mini-vans. H4. Replace remaining non-functional growth chambers and electrical supply. H5. Add 30% additional greenhouse space. [p] H6. Add 20% additional laboratory space. [p] H7. Add 20% additional office space. [p] H8. Refurbish small teaching laboratory. [p1]	**H. Department Space & Facilities** H3. Replace two departmental min-vans and one pick-up truck. H4. Add space for 6-8 additional growth chambers and replace all that are non-functional. H5. Add 25% additional greenhouse space. [p] H6. Add 25% additional laboratory space. [p] H7. Add 20% additional office space. [p]

4a. What resources and/or opportunities <u>exist</u> for your Department to achieve its vision and outcomes?

Outstanding human resources but only adequate and limited physical facilities. We are very successful in securing external funding to support our research enterprise. We are good in securing funding for our extension and outreach activities.

4b. What resources and/or opportunities are <u>needed</u> for your Department to achieve its vision and outcomes?

Human Resources <u>Needed</u>:
1. Administrative and IT support staff
2. Faculty replacements as current faculty retire

Fiscal Resources <u>Needed</u>:
1. Financial support for graduate students
2. Safety-net financing to support grant-funded personnel during grant funding gaps

Physical resources <u>Needed</u>: We are currently very pressed for space to accommodate existing activities. At least three programs cannot expand any further due to space limitations. Particulars needed include:
1. More laboratory space, and equipment rooms
2. Quality, technology-enhanced teaching classrooms and laboratories
3. Laboratory space in the department needs to be increased by 25-30% to meet immediate needs and allow expanding programs a place to grow. A similar increase will be needed over the 2025 period to allow other successful programs to have adequate space. Adding additional faculty to the department will increase the demand for laboratory space.
4. Laboratories in the old part of the building need renovations to update. Problem is that there is no temporary space to shift programs to while old labs are renovated. Thus labs are renovated only when a faculty member leaves or retires.
5. One or two additional small conference rooms.
6. Growth chambers were not replaced regularly for a number of years, leading to major problems. All chambers pre-1980 have now been replaced, but six are currently either non-functional or marginally functional. Chambers are $50,000-$60,000 each.
7. Vehicles have been used for long-times. Only one remains to be replaced immediately, but there is a need for a second truck and trailer that can carry field equipment.

5. How do you propose to acquire the resources needed for your Department to accomplish its vision and outcomes?

We will partner with the College of Agriculture and the University to develop strategies:
1. To secure endowments to support our mission
2. To apply to national funding agencies for improvement of infrastructure
3. To secure industry investment in our research programs
4. To identify solutions and opportunities to address our facility needs.

6. How does your plan link to the K-State 2025 University Benchmark Metrics, Common Elements, and Thematic Goals, Outcomes, and Metrics? *(See below)*

6. Departmental Links to K-State 2025 University Benchmark Metrics, Common Elements, and Thematic Goals, Outcomes, and Metrics

Links to Benchmark Metrics
B-1 - Total research and development expenditures B-3 - Number of national academy members B-4 - Number of faculty awards B-5 - Number of doctorates granted annually B-8 - Percent of undergraduate students involved in research

Links to Common Elements
CE-1 - Communications and Marketing CE-3 - Diversity CE-4 - External Constituents CE-5 - Funding CE-6 - International CE-7 - Sustainability CE-8 - Technology

Links to University Thematic Goals, Outcomes, and Metrics			
Links to 2025 Thematic Goals and Metrics	**Links to Short Term Outcomes (2011 – 2015)**	**Links to Intermediate Outcomes (2016 – 2020)**	**Links to Long Term Outcomes (2021 – 2025)**
T1 - Research, Scholarly and Creative Activities, and Discovery (RSCAD) **Theme 1 Metrics:** T1-1 - # of interdisciplinary research projects, institutes, and centers T1-2 - Total sponsored extramural funding expenditures T1-4 - # of refereed scholarly publications per academic year and allocated faculty member T1-5 - Total international research and development expenditures	T1-A - Increased intellectual and financial capital to support RSCAD T1-B - More clusters/centers of collaborative RSCAD focus T1-C - Increased funding for investigator-based research, research centers, and graduate training grants T1-D - Tuition waivers for all GRAs T1-E - Competitive compensation and support available to GRAs, GTAs, and GAs T1-F - Enhanced and systematic approach for UG research T1-G - Successful recruitment, retention, evaluation, compensation, and rewards strategies in place to support RSCAD needs T1-H - Enhanced visibility and appreciation for research, discovery, and scholarly and creative activities	T1-I - Intellectual and financial capital in place for expanded RSCAD efforts T1-J - Greater proportion of nationally and internationally recognized award-winning faculty in RSCAD programs T1-K - Nationally and internationally recognized research centers T1-L - Recognized for prominent and productive placement of our graduates T1-M - Increased participation by undergraduates in expanded opportunities in research	T1-N - Fifty nationally recognized K-State researchers, a high proportion of which are members of their national academies T1-O - Extramural funding competitive with our benchmark institutions T1-P - Research and development expenditures competitive with benchmark institutions T1-Q - Competitive amongst our peers in the percentage of undergraduates involved in research

Links to University Thematic Goals, Outcomes, and Metrics			
Links to 2025 Thematic Goals and Metrics	Links to Short Term Outcomes (2011 – 2015)	Links to Intermediate Outcomes (2016 – 2020)	Links to Long Term Outcomes (2021 – 2025)
T2 - Undergraduate Educational Experience (UEE) **Theme 2 Metrics:** T2-2 - # and % of undergraduate students completing an experiential learning experience	T2-C - Increased participation by undergraduates in expanded opportunities for meaningful research	T2-M - Increased undergraduate contributions in the creation of scholarship through research	
T3 - Graduate Scholarly Experience **Theme 3 Metrics:** T3-1 - # and % of graduate students with assistantships, endowed scholarships, and fellowships T3-2 - Total funds awarded for graduate assistantships, endowed scholarships, and fellowships T3-3 - # and % of graduate programs offering competitive compensation and support packages T3-4 - # of private/public sector partnerships supporting graduate experiential training opportunities T3-5 - # of graduate students participating in a unique high level learning and experiential training T3-6 - # of graduate terminal degrees awarded T3-7 - Total graduate students enrolled by demographic group and degree type T3-8 - Graduate student satisfaction and utilization rates	T3-A - Competitive compensation and support available for GRAs, GTAs, and GAs T3-B - Tuition waivers for all GRAs T3-D - Outstanding mentoring for our graduate students T3-E - Expectation of excellence for the graduate scholarly experience T3-F - Increased capacity to secure funding for graduate research and teaching T3-G - Broader spectrum and greater overall number of courses offered at the graduate, and especially at the PhD level T3-H - Expanded partnerships with industry and government to provide high level learning and experiential training opportunities for graduate students	T3-I - Increased participation by our graduate students in unique high level learning and experiential training T3-J - Expanded reputation for outstanding graduates with the critical skill sets needed to excel in their careers in a global environment T3-K - Increased funding for graduate research and teaching T3-L - Increased number of nationally and internationally recognized award-winning graduate faculty T3-M - Increased number of Doctorates Awarded	T3-N - National and international reputation for outstanding graduates with demonstrable career success T3-O - World-class reputation as a preferred destination for outstanding graduate students T3-P - Stable funding for graduate research and teaching competitive with benchmark institutions T3-Q - Doctorates Awarded comparable with benchmark institutions

Links to University Thematic Goals, Outcomes, and Metrics			
Links to 2025 Thematic Goals and Metrics	**Links to Short Term Outcomes (2011 – 2015)**	**Links to Intermediate Outcomes (2016 – 2020)**	**Links to Long Term Outcomes (2021 – 2025)**
T4 - Engagement, Extension, Outreach and Service **Theme 4 Metrics:** T4-2 - Total extramural-funded expenditures for Engagement initiatives at the local, state, national, and international level T4-3 - # of partnerships by sector and geographic boundary supporting collaborative research, education, and engagement T4-6 - Economic impacts on rural and urban communities in Kansas	T4-A - Enhanced integration between academics and student service learning T4-C - Increased recognition of our services as a source of expertise, information, and tools for disciplines worldwide T4-D - Increased numbers and diversity of faculty and staff participating in Engagement T4-E - Increased extramural funding for Engagement initiatives at the local, state, national, and international level T4-F - Recognition as leaders in Engagement within our state and nation T4-G - Enhanced visibility and appreciation for Engagement and its interconnectedness with research and education within our university community	T4-H - Exposure on a national level as a leader/partner engaged in significant social, political, health, economic and, environmental issues T4-J - Increased number of graduate students involved in Engagement T4-L - Increased capacity to respond to emergencies worldwide T4-M - Preferred destination for faculty, staff, and students who value Engagement as integral to their academic and personal lives	T4-N - Nationally recognized as a leader in and model for a re-invented and transformed land -grant university integrating research, education, and engagement T4-O - Nationally and internationally recognized as leaders in Engagement on a global scale T4-P - Recognized as a leader in Engagement reaching both rural and urban communities
T5 - Faculty and Staff **Theme 5 Metrics:** T5-1 - # of national and international faculty awards T5-2 - # and % of faculty with endowed chairs, professorships, and fellowships T5-3 - Competitive compensation packages for faculty and staff T5-4 - # and % of faculty and staff participating in international experiences	T5-A - Total compensation competitive with aspirant university and regional employers for faculty and staff in high priority areas T5-C - Career-long learning recognized by the university and its employees as a shared value and responsibility T5-D - Effective evaluation processes that result in accountable faculty and staff with a clear understanding of their job expectations and how they	T5-E - Total compensation competitive with aspirant university and regional employers for all employees T5-F - Faculty and staff current with developments in their fields and the skills needed to achieve excellence in performing their jobs T5-G - Successful recruitment and retention of a talented and high performing, diverse workforce	T5-H - Talented and high performing, diverse workforce recognized for excellence and award-winning faculty and researchers T5-I - Stable funding available for recruitment and retention of top level faculty and staff T5-J - Optimal number of faculty and staff comparable with our benchmark institutions

Links to University Thematic Goals, Outcomes, and Metrics			
Links to 2025 Thematic Goals and Metrics	Links to Short Term Outcomes (2011 – 2015)	Links to Intermediate Outcomes (2016 – 2020)	Links to Long Term Outcomes (2021 – 2025)
T5-7 - % of faculty and staff reporting satisfaction in the work environment	contribute to the University's mission		
T6 - Facilities and Infrastructure **Theme 6 Metrics:** T6-1 - # and % of technology enabled classrooms T6-2 - Total expenditures for physical facilities and infrastructure projects	T6-C - Robust and reliable information technology ensuring business continuity and consistent with the achievement of the highest quality levels of support for research, instruction, student services, and administration	T6-D - Adequate office space for all K-State employees equipped to support their work and productivity	T6-G - High quality, technology enabled, flexible and adaptable classroom space appropriate to the evolving needs of the learning environment and readily available to K-State faculty and students T6-H - High-quality research laboratories and specialty spaces that enhance research and scholarly activities