Unit Mission
Our mission is to improve the quality of human life and protect our environment through a better understanding of insects and related arthropods. We conduct fundamental and applied research on insects, deliver information through education and outreach activities, educate graduate and undergraduate students, develop and provide resources for agricultural and pest management professionals, implement integrative and effective systems for insect pest management, and enhance science education and public appreciation of human-insect interactions.

Unit Objective

<table>
<thead>
<tr>
<th>Unit Objective</th>
<th>Related Goals/Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT Objective 1: Prepare Students for Leadership in an Innovation-Driven Economy and Global Society</td>
<td>Ag Goal 1. Prepare Students for Leadership in an Innovation-Driven Economy and Global Society</td>
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<tr>
<td>ENT Metric 1.1 Graduate an average of 5 PhD and 4 MS students each year (based on a 4 yr avg).</td>
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<tr>
<td>ENT Metric 1.2 Publish approximately 0.5 refereed publications/graduate student/year and 1.5 scientific presentations/graduate student/year.</td>
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<tr>
<td>ENT Metric 1.3 Maintain a multi-year average of 8 post-doctoral scholars within the Department.</td>
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<tr>
<td>ENT Metric 1.4 Increase the number of grants that support graduate student assistantships and tuition.</td>
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</tbody>
</table>

Related Mission Area

| Related Mission Area | Education |

Strategies
- Develop a recruitment program in the department involving senior PhD students paired with faculty members to visit selected colleges in Kentucky
- Encourage faculty to participate in the ABT program with the College of Agriculture
- Encourage faculty to include graduate assistantships in grant proposals
- Continue to seek outside funding for endowed graduate fellowships
- Continue to fund the publication scholarship program within the department

Assessment Method
Using IRPE annual reports, calculate the four year average of PhD and MS graduates to determine if department has met goal of 5 PhD and 4 MS students graduating each year. Using Graduate School data and chair survey, calculate the number of refereed publications/graduate student/year and the number of scientific presentations/graduate student/year. Using IRPE annual reports, calculate the four year average number of post-doctoral scholars in the Department. Using SAP data, calculate the number of grant funded assistantships within the Department.

Actual Results

Data Tables
Descriptive Results

Year 1
In the baseline period (05-09) the 4-year average number of PhD students graduated was 3.8; the number of MS students graduated was 3. In the first year of data collection (2010) the 4-year average number of PhD students graduated was 4.8 and the number of MS students was 4. In the baseline period (05-09), the 4 year average number of post-doctoral scholars in the Department was 8. In the first year of data collection (2010), the 4-year average number of post-doctoral scholars in the Department was 9.

Year 2
In the second year of data collection, the 4-year average number of PhD students graduated was 5 and the number of MS students graduating was 4. In the second year of data collection, the 4-year average number of post-doctoral scholars in the Department of Entomology was 9.

Year 3
1. In the third year of data collection, the 4-year average number of PhD students graduated was 4.5 and the number of MS students graduating was 3.
2. In the third year of data collection, graduate students in Entomology published 0.9 publications/graduate/year. Students presented 1.5 presentations/graduate student/year.
3. In the third year of data collection, the 4-year average number of post-doctoral students in the Department of Entomology was 9.
4. In the third year of data collection, three students were awarded NSF Dissertation Fellowships that provided fellowship funding and tuition. Graduate students in the Entomology program have received a 3-year Graduate Student Fellowship and a Presidential Fellowship from the Graduate School at the University of Kentucky.

Year 4

Year 5
Analysis of Results and Reflection

Improvement Actions

**Year 1**
The department has met our goals of graduating (based on a 4-year average) 5 PhD students and 4 MS students between 2006 and 2010. The 4-year average number of post-doc scholars has increased from a baseline average of 8 in 2009 to an average of 9 in 2010.

Entomology faculty will continue to evaluate the current graduate student recruiting activities to determine how to increase the number of graduate student applications to our graduate programs. Entomology will continue to recruit and mentor graduate students to maintain our average number of PhD and MS graduates at 5 and 4. The faculty will continue to recruit post-doc scholars to their research programs.

**Year 2**
The department is slightly below our goal for PhD student graduation numbers. The department has met our goal for graduating MS students. The department has exceeded our goal for average number of post-doc scholars enrolled in the Entomology program.

The Entomology faculty has discussed new approaches to recruit graduate students to our program. We will continue to recruit and mentor graduate students to maintain our average numbers of PhD and MS graduates. The faculty will continue to recruit post-doc scholars to their research programs, which will be highly dependent on the success of faculty in securing external grants.

**Year 3**
During the third year of data collection, the department of Entomology is slightly below our goal for multi-year average number of PhD and MS student graduation numbers. During this third year of data collection, the Department met its goal of 1.5 graduate student presentations/year and exceeded our goal of 0.5 refereed publications/graduate student/year. In this third year, the department has exceeded our goal for average number of post-doc scholars enrolled in the Entomology program. The numbers of applicants to the Entomology program has fluctuated during the past two years for unknown reasons. The faculty admitted a large cohort of new graduate students in 2011 (N=15). As this cohort of students graduates, our multi-year average number of PhD and MS graduates should increase and reach our goals of 5 PhD and 4 MS students. The Department has met or exceeded our goals for graduate student productivity. The numbers of post-doctoral researchers in the Entomology program is largely dependent on faculty securing extramural grant funding. Funding for federally competitive grants, which are the types of grants that fund post-docs, has become more competitive, so there might be a slight reduction in the multi-year average number of post-docs within the Entomology program.

Three new Dissertation Fellowships awarded by the National Science Foundation to students in Entomology have increased the number of grants that support graduate student fellowships and tuition. The department will continue to work with current students to submit NSF dissertation fellowships and dissertation improvement grants. We will continue to encourage faculty to include graduate assistantship stipends in grant proposals. The department will also continue to participate in UK Graduate School's fellowship competitions.

**Year 4**

**Year 5**
<table>
<thead>
<tr>
<th><strong>Unit Objective</strong></th>
<th>ENT Objective 2: Promote Research and Creative Work to Increase the Intellectual, Social and Economic Capital of Kentucky and the World Beyond its Borders</th>
</tr>
</thead>
</table>
| **Related Goals/Metrics** | Ag Goal 2. Promote Research and Creative Work to Increase the Intellectual, Social and Economic Capital of Kentucky and the World Beyond its Borders  
ENT Goal 2. Promote Research and Creative Work to Increase the Intellectual, Social and Economic Capital of Kentucky and the World Beyond its Borders  
ENT Metric 2.1 Maintain the annual total of external awards at over $2.2M.  
ENT Metric 2.2 Maintain a multi-year average of federal competitive grant awards at approximately 50% of the Department’s extramural funding portfolio  
ENT Metric 2.3 Maintain a multi-year average of 4 refereed journal publications/research FTE / year  
ENT Metric 2.4 Increase the number of patent submittals and patents awarded by an average of 1 per year  
UK Goal 2. Promote Research and Creative Work to Increase the Intellectual, Social, and Economic Capital of Kentucky and the World beyond its Borders. |
| **Related Mission Area** | Research and Creative Work |

**Strategies**

Aggressively pursue extramural research funding from diverse sources  
Provide creative incentives for faculty to seek extramural funding  
When needed, provide partial funding for graduate students, if a faculty member is between grants

**Assessment Method**

Using IRPE annual reports, determine if the department is maintaining an annual total of external awards at over $2.2M.  
Using IRPE annual reports, calculate the multi-year average of federal competitive grant awards within the Department’s extramural funding portfolio.  
Using IRPE annual reports, calculate the multi-year average number of refereed journal publications/research FTE / year.  
Using IRPE annual reports and chair survey determine the number of patent submittals and patents awarded to entomology faculty.

**Actual Results**

**Data Tables**
Descriptive Results

Year 1
In 2009 over $2.3 million in grants were awarded to faculty in the Department of Entomology. In 2009, 36% of the grants awarded to faculty in the department were from federally competitive sources. In 2009, the faculty in the Department published 5.1 journal publications/research FTE. In 2009 one patent was awarded to faculty in the Department of Entomology.

Year 2
In 2010, over $2.6 million in grants were awarded to faculty in the Dept of Entomology. Approximately 30% of these grants were from federally competitive sources. In 2010, the faculty published 4.3 journal publications/research FTE. In 2010, one patent was awarded to faculty in the Department of Entomology.

Year 3
1. In year 3 of data collection, over $2.5 million in grants were awarded to faculty in the Department of Entomology.
2. In year 3 of data collection, 53% of these grants were from federally competitive sources.
3. In year 3 of data collection, faculty in the Department of Entomology published 4.6 refereed journal articles and chapters/research faculty FTE.
4. In year 3 of data collection, one patent was awarded to faculty in the Department of Entomology.

Year 4

Year 5

Analysis of Results and Reflection

Improvement Actions

Year 1
The faculty in Entomology continue to seek competitive federal funding for their research programs. They are maintaining a high level of productivity as measured by refereed journal publications.

The department chair will continue to encourage faculty to seek appropriate grant funding to support their research.

Year 2
The department continues to be in the target range of all four of these metrics. The faculty in Entomology continue to seek competitive federal funding for their research programs. The faculty are maintaining a high level of productivity as measured by refereed journal publications, extramural grants, and patents.

The chair will continue to encourage faculty to seek appropriate grant funding to support their research. The chair and departmental advisory committee will continue to monitor and assess these metrics.

Year 3
In year three of data collection, the faculty in the Department of Entomology continue to submit and secure federally competitive grants. They also continue to publish in highly regarded refereed scientific journals. The Department of Entomology is in the top quartile in research productivity of all public research institutions in the United States.

The faculty in the Department of Entomology will be encouraged to continue to apply for extramural grant funds to support their programs. The chair will encourage the faculty to continue to seek patents for their new ideas and concepts. The department's advisory committee continues to focus on these metrics. Departmental funds generated by F & A revenue will be used to match College of Agriculture funds to support creative research ideas. The department will provide partial funding for graduate students when a faculty member is between grants.

Year 4

Year 5
<table>
<thead>
<tr>
<th>Unit Objective</th>
<th>ENT Objective 3: Develop the Human and Physical Resources of the College to Achieve Top 20 Stature</th>
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</table>
| Related Goals/Metrics | Ag Goal 3. Develop the Human and Physical Resources of the College to Achieve Top 20 Stature  
ENT Goal 3. Develop the Human and Physical Resources of the College to Achieve Top 20 Stature  
ENT Metric 3.1 Maintain the department's upper 25% quartile ranking according to Academic Analytic's Faculty Productivity Index.  
ENT Metric 3.2 Add one more endowed faculty chair  
ENT Metric 3.3 Renovate / modernize research laboratories in Ag Science North and Dimmock Building  
UK Goal 3. Develop the Human and Physical Resources of the University to Achieve the Institution's Top 20 Goals. |
| Related Mission Area | Overall |

### Strategies
- Continue to encourage faculty, staff, and graduate student creativity
- Develop plans and pursue funding to renovate research facilities
- Work towards housing all members of the department in one building
- Promote the accomplishments and recognition of the members of the department locally, regionally, nationally, and internationally.
- Retain outstanding mid-career faculty members
- Aggressively recruit outstanding new faculty members in high opportunity areas

### Assessment Method
Using nationally recognized measures for graduate programs (e.g., NRC and Academic Analytic’s Faculty Productivity Index) maintain an upper quartile ranking for the graduate program. Add one more endowed faculty chair for the entomology faculty. Renovate / modernize research laboratories in Ag Science North and the Animal Pathology Building.

### Actual Results

### Data Tables
Descriptive Results

Year 1

In the recent NRC rankings of graduate programs, the graduate program in Entomology at UK was considered one of the top 4 programs in the country based on the "r-statistic" calculated by the NRC. Discussions with potential donors are underway to initiate funding for an endowed chair within the Department. The renovations for Dr. Zhou's lab in Ag Science North is completed. Renovations of Drs Palli and Webb's laboratories are underway. The renovations of Dr White's lab in Animal Pathology are almost completed.

Year 2

In the recent Academic Analytics assessment of entomology graduate programs based on measures of faculty productivity, the Department of Entomology at UK was ranked 11th. This places the Dept of Entomology at UK in the upper 25% of all graduate programs in Entomology. Among the 80 graduate programs at UK, Academic Analytics ranked the graduate program in Entomology 8th. This places the Entomology program among the top 10% of graduate programs at UK. Discussions with potential donors have continued regarding an endowed chair within the Department. The renovations of Dr. Jen White's lab have been completed. The renovations of Dr. Palli's lab have been completed. The renovations of Dr. Webb's lab should be completed by Dec 2011.

Year 3

1. During the third year of data collection, Department of Entomology was ranked 11th in the Academic Analytics assessment of graduate programs. This places the Department of Entomology in the upper 25% of all graduate programs in Entomology in the United States.
2. Discussions regarding an additional endowed faculty chair in the Department of Entomology have continued with potential donors.
3. The renovations of Drs. Webb and Palli's laboratories in Ag North have been completed.

Year 4

Year 5
Analysis of Results and Reflection

Year 1
Excellent progress in laboratory renovations have been made during 2010.

Year 2
Excellent progress in laboratory renovations have been made during 2010. The department will continue to strive for high rankings by the Academic Analytics group.

Year 3
In year three of data collection, the Department continues to be ranked among the top Entomology programs in the United States. The major renovations of laboratory space in Ag North have been completed. Little progress has been made to add a second endowed faculty chair in the Department of Entomology. The chair has engaged in discussions with the Kentucky Pest Control Association to create an endowed chair in urban entomology, however this effort has not yet been successful. The department received two regional awards - one in research and one in extension from the Entomological Association of America. The department also received the extension/research team award from the College of Agriculture Experiment Station. An Entomology graduate student was awarded the Comstock Award by the Entomological Society of America, the highest graduate student award from the society. A plan for a new research facility at Spindletop has been submitted to the college administration. The department did retain outstanding mid-career faculty members due to laboratory improvements. No additional faculty were added because there were no retirements or resignations.

Year 4

Year 5

Improvement Actions

The Chair will continue to work to secure funding for an additional endowed chair in Entomology.

The chair and the awards committee will nominate individuals for university, regional, and national recognition in order to promote the accomplishments of departmental faculty. The chair will continue to work to secure funding for an additional endowed chair in Entomology. The chair will continue to work on improving the departmental facilities at the Spindletop Research Farm.

While budgetary constraints prohibit the hiring of additional faculty members, discussions with potential donors will continue in order to add a second endowed chair to the department. Plans will continue to be developed to improve the departmental facilities at the Spindletop (North) research farm. The department will continue to explore providing funds from the incentive account for renovation projects when the College of Agriculture provides the majority of funding.
<table>
<thead>
<tr>
<th>Unit Objective</th>
<th>ENT Objective 4: Promote Diversity and Inclusion</th>
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<tbody>
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<td>Ag Goal 4 Promote Diversity and Inclusion</td>
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<td>ENT Goal 4. Promote Diversity and Inclusion</td>
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<td></td>
<td>ENT Metric 4.1 Increase the percentages of graduate students, professional staff, and faculty from under-represented groups by 5% in each group</td>
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<td>ENT Metric 4.2 Increase the percentage of female faculty to 20% of the faculty</td>
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<td>UK Goal 4. Promote Diversity and Inclusion</td>
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<td>Related Mission Area</td>
<td>Overall</td>
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**Strategies**
- Recruit members of the Department from diverse sources
- Maintain an open environment in which diversity is recognized and welcomed
- Targeted recruitment activities will be a significant activity in all departmental searches

**Assessment Method**

Using data provided by the University of Kentucky, calculate the percentages of graduate students, professional staff, and faculty in under-represented groups. Determine increases or decreases in each group. Using data from the University of Kentucky, determine the percentage of female faculty in the Department of Entomology.

**Actual Results**

**Data Tables**
Descriptive Results

Year 1

Compared to baseline 2009 data, the percentage of females on the Entomology faculty remained constant at 11%. Compared to 2009 data, the percentage of female staff members in Entomology remained constant at 70%. The percentage of female graduate students enrolled in the graduate program in Entomology in 2010 was 41%.

Year 2

The percentage of females on the Entomology faculty remained constant at 11%. The percentage of female staff members in Entomology declined to 60%. The percentage of female graduate student enrolled in the graduate program in Entomology increased to 51%.

Year 3

1. In the third year of data collection, the percentage of female graduate students enrolled in the graduate program in Entomology increased slightly to 53%. Due to individuals leaving technical positions for other employment opportunities, the percentage of female staff members in Entomology declined to 50%. During the third year of data collection, three females with PhD degrees in Entomology were hired as instructors within the Department of Entomology.
2. During the third year of data collection, the percentage of females on the Entomology faculty remained constant at 11%. The faculty in the Department of Entomology is internationally diverse, individuals are citizens of the following countries; Canada, China, Great Britain, India, and Venezuela.

Year 4

Year 5
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<tr>
<th>Analysis of Results and Reflection</th>
<th>Improvement Actions</th>
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<td><strong>Year 1</strong></td>
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### Strategies
- Maintain the level of faculty commitment to extension programs within the department
- Continue to seek creative approaches to research/extension split appointments
- Continue to support the IPM extension program within the department
- Continue to creatively use web-based technologies to distribute current and up to date information
- Pursue new funding sources to maintain the quality of extension programs

### Assessment Method
Using the College of Agriculture bi-annual agent evaluations of Extension Entomology Specialists, continue to create responsive programs to support extension agents and clientele needs. Using University of Kentucky data and Chair survey data, maintain the current levels of grantsmanship in Extension and Integrated Projects, determined by the numbers of proposals submitted and funded. Based on Google statistics, maintain the quality and visibility of the Department's web-based resources.

### Actual Results

| Data Tables |
Descriptive Results

Year 1

Compared to evaluations of entomology extension programs in 2008, the extension specialists and their programs in 2010 were rated similarly positively for their degree of interaction, responsiveness, value of their programs information, and effectiveness of program/information. The extension faculty continue to seek grants to support their programs and have been successful in securing grant funds from industry, state and federal sources. The ENT-fact series continue to be a widely used source of information on the web.

Year 2

The extension specialists are evaluated on a two-year cycle. Extension faculty continue to seek grants to support their programs.

In 2010, the Entomology departmental website received 2,370,000 pageviews, an increase of 13% over 2009. Visitors were from 217 countries. 84,000 visits were from Kentucky in 2010, an increase of 10% over 2009.

The most popular page on our website was the Bed Bug Factsheet which received 304,000 pageviews in 2010.

Year 3

1. During year three of data collection, the percentage of female faculty involved in Extension programs remained constant. The percentage of female staff devoted to extension programs remained at 50%, surpassing the goal of 20%.
2. During the third year of data collection, extension faculty received funding for 11 grants that supported their programs.

Year 4

Year 5
Analysis of Results and Reflection

Year 1
The chair will continue to assist the extension faculty to meet the needs of their programs.

Improvement Actions
The chair will meet with the extension faculty to discuss their programs.

Year 2
The chair continues to work with entomology faculty to meet the needs of their programs. We continue to update the contents on our website to provide current and timely information.

The chair will meet with our new computer IT employee in the Department of Entomology to continue to improve the content of our website.

Year 3
During year three, the chair continued to work with extension faculty to provide the resources needed to meet the needs of the citizens of Kentucky. The extension faculty and staff continue to update information on our website to provide timely and up-to-date information on insects and arthropods that affect the quality of life of Kentuckians.

The chair will meet with the computer IT employee and the extension staff member who is responsible for the content of the Departmental website to evaluate the website for modifications and updates.

Year 4

Year 5