

Department of Agriculture

Program Review

2009

The Department of Agriculture has transitioned over the decades from one whose strength was in the undergraduate educational programs into a more comprehensive program. To better guide the steps taken during this time when the Department faces changes in personnel, the acquisitions of facilities, and increase in graduate programs, and a great involvement with the public, this self study was initiated.

The materials provided include:

1. The Departmental Annual Report from Spring 2009
2. An Enrollment addendum for the fall of 2009
3. A series of reports from the various programs in the format of Strengths, Weaknesses, Opportunities and Threats.

We look forward to the input of outside reviewers and the Administration in outlining steps for further improvement for the Department of Agriculture at Missouri State University.

Annual Report for Academic Units – Programs and Departments (Revised Data Sources February 2009)

Note: The self study conducted as part of the five year program review should provide an analysis of the data presented in these annual reports over the five years preceding the review. Reviews must be conducted at the program level; department level issues should be addressed separately where appropriate. Corresponding sections of the Annual Review are identified and listed in italics following the Annual Report heading.

Department Name Agriculture

List of disciplines included within the department

Section One: Discipline Information

The following section should be completed for each discipline within the department and for each program (general education, undergraduate and graduate) within the discipline.

Name of Discipline Agriculture

A. Goals, Objectives and Strategic Initiatives for 2009

1. Instructional Programs:

- a. Continue the tradition that demonstrates that we believe the legacy of our university is in the people that we educate which is achieved by having excellent faculty and staff, facilities where excellent lectures, laboratories and in co-curricular educational experiences may be held.
- b. Increase access through non traditional offerings i.e. block, evening, weekend, and intercession offerings through Interactive Television and Internet technologies.
- c. Implement an expanded (\$3M) VESTA Grant to provide viticulture and enology expertise for students throughout the Midwest.
- d. Expand Dual Credit Efforts to students throughout Missouri to increase access to MSU.
- e. Increase emphasis on International learning experiences.
- f. Continued emphasis on the importance of internship experiences.

2. Research / Scholarly Activities:

Continue the support for each ranked faculty member to conduct scholarly activity on a topic that is meaningful to the expertise area they represent and fill a unique niche in the region, state, and nation. Representative areas include:

1. Vitus Gene discovery Program
2. Grape seed extracts effects on human health
3. Molecular Mechanisms of Powdery Mildew Resistances in Grapevine
4. Characterization of Viruses in Missouri Vineyards
5. Enhancing Insecticides against Codling Moth
6. Insect-deterrent and antifeedant properties of Ginkgo biloba.
7. "Gardening in the Bag" research
8. Equine Reproduction techniques
9. Marketing of Food and Agricultural Products
10. Specialty Crop Investigations
11. Exotic Animal Reproduction
12. Homeland Security – animal issues
13. Agricultural Literacy
14. Small Ruminant (goats and sheep) – various topics
15. Water Quality / Forage Systems
16. Economic Impact of Agricultural Enterprises

17. New Zealand Dairy Forage Protocols
18. Ultrasound Technology as a Predictor of Meat Quality
19. Nutrition effect upon fertility in Bovine
20. Cut Flower Research
21. Anti quality factors in the Norton wine

3. Service

Continue the very extensive Service Activities listed later in this report as achievements during 2008 which builds friends to the University and provides opportunities for students while meeting needs of the citizens. Take advantage of new opportunities that are presented to us as we interact with the many publics we serve in Agriculture.

4. Facilities Improvement

- a. Construction of Darr Center Entrance (Federal Funding).
- b. Construction of Infrastructure of Darr Center (Federal Funding).
- c. Refine plans and raise funds for Darr Center Phase III
- d. Additional housing for graduate students, interns, and visiting scientists for the State Fruit Experiment Station (construction and further fund raising).
- e. Seek grants for Winery facility at the State Fruit Experiment Station
- f. Equipment for the Darr Center and the State Fruit Experiment Station

B. General Education Class(es) Report (*Academic Programs*)

1. General Activity

a. List all of the unit's contributions to the General Education program

- i. AGR 100 Technology and Society
 1. One section per semester
 2. Review by CGEIP during F08 resulted in approval for offering.
- ii. and AGR 320 Writing II
 1. One section has been offered in each spring, summer and fall

b. Enrollment and student credit hours by course per semester (including summer)

- i. AGR 100;
 1. SP 08 = 38 students, 114 SCH
 2. FA 08 = 48 students, 144 SCH
- ii. AGR 320
 1. SP 08 = 18 students, 54 SCH
 2. SU 08 = 10 students, 30 SCH
 3. FA 08 = 22 students, 66 SCH

2. Assessment

a. Assessment results

- i. CGEIP approved assessment was completed.

b. List any modifications made to the curriculum (additions, deletions, revisions, etc.) and why those modifications were initiated.

- i. None

c. Provide summary statements that validate current practices as outstanding and indicate the continuation of current practices.

- i. Over 90% of students responses indicate meeting of Gen. Ed Objectives for courses.

3. Student Success (engagement and persistence)

- a. List any steps the unit has taken to improve student persistence.
 - i. AGR 100 – daily participation exercises
 - ii. AGR 320 – constant internet interactions of instructor with students.
- b. Summarize grade distribution information by course to provide two distributions: (1) percent of A, B, and C, and (2) percent of D, F, and drops.
 - i. AGR 100 – 100% ABC with 0 DFDrop for year
 - ii. AGR 320 - 75% ABC with 33% DFDrop for year

4. Student Access

- a. Summarize the number of courses by semester for each of the following modalities
 - i. Via technology (including distance learning)
 - 1. AGR 320 – Internet all sections
 - ii. Via time offered
 - 1. AGR 100 is always scheduled at 4 p.m. to accommodate both evening and day students.

5. Public Affairs Mission

- a. Identify the ways in which the curriculum (and co-curriculum activities if applicable) contributes to the public affairs mission of the university (e.g., incorporated into course content, service learning experiences, community outreach activities, etc.).
 - i. AGR 100 – Guest Speakers on Cultural Awareness and Public Engagement Issues. Ethical Leadership concepts are illustrated in course content delivered.
 - ii. AGR 320 - Writing assignments that reflect cultural differences, ethical leadership, and in examples of involving oneself in public issues.
- b. If no changes have been made, provide summary statements that validate current practices
 - i. Both AGR 100 and AGR 320 have assessment of course content and of General Education goals that present practices are appropriate

C. Baccalaureate Program (*Academic Programs*)

1. List all of the unit's academic programs (majors, minors, certificates, etc.).

Agriculture had 396 majors which is a fairly stable for the past four years after a decline from 2004 which was the time we observed great numbers of students going to Community Colleges. The Pathways Program that delivers a complete degree to community colleges through ITV and Internet classes has added approximately 15 students. This number has been important in keeping stable the numbers of total majors and credit hours produced.

The number of graduates was 122, which is up from 101 in 07 and making it the largest producer of graduates in CNAS. In this past year, we have experienced an increase of 8.6% in upper division credit hours (again is the highest in CNAS) with a slight increase of 1.7% in lower division credit hours. The increase in lower division credit hours can be attributed to an increase in Dual Credit Hours from 186 to 314 credit hours.

Below is reproduced the Departmental Profile that provides many data sets that may be used to understand the status of the Department.

UNIT: AGRICULTURE

DEPARTM

| ENROLLMENT/PROGRAM DESCRIPTORS | FALL SEMESTERS | | | | |
|-----------------------------------|----------------|------|------|------|------|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| NUMBER OF MAJORS | | | | | |
| Agricultural Business | 72 | 61 | 56 | 60 | 69 |
| Agriculture Education | 40 | 25 | 27 | 35 | 42 |
| Agronomy | 28 | 22 | 22 | 25 | 26 |
| Animal Science | 141 | 127 | 108 | 124 | 110 |
| General Agriculture | 23 | 34 | 34 | 42 | 37 |
| Horticulture | 46 | 46 | 36 | 29 | 22 |
| Technology Educ. | | 1 | 5 | 6 | 7 |
| Wildlife Cons/Mgt. | 68 | 74 | 70 | 62 | 60 |
| Nat. & Appl. Sci. (M) | 15 | 15 | 16 | 12 | 16 |
| Plant Science (M.) | 1 | 1 | 6 | 10 | 6 |
| Sec Ed/Agric. (M) | 5 | 2 | 4 | 1 | 1 |
| Totals | 439 | 408 | 384 | 406 | 396 |

| SOURCE OF ENROLLMENT | | | | | |
|-----------------------------|------|------|------|------|------|
| Within Department | 78.8 | 77.7 | 75.6 | 78.0 | 74.1 |
| Within College | 86.7 | 85.4 | 83.6 | 83.8 | 82.3 |
| Other Colleges | 4.4 | 5.1 | 4.7 | 5.6 | 4.2 |
| Undeclared Majors | 8.9 | 9.5 | 11.7 | 10.6 | 13.5 |

| ENROLLMENT/PROGRAM DESCRIPTORS | FISCAL YEARS | | | | |
|-----------------------------------|--------------|------|------|------|------|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| DEGREES CONFERRED | | | | | |
| Agricultural Business | 12 | 18 | 13 | 19 | 19 |
| Agriculture Education | 9 | 9 | 8 | 8 | 7 |
| Agronomy | 11 | 13 | 9 | 7 | 8 |
| Animal Science | 22 | 39 | 28 | 22 | 35 |
| General Agriculture | 6 | 10 | 16 | 11 | 12 |
| Horticulture | 11 | 8 | 10 | 11 | 12 |
| Technology Educ. | | | | | 1 |
| Wildlife Cons/Mgt. | 15 | 22 | 23 | 19 | 19 |
| Nat. & Appl. Sci. (M) | 1 | 4 | 4 | 2 | 6 |
| Plant Science (M.) | 2 | 1 | 0 | 1 | 3 |
| Sec Ed/Agric. (M) | | | 1 | 1 | 0 |
| Totals | 89 | 124 | 112 | 101 | 122 |

| ENROLLMENT/PROGRAM DESCRIPTORS | FALL SEMESTERS | | | | |
|-----------------------------------|----------------|--------|--------|-------|--------|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| CREDIT HOUR PRODUCTION | | | | | |
| Lower Division | 1554 | 1483 | 1448 | 1486 | 1512 |
| %age Change | | -4.6% | -2.4% | 2.6% | 1.7% |
| Upper Division | 2287 | 2152 | 1888 | 2024 | 2199 |
| %age Change | | -5.9% | -12.3% | 7.2% | 8.6% |
| Grad. Division | 99 | 71 | 63 | 97 | 66 |
| %age Change | | -28.3% | -11.3% | 54.0% | -32.0% |
| Totals | 3940 | 3706 | 3399 | 3607 | 3777 |
| % Change | | -5.9% | -8.3% | 6.1% | 4.7% |

2. Assessment

a. Describe the unit's process for accomplishing the assessment plan. Include a description for the implementation process as well as for the process used to discuss and disseminate the results.

1. Assessment from present students (has been completed by Department Head since 1995)
 - a. Exit oral interviews
 - b. Exit "self evaluation" written survey
 - c. Monthly meetings with 14 student club presidents
 - d. Summary oral and/or written evaluations of students on internships also include reports from supervisors.
2. Alumni Evaluations – (Graduate Student Masters Degree Research near completion on Perceptions of Graduates with Courses and Degree Program Relevance to Industry Needs.)
4. Advisory Committees – Department will continue practice of holding annual advisory committee meeting to review program plans.
5. Department Head directs discussion of assessment issues with Faculty on an annual basis.
6. Graduate Student Masters Degree Research near completion on Perceptions of Graduates with Courses and Degree Program Relevance to Industry Needs.

b. Provide the mission, program goals/objectives, courses where objectives are addressed, and how objectives are assessed. Use the information entered in the Program Outcome matrix to summarize the objectives, course numbers, and type of assessment. These objectives should match catalog, program review, and accreditation documents.

Program Mission:

"To prepare students with professional expertise leading to successful careers in business, government vocational institutions while experiencing fulfilled lives and meeting mature responsibilities in a constantly changing society; and to be a source of agricultural knowledge that is obtained through study and research that may be utilized for the improvement of the quality of the citizens of the United States."

Specific Course objectives matching with catalog and other documents are in progress.

c. Summarize assessment results (including scores on major field achievement tests, results of licensure/certification tests, department assessment measures, etc.) and discuss how this information has been used to improve the quality of academic programs. Note: Certification tests are not MSU certificates—contact CAIS for more information.

1. Discontinued National Achievement Test after use for three years due to apparent irrelevance.

d. As a result of assessment, list any modifications made to the curriculum, instructional techniques, or materials (additions, deletions, revisions, etc.) and why those modifications were initiated.

1. Identified the need to aid the increasing population of transfer students.
2. Identified the need for a capstone class to serve each degree program
3. Identified the need to include more classes having computer applications
4. Encouraged the consideration of adding an international animal science study
5. Encouraged the need to consider an international experience for all students
6. Encouraged to constantly evaluate the need for additional club activities to serve students
7. Encouraged to constantly evaluate the need for more hands-on experiences with animals
8. Encouraged the continuation of the freshmen leadership class
9. Encouraged to expand the efforts to deliver classes in nontraditional formats
10. Encouraged the revision of horticulture program to reflect the science, business emphasis areas as well as a specialty in golf course management.
11. Encouraged the expansion of class offerings and a degree program through ITV and the internet.
12. Encouraged to continue making agriculture materials available to elementary teachers now through web based instruction.
13. Continue increasing graduate student accessibility to MSU particularly in Ag Education.
14. Continue monitoring needed changes to better educate the offerings we have available in courses and programs.
15. Continue efforts to improve visibility of the department through faculty service roles and outreach programs.
16. Continue emphasizing public affairs programs through faculty participation and the hosting of the Agriculture Forum program
17. Continue recruitment efforts by hosting a high school visitation day
18. Consider reenergizing an "outreach" group of students – Agricultural Ambassadors.
19. Constantly monitor ways to modernize facilities for teaching
20. Constantly monitor the use of animals for efficiency and care that meets or exceeds all approved regulations.

e. Provide summary statements about results that support any modifications.
(note: Included in following section f)

f. As a result of assessment, list any current practices that were identified as outstanding.

1. Development of a transfer orientation program – discontinued due to teacher availability.
2. Development of a capstone class available for each degree program – continuing efforts.
3. Changed curriculum to include more classes having computer applications – continuing efforts.
4. Development of an international animal science study, eliminated international portion due to cost and security issues but continue with national study.
5. Developed an international class to Costa Rica for all students. Changed to Belize due to faculty interest and language/cost issues.
6. Formation of 14 clubs
7. Incorporated more hands-on experiences with animals in the courses – continuing efforts.
8. Developed a freshmen leadership class - continuing efforts.
9. Offered classes in nontraditional times and formats (weekends, intersessions, and in one hour offerings) - continuing efforts.
10. Revision of horticulture program to increase the number of business classes

11. Revision of Agricultural Business Program to include Agricultural Enterprise Management Option.
12. Obtained a USDA Challenge Grant "Pathways" that offered classes and a completion Bachelors of Applied Sciences degree in Agriculture for students at West Plains Community College and at Crowder College.
13. Provided courses and materials to elementary teachers on food, fiber, and natural resources
14. Provided graduate education opportunities in soils, plants and animal science
15. Changed the prefixes for courses offered by the department to better reflect the subject matter to the users – continued efforts
16. Initiated the "Salute to Agriculture" program to enhance visibility of department – continued efforts.
17. Initiated the "Agriculture Forum" program to involve students, staff, faculty, and public in public affairs issues concerning agriculture – continued efforts.
18. Initiated "Ag Fest" (a high school student visitation day) – continued efforts.
19. Initiated the "Agriculture Ambassadors" (a group of students involved with public relations for the Department) – continued efforts
20. Construction and remodeling of an expanded Karls Hall that has the requested spaces for: greenhouses, meats lab, research labs, computer labs., student activity areas, distance learning classroom, modern teaching laboratories and lecture halls.
21. Completion of the \$3.6M addition to the Darr Agricultural Center which aids the instruction in particularly the animal sciences classes.

- g. Provide summary statements about results that validate current practices as outstanding and indicate the continuation of current practices.
(note: included in above section f)

3. Student Success (engagement and persistence)

- a. **Summarize NSSE results for the five benchmarks (when available) and list any steps the unit has taken to improve student engagement. Contact CAIS to learn how the benchmark scores relate to a number of individual items and how this knowledge can translate into improved student engagement.**

Unable to obtain.

- b. **List any other activities the unit has engaged in to improve student engagement. Include how the unit will measure the level of success of these efforts?**

1. First time student mixer program in second week of school
2. All student picnic third week of school
3. Fifteen clubs with monthly programs involving students and faculty advisors
4. Ag Presidents Council Monthly Breakfasts to act as advisory committee to Dept. Head and coordinate club activities
5. Caring attitude by faculty – open door policy
6. Faculty advisement
7. Service to students by Staff i.e. registration aids when students are away from campus
8. Aid in obtaining internships, part – time jobs, and full time employment
9. Junior/Senior seminar that focuses on placement skills as well as Public Affairs goals.

Determine effectiveness by utilizing retention data.

- c. Summarize the unit's overall exit exam scores (MAAP) and university sub-scores (critical thinking, writing, math) and describe any steps the unit has taken to improve them. (NONE)

d. Freshman to sophomore retention at the university

A study conducted within the Department using actual names of students (instead of summation numbers) resulted in the retention of students from freshmen to sophomore years being 85%. (those returning to the Department of Agriculture between 2007 Spring and Fall Semesters) When counting students staying at Missouri State but changing majors, the retention rate is over 90%. Can not relate to the Data that is on ARGOS.

- e. List any steps the unit has taken to improve student persistence. Include how the unit will measure the level of success of these efforts?

1. Scholarship program and banquet - \$60K distributed to 75 students annually
- 2.. Loyalty (MSU Pride) building efforts, i.e. Freshmen Leadership Class and Ambassador Program

- f. Summarize grade distribution information by course to provide two distributions: (1) percent of A, B, and C, and (2) percent of D, F, and drops.

| SEMESTER | DEPT | C_code | C_no | % ABC | TOTAL %ABC | % DFDrop | TOTAL#DFDrop |
|----------|------|--------|------|-------|--------------|----------|--------------|
| SP | AG | AGA | 105 | 64 | 71.0 | 36 | 29.0 |
| FA | AG | AGA | 105 | 78 | | 22 | |
| SP | AG | AGA | 215 | 82 | 81.5 | 18 | 3.6 |
| FA | AG | AGA | 215 | 81 | | 19 | |
| SP | AG | AGA | 335 | 90 | 87.0 | 10 | 13.0 |
| FA | AG | AGA | 335 | 84 | | 16 | |
| SP | AG | AGA | 345 | 91 | 90.5 | 9 | 9.5 |
| FA | AG | AGA | 345 | 90 | | 10 | |
| FA | AG | AGA | 365 | 89 | 89.0 | 11 | 11.0 |
| SP | AG | AGA | 375 | 81 | 81.0 | 19 | 19.0 |
| SP | AG | AGA | 405 | 96 | 96.0 | 4 | 4.0 |
| FA | AG | AGA | 425 | 77 | 77.0 | 23 | 23.0 |
| SP | AG | AGA | 455 | 78 | 78.0 | 22 | 22.0 |
| FA | AG | AGA | 485 | 93 | 93.0 | 7 | 7.0 |
| SP | AG | AGA | 495 | 100 | | 0 | |
| SU | AG | AGA | 495 | 100 | 100.0 | 0 | 0.0 |
| FA | AGA | AGA | 495 | 100 | | 0 | |
| FA | AG | AGA | 545 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGB | 144 | 78 | 86.5 | 22 | 13.5 |
| FA | AG | AGB | 144 | 95 | | 5 | |
| FA | AG | AGB | 314 | 95 | 95.0 | 5 | 5.0 |

| | | | | | | | |
|----|----|-----|-----|-----|--------------|-----|-------------|
| SP | AG | AGB | 334 | 83 | | 17 | |
| FA | AG | AGB | 334 | 88 | 85.5 | 12 | 19.5 |
| SP | AG | AGB | 344 | 100 | | 0 | |
| FA | AG | AGB | 344 | 85 | 92.5 | 15 | 7.5 |
| FA | AG | AGB | 354 | 94 | 94.0 | 6 | 6.0 |
| SU | AG | AGB | 364 | 68 | 68.0 | 32 | 32.0 |
| SP | AG | AGB | 374 | 75 | 75.0 | 25 | 25.0 |
| SP | AG | AGB | 384 | 100 | | 0 | |
| FA | AG | AGB | 384 | 93 | 96.5 | 7 | 3.5 |
| SP | AG | AGB | 394 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGB | 444 | 86 | 86.0 | 14 | 14.0 |
| SP | AG | AGB | 494 | 100 | 100.0 | 0 | 0.0 |
| SU | AG | AGB | 498 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGB | 524 | 85 | 85.0 | 15 | 15.0 |
| SP | AG | AGB | 584 | 82 | 82.0 | 18 | 18.0 |
| FA | AG | AGE | 318 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGE | 337 | 91 | 91.0 | 9 | 9.0 |
| SP | AG | AGE | 493 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGE | 494 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGE | 498 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGE | 558 | 92 | 92.0 | 8 | 8.0 |
| SP | AG | AGE | 568 | 94 | 94.0 | 6 | 6.0 |
| FA | AG | AGE | 578 | 93 | 93.0 | 7 | 7.0 |
| FA | AG | AGE | 588 | 85 | 85.0 | 15 | 15.0 |
| SP | AG | AGE | 618 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGE | 628 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGE | 638 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGF | 401 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGF | 600 | 67 | | 33 | |
| SU | AG | AGF | 600 | 0 | 55.5 | 100 | 44.5 |
| FA | AG | AGF | 600 | 100 | | 0 | |
| SP | AG | AGF | 601 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGF | 630 | 50 | 75.0 | 50 | 25.0 |
| FA | AG | AGF | 630 | 100 | | 0 | |
| SP | AG | AGF | 698 | 100 | | 0 | |
| SU | AG | AGF | 698 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGF | 698 | 100 | | 0 | |
| SP | AG | AGF | 699 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGF | 699 | 100 | | 0 | |
| SP | AG | AGH | 243 | 53 | 53.0 | 47 | 47.0 |
| SP | AG | AGH | 303 | 89 | 90.0 | 11 | 10.0 |
| FA | AG | AGH | 303 | 91 | | 9 | |
| FA | AG | AGH | 323 | 85 | 85.0 | 15 | 15.0 |
| SP | AG | AGH | 333 | 76 | 83.0 | 24 | 17.0 |
| FA | AG | AGH | 333 | 90 | | 10 | |
| SP | AG | AGH | 343 | 100 | 100.0 | 0 | 0.0 |

| | | | | | | | |
|----|----|-----|-----|-----|--------------|-----|-------------|
| SP | AG | AGH | 353 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGH | 363 | 58 | 58.0 | 42 | 42.0 |
| SP | AG | AGH | 493 | 100 | 50.0 | 0 | 50.0 |
| FA | AG | AGH | 493 | 0 | | 100 | |
| SP | AG | AGH | 573 | 71 | 71.0 | 29 | 29.0 |
| FA | AG | AGH | 630 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGR | 100 | 92 | 93.0 | 8 | 7.0 |
| FA | AG | AGR | 100 | 94 | | 6 | |
| SP | AG | AGR | 108 | 38 | 29.5 | 62 | 70.5 |
| FA | AG | AGR | 108 | 21 | | 79 | |
| FA | AG | AGR | 118 | 95 | 95.0 | 5 | 5.0 |
| SP | AG | AGR | 157 | 100 | 96.0 | 0 | 4.0 |
| FA | AG | AGR | 157 | 92 | | 8 | |
| SP | AG | AGR | 200 | 94 | 89.5 | 6 | 10.5 |
| FA | AG | AGR | 200 | 85 | | 15 | |
| SP | AG | AGR | 250 | 89 | 89.0 | 11 | 11.0 |
| SP | AG | AGR | 300 | 71 | 66.5 | 29 | 33.5 |
| FA | AG | AGR | 300 | 62 | | 38 | |
| SP | AG | AGR | 320 | 80 | | 20 | |
| SU | AG | AGR | 320 | 58 | 75.5 | 42 | 24.5 |
| FA | AG | AGR | 320 | 86 | | 14 | |
| SP | AG | AGR | 330 | 86 | 82.5 | 14 | 17.5 |
| FA | AG | AGR | 330 | 79 | | 21 | |
| SP | AG | AGR | 357 | 88 | 88.0 | 12 | 12.0 |
| SP | AG | AGR | 383 | 66 | 74.0 | 34 | 26.0 |
| FA | AG | AGR | 383 | 82 | | 18 | |
| SP | AG | AGR | 399 | 93 | 92.5 | 7 | 7.5 |
| FA | AG | AGR | 399 | 92 | | 8 | |
| SP | AG | AGR | 490 | 96 | 94.5 | 4 | 5.5 |
| FA | AG | AGR | 490 | 93 | | 7 | |
| SP | AG | AGR | 499 | 88 | 71.0 | 12 | 29.0 |
| SU | AG | AGR | 499 | 37 | | 63 | |
| FA | AG | AGR | 499 | 87 | 87.0 | 13 | 13.0 |
| SP | AG | AGR | 697 | 33 | 33.0 | 67 | 67.0 |
| SP | AG | AGR | 698 | 0 | | 100 | |
| SU | AG | AGR | 698 | 0 | 17.0 | 100 | 83.0 |
| FA | AG | AGR | 698 | 50 | | 50 | |
| SP | AG | AGR | 699 | 25 | | 75 | |
| SU | AG | AGR | 699 | 0 | 25.0 | 100 | 75.0 |
| FA | AG | AGR | 699 | 50 | | 50 | |
| SP | AG | AGS | 101 | 83 | 69.0 | 17 | 31.0 |
| FA | AG | AGS | 101 | 55 | | 45 | |
| FA | AG | AGS | 161 | 88 | 88.0 | 12 | 12.0 |
| SP | AG | AGS | 162 | 96 | | 4 | |
| SU | AG | AGS | 162 | 88 | 89.0 | 12 | 11.0 |
| FA | AG | AGS | 162 | 83 | | 17 | |

| | | | | | | | |
|----|----|-----|-----|-----|--------------|----|-------------|
| FA | AG | AGS | 191 | 83 | 83.0 | 17 | 17.0 |
| FA | AG | AGS | 196 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGS | 262 | 83 | 79.0 | 17 | 21.0 |
| FA | AG | AGS | 262 | 75 | | 25 | |
| SP | AG | AGS | 301 | 52 | 56.0 | 48 | 44.0 |
| FA | AG | AGS | 301 | 60 | | 40 | |
| SP | AG | AGS | 302 | 79 | 72.0 | 21 | 28.0 |
| FA | AG | AGS | 302 | 65 | | 35 | |
| SP | AG | AGS | 306 | 87 | 93.5 | 13 | 6.5 |
| FA | AG | AGS | 306 | 100 | | 0 | |
| SP | AG | AGS | 311 | 62 | 66.0 | 38 | 34.0 |
| FA | AG | AGS | 311 | 70 | | 30 | |
| SU | AG | AGS | 316 | 100 | 96.0 | 0 | 4.0 |
| FA | AG | AGS | 316 | 92 | | 8 | |
| SP | AG | AGS | 342 | 76 | 88.0 | 24 | 12.0 |
| FA | AG | AGS | 342 | 100 | | 0 | |
| SP | AG | AGS | 361 | 71 | 71.0 | 29 | 29.0 |
| SU | AG | AGS | 362 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGS | 446 | 96 | 96.0 | 4 | 4.0 |
| SP | AG | AGS | 452 | 97 | 97.0 | 3 | 3.0 |
| SP | AG | AGS | 461 | 62 | 72.0 | 38 | 28.0 |
| SU | AG | AGS | 461 | 82 | | 18 | |
| FA | AG | AGS | 491 | 89 | 89.0 | 11 | 11.0 |
| SP | AG | AGS | 492 | 87 | | 13 | |
| SU | AG | AGS | 492 | 100 | 95.5 | 0 | 4.5 |
| FA | AG | AGS | 492 | 91 | | 9 | |
| SP | AG | AGS | 511 | 65 | 65.0 | 35 | 35.0 |
| SP | AG | AGS | 612 | 100 | | 0 | |
| SU | AG | AGS | 612 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGS | 612 | 100 | | 0 | |
| SP | AG | AGT | 416 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGT | 420 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGT | 493 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGT | 493 | 100 | | 0 | |
| SP | AG | AGT | 494 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGT | 494 | 100 | | 0 | |
| FA | AG | AGV | 521 | 83 | 83.0 | 17 | 17.0 |
| SP | AG | AGV | 526 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGV | 576 | 100 | 100.0 | 0 | 0.0 |
| SP | AG | AGW | 143 | 66 | 68.5 | 34 | 31.5 |
| FA | AG | AGW | 143 | 71 | | 29 | |
| SU | AG | AGW | 351 | 94 | 94.0 | 6 | 6.0 |
| SP | AG | AGW | 496 | 100 | 100.0 | 0 | 0.0 |
| FA | AG | AGW | 496 | 100 | | 0 | |

- g. **Number and percent of students entering graduate school or profession after graduation.** (Note: unavailable)

4. Student Access

- a. Summarize the number of courses by semester for each of the following modalities
 - ii. Via technology (including distance learning)
 - iii. Via off-campus programs
 - iv. Via dual credit, increased evening college offerings, Saturday classes, etc.

SCH BY INSTRUCTIONAL FORMAT/MODALITY

| | | | | |
|---------------------|------|------|------|------|
| Internet | 153 | 186 | 300 | 261 |
| Interactive Video | 63 | 90 | 225 | 101 |
| Media/Telecourse/CD | 0 | 0 | 0 | 0 |
| Evening/Weekend | 36 | 45 | 47 | 731 |
| Off Campus | 0 | 19 | 32 | 44 |
| Intersession | 7 | 0 | 0 | 6 |
| Dual Credit | 175 | 203 | 186 | 314 |
| Traditional | 3272 | 2856 | 2817 | 2320 |

- b. **List any steps the unit has taken to improve student access.**

Offer the Bachelors of Applied Sciences through various distance education methods as is reflected by the SCH increases shown in the table in previous section.

5. Public Affairs Mission (Leadership, Ethics, Service, Diversity, Global Awareness)

- a. **Identify the ways in which the curriculum (and co-curriculum activities if applicable) contributes to the public affairs mission of the university (e.g., incorporated into course content, service learning experiences, community outreach activities, etc.).**

Departmental Philosophy

The Department of Agriculture embraces the Public Affairs Mission and has been emphasizing community engagement for decades to all of the students. With Ethical Leadership and Cultural Competence being added to the definition, the department has reevaluated its activities and particularly the way programs are being communicated to others including the students involved. Below is described both courses that are important and extracurricular activities that contribute to this goal of ensuring that the majors in the Agriculture Department will graduate with a unique education that is worthy of having the label of being from Missouri State, the Public Affairs University.

The Department of Agriculture having faculty and professional staff from Kenya, Nigeria, Nepal, China, Hungary, Poland, Pakistan and Germany as well as from every region of the United States (degrees from over thirty universities) provides an invaluable resource for our students as they guide the learning process, give advice, and supervise extra curricular activities. Faculty and staff knowledge in the basic sciences while having applications with producers, agricultural businesses, and government agencies provides the ideal setting for meeting the Public Affairs goals of ethical leadership, cultural competence, and public awareness.

Class Contribution to Public Affairs:

AGR 490/AGS 491/AGW 491. For years, the Department has had a Senior Seminar Class that is required of all majors with the exception of those in Agricultural Education.

While this capstone class was designed to focus upon the needs for graduates in getting prepared for the first position and beyond (resumes and job searching skills, as well as being conversant of critical issues in agriculture, now it includes exercises on the three aspects of Public Affairs (Ethical Leadership, Cultural Competence, and Community Engagement). These three goals are addressed through having six guest speakers with reaction papers, discussions, and an evaluation at the end of the course.

AGR 118 Freshmen Leadership. Approximately 20 students per year take advantage of this class that emphasis ethical leadership and cultural awareness. The goals are achieved through 6 guest speakers, reaction papers, and the development of a personal written philosophy.

AGR 499 Internships. Approximately half of the students will become immersed in different cultural setting while experiencing first hand public entities in internship experiences. The wide array of opportunities attracts most students to voluntarily be involved due to the obvious advantages they provide. These are the students who have sought a “value added” education while others were satisfied with the basics.

AGR 399. Belize Agriculture. Provide opportunity for international study to Belize.

AGR 100. This “Food Security” general education course address each of the three aspects of Public Affairs as it addresses food security in America and the World including a historical perspective.

AGB394. Agricultural Industry Study, a capstone course for all agricultural business majors, visits two dozen agricultural firms in St. Louis and Kansas City having each firm’s leading management personnel to address critical issues that face them in the public sector.

AGS101 Animal Science, AGS 161 Intro to Horses, AGB 144 Agricultural Economics, AGA425 Soil and Crop Management, AGE 318 Intro to Agricultural Education, AGH 333 Landscape Design (a service learning class), AGR 399 Therapeutic Riding (a service learning class), GEP 397 Animal Rights, AGS 492 Elite Sale, AGS 492etc. all include guest speakers and topics that relate to the Public Affairs mission.

Extra Curricular Activities:

Twelve Clubs each having over 20 members provide valuable experiences for at least sixty officers and many more committee chairs to experience leadership while all members experience it personally. The cultural awareness and public service goals are experienced with their many activities.

1. Many club member host / attend national events, host public meetings (i.e. Ag Forum with 200 attendees), and host high school students (i.e. Greenhand conference with 1200 freshmen students and FFA Contests having 1800 high school students from every Southwest Missouri high school).
2. Care for the booths at National and State FFA high school students (many thousands) interact and distribute Missouri State information, Spring Lawn and Garden Show (many thousands), Cattlemen’s Association, Horse Fest. And Horse Association, etc.
3. Compete with other students in national competitions in equitation, rodeo, horticulture, soils, and livestock shows.

4. Provide help in conducting learning exercises such as Therapeutic Riding of the Ozarks that includes volunteers from the community, a variety of students, and handicaps students, as well as perform workshops in agricultural literacy for elementary students and become pen pals with kindergarten students of other cultures.
5. Provide countless hours of public service to many groups including the Kitchen, Ronald McDonald House, etc.

b. If any changes have been made, provide summary statements that support these changes.

Analysis has not been completed on the student data but a overview of data indicates an extremely high success rate of the course meeting the goals of emphasizing the components of public affairs.

c. If no changes have been made, provide summary statements that validate current practices

Analysis of assessment surveys will relay the extent of our current practices are successful in meeting the goals.

6. Honors, Awards, and Other Activities

- a. List any special recognition or awards received by the students in the unit (e.g., acceptances into graduate or professional school, scholarships, grants, assistantships, undergraduate research, student/faculty co-authorships, etc.)
 - i. Students involved in creative activity and/or research (include name of project and number of students).
 - ii. Students winning state, national, and international awards (include name of award and number of students).
 1. A graduate of the Agriculture Education Program was selected first runner- up July of 2008 as the Outstanding First Year Agriculture Educator. (A SMSU/MSU graduate has won this award 8 out of the last 10 years.)
 2. The Western Equestrian team finished second in the region.
 3. Nine riders qualify for regional competition and four continued to Semi-finals.
 4. Our open rider qualified for the national championship in both reining and represented our region as the AQHA Cup Rider.
 - iii. Students who published or presented referred/juried publications, conference papers/presentations, or creative works (include name of student and name of publication, paper/presentation, or creative work).
 1. Zsofia Toth, a summer intern from Szent Istvan University, Hungary won third prize in a National Undergraduate Science competition in Hungary with the results she obtained at Mountain Grove during the summer months of 2008.
- b. Has the unit engaged in any accreditation, licensure, or certification efforts? If so, describe results. NONE

c. Has the unit supported any international education initiatives? If so, describe results.

1. Student exchange with China and Hungary to work with the grape genetics programs.
2. Guest researchers from Italy, China, Hungary who participate in the education of students.

D. Graduate Program (*Academic Programs*)

1. List all of the unit's academic programs (majors, certificates, etc.).

Note: While Agriculture participates heavily with the Masters of Natural and Applied Science Degree Program. Having graduated over 40 students during the past 10 years. We, however, have no graduate program administered by the Department.

Section Two. Department Information

1. FACULTY TEACHING AND ADVISING (*same heading in Program Review document*)

- a. What percent of the general education classes, classes in the major and graduate classes are taught by ranked faculty? By per course faculty? By graduate teaching assistants?
 - i. 100% by ranked faculty
- b. What steps does the unit take to support the teaching efforts of non-ranked faculty?
 - i. Provide opportunities in laboratory settings.
- c. How does the department evaluate teaching effectiveness?
 - i. Use of CNAS student evaluation tool.
- d. Describe how unit's advising responsibilities are allocated (include information about typical advising load for faculty if applicable)
 - i. Advisement of new freshmen are handled primarily through SOAR while the transfer students are advised by Department Head. Students are assigned to faculty who range from less than a dozen to more than 60 students based upon are.
- e. List any special recognition or awards received by the faculty for their teaching and/or advising efforts.
 - i. At least one third of the faculty have received awards in their careers.

2. FACULTY RESEARCH AND SCHOLARSHIP (*same heading in Program Review document*)

- a. List any faculty publications (including numbers of faculty publishing) – books, monographs, articles in referred journals (indicate if the journal is international, national, etc.).

Publications – books and refereed journals

- Alsop, C.M. Contributing Author: Field trial managers rank the latest and the greatest. *GM Pro* (Greenhouse Management and Production). October 2008. 28(10):26.
- Durden, K., Brown J.J., and Pszczolkowski M.A. (2008) Extracts of Ginkgo biloba or Artemisia species reduce feeding by neonates of codling moth, *Cydia pomonella* (Lepidoptera: Tortricidae), on apple in a laboratory bioassay. *J. Entomol. Soc. Brit. Columbia*. (in press)

- Fung RWM, Gonzalo M, Fekete C, Kovacs LG, He Y, Marsh E, McIntyre LM, Schachtman DP, Qiu W. P. (2008) Powdery mildew induces defense-oriented reprogramming of the transcriptome in a susceptible but not in a resistant grapevine. *Plant Physiology*, 146: 236-249
- Fung, R.W.M., M. Gonzalo, C. Fekete, L.G. Kovács, E. Marsh, L. McIntyre, D.P. Schachtman, and W. Qiu. (2008). Powdery mildew induces defense-oriented restructuring of the transcriptome in a susceptible but not in a resistant grapevine. *Plant Physiology* 146:236-249.
- Galbacs, Z., S. Molnar, G. Halasz, S. Hoffmann, E. Kiss, P. Kozma, L.G. Kovacs, A. Veres, Z. Galli, A Szoke, and L. Heszky. Identification of grapevine cultivars using DNA barcodes. *Vitis*, In press.
- Hildebrandt, T, Drews, B, Gaeth, A.P., Goeritz, F., Hermes, R., Schmitt, D., Gray, C., Rich, P., Streich, W.J. Short, R.V., and Renfree, R.B. Foetal Age Determination and Development in Elephants. *Proceeding of the Royal Society B*. 274:1608 pp 323-331. (2007)
- Hoffmann, S., G. Di Gaspero, L.G. Kovacs, S. Howard, E. Kiss, Z. Galbacs, and R. Testolin. (2008). Resistance to *Erysiphe necator* in the grapevine 'Kishmish vatkana' is controlled by a single locus through restriction of hyphal growth. *Theoretical and Applied Genetics* 116:427-438.
- Irwin, L. N., 2008. 2008 National Poultry CDE DVD. Wrote, filmed and directed the team activity video.
- Irwin, L. N., 2008. Reporting Live: Articles and Letters from the 1904 St. Louis World's Fair". 188 pages. Gregath Publishers. ISBN: 97800-944619-87-2.
- Kaps, M.L. and P.L. Byers. Matted-Row Strawberry Cultivar Productivity in Missouri, 2005-2006. 2008. *J. Amer. Pom. Soc.* 62:70-76.
- Lee, J., Hutter, J., Westrom., L., Mohr, C. & Pollock. (2008). Introduction to livestock & companion animals. (3rd edition). (revision)
- Miljkovic, Dragan and Arbindra Rimal 2008 "Impact of Socio-Economic Factors on Political Instability: A Cross-Country Analysis *Journal of Socio-Economics*" *Journal of Socio-Economics*
- Wiedner, E.B., Gray, C., Rich, P., Jacobson, G.L., Isaza, R., Schmitt, D., Lindsay, W.A. Nonsurgical repair of an umbilical hernia in two Asian elephant calves (*Elephas maximus*). *Journal of Zoo and Wildlife Medicine* 39(2): 248-251, 2008.
- Hermes, R, Saragusty, J., Schaftenaar, W., Goritz, F., Schmitt, DL., Hildebrandt, TB. Obstetrics in elephants. *Theriogenology*, 70: 131-144, 2008.
- Olah, R., A. Zok, A. Pedryc, S. Howard and L.G. Kovacs. Somatic embryogenesis in a broad spectrum of grapevine genotypes. *Scientia Horticulturae*, 10.1016/j.scienta.2008.10.003, <http://dx.doi.org/10.1016/j.scienta.2008.10.003>
- Patrick Winterhagen, Susanne F. Howard, W. P. Qiu, and László G. Kovács (2008) Transcriptional up-regulation of grapevine MLO genes in response to powdery mildew infection. *American Journal of Viticulture and Enology*, 59:159-168
- Pszczolkowski M.A., Hampton, K. and Johnson, D. (2008) Sexual Characteristics in a Midwestern USA Population of *Cotinis nitida* Linnaeus (Coleoptera: Scarabaeidae) and Consequences for Determining Gender. *The Coleopterists Bulletin* 62: 527-36
- Pszczolkowski, M.A. (2008) Insect Chronotoxicology. In: *Encyclopedia of Insects*. J. Capinera (ed.) Springer, pp. 183-189.
- Pszczolkowski, M.A. Chemoreception of umami in caterpillars. (2008) In: *Amino Acid Receptor Research*. B.F. Paley, T.E. Warfield (ed.) Nova Science Publishers. Pp. 379-382
- Pszczolkowski, M.A., Olson, E., Rhine, C., Ramaswamy, S.B. (2008). Role for calcium in the development of ovarian patency in *Heliothis virescens*. *J. Insect Physiol.* 54:358-66.
- Rimal, Arbindra, Wanki Moon, and Siva K. Balasubraman 2008 "Soyfood Consumption Pattern: Effects of Product Attributes and Household Consumption." *Journal Food Distribution Research* 39(3)
- Rimal, Arbindra, Wanki, Moon, and Siva K. Balasubramanian 2008 "Estimating the Effect of Food and Drug Administration Allowed Health Claims on the Consumption of Soy-based Foods" *British Food Journal*
- Schmitt, Dennis L., Why Elephants Belong in Circuses. Chapter in: *Elephants and Ethics: Toward a Morality of Coexistence*. Eds. C. Wemmer and C. Cristen. John Hopkins University Press 2008

- Saragusty, Joseph, Hermes, R, Göritz, F., Schmitt, DL. Hildebrandt, TB. Skewed birth sex ratio and premature mortality in elephants. *Animal Reproduction Science*. In Press (available online Oct 31, 2008)
- Tripp, K.M., Versteegen, J.P., Deutsch, C.J., Bonde, R.K., Rodriquez, M., Morales, B., Schmitt, D.L., Harr, K.E. Validation of a serum immunoassay to measure progesterone and diagnose pregnancy in the West Indian manatee (*Trichechus manatus*). *Therogenology* 70: 1030-1040 2008.
- Webb, G. W., S. P. Webb and R. A. Humes. 2008. Effect of ingestion of endophyte infested fescue post exercise recovery of horses. *Journal of Equine Veterinary Science* 28:363.
- Wilker, K. L. Color Development in Red Wine with a Low Tannin to Anthocyanin Ratio. *Am. J. Enol. Vitic.* 59(3). Abstract of a poster presentation at a national meeting (American Society of Enology and Viticulture) held at Portland, Oregon, June 17–20, 2008.
- Winterhagen, P., W. Qiu, S. Howard, and L.G. Kovács. (2008). Transcriptional up-regulation of grapevine MLO genes in response to powdery mildew infection. *American Journal of Enology and Viticulture* 59:159-168.

b. List any products of creative activity – fine arts

Creative Activity

- Irwin, L.N. Wrote, filmed and directed DVD for national Poultry CDE – Indianapolis
- Trewatha, P.B. had 3 photos of weeds or woody plants used in books, trade journals or web sites from around the world
- Wilker, K.L. Missouri State University Winery received two bronze medals (2007 Chambourcin, Norton Port) and a silver medal (Maroon Blend) at the 2008 Indy International Wine Competition, held at Indianapolis, Indiana, June 26-28, 2008
- Wilker, K.L. Missouri State University Winery received two silver medals (2007 Chambourcin, Maroon Blend) Mid-American Wine Competition held on the campus of Des Moines Area Community College in Ankeny, Iowa, July 11-13, 2008

c. List any faculty presentations. Indicate if the presentation was local, regional, national, international, invited, etc.)

Presentations

- Dean, M. M. and G. W. Webb 2008. Effect of centrifugation technique on post storage characteristics of stallion spermatozoa. *Anim. Sci.* Vol. 86, E-Suppl. 2:315
- Deimeke*, B. L. W. D. Walker, C. Levesque-Bristol, and E. L. Walker. Missouri livestock producers' perceptions of the national animal identification system. Missouri State University, Springfield. 2008
- Harmon, S. E. and G. W. Webb. 2008. Use of chicken vs. chukar (*Alectoris chukar*) egg yolk as components of freezing media for stallion semen. *J. Anim. Sci.* Vol. 86, E-Suppl. 2:430.
- Hutter, James. Made one presentation to SEMVATA
- Hutter, James. Made two presentations at MVATA Conference.
- Hutter, James. Made two presentations to SWMVATA
- Johnson, D.T., Lewis, B., Pszczolkowski, M.A., Sleezer, S., Griffin, J., Slamons, E. (2008) Green June beetle trapping and efficacy studies. Entomological Society of America Annual Meeting, Reno, NV
- Johnson, D.T., Lewis, B., Rom, C., Friedrich, H., Bryant, R., and Pszczolkowski, M.A. (2008) Organic fruit production needs in the southeastern united states and organic pest management practices tested in Arkansas. Entomological Society of America Annual Meeting, Reno, NV
- Nusz*, S. R. 1, K. Weathers¹, E. L. Walker², and M. A. Brown³. Growth of lambs and meat goat kids grazing warm season grasses with or without protein supplement. 1Redlands Community College, El Reno, OK, 2Missouri State University, Springfield, 3USDA-ARS, El Reno, OK. 2008

- Onyango, B. Reactions to Deliberate Food Contamination (Agroterrorism): Implications for Risk Communication. National Communication Association Forum (NCA-F) pre-conference event “Terrorist Threat to Sunny City!” Thursday, November 20, 2008 in San Diego, California.
- Pszczolkowski, M.A. (2008). Studies on taste in codling moth caterpillars. Proekologiczne Pestycydy/Eco-friendly Pesticides, Poronin, PL, EU.
- Pszczolkowski, M.A. and Ramaswamy, S.B. (2008) Juvenile hormone in reproductive physiology and behavior of Lepidoptera: intra- and interorganismal co-ordination. 23rd International Congress of Entomology, Durban, South Africa
- Qiu, W.P. A vein-clearing disease on grape variety Chardonnay is associated with Grapevine fanleaf virus, Tomato ring spot virus and Grapevine Rupestris stem-pitting associated virus in Missouri, 17th Noble Foundation Virology Retreat, April 18-20, 2008, Ardmore, OK, USA
- Qiu, W.P. Functional analyses of a grapevine mitogen-activated protein kinase gene, Eighth International Symposium on Grapevine Physiology and Biotechnology, November 23-28, 2008, Adelaide, Australia
- Qiu, W.P. Grapevine fanleaf virus, Tomato ringspot virus and Grapevine rupestris stem-pitting associated virus are present in Chardonnay with a severe vein-clearing disease, the 2nd Annual National Viticulture Research Conference, July 9-11, 2008, Davis, CA, USA
- Qiu, W.P. Systems biology of the grapevine and powdery mildew fungus molecular interactions. May 29, 2008, Northwest Agriculture and Forestry University, Yangli, Shaanxi, P. R. China and May 31, Xinjiang Agriculture University, Urumqi, Xianjiang, P. R. China
- Schmitt, D.L. Keynote address, Elephant Health, International Elephant Research & Conservation Symposium, Bangkok, Thailand, November 2008
- Schmitt, D.L., Keynote address, Elephant Managers Association, Annual Meeting, Orlando, FL, October 2008.
- Schmitt, D.L., Wiedner, E.B. Elephant Health and Reproduction, Invited online Presentation. Veterinary Information Network, December 2008.
- Trewatha, P.B. Asked by Provost to give a presentation on “Issues and Answers” in relation to internet course development and delivery, along with 2 other faculty in October 2008.
- Wiggins, J. Technology Education: Challenges at Hand”. Four State Conference, Nov. 21, 2008, Pittsburg, KS.
- Wiggins, J. Technology Education: Challenges at Hand”. Four State Conference, Nov. 21, 2008, Pittsburg, KS.
- Winterhagen, P., C. Dennis, S. Howard, W. Qiu, and L.G. Kovacs. (2008). Identification and characterization of MLO-like genes in the grapevine *Vitis vinifera* ‘Cabernet Sauvignon’. International Animal and Plant Genome Conference, San Diego, California, January, 2008.
- Winterhagen, P., Z. Toth, A. Higgins, Z. Szabo, E. Kiss, N. Li, S. Howard, Y. Su, Q. Qiu, and L. Kovacs. Powdery mildew- and salicylic acid-induced gene regulation in a susceptible grapevine. Eighth International Symposium on Grapevine Physiology and Biotechnology, November 23-28, 2008, Adelaide, Australia.
- Winterhagen, P., Z. Toth, A. Higgins, Z. Szabo, E. Kiss, N. Li, S. Howard, Y. SU, W. Qiu, and L.G. Kovacs. (2008). Powdery mildew- and salicylic acid-induced gene regulation in a susceptible grapevine. Eighth International Symposium on Grapevine Physiology and Biotechnology. Adelaide, Australia, November 23-28, 2008. Poster.

d. Describe how the unit supports and promotes faculty research.

Through Grants and donations.

e. Funded Research and Creative Activities

- i. List all the proposals submitted for funding and the numbers of faculty submitting proposals.
- ii. List the number of funded projects and faculty participants
- iii. List the amount and source of grants and contracts received

SPONSORED PROGRAM ACTIVITY FY 2008

| Proposal Received | SRP # | P.I.s | Dept/Unit | College | Agency | Title | Agency Type | Use | Funding Requested | Funding Awarded |
|-------------------|-------|--|-----------|-----------|---|--|-------------|----------------------------------|--------------------|--------------------|
| | | | | | | | | | \$9,411,877 | \$4,063,421 |
| 07/03/07 | 08001 | Wood, L; Webb, S | CSD/AGR | CHHS/CNAS | Horses and Humans Research Foundation | Therapeutic Riding to Improve Communication and Understanding of Communication Disorders | Non-profit | Applied Research | \$16,110 | Denied |
| 10/18/07 | 04027 | Byers, P; Avery, J; Thomas, A (U of M) | AGR | CNAS | U.S. Department of Agriculture via University of Missouri - Columbia | Genotype by Environment Interaction in Elderberry Cultivars and Selections Growth in Oregon and Missouri | Federal | Research | \$10,750 | |
| 05/01/08 | 08150 | | AGR | CNAS | Horticulture Research Institute / ANLA (American Nursery & Landscape Association) | Characteristics and Performance of Grafted Pawpaw and Persimmon Cultivars Appropriate to Landscaping and the Nursery Industry | Business | Applied Research | \$6,868 | |
| 02/14/07 | 07116 | Irwin, L | AGR | CNAS | Missouri Department of Agriculture | Surveillance Program for Upland Gamebirds | State | Education | FY 2007 | \$14,307 |
| 06/04/08 | 07116 | Irwin, L | AGR | CNAS | Missouri Department of Agriculture | Surveillance Program for Upland Gamebirds | State | Education | \$14,319 | \$14,319 |
| 06/25/07 | 07183 | Odneal, M | AGR | CNAS | Missouri Department of Natural Resources | Ozark Rain Garden | State | Education /General/ Teacher | FY 2007 | \$5,000 |
| 01/31/08 | 06140 | Odneal, M | AGR | CNAS | Missouri Department of Agriculture | Evaluation of Missouri native Plants for Cut Flowers Production | State | Research | \$3,500 | \$3,500 |
| 09/05/07 | 08033 | Pszczolowski, M | AGR | CNAS | Missouri Life Science Research Board | Insect-deterrent and antifeedant properties of Ginkgo biloba | State | Research | \$52,953 | \$52,953 |
| 09/04/07 | 08030 | Qui, W | AGR | CNAS | Missouri Life Science Research Board Trust Funds-Subcontract from University of Missouri - Columbia | Survey and Characterization of Viruses in Missouri Vineyards and Native Grapes (The Gateway Proposal: Advancing Animal and Plant Sciences in Missouri) | State | Applied Research | \$67,260 | \$67,260 |
| 04/23/08 | 08147 | Walker, E | AGR | CNAS | Animal Compassion Agency | Variation in tannin levels of fodder grazed by small ruminant livestock in the Ozark Plateau region of the central United States and roles in meat goat management | Non-profit | Applied Research/ Basic Research | \$74,836 | \$74,836 |
| 09/07/07 | 08035 | Webb, G; Rimal, A; Fuqua, B | AGR | CNAS | Missouri Life Science Research Board | Vegetation Buffer Strip Effectiveness and Technology for Grazing Systems in the Ozarks | State | Research | \$543,134 | |
| 04/05/08 | 08139 | Webb, S | AGR | CNAS | US Department of Agriculture | Consortium for Agriculture Pathways to Success | Federal | Education | \$498,650 | |

| | | | | | | | | | | | | |
|----------|-------|---|----------|-----------|--|--|------------|---------------------|--|-------------|-----------------------------|-----------|
| 11/06/06 | 07058 | Wilker, K | AGR | CNAS | Missouri Grape and Wine Board | Effect of Winemaking Treatments on the Polycentric Pigment and Tannin Content of Norton Wine | State | Research | | | | |
| 12/18/07 | 04182 | Havel, J | BIO | CNAS | U.S. Geological Survey via University of Illinois | Planktonic Indicators of Reference Conditions in Great Rivers: Analyses for the EPA EMAP Program (Conduct field monitoring and analysis under the long term resource monitoring program) | Federal | Research | | \$50,167 | | \$50,167 |
| 04/02/08 | 08136 | Kovacs, L | CGB | CNAS | United States Department of Education | Student Mobility to Enrich Grape and Wine Technology Education | Federal | Education (General) | | \$179,983 | | |
| 05/01/08 | MTA | Qiu, W | CGB | CNAS | Flanders Interuniversity Institute for Biotechnology (VIB) | Investigating the Functions of Selected Grapevine Genes and Regulatory Sequences by Gain-of Function, Promoter Analysis, and RNA Silencing | non-profit | Basic Research | | | Material Transfer Agreement | |
| 04/10/08 | 05161 | Qiu, W & Avery, J | CGB | CNAS | U.S. Department of Agriculture via Cornell University | Establishment of a Sustainable Grapevine Importation and Certification Program for Midwest Regions | Federal | Research | | \$23,674 | | \$23,674 |
| 11/06/06 | 07059 | Qiu, W; Avery, J | CGB | CNAS | US Department of Agriculture via University of Missouri - Columbia | Establishment of a Sustainable Grapevine Importation and Certification Program for Midwest Regions | Federal | Research | | | FY 2007 | \$45,470 |
| 11/29/07 | 07059 | Qiu, W; Avery, J | CGB | CNAS | Missouri Department of Agriculture (Missouri Grape and Wine Board) via University of Missouri - Columbia | Establishment of a Sustainable Grapevine Importation and Certification Program for Midwest Regions | State | Research | | \$24,920 | | |
| 12/04/07 | 08089 | Qiu, W; Kovacs, L | CGB | CNAS | U.S. Department of Agriculture via University of Missouri Columbia | Molecular Mechanism of Powdery Mildew Resistance in Grapevine | Federal | Research | | \$264,704 | | |
| 01/23/08 | 08109 | Dong, L; Craig, M; Ghosh, K; Kahol, P; Qui, W; Kovacs, L; Qui, W; | PAMS/AGR | CNAS | National Science Foundation | MRI-RUI: Acquisition of a Field Emission Scanning Electron Microscope to Advance Research and Education at Missouri State University | Federal | Equipment | | \$388,756 | | |
| 09/06/07 | 08034 | Biagioni, R; Durham, P | AGR/C | CNAS/VPRE | Missouri Life Science Research Board | Grape Polyphenols: Potential for New Commercial Products and Enhanced Plant Health | State | Research | | \$1,147,201 | | \$897,955 |
| 04/02/08 | 08135 | Qui, W; Kovacs, L; Durham, P | CGB/CB | CNAS/VPRE | United States Department of Agriculture | Vitis Gene Discovery Program | Federal | Research | | \$238,414 | | |
| 07/09/07 | 08003 | Durham, P; Kovacs, L | CBLS/AGR | VPRE | National Institute of Health | Grape Extract Regulation of CGRP and Signal Transduction Pathways | Federal | Research | | \$347,781 | | |

| | | | | | | | | | | |
|----------|-------|---|---------------|--------------------|--|---|----------|---------------------|-------------|-----------|
| 09/26/07 | 08050 | Law, D; Gump, B; Howell, S; Norgren, M; Wilker, K | AA/AG R | WP/C NAS | National Science Foundation | VESTA- Viticulture and Enology Science and Technology Alliance-Site Visit | Federal | Education | \$2,927,403 | |
| 12/01/08 | 09105 | Rimal, A | AG | CNAS | Ellis Management Marketing Group | Feasibility Study, Marketing Study, and Development of Business Plan | Business | Applied Research | \$7,244 | |
| 07/22/08 | 09011 | Irwin, L | AGR | CNAS | Missouri Farm Bureau | Agriculture Literacy (Web-based) | State | Education | \$61,472 | |
| 09/05/08 | 09041 | Perkins, T; Rimal, A | AGR | CNAS | Missouri Life Sciences Board | Validation of Commercial DNA Tests for Feed Efficiency and Carcass Composition in Beef Cattle | State | Research | \$985,027 | |
| 08/04/08 | 06149 | Schmitt, D Webb, G; Burton, M; Rimal, A; Pavlowsk y, R | AGR | CNAS | Feld Entertainment, Inc. | Ringling Brothers Chair of Veterinary Care and Director of Research and Conservation / Research and Education Program Related to Asian Elephants in Captivity and the Wild | Business | Research | \$577,526 | \$577,526 |
| 09/05/08 | 09043 | | AGR/O EWRI | CNAS | Missouri Life Sciences Board | Vegetative Buffer Strips for Forage Production and Water Quality Conservation in the Ozarks | State | Research | \$519,671 | |
| 08/13/08 | 09032 | Qiu, W | CGB | CNAS | United States Department of Agriculture | Control Grapevine Powdery Mildew by Developing Durable Disease Resistance | Federal | Research | \$258,266 | |
| 07/01/08 | 07059 | Qiu, W; Avery, J | CGB | CNAS | Missouri Department of Agriculture via University of Missouri - Columbia | Establishment of a Sustainable Grapevine Importation and Certification Program for Midwest Regions | State | Research | \$26,165 | \$26,165 |
| 01/12/09 | 09141 | Qiu, Xiaomin Dong, L; Craig, M; Ghosh, K; Kahol, P; Qui, W; Mannivan nan, M; Wenkaya, A | GGP | CNAS | National Science Foundation | Redefining Flood Vulnerability, Risk Perception, Physical Measures, and Socioeconomic Variables | Federal | Basic Research | \$95,123 | |
| 01/23/08 | 08109 | Qui, W; Kovacs, L; Durham, P | PAMS/ AGR | CNAS | National Science Foundation | MRI-RUI: Acquisition of a Field Emission Scanning Electron Microscope to Advance Research and Education at Missouri State University | Federal | Equipmen t | FY 2008 | \$321,986 |
| 04/02/08 | 08135 | Qui, W; Kovacs, L; Durham, P | CGB/CB LS | CNAS/ VPRE D | United States Department of Agriculture | Vitis Gene Discovery Program | Federal | Research | FY 2008 | \$228,414 |
| 04/02/08 | 08135 | Qui, W; Kovacs, L; Durham, P | CGB/CB LS | CNAS/ VPRE D | United States Department of Agriculture | Vitis Gene Discovery Program | Federal | Research | FY 2008 | \$10,000 |

**3. SERVICE AND COMMUNITY OUTREACH: (same heading in Program Review document)
Specify level of effort (local, regional, state and national, etc.)**

Service Activities

A. Technical assistance – program evaluation, strategic planning, etc

Reviewing, Editing

- Kovacs, L.K. Reviewer of articles for Plant Physiology and Biochemistry (Elsevier)
- Pszczolkowski, M.A. Refereed three articles for peer-reviewed scientific journals
- Qiu, W.P. One manuscript for the journal *New Phytologist*
- Qiu, W.P. Reviewing of three disease notes for the journal *Plant Disease*,
- Qiu, W.P. Reviewing of three research proposals for Viticulture Consortium-East Section
- Rimal, Arbindra. International Journal of Consumer Studies
- Rimal, Arbindra. Journal of Food Distribution Research,
- Rimal, Arbindra. Southern Agricultural Economic Association,
- Trewatha, P.B. Completed book review of Floriculture textbook (February 2008) for publisher.
- Wilker, K.L. Reviewed article LWT – Food Science and Technology

Authoring, Service on Boards and Committees (not events)

- Barrett, B., M. Warmund, P. Byers, M. Kaps, and L Kovacs. 2008. Midwest Commercial Tree Fruit Spray Guide. MP651. 63 p.
- Burton, M.G. Regional Committee Chair, Distinguished Service Award Committee, Southern Weed Science Society (Regional).
- Elliott, W.A. National - AASCARR Board Member
- Elliott, W.A. National - NASULGC Budget and Advocacy Committee (Note: Obtained Authorization for AASCARR Competitive Grant Program and now seeking Appropriation of \$10M for 09/10)
- Elliott, W.A. Regional - Congressman Blunt's Ag Committee
- Elliott, W.A. Regional - Good Community Committee Member – water quantity
- Elliott, W.A. Regional - Springfield Chamber Committee – Land Preservation
- Elliott, W.A. Regional - Springfield Regional Chamber of Commerce Round Table (Chair. Elect for 2009)
- Elliott, W.A. State - Governors Advisory Committee on Agriculture
- Elliott, W.A. State - Senator Bonds Ag Committee
- Fuqua, B. Assisted in project decisions at Baker's Acres.
- Fuqua, B. Consultant/advisor for Blueberry Council of Missouri
- Hutter, J. Advisory Committee for Republic Agriculture Education Program.
- Hutter, J. Current member in MVATA, NAAE, ACTE, Missouri Angus Association, American Angus Association, Missouri Cattleman's Association, National Cattlemen's Association, Southwest Missouri Beef Improvement Association, 4-H leader,
- Hutter, J. Current President of the Southwest Missouri Beef Improvement Association.
- Hutter, J. Member NCAA Validation Committee,
- Hutter, J. President and board member for Southwest Missouri Beef Improvement Association.
- Hutter, J. Server on Joint Staff for Missouri Agriculture Education.
- Irwin, L.N. Board member - Missouri Sheep Producers Association
- Irwin, L.N. Farm Bureau Commodity - Chair of Sheep and Goat Committee
- Irwin, L.N. Federal Livestock Identification Task Force – Sheep Working Group
- Irwin, L.N. Governor's Agricultural Committee
- Irwin, L.N. Missouri Department of Agriculture, Avian Influenza Meetings
- Irwin, L.N. Ozark Empire Fair Review Committee

- Irwin, L.N. Represented American Sheep Industry Association at Meetings
- Irwin, L.N. Review of United States Sheep Experiment Station Task Force Chair – American Sheep Industry Association
- Kaps, M.L. Attended and participated in the Missouri SARE Professional Development Program Advisory Board Meeting at Lincoln University on October 22.
- Kaps, M.L. Ozark Mountain Technical Institute at Mountain Grove High School, Advisory Committee for Community Education.
- Kovacs, L.K. Presented information on MO Life Science Trust Fund grant on grape polyphenols at a news briefing on March 24, 2008.
- Pszczolkowski, M.A. Appointed and served as Subject Editor for *Environmental Entomology* (a journal ranked #3 in entomology by the Journal Citation Reports). Twelve papers were reviewed and handled in 2008.
- Pszczolkowski, M.A. Operating insect pest identification clinic for homeowners and farmers.
- Roling, M. Board member of the Lovett Pinetum Charitable Foundation with operations in Missouri, Texas and California.
- Roling, M. Missouri Gypsy Moth Cooperative Program, both advisory and scientific committee.
- Walker, E. Worked with Food Alliance as a reviewer for their humane meat goat treatment protocol for certification of farms as “humane”. (August 2008)
- Warmund, M., B. Barrett, K. Striegler, A. Allen, P. Byers, M. Kaps, L. Kovacs, and M. Pszczolkowski. 2008. Midwest Commercial Small Fruit and Grape Spray Guide. MX377. 75 p.
- Webb, G. Served on Advisory Board for Christian County Project 319 Grant
- Webb, S. Therapeutic Riding of the Ozarks Advisory Board
- Webb, G. Foundation Quarter Horse Registry-Judges Committee and National Show Committee
- Webb, G. President Missouri Reined Cowhorse Association

B. Alumni outreach

Salute to Agriculture Football Game where alumni are invited to campus.

Invitation for many class presentations during the year

Ag Review sent to all Department of Agriculture Alumni

C. Professional outreach – academic and practitioner

Judging Shows, Physical activities

- Alsup, C. Alternative Gardening, Crossett AR, Garden Club, July 2008
- Alsup, C. The Bulb Hunter Video Blog with Chris Wiesinger (Owner/President of The Southern Bulb Co., Tyler/Mineola, TX): Bags Make Gardening Easier, July 2008
- Burton, M.G. National Committee Member, Outstanding Graduate Student Award, Weed Science Society of America (National).
- Fuqua, B. Consultant for homeowners and landowners in southwest Missouri on soil and soil fertility problems
- Fuqua, B. Consultant on soils for blueberry growers in Missouri
- Fuqua, B. Coordinated activities at the Darr Agricultural Center.
- Hutter, J. Have served as an official judge at local, state and national level.
- Irwin, L.N. Judge Poultry –Greene, Newton, Stone County Fairs
- Irwin, L.N. Judge Sheep –Christian County Fair
- Irwin, L.N. Superintendent – Angus Cattle Show – Ozark Empire Fair, 1974 - present
- Irwin, L.N. Superintendent – Charolais Cattle Show – Ozark Empire Fair, 1974 - present

- Walker, E. Brought in baby lambs and goats for Sigma Alpha Farm Days at Darr Center for GLS kids. (April 2008)
- Walker, E. Dallas Co Meat Goat and Sheep Show – Judge (June 2008)
- Walker, E. Glendale, Ar – ABGA Breeding Goat Judge (May 2008)
- Walker, E. Highland, Il – ABGA Breeding Goat Judge (May 2008)
- Walker, E. Laclede Co Meat Goat and Sheep show – Judge (July 2008)
- Walker, E. MJBGA – judged youth show in Sedalia, Mo (April 2008)
- Walker, E. Nebraska State Fair – ABGA Meat Goat Judge (August 2008)
- Walker, E. Ozark Empire Fair – ringman for ABGA show (July 2008)
- Walker, E. South Eastern District Fair- Cape Girardeau (ABGA judge; people from several states attended, Sept. 2008)
- Walker, E. Stone Co, Mo – judged sheep, meat goat, and dairy goats. (May 2008)
- Walker, E. Vernon Co ABGA Judging (people from several states attended) (September 2008)
- Webb, S. Assisted with FQHR & MRCHA Shows as available.
- Webb, S. Organization of and/or participation in meetings for farmers, agribusinesses and other agricultural groups
- Webb, S. working with local drill team
- Webster Co Youth fair – meat goat judge (July 2008)
- Wiggins, J. judge to the district FFA contest, and to the SW District Technology Education Association of Missouri annual contest.
- Wiggins, J. Non paid consulting work to local organizations.
- Wilker, K.L. Staffed booth at Cabool Farm Fest
- Wilker, K.L. Judge in the Senior Division, Botany, for the Ozarks Science % Engineering Fair
- Wilker, K.L. Phone/Email consultations dealing with winemaking or distillation
- Wilker, K.L. Wine analysis for the wine industry
- Wilker, K.L. Winemaker for the Missouri State University Winery

D. Cultural, scholarly and public affairs events and conferences that you were responsible for planning or participated in during the calendar year

Organizing events and Presenting

- Elliott, W.A. Coordinate all 75 Schools in SW Missouri – FFA District Contests
- Elliott, W.A. State - Agriculture Leaders of Tomorrow Invited Speaker
- Fuqua, B. 2008 Missouri Small Fruit and Vegetable Conference Planning Committee, Coordinator & Moderator for Blueberry Session at 2008 Missouri Small Fruit and Vegetable Conference
- Fuqua, B. DTA Quiz Bowl Moderator.
- Fuqua, B. Present results from 30 years of highbush blueberry research at the 2009 Missouri Small Fruit and Vegetable Conference.
- Fuqua, B. Southwest Missouri Forage Conference Planning Committee
- Fuqua, B. Supported Agricultural Forum.
- Hutter, J. Coordinate all Career Development Events for MVATA Southwest District.
- Hutter, J. Coordinate MVATE Conference
- Hutter, J. Coordinated Livestock officials for Crowder Aggie Days, Area 8 CDE and Area 9 CDE.
- Hutter, J. Facilitate Fall Agriculture Education Workshops
- Hutter, J. Made one presentation to SEMVATA
- Hutter, J. Made two presentations at MVATA Conference.

4. PROGRAM RESOURCES

a. Faculty (*Faculty Resources*)

- i. If the unit engaged in any recruitment/hiring activities:
 - 1. How many searches were successful?
 - a. TWO
 - 2. How many searches were unsuccessful? Why?
 - a. None
 - 3. Describe any efforts made to increase diversity.
 - a. Hired one faculty from Kenya
- ii. Retention.
 - 1. Lost one faculty member during 08
- iii. Professional and career development.
 - 1. Many attend local, state and national meetings
- iv. Faculty recognition and awards.
 - 1. Many local, state, and national awards have been received by our faculty. None have been noted during 2007.
- v. Delaware data

b. Delaware Data (*Fiscal and Other Resources*)

- i. Faculty productivity

| PRODUCTIVITY DESCRIPTORS | FALL SEMESTERS | | | | |
|-----------------------------|----------------|------|------|------|------|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| S/F Ratio | 14.4 | 14.7 | 12.5 | 12.8 | 13.0 |
| LD Section Size | 22.1 | 22.7 | 23.0 | 22.7 | 22.8 |
| No. of LD Sections | | 26 | 26 | 26 | 26 |
| UD Section Size | 15.4 | 14.5 | 12.2 | 12.4 | 12.5 |
| No. of UD Sections | | 59 | 60 | 65 | 77 |
| GD Section Size | 3.3 | 3.3 | 2.5 | 2.0 | 1.6 |
| No. of GD Sections | | 3 | 4 | 6 | 8 |
| % SCH by Tenured | | 74.4 | 71.3 | 75.0 | 72.1 |
| % SCH by Other Reg. | | 8.1 | 10.9 | 2.1 | 2.0 |
| % SCH by Sup.Fac. | | 15.9 | 17.8 | 23.0 | 25.8 |
| % SCH by Grad.Asst. | | 1.6 | 0.0 | 0.0 | 0.0 |

| FACULTY SALARY MEANS | FISCAL YEARS | | | | |
|---|--------------|------|--------|--------|--------|
| | 2005 | 2006 | 2007 | 2008 | 2009 |
| MISSOURI STATE - CIP 0100 (Agriculture, General) | | | | | |
| Professor | | | 73,565 | 76,424 | 75,982 |
| Assoc. Prof. | | | 53,890 | 56,020 | 57,821 |
| Asst. Prof. | | | 46,830 | 48,118 | 52,388 |
| Instructor | | | - | - | 34,512 |
| COMPARISON TO CUPA | | | | | |
| Professor | | | 98.7% | 101.3% | |
| Assoc. Prof. | | | 90.1% | 88.6% | |
| Asst. Prof. | | | 94.2% | 91.1% | |
| Instructor | | | - | - | |

ii. Cost per student credit hour

| FINANCIAL DESCRIPTORS | FISCAL YEARS | | | | |
|--------------------------|--------------|------|--------|-------|------|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| CREDIT HOUR COST | | | | | |
| MSU | | | 201 | 224 | |
| DELAWARE AVER. | | 275 | 194 | 253 | |
| MSU/DELAWARE | | | 103.6% | 88.5% | |

c. Budget information (*Fiscal and Other Resources*)

i. **Comment on the unit's budget allocations and management.**

Given the increase of physical plant size (Karls Hall) and new facility at the Darr Agricultural Center (Pinegar Arena) along with increased graduate student involvements with no additional operational funds, it has placed a stress on budgets. With the additional visibility of an outstanding faculty, statewide and national involvements are expected which also adds stress. New technology adds to budget stresses instead of reducing them. Personal conversations with directors of Agricultural Programs throughout the country reveals that MSU is investing less in the laboratory activities than our peers are doing.

ii. **Comment on the unit's space situation.**

Excellent facilities in Karls Hall, Pinegar, Faurot Hall, Winery, with needs in:

1. Shepard Hall renovation
2. Housing for guests in the Residence Hall at the State Fruit Experiment Station
3. Remodel the Fruit Processing Laboratory Building
4. Phase III at the Darr Center

iii. Comment on the unit's equipment and/or technology needs and any plans it has to address those needs.

Needs exist for:

1. Pickup
2. Beef Trailer
3. Vineyard pruner
4. Orchard sprayer

iv. Comment on the adequacy of the unit's staff resources.

Needs exist for:

1. An Associate Dept. Head,
2. A Staff for scheduling and maintenance of the Pinegar Arena, Darr Center and Greenhouses
3. Lab Tech for Winery
4. Marketing and Grounds person at Mtn. Grove
5. Assit. Professor in Animal Sciences - Beef

v. Does the unit engage in fundraising? If so, describe the efforts and the level of success.

1. Yes, routinely among the leading Department's on campus for annual funding raising for scholarships as well as facilities and program support.

5. PARTNERSHIPS (for Public Scorecard)

Partnerships (formal agreements) with educational institutions, government entities, community agencies, or businesses and health care organizations

Written agreement with the Council of Churches of the Ozarks for providing the Therapeutic Riding Program of the Ozarks program.

FA09 AG ENROLLMENT-AG EDUCATION

| MAJOR | NAME | STUDENT I | STUDE | GENC | RACE | EMAIL | PHONE | GPA | CREDITS P | ATTEMPT | E ADVISOR | POPULA |
|-------|----------------------|-----------|-------|------|------|----------------------------------|----------|--------|-----------|---------|----------------|--------|
| AGED | Anderson, Barbara J. | M0009287 | UG | SO | F | Unknown Anderson4 | 4.18E+09 | 3.75 | 34 | 34 | Elliott, W A C | |
| AGED | Austin, Shelby G. | M0051503 | UG | FR | M | White or C: Shelby413(| 4.17E+09 | | | | Hutter, Jar N | |
| AGED | Bailey, Traci G. | M0011575 | UG | SR | F | Unknown Traci524@ | 5.74E+09 | 2.6321 | 107 | 107 | Hutter, Jar C | |
| AGED | Barker, Briant J. | M0011385 | UG | SR | M | Unknown Briant123@ | 4.17E+09 | 2.729 | 107 | 107 | Hutter, Jar C | |
| AGED | Bastin, Kayla N. | M0038535 | UG | SR | F | White or C: Kayla18@M | 4.18E+09 | 2.7368 | 94 | 100 | Hutter, Jar R | |
| AGED | Bishop, Lindsey R. | M0064928 | UG | SO | F | White or C: Lindsey777 | 4.18E+09 | 3.449 | 49 | 49 | Hutter, Jar T | |
| AGED | Bos, Alison L. | M0012403 | UG | SO | F | Unknown Bos08@Mi | 4.18E+09 | 4 | 35 | 36 | Hutter, Jar C | |
| AGED | Brown, Candace N. | M0008284 | UG | SR | F | Unknown Candace125@missour | | 2.5149 | 101 | 106 | Hutter, Jar C | |
| AGED | Campbell, Emily N. | M0004054 | UG | JR | F | Unknown Emily088@ | 4.18E+09 | 3.32 | 72 | 78 | Hutter, Jar T | |
| AGED | Coles, Alysia N. | M0050460 | UG | FR | F | Unknown Alysia3409@MissouriS | | 0 | 0 | 0 | Elliott, W A N | |
| AGED | Crosby, Aaron C. | M0039956 | UG | SR | M | Unknown Aaron7819@MissouriS | | 2.1204 | 97.026 | 108.029 | Hutter, Jar T | |
| AGED | Davis, Wesley E. | M0003598 | UG | SR | M | Unknown Wesley99@ | 4.18E+09 | 3.3143 | 105 | 108 | Hutter, Jar C | |
| AGED | Edwards, Sean M. | M0010637 | UG | SR | M | Unknown Sean52@M | 4.17E+09 | 2.7083 | 96 | 112 | Hutter, Jar C | |
| AGED | Folks, Morgan R. | M0040438 | UG | SO | F | White or C: Folks00404 | 5.73E+09 | 2.125 | 32 | 32 | Hutter, Jar T | |
| AGED | Fox, Tyler D. | M0011487 | UG | SR | M | Unknown Fox2020@ | 4.17E+09 | 3.5455 | 99 | 99 | Hutter, Jar C | |
| AGED | Griffith, Katie A. | M0012150 | UG | SO | F | Unknown Griffith495 | 6.61E+09 | 3.5 | 42 | 42 | Hutter, Jar C | |
| AGED | Harms, Jonathan C. | M0008955 | UG | SR | M | Unknown Harms662@ | 6.6E+09 | 2.5536 | 92 | 126 | Hutter, Jar C | |
| AGED | Henley, Hanna L. | M0010421 | UG | SR | F | Unknown Henley15@ | 5.73E+09 | 3.3983 | 118 | 118 | Hutter, Jar C | |
| AGED | Jones, Courtney R. | M0010661 | UG | JR | F | Unknown Courtney6@ | 4.17E+09 | 3.1818 | 77 | 80 | Hutter, Jar C | |
| AGED | Kahre, Daniel A. | M0009530 | UG | SO | M | Unknown Kahre404@ | 4.17E+09 | 2.9091 | 33 | 33 | Elliott, W A C | |
| AGED | Kaiser, James W. | M0007274 | UG | SR | M | Unknown James21@missourista | | 3.0614 | 114 | 120 | Hutter, Jar C | |
| AGED | Kirk, Casteel K. | M0009316 | UG | FR | F | White or C: Casteel55@MissouriSt | | 3.75 | 12 | 12 | Elliott, W A N | |
| AGED | Lacey, Brittni S. | M0069692 | UG | SR | F | White or C: Brittni588@ | 4.18E+09 | 3.8936 | 94 | 94 | Hutter, Jar T | |
| AGED | Markway, Bethany M. | M0049858 | UG | FR | F | Unknown Bethany35 | 5.73E+09 | 4 | 21 | 21 | Elliott, W A N | |
| AGED | Medley, Kayla M. | M0104525 | UG | SO | F | More than Marie247@ | 4.17E+09 | 2.1667 | 54 | 54 | Hutter, Jar T | |
| AGED | Moots, Chad A. | M0039069 | UG | SO | M | White or C: Moots1@M | 4.18E+09 | 3.2037 | 54 | 54 | Hutter, Jar T | |
| AGED | Morlan, Brandi M. | M0011343 | UG | SR | F | Unknown Brandi034@ | 4.17E+09 | 2.9817 | 109 | 115 | Hutter, Jar C | |
| AGED | Parrack, David R. | M0012032 | UG | JR | M | Unknown Parrack213 | 5.73E+09 | 2.4219 | 64 | 72 | Hutter, Jar C | |
| AGED | Perkins, Amanda J. | M0012541 | UG | SR | F | Unknown Amanda79 | 5.74E+09 | 2.5625 | 124 | 173 | Hutter, Jar C | |
| AGED | Prinsloo, Sarah L. | M0065770 | UG | JR | F | White or C: Prinsloo11: | 4.18E+09 | 3.0833 | 60 | 60 | Hutter, Jar T | |
| AGED | Schmidt, Tyler A. | M0010964 | UG | JR | M | Unknown Schmidt00 | 6.6E+09 | 2.8429 | 73 | 73 | Hutter, Jar C | |
| AGED | Smith, Amanda L. | M0010588 | UG | SR | F | Unknown Parrack345 | 4.17E+09 | 3.4775 | 111 | 114 | Hutter, Jar C | |

| | | | | | | | | | | | | |
|------|---------------------|----------|----|----|---|-------------|------------------------------|----------|--------|-----|-----|----------------|
| AGED | Solomon, Jessica R. | M0008208 | UG | SR | F | Unknown | Solomon21 | 6.61E+09 | 3.7658 | 111 | 111 | Elliott, W A C |
| AGED | Stark, Stephen E. | M0012006 | UG | SR | M | Unknown | Stark246@ | 4.17E+09 | 2.5521 | 90 | 96 | Hutter, Jar C |
| AGED | Taylor, Lacy M. | M0007906 | UG | SR | F | White or C: | Taylor1377 | 4.72E+09 | 2.3592 | 103 | 106 | Elliott, W A R |
| AGED | Tuttle, Lyndi R. | M0010830 | UG | JR | F | White or C: | Tuttle1235 | 4.17E+09 | 3.9032 | 62 | 62 | Elliott, W A C |
| AGED | Walrath, Breanna R. | M0011862 | UG | SO | F | Unknown | Breanna98 | 4.17E+09 | 2.8485 | 33 | 33 | Elliott, W A C |
| AGED | Warner, Samantha A. | M0050147 | UG | FR | F | Unknown | Samantha1 | 8.16E+09 | 4 | 20 | 20 | Elliott, W A N |
| AGED | Wickman, Cynthia L. | M0009189 | UG | SR | F | Unknown | Wickman4 | 4.18E+09 | 3.3006 | 163 | 166 | Hutter, Jar C |
| AGED | Winfrey, Ashley E. | M0058427 | UG | FR | F | White or C: | Ashley1991@MissouriState.edu | | | | | Elliott, W A N |
| AGED | Yearsley, Logan A. | M0010683 | UG | SO | M | Unknown | Yearsley34 | 4.18E+09 | 2.6552 | 58 | 61 | Hutter, Jar C |

41

C=25
N=6
R=2
T=8

| MAJOR | NAME | STUDENT I | STUDE | STUDE | GENE | RACE | EMAIL | PHONE | GPA | CREDITS P | CREDITS A | ADVISOR | STUDEN |
|-------|-----------------------|-----------|-------|-------|------|-------------|---------------------|----------|--------|-----------|-----------|---------------|--------|
| TEED | Cosgrove, Justin A. | M0011825 | UG | JR | M | Unknown | Cosgrove4 | 6.36E+09 | 3.4265 | 68 | 71 | Wiggins, Jo C | |
| TEED | Fennessey, Tim G. | M0011073 | UG | SR | M | Unknown | Fennessey | 6.37E+09 | 3.2456 | 114 | 114 | Wiggins, Jo C | |
| TEED | Jenkins, Adam | M0004072 | UG | FR | M | White or C: | Jenkins246 | 4.18E+09 | | | | Wiggins, Jo N | |
| TEED | Kirchner, Scott | M0072135 | UG | JR | M | White or C: | Kirchner1 | 4.18E+09 | 2.5938 | 64 | 64 | Wiggins, Jo T | |
| TEED | Schubert, Nicholas B. | M0010847 | UG | JR | M | Unknown | Schubert7 | 3.14E+09 | 3.0235 | 85 | 91 | Wiggins, Jo C | |
| TEED | Shelton, Samuel C. | M0049864 | UG | JR | M | Unknown | Samuel68 | 4.17E+09 | 2.5521 | 88 | 101 | Wiggins, Jo T | |
| TEED | Smith, Colby J. | M0001959 | UG | SR | M | Unknown | Colby1030@MissouriS | | 2.9266 | 106 | 136 | Wiggins, Jo R | |

7

C=Continuing Undergraduate
N=First Time New to College
R=Readmit Degree Seeking
T=1st Time Transfer

C=3
N=1
R=1
T=2

FA09 AG ENROLLMENT-AGRONOMY

| MAJOR | NAME | STUDENT I | STUDE | STUD | GENC | RACE | EMAIL | PHONE | GPA | CREDITS PA | ATTEMPT | ADVISOR | POPUL |
|-------|------------------------|-----------|-------|------|------|------------|-------------|----------|--------|------------|---------|----------------|-------|
| AGRO | Albright, Kent A. | M0007090 | UG | SR | M | White or C | Kent121@I | 4.18E+09 | 2.2773 | 117 | 130 | Fuqua, Ben R | |
| AGRO | Bass, Staci N. | M0010803 | UG | JR | F | White or C | Bass33@M | 4.18E+09 | 3.939 | 88 | 88 | Elliott, W A C | |
| AGRO | Clark, Kerre N. | M0004523 | UG | SO | F | White or C | Kerre52309 | 4.18E+09 | 3.6909 | 55 | 55 | Fuqua, Ben T | |
| AGRO | Detar, Ben D. | M0010501 | UG | SR | M | Unknown | Ben11@Mi | 6.2E+09 | 4 | 117 | 117 | Elliott, W A C | |
| AGRO | Eggerman, Landon L. | M0009317 | UG | SO | M | Unknown | Eggerman1 | 4.17E+09 | 2.8478 | 46 | 49 | Fuqua, Ben C | |
| AGRO | Elmore, Clinton J. | M0012210 | UG | JR | M | Unknown | Elmore45@ | 6.36E+09 | 2.7903 | 62 | 62 | Fuqua, Ben C | |
| AGRO | Ferrell, Brandon M. | M0008879 | UG | SR | M | Unknown | Brandon23 | 4.18E+09 | 2.4906 | 106 | 116 | Fuqua, Ben C | |
| AGRO | Fritsche, David S. | M0011314 | UG | SR | M | Unknown | Fritsche396 | 4.18E+09 | 3.5922 | 103 | 113 | Fuqua, Ben C | |
| AGRO | Grass, Brandon L. | M0002308 | UG | SR | M | White or C | Grass1986(| 4.18E+09 | 2.9406 | 98 | 102 | Fuqua, Ben T | |
| AGRO | Hankins, Jill K. | M0011453 | UG | JR | F | Unknown | Jill10@Mis | 4.18E+09 | 3.4026 | 77 | 77 | Fuqua, Ben C | |
| AGRO | Henderson, Nicholas L. | M0009272 | UG | JR | M | White or C | Henderson | 4.18E+09 | 2.2989 | 84 | 102 | Fuqua, Ben R | |
| AGRO | Kenney, James T. | M0012527 | UG | JR | M | Unknown | Kenney777 | 4.17E+09 | 2.4066 | 82 | 105 | Rimal, Arbi C | |
| AGRO | Lanz, Christopher A. | M0008321 | UG | SR | M | Unknown | Lanz009@P | 4.18E+09 | 2.9727 | 110 | 113 | Fuqua, Ben C | |
| AGRO | Lee, Kevin D. | M0008132 | UG | SR | M | American I | Kevin243@ | 4.18E+09 | 3.8587 | 92 | 95 | Fuqua, Ben C | |
| AGRO | Longo, Dominic J. | M0007090 | UG | SR | M | Unknown | Dominic98 | 4.17E+09 | 2.9151 | 106 | 109 | Fuqua, Ben C | |
| AGRO | Lysinger, Geoffrey L. | M0050117 | UG | FR | M | Unknown | Lysinger72 | 4.18E+09 | 3.4 | 10 | 10 | Fuqua, Ben N | |
| AGRO | Martin, Joseph L. | M0011220 | UG | SR | M | Unknown | Martin918 | 4.17E+09 | 2.6583 | 120 | 124 | Fuqua, Ben C | |
| AGRO | McCann, Dustin L. | M0009176 | UG | SR | M | Unknown | McCann36 | 5.74E+09 | 2.4488 | 127 | 134 | Fuqua, Ben C | |
| AGRO | Polodna, Jace A. | M0055975 | UG | SO | M | White or C | Jace12345(| 4.18E+09 | 2.25 | 56 | 64 | Burton, Mi C | |
| AGRO | Robertson, Caleb I. | M0009021 | UG | SR | M | Unknown | Robertson5 | 4.18E+09 | 3.1654 | 133 | 133 | Rimal, Arbi C | |
| AGRO | Stewart, Tyler W. | M0007526 | UG | SR | M | White or C | Stewart678 | 4.17E+09 | 3 | 132 | 135 | Burton, Mi R | |
| AGRO | Turner, Zachary M. | M0010663 | UG | SR | M | Unknown | Turner003(| 4.17E+09 | 3.05 | 100 | 100 | Fuqua, Ben C | |
| AGRO | Warren, Cole W. | M0007273 | UG | JR | M | Unknown | Cole11@M | 4.17E+09 | 3.1688 | 77 | 77 | Fuqua, Ben C | |
| AGRO | Watson, Wyatt P. | M0010081 | UG | SR | M | Unknown | Wyatt24@ | 4.17E+09 | 3 | 110 | 113 | Fuqua, Ben C | |
| AGRO | Wiegert, Whitney R. | M0008102 | UG | JR | F | Unknown | Whitney20 | 4.17E+09 | 3.0133 | 75 | 78 | Fuqua, Ben C | |
| AGRO | Wommack, Matthew C. | M0009954 | UG | JR | M | Unknown | Wommack(| 4.17E+09 | 2.8315 | 89 | 106 | Fuqua, Ben C | |
| AGRO | Woodmansee, Logan D. | M0050351 | UG | FR | M | Unknown | Woodmans | 4.17E+09 | | | | Burton, Mi N | |

C=Continuing Undergraduate
 N=First Time New to College
 R=Readmit Degree Seeking
 T=1st Time Transfer

C=21
 N=2
 R=3
 T=2

FA09 AG ENROLLMENT-ANIMAL SCIENCE

| MAJOR | NAME | STUDENT ID | STU | STUD | GEND | RACE | EMAIL | PHONE | GPA | CREDITS | F | ATTEMPT | ADVISOR | POPL |
|-------|-----------------------|------------|-----|------|------|------------|----------------------|----------|--------|---------|---------|-------------|---------|------|
| ANSC | Adams, Megan L. | M00087406 | UG | JR | F | Unknown | Adams3@M | 6.6E+09 | 2.726 | 70 | 73 | Schmitt, D | C | |
| ANSC | Arnaud, Victor T. | M00080968 | UG | SR | M | Unknown | Arnaud80@ | 4.17E+09 | 3.7128 | 94 | 97 | Elliott, W | A | C |
| ANSC | Bacon, Lauren M. | M00079700 | UG | SR | F | Unknown | Bacon0720 | 5.74E+09 | 3.7265 | 117 | 125 | Webb, Gar | C | |
| ANSC | Bahr, Autumn V. | M00124332 | UG | FR | F | Unknown | Bahr123@I | 4.18E+09 | 2.8571 | 28 | 28 | Schmitt, D | C | |
| ANSC | Baker, Molly | M00316046 | UG | SR | F | Unknown | Pittman89@ | 4.18E+09 | 3.2421 | 95 | 95 | Webb, Gar | T | |
| ANSC | Barbour, Macey A. | M00122352 | UG | SO | F | Unknown | Macey717@ | 6.6E+09 | 2.9714 | 35 | 35 | Schmitt, D | C | |
| ANSC | Barrett, Travis S. | M00646384 | UG | SR | M | White or C | Barrett134 | 4.18E+09 | 3.5522 | 139.049 | 139.049 | Irwin, Lynd | T | |
| ANSC | Betzen, Michael M. | M00073404 | UG | SR | M | Unknown | Betzen322@ | 4.18E+09 | 2.6744 | 125 | 182 | Cheng, Yun | C | |
| ANSC | Boone, Jordan E. | M00084438 | UG | JR | M | Unknown | Jordan839@ | 4.18E+09 | 2.0244 | 79 | 88 | Irwin, Lynd | C | |
| ANSC | Browning, Brittany D. | M00117950 | UG | SO | F | Unknown | Browning0@ | 5.74E+09 | 3.7708 | 48 | 52 | Elliott, W | A | C |
| ANSC | Burk, Heather M. | M01047442 | UG | JR | F | American I | Burk121@I | 9.18E+09 | 2.7667 | 60 | 60 | | T | |
| ANSC | Butler, Jocelyn A. | M00107588 | UG | SR | F | Unknown | Butler5546 | 4.18E+09 | 3.3175 | 126 | 126 | Elliott, W | A | C |
| ANSC | Cameron, Chloe M. | M00121140 | UG | SO | F | White or C | Cameron89@Missouri | | 3.1951 | 41 | 45 | Schmitt, D | C | |
| ANSC | Campbell, JoLynn R. | M00714564 | UG | SO | F | White or C | JoLynn123@ | 5.73E+09 | 3.1277 | 47 | 47 | Walker, Eli | T | |
| ANSC | Carroll, Noelle I. | M00641806 | UG | SR | F | Unknown | Noelle88@ | 8.09E+09 | 3.8958 | 96 | 96 | | T | |
| ANSC | Carter, Derek D. | M00105664 | UG | SR | M | Unknown | Derek151@ | 4.18E+09 | 2.3277 | 119 | 128 | Irwin, Lynd | C | |
| ANSC | Carter-Morris, Amber | M00122132 | UG | SO | F | Unknown | Amber08@ | 5.74E+09 | 2.6129 | 31 | 31 | Schmitt, D | C | |
| ANSC | Cavanagh, Shannon L. | M00076470 | UG | SR | F | Unknown | Shannon80 | 6.36E+09 | 2.5078 | 115 | 154 | Schmitt, D | R | |
| ANSC | Chastain, Justine L. | M00093008 | UG | FR | F | Unknown | Justine2009@Missouri | | 3.0714 | 14 | 14 | Walker, Eli | N | |
| ANSC | Chollet, Lucy C. | M00119792 | UG | SO | F | Unknown | Lucy123@I | 9.14E+09 | 2.25 | 32 | 42 | Walker, Eli | C | |
| ANSC | Clark, Rance T. | M00091318 | UG | FR | M | White or C | Clark1981@ | 4.18E+09 | 2.9524 | 21 | 21 | | R | |
| ANSC | Cooper, Jennifer L. | M00121774 | UG | JR | F | Unknown | Jennifer99@ | 4.17E+09 | 2.4605 | 70 | 89 | Webb, Gar | C | |
| ANSC | Cope, Matthew O. | M00117550 | UG | SR | M | Unknown | Cope10@MissouriStat | | 2.6 | 95 | 101 | Walker, Eli | C | |
| ANSC | Correnti, Laura M. | M00108200 | UG | JR | F | Unknown | Correnti51@ | 5.74E+09 | 3.1549 | 71 | 71 | Schmitt, D | C | |
| ANSC | Courter, Beth A. | M00080390 | UG | SR | F | Unknown | Beth006@I | 6.61E+09 | 3.5192 | 104 | 109 | Schmitt, D | C | |
| ANSC | Craft, Valerie D. | M00115238 | UG | SR | F | Unknown | Valerie624 | 6.61E+09 | 3.1513 | 113 | 133 | Webb, Gar | C | |
| ANSC | Cunningham, Jerrid M. | M00047819 | UG | SO | M | Unknown | Cunningham | 4.17E+09 | 2.2308 | 55 | 57 | Walker, Eli | C | |
| ANSC | Dean, Savannah R. | M00623548 | UG | FR | F | Unknown | Dean17@M | 4.18E+09 | | | | Schmitt, D | N | |
| ANSC | Dohmen, Claire M. | M00123430 | UG | JR | F | White or C | Claire88@I | 4.18E+09 | 4 | 62 | 62 | Webb, Gar | C | |
| ANSC | Dohrman, William T. | M00105182 | UG | SR | M | Unknown | Dohrman0@ | 6.36E+09 | 3.2589 | 112 | 112 | Schmitt, D | C | |
| ANSC | Elgin, Michelle L. | M00120448 | UG | SR | F | Unknown | Michelle13 | 4.18E+09 | 2.6348 | 112 | 126 | Schmitt, D | C | |
| ANSC | Elledge, Kathleen F. | M00716996 | UG | FR | F | White or C | Kathleen1@ | 5.74E+09 | 2 | 27 | 36 | | T | |

| | | | | | | | | | | | | |
|------|-----------------------|-----------|----|----|---|-------------|----------------------|----------|--------|-----|-----|----------------|
| ANSC | Fisher, Katherine M. | M00090884 | UG | SO | F | Unknown | Fisher0189 | 4.18E+09 | 2.1034 | 54 | 67 | Webb, Gar C |
| ANSC | Francis, Julie A. | M00109506 | UG | SR | F | Unknown | Francis927 | 4.18E+09 | 3.049 | 102 | 109 | Schmitt, De C |
| ANSC | Fugitt, Evan L. | M00122988 | UG | SR | M | Unknown | Fugitt123@ | 4.18E+09 | 2.3646 | 93 | 102 | Walker, Eli: C |
| ANSC | Garrett, Kasey A. | M01047422 | UG | JR | M | White or C: | Kasey987@ | 4.06E+09 | 3.0125 | 80 | 80 | T |
| ANSC | Garton, Christopher | M00091666 | UG | SO | M | Unknown | Garton194@ | 4.17E+09 | 1.4902 | 37 | 62 | Schmitt, De C |
| ANSC | Glassman, Ian A. | M00079888 | UG | SR | M | Unknown | Ian323@missouristate | | 2.224 | 112 | 154 | Elliott, W A C |
| ANSC | Grady, Emily M. | M00088596 | UG | JR | F | White or C: | Emily2011@ | 3.14E+09 | 3.7534 | 73 | 78 | Schmitt, De C |
| ANSC | Graves, Ashlie M. | M00123842 | UG | FR | F | Unknown | Ashlie25@ | 8.17E+09 | 1.875 | 24 | 29 | Webb, Gar C |
| ANSC | Gregorie, Beverly | M00004563 | UG | SR | F | White or C: | Gregorie66 | 4.17E+13 | 3.2711 | 166 | 173 | Schmitt, De R |
| ANSC | Hampton, Alex R. | M00077138 | UG | SR | M | Unknown | Alex454@M | 4.17E+09 | 2.5899 | 119 | 183 | Elliott, W A C |
| ANSC | Haney, Jessica L. | M00090846 | UG | SR | F | Unknown | Haney948@ | 5.74E+09 | 2.8598 | 105 | 108 | Schmitt, De C |
| ANSC | Headrick, Justin D. | M00109966 | UG | JR | M | Unknown | Headrick38 | 5.73E+09 | 3.1169 | 77 | 90 | Irwin, Lynd C |
| ANSC | Hedges, Melissa S. | M00335480 | UG | JR | F | White or C: | Hedges11@MissouriSt | | 3.2537 | 68 | 72 | Walker, Eli: T |
| ANSC | High, Carrie A. | M00063764 | UG | SR | F | Unknown | Carriehigh | 4.18E+09 | 2.6875 | 148 | 188 | Elliott, W A C |
| ANSC | Highfill, Brittany A. | M00085622 | UG | SO | F | Unknown | Highfill789 | 4.18E+09 | 2.9535 | 43 | 60 | Schmitt, De C |
| ANSC | Holmes, Rachel K. | M00083226 | UG | JR | F | Unknown | Holmes5@ | 6.37E+09 | 2.4625 | 83 | 99 | Irwin, Lynd C |
| ANSC | Homer, Nicole C. | M00119456 | UG | SR | F | Unknown | Homer777@ | 4.18E+09 | 2.4268 | 95 | 101 | Schmitt, De C |
| ANSC | Hood, Margaret A. | M00088454 | UG | JR | F | White or C: | Margaret2@ | 6.37E+09 | 2.9429 | 70 | 74 | Webb, Gar C |
| ANSC | Hubbell, Audrey N. | M00635698 | UG | FR | F | White or C: | Hubbell91@ | 6.62E+09 | | | | Webb, Gar N |
| ANSC | Istas, Ashley M. | M00570192 | UG | FR | F | White or C: | Istas190@MissouriSta | | 0 | 3 | 3 | Schmitt, De N |
| ANSC | Jennings, Alexis H. | M00532538 | UG | FR | F | White or C: | Jennings28 | 4.17E+09 | | | | Elliott, W A N |
| ANSC | Kautsch, Andrew W. | M00109712 | UG | JR | M | Unknown | Kautsch61@ | 5.74E+09 | 3.9625 | 80 | 80 | Schmitt, De C |
| ANSC | Kempker, Evan D. | M00122240 | UG | JR | M | Unknown | Kempker1@ | 5.73E+09 | 3.746 | 63 | 63 | Walker, Eli: C |
| ANSC | King, Phyllisha R. | M00095538 | UG | SO | F | Unknown | Phyllisha2@ | 4.18E+09 | 3.8537 | 41 | 41 | Schmitt, De C |
| ANSC | Kueser, Abbey L. | M00540046 | UG | FR | F | White or C: | Kueser91@ | 8.17E+09 | | | | Schmitt, De N |
| ANSC | Lacy, Stephanie M. | M00111408 | UG | JR | F | Unknown | Lacy0613@ | 8.17E+09 | 2.9643 | 84 | 93 | Webb, Gar C |
| ANSC | Langston, Daniel L. | M00085012 | UG | SR | M | Unknown | Langston27 | 4.17E+09 | 2.4215 | 124 | 141 | Webb, Gar C |
| ANSC | Lester, Sharon D. | M00061872 | UG | FR | F | White or C: | SharonLest | 4.18E+09 | 0 | 0 | 6 | Robbins, Ly L |
| ANSC | Lindemann, Erica P. | M00041015 | UG | SR | F | Unknown | Lindemann | 4.17E+09 | 3.6863 | 102 | 102 | Walker, Eli: C |
| ANSC | Littleton, Brett E. | M00501834 | UG | FR | F | Unknown | Littleton12 | 6.6E+09 | 2.6667 | 18 | 18 | Webb, Gar N |
| ANSC | Loffler, Laura F. | M00091706 | UG | FR | F | White or C: | Laura009@MissouriSt: | | 3.6429 | 14 | 14 | Glaessgen, N |
| ANSC | Loveland, Alyssa F. | M00082686 | UG | SR | F | Unknown | Loveland41 | 4.17E+09 | 2.9167 | 96 | 96 | Schmitt, De C |
| ANSC | Luers, Kimberly A. | M00086812 | UG | JR | F | Unknown | Kimberly5@ | 4.02E+09 | 2.863 | 73 | 73 | Schmitt, De C |

| | | | | | | | | | | | | |
|------|------------------------|-----------|----|----|---|--|----------|--------|-----|-----|----------------|----------------|
| ANSC | Mathews, Jacqueline m. | M00695924 | UG | FR | F | White or C; Mathews7: | 8.14E+09 | | | | | Walker, Eli: N |
| ANSC | Matthews, Hope L. | M00637866 | UG | FR | F | Black or Afi Leslie537@MissouriState.edu | | | | | | Schmitt, De N |
| ANSC | Mayberry, Diane L. | M00101834 | UG | SR | F | Unknown Diane226@ | 6.36E+09 | 2.3386 | 117 | 270 | Webb, Gar C | |
| ANSC | McCollum, Gabrielle M. | M00580662 | UG | FR | F | White or C; McCollumC | 5.74E+09 | | | | | Schmitt, De N |
| ANSC | McCorkendale, Dave B. | M00092642 | UG | SO | M | Unknown Dave102@ | 4.18E+09 | 2.587 | 46 | 46 | Schmitt, De C | |
| ANSC | Mead, Samyra D. | M00715806 | UG | FR | F | White or C; Samyra999 | 4.17E+09 | | | | | Mathis, S A N |
| ANSC | Minton, Kelsie L. | M00080882 | UG | SR | F | Unknown Kelsie515@ | 8.16E+09 | 3.7193 | 114 | 114 | Elliott, W A C | |
| ANSC | Moore, Levi | M00036069 | UG | SR | M | Unknown Moore90@ | 4.18E+09 | 3.0612 | 98 | 101 | Irwin, Lynd C | |
| ANSC | Murrell, Georgia K. | M00640464 | UG | FR | F | White or C; Georgia098@MissouriState.edu | | | | | | Schmitt, De N |
| ANSC | Orf, Chelsey A. | M00501902 | UG | FR | F | Unknown Orf809@M | 6.37E+09 | 2.6667 | 9 | 9 | Webb, Gar N | |
| ANSC | Payne, Mallory L. | M00649892 | UG | SO | F | White or C; Mallory332 | 8.17E+09 | 2.5143 | 35 | 35 | Schmitt, De T | |
| ANSC | Pendergrass, Emily G. | M00062733 | UG | FR | F | White or C; Pendergrass1015@Mi: | | 0 | 3 | 3 | Elliott, W A N | |
| ANSC | Phillips, Kandi L. | M00010355 | UG | JR | F | Unknown Kandi72@M | 4.18E+09 | 3.0964 | 80 | 83 | C | |
| ANSC | Poulson, Adrienne M. | M00107888 | UG | SR | F | Unknown Adrienne58 | 4.18E+09 | 3.21 | 100 | 112 | Schmitt, De C | |
| ANSC | Ragsdale, Kelsey L. | M00103424 | UG | SR | F | White or C; Kelsey232@ | 4.18E+09 | 3.1037 | 132 | 151 | Webb, Gar C | |
| ANSC | Rankin, Jessica L. | M00082198 | UG | SR | F | Unknown Jessica491@ | 4.18E+09 | 3.7857 | 98 | 98 | Irwin, Lynd C | |
| ANSC | Richner, Kyle D. | M00650876 | UG | FR | M | White or C; Richner161 | 4.17E+09 | | | | | Webb, Gar N |
| ANSC | Robertson, Caleb I. | M00090216 | UG | SR | M | Unknown Robertson: | 4.18E+09 | 3.1654 | 133 | 133 | Rimal, Arbi C | |
| ANSC | Roller, Autumn F. | M00095198 | UG | SR | F | Unknown Roller86@MissouriSta: | | 2.6071 | 112 | 120 | Webb, Gar C | |
| ANSC | Schniedermeier, Ryan | M00107230 | UG | SR | M | Unknown Ryan307@ | 3.14E+09 | 2.3092 | 152 | 173 | Walker, Eli: C | |
| ANSC | Schofield, Bradley J. | M00086570 | UG | SO | M | Unknown Schofield41 | 4.17E+09 | 2.4054 | 37 | 47 | Schmitt, De C | |
| ANSC | Shipps, Cheyenne I. | M00093602 | UG | FR | F | Unknown Cheyenne21@Missour | | 4 | 4 | 4 | Walker, Eli: N | |
| ANSC | Slayton, Brittany E. | M00117956 | UG | SO | F | Unknown Brittany04@ | 5.74E+09 | 3.6735 | 49 | 49 | Elliott, W A C | |
| ANSC | Smith, Kacie E. | M00092920 | UG | FR | F | White or C; Kacie234@ | 4.17E+09 | 3.375 | 24 | 24 | Schmitt, De N | |
| ANSC | Spice, Tiffany L. | M00073524 | UG | JR | F | Unknown Tiffany010: | 4.18E+09 | 3.0676 | 74 | 96 | Elliott, W A C | |
| ANSC | Springston, Jourdon | M00081434 | UG | JR | F | Unknown Jourdon8@ | 4.18E+09 | 2.3721 | 83 | 96 | Walker, Eli: C | |
| ANSC | Swick, Margaret K. | M00108886 | UG | JR | F | Unknown Swick7@M | 5.73E+09 | 3.9091 | 82 | 82 | Schmitt, De C | |
| ANSC | Vest, Jamie L. | M00103480 | UG | SR | F | White or C; Vest323@M | 4.17E+09 | 3.1969 | 124 | 131 | Schmitt, De C | |
| ANSC | Watkins, Melanie D. | M00075936 | UG | SR | F | Unknown Melanie62: | 4.18E+09 | 3.3243 | 185 | 192 | Webb, Gar C | |
| ANSC | Wilkes, Samantha A. | M00083752 | UG | SR | F | Unknown Wilkes212@missourist | | 3.1034 | 116 | 128 | Elliott, W A C | |
| ANSC | Williams, Rajena D. | M00115586 | UG | JR | F | Unknown Williams40 | 4.17E+09 | 2.0658 | 66 | 84 | Schmitt, De C | |
| ANSC | Winborn, Daymon | M00718188 | UG | JR | M | White or C; Daymon43 | 4.05E+09 | 2.9157 | 75 | 86 | T | |
| ANSC | Woode, Rowena A. | M00106194 | UG | JR | F | Unknown Rowena01: | 6.36E+09 | 3.9167 | 72 | 72 | Schmitt, De C | |

ANSC Young, Chrystal R. M00639290 UG FR F White or C: Chrystal17! 5.73E+09

Schmitt, Dε N

C=Continuing Undergraduate
N=First Time New to College
R=Readmit Degree Seeking
T=1st Time Transfer
L=Change from Non to Degree

C=66
N=19
R=3
L=1
T=10

FA09 AG ENROLLMENT-GENERAL EDUCATION

| MAJOR | NAME | STUDENT ID | LEVEL | CLASS | GEN | RACE | EMAIL | PHONE | GPA | CREDIT | ATTEMPT | ADVISOR | POPUL |
|-------|----------------------|------------|-------|-------|-----|--------------------|--------------------------------|----------|--------|--------|---------|----------------|-------|
| AGGE | Allison, Eric M. | M00084920 | UG | JR | M | Unknown | Eric63@mi | 4.15E+09 | 2.9359 | 78 | 81 | Elliott, W A C | |
| AGGE | Bills, Lauren J. | M00112898 | UG | JR | F | Unknown | Bills3735@ | 4.18E+09 | 2.1685 | 81 | 106 | Fuqua, Ben C | |
| AGGE | Cole, Charles A. | M00015140 | UG | FR | M | White or C | Cole142@f | 4.18E+09 | 2.1429 | 28 | 28 | Roling, Mic C | |
| AGGE | Cutler, Joshua L. | M00107090 | UG | SR | M | Unknown | Cutler870@ | 4.17E+09 | 3.6436 | 101 | 101 | Elliott, W A C | |
| AGGE | Dzurick, Jonathan | M00009358 | UG | JR | M | Unknown | Dzurick738 | 5.74E+09 | 2.8242 | 85 | 101 | Fuqua, Ben C | |
| AGGE | Evans, Amanda L. | M00482562 | UG | SO | F | White or C | Evans2007@MissouriS | | 3.0204 | 49 | 49 | Walker, Eli: T | |
| AGGE | Harding, Zachary C. | M00116252 | UG | SR | M | Unknown | Harding11@ | 6.61E+09 | 2.8041 | 98 | 98 | Elliott, W A C | |
| AGGE | Hill, Matt L. | M00686382 | UG | JR | M | Unknown | Matt2007@ | 4.17E+09 | 2.3837 | 79 | 89 | Fuqua, Ben T | |
| AGGE | Hoaglin, Steven P. | M00495170 | UG | FR | M | White or C | Hoaglin523@Missouri! | | 4 | 2 | 2 | Irwin, Lynd N | |
| AGGE | Hunter, Jordan D. | M00125838 | UG | SR | M | Unknown | Jordan152@ | 4.17E+09 | 3.087 | 92 | 95 | Elliott, W A C | |
| AGGE | Jarvis, Devin F. | M00125358 | UG | SR | M | Unknown | Jarvis777@ | 4.17E+09 | 3.1648 | 91 | 93 | Walker, Eli: C | |
| AGGE | Keehner, Tressa D. | M00006448 | UG | SR | F | Unknown | Tressa656@ | 4.17E+09 | 2.4508 | 119 | 146 | Hutter, Jar C | |
| AGGE | Mayfield, Dallas N. | M01042378 | UG | JR | F | More than one race | | 9.19E+09 | 2.4627 | 67 | 67 | Irwin, Lynd T | |
| AGGE | Miller, Wyatt W. | M00089766 | UG | JR | M | Unknown | Wyatt07@ | 5.73E+09 | 3.7326 | 86 | 90 | Fuqua, Ben C | |
| AGGE | Mueller, Krissi E. | M00697106 | UG | JR | F | White or C | Mueller20@ | 4.06E+09 | 3.2836 | 67 | 67 | Irwin, Lynd T | |
| AGGE | Neubert, Rachel L. | M00094436 | UG | FR | F | White or C | Rachel180@ | 5.73E+09 | 4 | 2 | 2 | Irwin, Lynd N | |
| AGGE | Rapp, Christopher C. | M00103498 | UG | SR | M | Unknown | Rapp22@missouristat@ | | 3.5189 | 106 | 106 | Fuqua, Ben C | |
| AGGE | Rapp, Nicholas W. | M00086960 | UG | JR | M | Unknown | Rapp856@ | 4.17E+09 | 2.7826 | 69 | 69 | Fuqua, Ben C | |
| AGGE | Rodabaugh, Caleb B. | M00632368 | UG | FR | M | White or C | Rodabaugh333@Missc | | 4 | 12 | 12 | Fuqua, Ben N | |
| AGGE | Rosenberg, Paige D. | M00520454 | UG | FR | F | White or C | Rosenberg216@MissouriState.edu | | | | | Schmitt, D@ N | |
| AGGE | Sawyer, Kevin W. | M00086270 | UG | SO | M | Unknown | Kevin2008@ | 4.17E+09 | 2.1163 | 35 | 43 | Fuqua, Ben C | |
| AGGE | Sellers, Samantha T. | M00581382 | UG | FR | F | White or C | Samantha0919@Missc | | 3.8 | 15 | 15 | Roling, Mic N | |
| AGGE | Sinning, Amber R. | M00477284 | UG | SR | F | White or C | Sinning498 | 4.18E+09 | 2.6336 | 128 | 137 | Fuqua, Ben R | |
| AGGE | Strauser, Zachary R. | M00519658 | UG | FR | M | White or C | Strauser77 | 6.36E+09 | | | | Fuqua, Ben N | |
| AGGE | Yanko, Cody O. | M00039539 | UG | SR | M | Unknown | Yanko434@ | 4.17E+09 | 2.47 | 100 | 100 | Fuqua, Ben C | |

25

C=14
N=6
R=1
T=4

| MAJOR | NAME | STUDENT ID | STUDI | STUDI | GEN | RACE | EMAIL | PHONE | GPA | CREDIT | CREDITS AT | ADVISOR | STUDE |
|-------|--------------------|------------|-------|-------|-----|---------|------------|----------|--------|--------|------------|----------------|-------|
| COGE | Butler, Jocelyn A. | M00107588 | UG | SR | F | Unknown | Butler5546 | 4.18E+09 | 3.3175 | 126 | 126 | Elliott, W A C | |
| COGE | Hanner, Krystal R. | M00099846 | UG | SR | F | Unknown | Hanner116 | 4.17E+09 | 2.7541 | 124 | 127 | Elliott, W A C | |

| | | | | | | | | | | | | |
|------|----------------------|-----------|----|----|---|------------|-----------------------------|----------|--------|-----|-----|----------------|
| COGE | Harmon, Kaley A. | M00093530 | UG | FR | F | Unknown | Kaley008@ | 4.17E+09 | 2.3043 | 24 | 34 | Hutter, Jan C |
| COGE | Jenkins, Paige J. | M00495894 | UG | FR | F | Unknown | Jenkins567 | 4.17E+09 | 4 | 9 | 9 | Fuqua, Ben N |
| COGE | Morgan, Stephanie L. | M00586900 | UG | FR | F | Unknown | Stephanie2 | 4.18E+09 | 3.5 | 12 | 12 | Elliott, W A N |
| COGE | Morris, Renee N. | M00590450 | UG | FR | F | Unknown | Morris314@MissouriState.edu | | | | | Rimal, Arbi N |
| COGE | Ormiston, Andrew W. | M00072074 | UG | SR | M | Unknown | Andrew99@ | 4.18E+09 | 2.7118 | 155 | 221 | Elliott, W A C |
| COGE | Robertson, Hailey M. | M00086994 | UG | JR | F | Unknown | Hailey789@ | 4.18E+09 | 3.2184 | 87 | 87 | Elliott, W A C |
| COGE | Young, Kelsie E. | M00594154 | UG | FR | F | White or C | Young723@ | 4.17E+09 | 3.6667 | 11 | 11 | Elliott, W A N |

9

C=5
N=4

| MAJOR | NAME | STUDENT ID | STUDI | STUDI | GEN | RACE | EMAIL | PHONE | GPA | CREDIT | CREDITS AT | ADVISOR | STUDE |
|-------|-----------------------|------------|-------|-------|-----|------------|----------------------|----------|--------|--------|------------|----------------|-------|
| GEAG | Arnold, Amy J. | M00005349 | UG | SR | F | Unknown | Amy003@I | 4.17E+09 | 2.2673 | 101 | 116 | Fuqua, Ben R | |
| GEAG | Asbury, Kiersten M. | M00589340 | UG | FR | F | White or C | Kiersten09 | 6.6E+09 | 4 | 15 | 15 | Elliott, W A N | |
| GEAG | Brown, Patricia S. | M00125188 | UG | SR | F | Unknown | Brown969@ | 4.18E+09 | 3.7234 | 94 | 94 | Walker, Eli: C | |
| GEAG | Danahy, Derek E. | M00034348 | UG | SR | M | Unknown | Danahy123 | 4.17E+09 | 3.2778 | 105 | 108 | Webb, Sus: C | |
| GEAG | Dixon, Durrell E. | M00206268 | UG | JR | M | Unknown | Durrell111@ | 5.73E+09 | 2.6706 | 79 | 86 | Elliott, W A C | |
| GEAG | Dowding, Jessica R. | M00404616 | UG | JR | F | Unknown | Dowding88 | 7.85E+09 | 3.6301 | 73 | 73 | Elliott, W A T | |
| GEAG | Farriester, Tara M. | M00094984 | UG | SR | F | Unknown | Tara3034@ | 4.8E+09 | 2.7652 | 125 | 139 | Fent, Roge: R | |
| GEAG | Glover, Earl C. | M00409890 | UG | JR | M | Unknown | Earl123@M | 5.81E+09 | 2.75 | 77 | 83 | Elliott, W A C | |
| GEAG | Greer, Scott L. | M00030426 | UG | JR | M | Unknown | Scott26@MissouriStat | | 3.037 | 78 | 81 | Fuqua, Ben T | |
| GEAG | Groscup, Tiffany I. | M00091628 | UG | SR | F | Unknown | Tiffany618: | 9.19E+09 | 2.649 | 145 | 163 | Fuqua, Ben R | |
| GEAG | Guthery, Christine S. | M00077958 | UG | SR | F | Unknown | Guthery32: | 4.18E+09 | 2.7727 | 107 | 145 | Fuqua, Ben C | |
| GEAG | Guthery, Nicholas L. | M00107010 | UG | SR | M | Unknown | Guthery54: | 4.18E+09 | 2.6018 | 110 | 144 | Elliott, W A C | |
| GEAG | Habluetzel, Adam D. | M00095230 | UG | SR | M | Unknown | Adam255@missourist: | | 2.7534 | 128 | 167 | Fuqua, Ben R | |
| GEAG | Hughes, Tyler L. | M00695710 | UG | JR | M | Unknown | Tyler777@ | 9.18E+09 | 2.95 | 60 | 60 | Fuqua, Ben T | |
| GEAG | Nickels, Cody L. | M00005980 | UG | SR | M | Unknown | Cody323@MissouriSta | | 3.7573 | 103 | 103 | Elliott, W A C | |
| GEAG | Rackley, Bandy J. | M00108542 | UG | SR | F | Unknown | Bandy3007 | 5.81E+09 | 3.311 | 212 | 217 | Fuqua, Ben C | |
| GEAG | Scott, Kim R. | M00650480 | UG | FR | F | Unknown | Kim345@M | 6.21E+09 | 2.1429 | 17 | 21 | Fent, Roge: C | |
| GEAG | Shanks, Roger L. | M00011479 | UG | SR | M | Unknown | Roger123@ | 4.17E+09 | 2.8504 | 127 | 151 | Fuqua, Ben C | |
| GEAG | Squires, Sarah R. | M00034862 | UG | SR | F | White or C | Squires86@ | 8.7E+09 | 3.197 | 126 | 132 | Fuqua, Ben R | |
| GEAG | Woolsey, Katherine A. | M00027131 | UG | SR | F | White or C | Woolsey66 | 4.18E+09 | 3.95 | 120 | 120 | Elliott, W A C | |

20

C=Continuing Undergraduate
N=First Time New to College
R=Readmit Degree Seeking

T=1st Time Transfer

C=11
N=1
R=5
T=3

FA09 AG ENROLLMENT-HORTICULTURE

| MAJOR | NAME | STUDENT ID | LEVEL | CLASS | GENE | RACE | EMAIL | PHONE | GPA | CREDITS | F | ATTEMPT | ADVISOR | POPL |
|-------|--------------------------|------------|-------|-------|------|------------|-------------------------------|----------|--------|---------|-----|------------|-----------|------|
| HORT | Basler, Maria C. | M0071874 | UG | SO | F | Unknown | Maria282@ | 3.15E+09 | 3.4118 | 52 | 52 | Trewatha | T | |
| HORT | Bethel, Jason L. | M0001235 | UG | SO | M | White or C | Jason88@M | 4.17E+09 | 2.2889 | 45 | 45 | Alsup-Egt | T | |
| HORT | Bowden, Victoria R. | M0008779 | UG | SR | F | White or C | Bowden32@ | 4.18E+09 | 3.3298 | 94 | 97 | Trewatha | C | |
| HORT | Brandt, Megan R. | M0011966 | UG | SO | F | Unknown | Megan198@ | 5.74E+09 | 3.6522 | 46 | 46 | Trewatha | C | |
| HORT | Carter, Jason R. | M0008109 | UG | JR | M | Unknown | Jason187@ | 4.18E+09 | 2.5465 | 83 | 106 | Trewatha | C | |
| HORT | Colson, Matthew P. | M0000884 | UG | SR | M | Unknown | Colson78@ | 4.18E+09 | 2.6937 | 102 | 124 | Trewatha | C | |
| HORT | DeLong, Amanda J. | M0012152 | UG | FR | F | Unknown | DeLong23@ | 5.74E+09 | | 2 | 28 | 31 | Trewatha | C |
| HORT | Gamble, Chelsea M. | M0049628 | UG | FR | F | White or C | Chelsea92@ | 4.18E+09 | | 3 | 3 | 3 | Alsup-Egt | N |
| HORT | Grefrath, Phillip J. | M0008077 | UG | SR | M | Unknown | Grefrath57 | 5.74E+09 | 2.8901 | 91 | 94 | Trewatha | C | |
| HORT | Lewis, Rodney A. | M0006981 | UG | JR | M | Unknown | Lewis1976@ | 4.17E+09 | 3.7778 | 81 | 100 | Alsup-Egt | C | |
| HORT | Marlin, Wenonah M. | M0008144 | UG | SR | F | Unknown | Wenonah0 | 4.18E+09 | 3.75 | 100 | 100 | Elliott, W | C | |
| HORT | McEachin, Jackie A. | M0064587 | UG | SR | F | Unknown | Jackie143@ | 4.18E+09 | 3.1008 | 109 | 119 | Trewatha | T | |
| HORT | Moore, Megan J. | M0104353 | UG | FR | F | White or C | Megan15@ | 6.61E+09 | | 2 | 13 | 20 | Alsup-Egt | T |
| HORT | Peterson, Cynthia R. | M0011512 | UG | SR | F | Unknown | Cynthia71@ | 4.18E+09 | 3.7333 | 105 | 108 | Trewatha | C | |
| HORT | Ruesch, Adam C. | M0009242 | UG | JR | M | Unknown | Adam10@i | 6.36E+09 | 2.6719 | 61 | 73 | Trewatha | C | |
| HORT | Schreiner, Kathleen | M0011125 | UG | SR | F | White or C | Kathleen52 | 4.18E+09 | 3.5865 | 104 | 111 | Trewatha | C | |
| HORT | Seidt, Bradford J. | M0008375 | UG | SR | M | Unknown | Seidt218@ | 6.6E+09 | 2.3853 | 109 | 120 | Trewatha | C | |
| HORT | Smith, Jennifer R. | M0011551 | UG | SR | F | White or C | Jennifer42@ | 4.18E+09 | 3.8966 | 116 | 119 | Trewatha | C | |
| HORT | Snedden, Ricky A. | M0012242 | UG | FR | M | White or C | Ricky5676@ | 8.17E+09 | 1.7895 | 16 | 26 | Trewatha | C | |
| HORT | Thompson, Tyler L. | M0055089 | UG | FR | M | White or C | Thompson666@MissouriState.edu | | | | | | Trewatha | N |
| HORT | Waldbuesser, Caroline E. | M0061600 | UG | FR | F | White or C | Caroline74 | 4.17E+09 | 3.1818 | 11 | 11 | Elliott, W | N | |
| HORT | White, Jessica R. | M0008789 | UG | SO | F | Unknown | Jessica621@ | 4.17E+09 | 2.7273 | 39 | 56 | Trewatha | C | |
| HORT | Williams, Zachary L. | M0069054 | UG | FR | M | White or C | Zachary001 | 4.17E+09 | | | | | Trewatha | N |

23

C=15

N=4

T=4

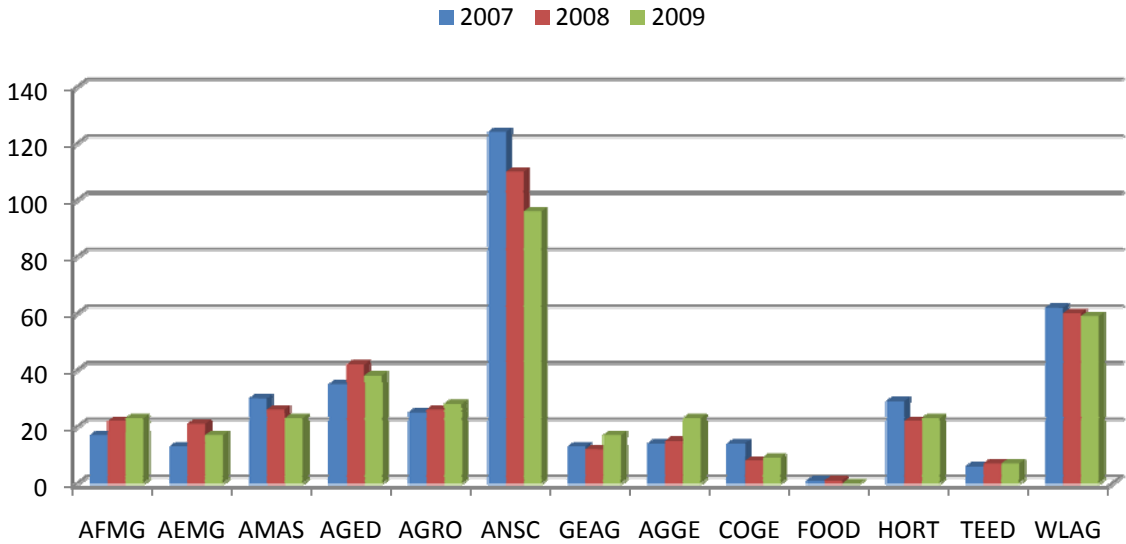
C=Continuing Undergraduate

N=First Time New to College

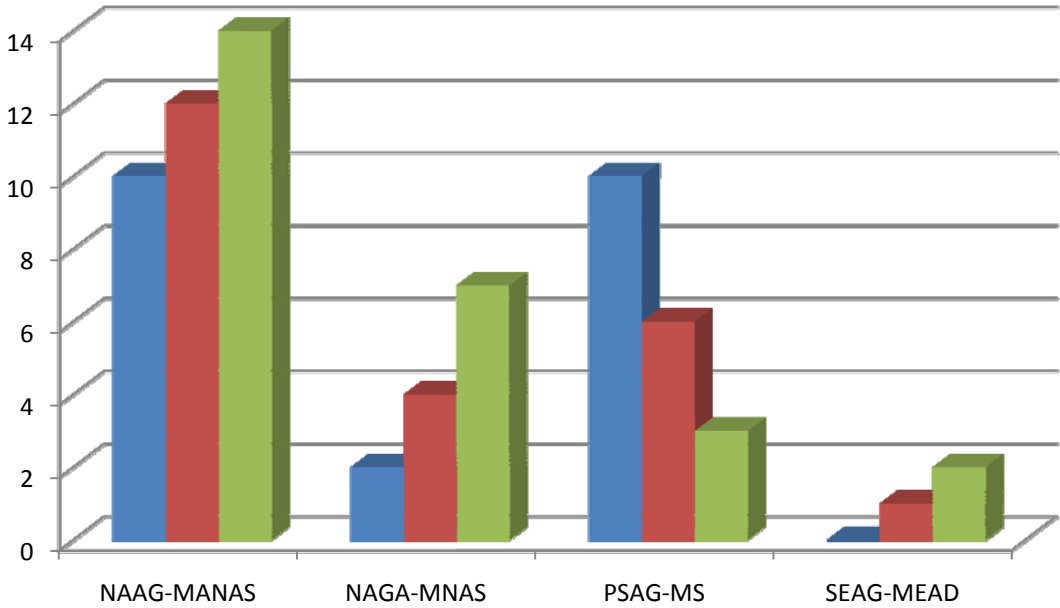
R=Readmit Degree Seeking

T=1st Time Transfer

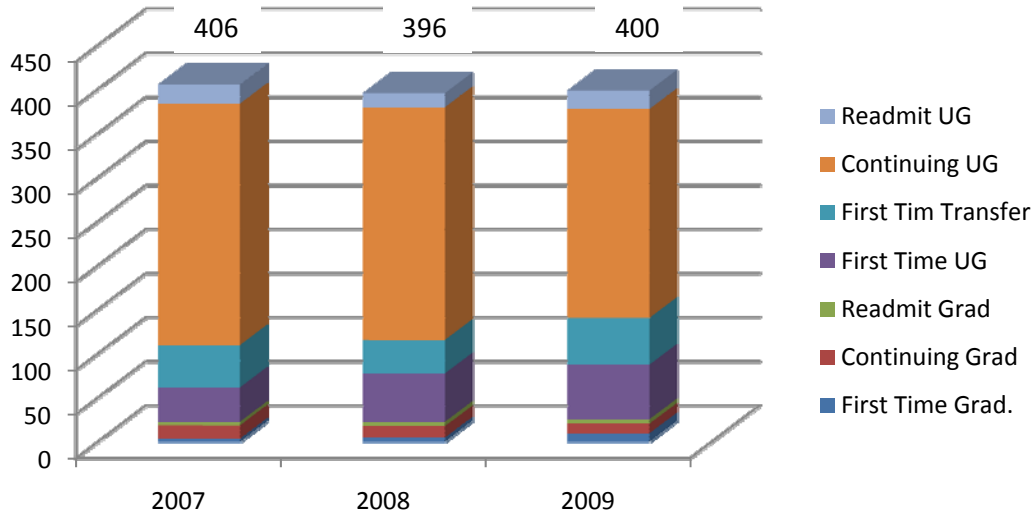
Undergraduate Fall Enrollment 2007-2009



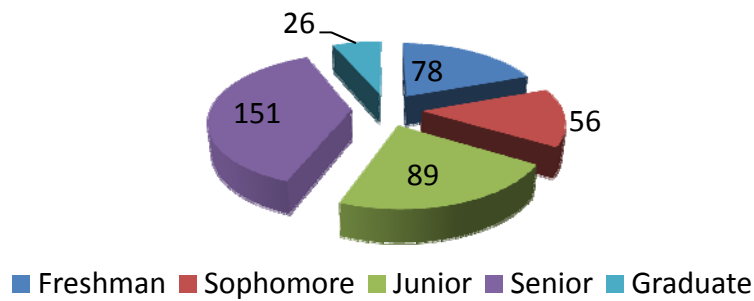
Graduate Fall Enrollment 2007-2009



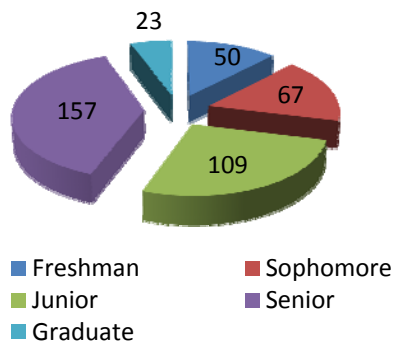
Fall Enrollment by Type of Student 2007-2009



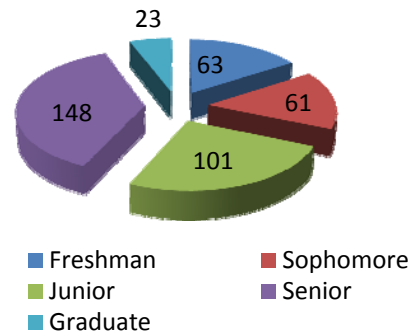
Fall 2009 Enrollment by Class



Fall 2007 Enrollment by Class



Fall 2008 Enrollment by Class



RETENTION AGAC2-COGE

| | | | | | | |
|-------|-----------|--------------------|---|---------|----------------------|-----------|
| AGAC2 | 490021926 | GLASS LYNZEE C | G | | | |
| AGAC2 | 479171380 | GONDER CHRISTINE E | G | | | |
| AGAC2 | 491967895 | ORMISTON ANDREW W | | COGE-BS | Ormiston, Andrew W. | M00072074 |
| AGAC2 | 489029783 | ROBERTSON HAILEY M | | COGE-BS | Robertson, Hailey M. | M00086994 |
| AGAC2 | 493022834 | WILSON CHASE A | | | | |

Left before FA 09

| | | | | | | |
|-------|-----------|--------------------|--|--|--|--|
| AGAC2 | 493026042 | ANDERSON BARBARA J | | | | |
| AGAC2 | 488027426 | HARMON KALEY A | | | | |
| AGAC2 | 499889225 | ROBERTS KELLY E | | | | |

New Major FA 09

| | | | | | | |
|--|--|--|---------|---------|--------------------|-----------|
| | | | | COGE-BS | Butler, Jocelyn A. | M00107588 |
| | | | COGE-BS | COGE-BS | Hanner, Krystal R. | M00099846 |
| | | | | COGE-BS | Morris, Renee N. | M00590450 |
| | | | | COGE-BS | Young, Kelsie E. | M00594154 |

8-2=6

6/8*100=75% Retention

RETENTION AGAG2-AGGE

| | | | | | | |
|-------|-----------|---------------------|------|---------|----------------------|-----------|
| AGAG2 | 488982355 | ALLISON ERIC M | | AGGE-BS | Allison, Eric M. | M00084920 |
| AGAG2 | 500963735 | BILLS LAUREN J | | AGGE-BS | Bills, Lauren J. | M00112898 |
| AGAG2 | 494848500 | BROWN PATRICIA S | GEAG | | | |
| AGAG2 | 489048322 | COLE CHARLES A | | AGGE-BS | Cole, Charles A. | M00015140 |
| AGAG2 | 378060635 | CUTLER JOSHUA L | | AGGE-BS | Cutler, Joshua L. | M00107090 |
| AGAG2 | 499947382 | DZURICK JONATHAN C | | AGGE-BS | Dzurick, Jonathan | M00009358 |
| AGAG2 | 494027573 | ESTES KURTIS W | G | | | |
| AGAG2 | 514985108 | METZGER CHRISTOPHER | G | | | |
| AGAG2 | 498986127 | RAPP CHRISTOPHER C | | AGGE-BS | Rapp, Christopher C. | M00103498 |
| AGAG2 | 498984267 | RAPP NICHOLAS W | | AGGE-BS | Rapp, Nicholas W. | M00086960 |
| AGAG2 | 488922113 | ROSS SARAH S | G | | | |
| AGAG2 | 495029379 | SAWYER KEVIN W | | AGGE-BS | Sawyer, Kevin W. | M00086270 |
| AGAG2 | 471111671 | VOUGHT CATHLEEN E | G | | | |
| AGAG2 | 487921052 | WHORTON CODY L | G | | | |

Left before FA 09

| | | |
|-------|-----------|------------------|
| AGAG2 | 487909943 | EARLS BRANDY M |
| AGAG2 | 489028469 | SNODGRASS RYAN M |

New Major FA 09

| | | |
|---------|----------------------|-----------|
| AGGE-BS | Evans, Amanda L. | M00482562 |
| AGGE-BS | Harding, Zachary C. | M00116252 |
| AGGE-BS | Hill, Matt L. | M00686382 |
| AGGE-BS | Hoaglin, Steven P. | M00495170 |
| AGGE-BS | Hunter, Jordan D. | M00125838 |
| AGGE-BS | Jarvis, Devin F. | M00125358 |
| AGGE-BS | Keehner, Tressa D. | M00006448 |
| AGGE-BS | Mayfield, Dallas N. | M01042378 |
| AGGE-BS | Miller, Wyatt W. | M00089766 |
| AGGE-BS | Mueller, Krissi E. | M00697106 |
| AGGE-BS | Neubert, Rachel L. | M00094436 |
| AGGE-BS | Rodabaugh, Caleb B. | M00632368 |
| AGGE-BS | Rosenberg, Paige D. | M00520454 |
| AGGE-BS | Sellers, Samantha T. | M00581382 |
| AGGE-BS | Sinning, Amber R. | M00477284 |
| AGGE-BS | Strauser, Zachary R. | M00519658 |
| AGGE-BS | Yanko, Cody O. | M00039539 |

16-2=14

14/16*100=87.5%

RETENTION AGAR2-AGRO

| | | | | | | |
|-------|-----------|---------------------|---|---------|----------------------|-----------|
| AGAR2 | 490271338 | ABABIO EUGENE ASARE | | AGRO-BS | Ababio, Eugene A. | M00385876 |
| AGAR2 | 500920787 | BRANDT CHRISTOPHER | G | | | |
| AGAR2 | 494021184 | BUNTON SARAH A | G | | | |
| AGAR2 | 511983214 | DETAR BEN D | | AGRO-BS | Detar, Ben D. | M00105014 |
| AGAR2 | 498025180 | EGGERMAN LANDON L | | AGRO-BS | Eggerman, Landon L. | M00093176 |
| AGAR2 | 496043796 | ELMORE CLINTON J | | AGRO-BS | Elmore, Clinton J. | M00122102 |
| AGAR2 | 497904599 | FERRELL BRANDON M | | AGRO-BS | Ferrell, Brandon M. | M00088796 |
| AGAR2 | 396745522 | FRITSCHKE DAVID S | | AGRO-BS | Fritsche, David S. | M00113140 |
| AGAR2 | 487022784 | HANKINS JILL K | | AGRO-BS | Hankins, Jill K. | M00114534 |
| AGAR2 | 495024110 | KNUTTER LUCAS K | G | | | |
| AGAR2 | 486080629 | LANZ CHRISTOPHER A | | AGRO-BS | Lanz, Christopher A. | M00083216 |
| AGAR2 | 497980431 | LEE KEVIN D | | AGRO-BS | Lee, Kevin D. | M00081324 |
| AGAR2 | 489964392 | LONGO DOMINIC J | | AGRO-BS | Longo, Dominic J. | M00070902 |
| AGAR2 | 486942744 | MCCANN DUSTIN L | | AGRO-BS | McCann, Dustin L. | M00091762 |
| AGAR2 | 496920793 | RICHNER JORDAN M | G | | | |
| AGAR2 | 491130599 | SNODGRASS LUCAS D | G | | | |
| AGAR2 | 493021744 | TURNER ZACHARY M | | AGRO-BS | Turner, Zachary M. | M00106638 |
| AGAR2 | 493022704 | WARREN COLE W | | AGRO-BS | Warren, Cole W. | M00072738 |
| AGAR2 | 498921301 | WATSON WYATT P | | AGRO-BS | Watson, Wyatt P. | M00100812 |
| AGAR2 | 497981205 | WIEGERT WHITNEY R | | AGRO-BS | Wiegert, Whitney R. | M00081022 |
| AGAR2 | 497046462 | WOMMACK MATTHEW C | | AGRO-BS | Wommack, Matthew C. | M00099548 |

Left before FA 09

| | | | |
|-------|-----------|------------------|--|
| AGAR2 | 487040897 | CLEMENTS CALEB J | |
| AGAR2 | 487047829 | GRAVES ASHLIE M | |
| AGAR2 | 523572298 | PRIEST SEAN M | |
| AGAR2 | 496023553 | SEIDT BRADFORD J | |
| AGAR2 | 496888426 | THOMPSON MARY C | |

26-3=23

23/26*100=88% Retention

New Major FA 09

| | | | | | | |
|--|--|--|---------|---------|------------------------|-----------|
| | | | | AGRO-BS | Albright, Kent A. | M00070904 |
| | | | ANSC-BS | AGRO-BS | Bass, Staci N. | M00108036 |
| | | | | AGRO-BS | Clark, Kerre N. | M00045239 |
| | | | HORT-BS | AGRO-BS | Grass, Brandon L. | M00023082 |
| | | | | AGRO-BS | Henderson, Nicholas L. | M00092722 |
| | | | | AGRO-BS | Kenney, James T. | M00125270 |
| | | | | AGRO-BS | Lysinger, Geoffrey L. | M00501176 |
| | | | | AGRO-BS | Martin, Joseph L. | M00112200 |
| | | | | AGRO-BS | Polodna, Jace A. | M00559758 |
| | | | | AGRO-BS | Robertson, Caleb I. | M00090216 |
| | | | | AGRO-BS | Stewart, Tyler W. | M00075268 |

RETENTION AGAS2-ANSC

| | | | | | | |
|-------|-----------|---------------------|---|---------|-----------------------|-----------|
| AGAS2 | 594020165 | ADAMS MEGAN L | | ANSC-BS | Adams, Megan L. | M00087406 |
| AGAS2 | 445884413 | ALLYN LAURA A | G | | | |
| AGAS2 | 494985165 | ARNAUD VICTOR T | | ANSC-BS | Arnaud, Victor T. | M00080968 |
| AGAS2 | 261532079 | ASHLEY CATHERINE G | G | | | |
| AGAS2 | 493020091 | BACON LAUREN M | | ANSC-BS | Bacon, Lauren M. | M00079700 |
| AGAS2 | 395042407 | BAHR AUTUMN V | | ANSC-BS | Bahr, Autumn V. | M00124332 |
| AGAS2 | 490045195 | BARBOUR MACEY A | | ANSC-BS | Barbour, Macey A. | M00122352 |
| AGAS2 | 445924823 | BATTSON JEDADIAH J | G | | | |
| AGAS2 | 494029130 | BETZEN MICHAEL M | | ANSC-BS | Betzen, Michael M. | M00073404 |
| AGAS2 | 497940805 | BOONE JORDAN E | | ANSC-BS | Boone, Jordan E. | M00084438 |
| AGAS2 | 492043236 | BOVA TOREE L | G | | | |
| AGAS2 | 490026349 | BOYER ANGELA R | G | | | |
| AGAS2 | 498027220 | BROWNING BRITTANY D | | ANSC-BS | Browning, Brittany D. | M00117950 |
| AGAS2 | 498020611 | BUTLER JOCELYN A | | ANSC-BS | Butler, Jocelyn A. | M00107588 |
| AGAS2 | 488028197 | CAMERON CHLOE M | | ANSC-BS | Cameron, Chloe M. | M00121140 |
| AGAS2 | 493043211 | CAMPBELL LAURA A | G | | | |
| AGAS2 | 498967673 | CAPKOVIC AMANDA M | G | | | |
| AGAS2 | 493024609 | CARMAN DEANNA R | G | | | |
| AGAS2 | 487021069 | CARTER DEREK D | | ANSC-BS | Carter, Derek D. | M00105664 |
| AGAS2 | 500022578 | CARTER-MORRIS AMBER | | ANSC-BS | Carter-Morris, Amber | M00122132 |
| AGAS2 | 489042687 | CHOLLET LUCY C | | ANSC-BS | Chollet, Lucy C. | M00119792 |
| AGAS2 | 490965046 | COOPER JENNIFER L | | ANSC-BS | Cooper, Jennifer L. | M00121774 |
| AGAS2 | 489980410 | COPE MATTHEW O | | ANSC-BS | Cope, Matthew O. | M00117550 |
| AGAS2 | 486028693 | CORRENTI LAURA M | | ANSC-BS | Correnti, Laura M. | M00108200 |
| AGAS2 | 495042782 | COURTER BETH A | | ANSC-BS | Courter, Beth A. | M00080390 |
| AGAS2 | 492961444 | CRAFT VALERIE D | | ANSC-BS | Craft, Valerie D. | M00115238 |
| AGAS2 | 497906708 | DEAN ELIZABETH R | G | | | |
| AGAS2 | 498962748 | DEMSTER SUSAN R | G | | | |
| AGAS2 | 489966794 | DOHRMAN WILLIAM T | | ANSC-BS | Dohrman, William T. | M00105182 |
| AGAS2 | 494983112 | DRAFFEN RYAN A | G | | | |
| AGAS2 | 495025394 | ELGIN MICHELLE L | | ANSC-BS | Elgin, Michelle L. | M00120448 |
| AGAS2 | 499040524 | FISHER KATHERINE M | | ANSC-BS | Fisher, Katherine M. | M00090884 |
| AGAS2 | 493980011 | FORGEY REBECCA J | G | | | |
| AGAS2 | 493025114 | FRANCIS JULIE A | | ANSC-BS | Francis, Julie A. | M00109506 |
| AGAS2 | 487044845 | FREERKING RYAN T | G | | | |
| AGAS2 | 496022889 | FUGITT EVAN L | | ANSC-BS | Fugitt, Evan L. | M00122988 |
| AGAS2 | 497981316 | GARTON CHRISTOPHER | | ANSC-BS | Garton, Christopher | M00091666 |
| AGAS2 | 489021218 | GRADY EMILY M | | ANSC-BS | Grady, Emily M. | M00088596 |
| AGAS2 | 499984911 | HAMPTON ALEX R | | ANSC-BS | Hampton, Alex R. | M00077138 |
| AGAS2 | 494021542 | HANEY JESSICA L | | ANSC-BS | Haney, Jessica L. | M00090846 |
| AGAS2 | 491982184 | HEADRICK JUSTIN D | | ANSC-BS | Headrick, Justin D. | M00109966 |
| AGAS2 | 491725514 | HIGH CARRIE A | | ANSC-BS | High, Carrie A. | M00063764 |
| AGAS2 | 488026722 | HIGHFILL BRITTANY A | | ANSC-BS | Highfill, Brittany A. | M00085622 |
| AGAS2 | 494964769 | HOLLIDAY WHITNEY A | G | | | |
| AGAS2 | 500029269 | HOLMES RACHEL K | | ANSC-BS | Holmes, Rachel K. | M00083226 |
| AGAS2 | 438576628 | HOMER NICOLE C | | ANSC-BS | Homer, Nicole C. | M00119456 |
| AGAS2 | 487023389 | KAUTSCH ANDREW W | | ANSC-BS | Kautsch, Andrew W. | M00109712 |
| AGAS2 | 488026422 | KEMPKER EVAN D | | ANSC-BS | Kempker, Evan D. | M00122240 |

| | | | | | |
|-------|-------------------------------|---|---------|-----------------------|-----------|
| AGAS2 | 498027060 KING PHYLLISHA R | | ANSC-BS | King, Phyllisha R. | M00095538 |
| AGAS2 | 489866384 KOHLER JILLIAN D | G | | | |
| AGAS2 | 496948892 LANGSTON DANIEL L | | ANSC-BS | Langston, Daniel L. | M00085012 |
| AGAS2 | 514041838 LINDEMANN ERICA P | | ANSC-BS | Lindemann, Erica P. | M00041015 |
| AGAS2 | 493987050 LOVELAND ALYSSA F | | ANSC-BS | Loveland, Alyssa F. | M00082686 |
| AGAS2 | 507232586 LUERS KIMBERLY A | | ANSC-BS | Luers, Kimberly A. | M00086812 |
| AGAS2 | 287827883 MANN REXX A | G | | | |
| AGAS2 | 489025250 MAYBERRY DIANE L | | ANSC-BS | Mayberry, Diane L. | M00101834 |
| AGAS2 | 346788871 MILES RACHAEL E | G | | | |
| AGAS2 | 493966029 MINTON KELSIE L | | ANSC-BS | Minton, Kelsie L. | M00080882 |
| AGAS2 | 260653751 MOORE LEVI | | ANSC-BS | Moore, Levi | M00036069 |
| AGAS2 | 500921828 NORTH CORY R | G | | | |
| AGAS2 | 497020176 RAGSDALE KELSEY L | | ANSC-BS | Ragsdale, Kelsey L. | M00103424 |
| AGAS2 | 491984729 RANKIN JESSICA L | | ANSC-BS | Rankin, Jessica L. | M00082198 |
| AGAS2 | 499022442 ROBERTSON CALEB I | | ANSC-BS | Robertson, Caleb I. | M00090216 |
| AGAS2 | 496969455 ROLLER AUTUMN F | | ANSC-BS | Roller, Autumn F. | M00095198 |
| AGAS2 | 500904443 SCHNIEDERMEYER RYAN | | ANSC-BS | Schniedermeier, Ryan | M00107230 |
| AGAS2 | 493026305 SCHOFIELD BRADLEY J | | ANSC-BS | Schofield, Bradley J. | M00086570 |
| AGAS2 | 494920627 SHELBY AUSTIN W | G | | | |
| AGAS2 | 488044878 SLAYTON BRITTANY E | | ANSC-BS | Slayton, Brittany E. | M00117956 |
| AGAS2 | 494845858 SPICE TIFFANY L | | ANSC-BS | Spice, Tiffany L. | M00073524 |
| AGAS2 | 487061274 SPRINGSTON JOURDON | | ANSC-BS | Springston, Jourdon | M00081434 |
| AGAS2 | 492042061 SWICK MARGARET K | | ANSC-BS | Swick, Margaret K. | M00108886 |
| AGAS2 | 497026070 VEST JAMIE L | | ANSC-BS | Vest, Jamie L. | M00103480 |
| AGAS2 | 497989230 WATKINS MELANIE D | | ANSC-BS | Watkins, Melanie D. | M00075936 |
| AGAS2 | 494022107 WHEELER CALLIE J | G | | | |
| AGAS2 | 522750461 WILHOIT JACOB J | G | | | |
| AGAS2 | 633167557 WILKES SAMANTHA A | | ANSC-BS | Wilkes, Samantha A. | M00083752 |
| AGAS2 | 486909725 WILLIAMS JANET D | G | | | |
| AGAS2 | 487020744 WOODE ROWENA A | | ANSC-BS | Woode, Rowena A. | M00106194 |

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|-------|-----------------------------|
| AGAS2 | 498983307 CARLILE SYDNEY E |
| AGAS2 | 494049477 COLLINS WADE T |
| AGAS2 | 637225516 CORY SAVANNAH R |
| AGAS2 | 500986981 COX MATTHEW T |
| AGAS2 | 144825711 CRAMER RACHAEL E |
| AGAS2 | 392045827 DEVAULT KRISTI L |
| AGAS2 | 493986415 DIEFENBACH RYAN M |
| AGAS2 | 490045339 DIERMANN HANNAH J |
| AGAS2 | 492961992 FOWLER JERI L |
| AGAS2 | 495782638 FRYMAN SARA R |
| AGAS2 | 440987516 GLOVER EARL C |
| AGAS2 | 507279911 HENRY CATHERINE B |
| AGAS2 | 499986008 HOOTEN ALYSSA N |
| AGAS2 | 500966779 JARVIS DEVIN F |
| AGAS2 | 487986198 JONES BRENDEN D |

New Major FA 09

| | | | |
|-----|---------|-----------------------|-----------|
| | ANSC-BS | Baker, Molly | M00316046 |
| | ANSC-BS | Barrett, Travis S. | M00646384 |
| | ANSC-BS | Burk, Heather M. | M01047442 |
| | ANSC-BS | Campbell, JoLynn R. | M00714564 |
| | ANSC-BS | Carroll, Noelle I. | M00641806 |
| | ANSC-BS | Cavanagh, Shannon L. | M00076470 |
| | ANSC-BS | Chastain, Justine L. | M00093008 |
| | ANSC-BS | Clark, Rance T. | M00091318 |
| | ANSC-BS | Cunningham, Jerrid M. | M00047819 |
| | ANSC-BS | Dean, Savannah R. | M00623548 |
| GEA | ANSC-BS | Dohmen, Claire M. | M00123430 |
| | ANSC-BS | Elledge, Kathleen F. | M00716996 |
| | ANSC-BS | Garrett, Kasey A. | M01047422 |
| AGG | ANSC-BS | Glassman, Ian A. | M00079888 |
| AMA | ANSC-BS | Graves, Ashlie M. | M00123842 |

AGAS2 497027048 KING NATHAN B
 AGAS2 497923011 KNEIP LAUREN A
 AGAS2 495982855 LEE LACEY B
 AGAS2 356849237 MAXFIELD ANDY K
 AGAS2 497049161 MCGINNIS RYAN S
 AGAS2 492900882 MENDENHALL CARY D
 AGAS2 491061965 MILLER ETHAN J
 AGAS2 499943515 MOULIN TIMOTHY D
 AGAS2 512985084 ODELL KELLY L
 AGAS2 489042296 PAULIK WESTON M
 AGAS2 506273582 ROGERS NICHOLAS A
 AGAS2 354803689 SASSER CHELSEA L
 AGAS2 609526490 SHEPPARD REBECCA L
 AGAS2 497964012 TAYLOR LACY M
 AGAS2 500944990 THOMAS GARY M
 AGAS2 498046850 THOMPSON BONNY A
 AGAS2 363821129 WYATT LINDA S

110-28=82
 82/110*100=75% Retention

ANSC-BS Gregorie, Beverly M00004563
 ANSC-BS Hedges, Melissa S. M00335480
 ANSC-BS Hood, Margaret A. M00088454
 ANSC-BS Hubbell, Audrey N. M00635698
 ANSC-BS Istas, Ashley M. M00570192
 ANSC-BS Jennings, Alexis H. M00532538
 ANSC-BS Kueser, Abbey L. M00540046
 ANSC-BS Lacy, Stephanie M. M00111408
 ANSC-BS Lester, Sharon D. M00061872
 ANSC-BS Littleton, Brett E. M00501834
 ANSC-BS Loffler, Laura F. M00091706
 ANSC-BS Mathews, Jacqueline m. M00695924
 ANSC-BS Matthews, Hope L. M00637866
 AGEI ANSC-BS McCollum, Gabrielle M. M00580662
 ANSC-BS McCorkendale, Dave B. M00092642
 ANSC-BS Mead, Samyra D. M00715806
 ANSC-BS Murrell, Georgia K. M00640464
 ANSC-BS Orf, Chelsey A. M00501902
 ANSC-BS Payne, Mallory L. M00649892
 ANSC-BS Pendergrass, Emily G. M00062733
 ANSC-BS Phillips, Kandi L. M00010355
 ANSC-BS Poulson, Adrienne M. M00107888
 ANSC-BS Richner, Kyle D. M00650876
 ANSC-BS Shipps, Cheyenne I. M00093602
 ANSC-BS Smith, Kacie E. M00092920
 ANSC-BS Williams, Rajena D. M00115586
 ANSC-BS Winborn, Daymon M00718188
 ANSC-BS Young, Chrystal R. M00639290

RETENTION AGGAT-GEAG

| | | | | | | |
|-------|-----------|---------------------|---|----------|-----------------------|-----------|
| AGGAT | 491063891 | DANAHY DEREK E | | GEAG-BAS | Danahy, Derek E. | M00034348 |
| AGGAT | 444944522 | GUNTER JORDAN M | G | | | |
| AGGAT | 512841042 | GUTHERY CHRISTINE S | | GEAG-BAS | Guthery, Christine S. | M00077958 |
| AGGAT | 500868652 | GUTHERY NICHOLAS L | | GEAG-BAS | Guthery, Nicholas L. | M00107010 |
| AGGAT | 491927332 | LOMBARD STUART W | G | | | |
| AGGAT | 431716224 | MCMULLEN DANIEL G | G | | | |
| AGGAT | 488024837 | PREWITT ASHLEY M | G | | | |
| AGGAT | 447942943 | RACKLEY BANDY J | | GEAG-BAS | Rackley, Bandy J. | M00108542 |
| AGGAT | 488842207 | SHANKS ROGER L | | GEAG-BAS | Shanks, Roger L. | M00011479 |
| AGGAT | 500966702 | WOOLSEY KATHERINE A | | GEAG-BAS | Woolsey, Katherine A. | M00027131 |

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| | | |
|-------|-----------|-------------------|
| AGGAT | 445769435 | MCNEIL JAMES N |
| AGGAT | 341603765 | SPRACKLEN DIANA L |

12-2=10

10/12*100=83% Retention

New Major FA 09

| | | |
|----------|---------------------|-----------|
| GEAG-BAS | Arnold, Amy J. | M00005349 |
| GEAG-BAS | Asbury, Kiersten M. | M00589340 |
| GEAG-BAS | Brown, Patricia S. | M00125188 |
| GEAG-BAS | Dixon, Durrell E. | M00206268 |
| GEAG-BAS | Dowding, Jessica R. | M00404616 |
| GEAG-BAS | Farriester, Tara M. | M00094984 |
| GEAG-BAS | Glover, Earl C. | M00409890 |
| GEAG-BAS | Greer, Scott L. | M00030426 |
| GEAG-BAS | Groscup, Tiffany I. | M00091628 |
| GEAG-BAS | Habluetzel, Adam D. | M00095230 |
| GEAG-BAS | Hughes, Tyler L. | M00695710 |
| GEAG-BAS | Nickels, Cody L. | M00005980 |
| GEAG-BAS | Scott, Kim R. | M00650480 |
| GEAG-BAS | Squires, Sarah R. | M00034862 |

Dept of Agriculture SWOT Analysis

AGRIBUSINESS

Strengths

- **Number of years in existence.** Agribusiness program in the department has been in existence for over 50 years. Missouri State University (MSU) which was previously called Southwest Missouri State University (SMSU) was the first university in the state of Missouri to offer a major in agribusiness.
- **Robust and Relevant Curriculum.** Since its inception in 1959 many changes have been introduced to make the program robust and relevant. For example, since 2007 the program added an additional area of specialization called Agricultural Enterprise Management in order to cater to those students whose goals are to start their own business in agricultural industry after graduation. With the third major, the program offers specialization in three areas: Marketing and Sales, Agricultural Finance and Agricultural Enterprise Management.
- **Student Placement.** The program has successfully placed many graduates in starting management positions in large agribusiness companies including John Deere, Farm Credit Services, Cargill, Commerce Bank, DeLaval.
- **Location.** While Southwest Missouri itself has a significant number of agricultural related industries, the proximity to the two regional agribusiness and financial hubs, Kansas City and St. Louis, is a unique strength to the program. The program has been drawing on this resource many different ways including internship opportunities to the students, guest lectures, classroom visits, and job opportunities.
- **Agribusiness Study.** The program offers a very successful nationally recognized one week course called Agricultural Industry Study (AIS). This course was offered for the first time in 1961 and is being offered every year since. Under the course students with agriculture major (mostly agribusiness major) visit 12 to 13 large agribusiness companies in Kansas City or St. Louis alternatively. Some of these companies are John Deere, Monsanto, Farm Credit Services and Dairy Farmers of America. Company personnel at the higher echelon including vice presidents and presidents address the students in a conference type of session. Topics range from financial, operation and marketing aspects of the company.
- **Use of Technology.** The program uses advanced communication technology to deliver classroom material including on-line classes and ITV. Content Management Programs such as Blackboard are used in nearly all of the agribusiness courses.
- **Diverse Faculty.** There are two tenured or tenure track faculties, one emeritus faculty and several per course instructors under the program. Tenured, tenurable and emeritus faculties have terminal degrees (Ph.D) from nationally recognized universities such as University of Florida, University of Connecticut and University of Missouri. They have research experience as post-doc or research associate from leading Universities like University of Georgia and Rutgers University. They have national and international experience in research, teaching, outreach and private sector.
- **Research and Publications.** We are extensively engaged in research on various agricultural issues for example; Farmers markets; Investment analyses (wine industry); risk management, food defense (safety and security), economic impact studies, among others. Over the last 10 years Agribusiness faculties have produced more than 30 refereed articles in national and

international journals, have made more than 50 presentations at regional and national meetings, and completed several research report of local importance including economic impact studies and risk analysis. Faculties have acquired several research grants to conduct research in areas such as farmers markets and value added products.

Weaknesses

- **Number of Faculty.** The present number of full-time faculty is not nearly enough to justify the scope and depth of the courses and the areas of specialization offered in the program. Without additional teaching help, current fulltime faculties will not be able to spend adequate time on research efforts.
- **Lack of Diversity in the Students.** Traditionally MSU agriculture program has been attracting students from southwest region of the state. This trend has continued despite the statewide mandate of the University with the name change. Students in the program are largely from the similar regional, economic, and demographic background. The homogeneity of our students does not allow for sharing of diverse experiences. Consequently it becomes a limitation once the students graduate and go out to the real world.
- **Agribusiness Clubs.** While there are a number of active agricultural clubs and association, clubs exclusively devoted to agribusiness is non-existent. Such clubs including NAMA and other agribusiness clubs are very effective tool for recruitment and retention in other Universities.
- **Transfer Students.** Agribusiness programs include rigorous economics courses at the advanced level. Transfer students, however, are inadequately prepared in elementary economics courses to tackle advanced courses.
- **Lack of visibility.** Agriculture in MSU is a non-land grant department. Agribusiness program within the Department of Agriculture is a small part of the overall department. Such set up lends itself to difficulties in terms of attracting more students and research grants

Threats

- **Competition.** The competitive threats to the program arise largely from two sources: traditional institutions including community colleges and other regional universities, and non-traditional institutions including exclusively online colleges and universities.
- **Growth in the Program.** Because of largely stagnating number of agriculture major, the agribusiness program has also been stagnant in terms of number students.
- **Structural Change in the Agricultural Industry.** Food Industry constitutes nearly \$1.5 trillion in output annually and more than 16% share in the national GDP. Production agriculture is only 2% of the overall food industry. Vertically integrated companies are more interested in hiring students who understand food as any other product. These companies are looking for training in business and quantitative skills. Previously, degrees in agriculture used to be required for new hires in agribusiness companies. More and more agricultural companies are replacing “required” by “preferred.” We need to strategically place ourselves in order to avoid being irrelevant.

Opportunities

- **Exploration and implementation of Dual Credit offerings.** We realize that the competition for students is becoming very intense. We must therefore, explore opportunities of partnering with high schools to offer freshmen courses such as AGB 144 on a dual credit basis. This is an effective marketing and recruitment tool. This will encourage potential students to seriously consider MSU as their primary college destination. This will put us in a competitive advantage over most of the current providers.

- **Explore alternative course delivery methods.** The program is already delivering courses in the online and ITV format. This strength of the program can be extended to include many more courses to eventually provide opportunity for a complete online degree in agribusiness.
- **Rebrand the program.** In order to appeal to broad section of potential students who understand food industry very well but have little interest or inclination toward production agriculture, the department as well as the program need to consider rebranding. Suggested names are: Food and Resource Department and Food Business Program. While the name “Agriculture” suggests only production aspect of agribusiness and food industry. The Word “Food” is comprehensive.
- **Study abroad.** There is a potential of expanding the scope of study abroad program. For example we can include China, where we already have a partner. An International Agribusiness Industry will provide international exposures to our students.
- **Expand research and outreach.** There is need for deepening our research and outreach efforts on local agribusiness issues, for example, impact of production externalities and agricultural profitability, and the economics of various production systems on farm viability, among others.
- **Structuring student shadowing and Internships.** As we Partner with industry and government policy making institutions such as legislatures at state and federal levels, there is need to formalize the structure on how it should be done with clear objectives and expected outputs.

AGRICULTURAL EDUCATION

Strengths

- Need for qualified teachers in Agriculture Education.
- Placement rate of Agriculture Education Graduates. (100%) in the past 3 years.
- Strong student numbers in Agriculture Education Program.
- Communication with practicing Agriculture Educators.
- Strong ties with DESE Agriculture Education Staff.
- Strong connection with Agriculture Education Alumni.
- Strong connection with secondary students.
- Service to Secondary Agriculture Educators.
-

Weaknesses

- Limited Facilities
- Only one faculty member

Opportunities

- Economy is forcing people to come back to certify in teaching.
- Outlook for Agriculture Teacher Education in State of Missouri indicates a need for more qualified teachers.
- To increase Masters Degrees for practicing teachers.
- Provides great opportunity to recruit secondary students into the Department of Agriculture.

Threats

- Alternative certifications. (It is becoming easier to become certified to teach -- without the rigor of a typical teacher training degree program.)
- Degree requirements for undergraduate Agriculture Education candidates. MSU requires more credit hours and higher test scores than most training institutions throughout the state. Therefore, students will look to find where they can get finish the quickest that will cost less money.
- NCATE accreditation places unnecessary requirements on a program. Therefore, students elect to go to other universities or pursue other degrees. (Employers don't pay higher salaries for students graduating from an NCATE accredited program.)
- Administration of the program is much more than one faculty person can do and do it correctly.

TECHNOLOGY EDUCATION

Strengths

- Technology and technical literacy is at the forefront in today's economy as Americans retool from post industrial to an information society. The major is actively using this in an effort to recruit new students into the program.
- Technology teachers have a bright future in the State of Missouri. New curricula such as "Project Lead the Way", offer a new approach to the teaching of technology based technical literacy's. These current changes have been incorporated into core classes within the major.
- New National standards for technical literacy: "Content for the Study of Technology Framework " have been developed by the International Technology Education Association (ITEA) has provided new direction for the Tec Ed program.
- Demand for Tec Ed teachers surpasses supply. DESE statistics cite that more than 50 plus positions remain unfilled across the State of Missouri.
- Placement of MSU Tec Ed graduates has been 100 percent for those completing degree requirements who want to teach.
- Professional relationships with current area Tec Ed teachers are strong.
- Service to area teachers is in place and done on a regular basis.
- Several technical classes taken with Ag Ed majors which provide a better professional foundation for both majors.
- Several technical classes are taken at OTC with state of the art equipment, tools, and instructors with recent industrial experience.
- Faculty dedicated to improving technology education.

Weaknesses

- No laboratory classroom facilities exist which enable emphasizing the teaching of technical literacy.
- No facilities exist at MSU to teach hands on technical activities in the traditional skill areas such as woods, welding, electricity, and related subjects. (Ag Ed desperately needs this classroom space as well). This type of class is then taken or is taught off campus at OTC and area high school facilities. We actually transport students to some of these locations.
- One faculty member.

Opportunities

- Current economic conditions provide opportunity for new student enrollments as displaced workers return to school, some of which will pursue degrees in teaching.

- Projections within the State of Missouri, as well as most other states, indicate that supply will be less than demand for Tec Ed openings as retirements increase. Most graduates will be able to choose jobs based upon their preference for location.
- Visibility of the Tec Ed program should improve as more focus is placed upon the growing importance of technology to our society, and as globalization influences at home and abroad continue to affect our standard of living.

Threats

- Lack of laboratory classroom facilities: Research indicates that a good program can exist in poor (or non-existent) facilities, and that a poor program can exist in good facilities, but in most cases the two are mutually dependent upon each other for quality.
- Diminished/decreased funding as funds become tight.
- Loss of students returning to school for teacher certification that pursue MAT certification rather than completing undergraduate degree requirements. It is felt that MAT certification requirements don't provide the breadth and depth received by students completing undergraduate major requirements.
- Low enrollments as current generation students choose not to enter the teaching profession for whatever reason.
- Only one faculty member dedicated to the major.

PRE-VET AND EXOTIC ANIMALS

Strengths

- About fifty animal science majors are focused on Pre-Vet program
- Large classes in Veterinary Science classes
- Pre-Vet Club is active group of students interested in Veterinary Medicine and is housed in Agriculture department , open to all majors.
- Four to six students who apply from Missouri State on average are accepted each year in UM-C College of Veterinary Medicine
- Number of students at UM-C College of Veterinary Medicine going up to 125 admissions per year from 80.
- Strong interest by some students in exotic animal husbandry and care

Weaknesses

- Courses to met Pre-vet requirements do not mesh well with Animal Science degree program (CHM 200, CHM 350, PHY123, PHY124), may need to have science focused Animal Science degree options.
- Several calls each year asking about Pre-vet major, need to improve communication for reasons there are no Pre-vet majors at universities
- No exotic or companion animal courses to focus students interests

Opportunities

- Develop Exotic animal course or two (Care and Training) for those students with interest in Exotic and companion animals

Threats

- Costs of veterinary education
- Limited availability of careers in exotic animal care.

EQUINE UNDERGRADUATE PROGRAM REVIEW

Strengths

- Facilities
- Quality of horses
- Provides hands-on experience in a variety of equine activities
 - Courses
 - Intercollegiate Competition
 - Intercollegiate Horse Show Association
 - NRHA Horse Judging
 - Ranch Horse Team
- Horsemen's Association
 - Service activities
 - Leadership opportunities
- Provide community service
 - Therapeutic Riding of the Ozarks
 - Boys & Girls Town of Missouri
 - Adopt a Street Program
 - Bear Camp
 - FFA 4-H Clinics
- Opportunities for work
 - Feed Crew

Weaknesses

- No transportation from campus
- Lack of program visibility
- Lack of departmental funding for competitive teams
 - Inactivity of the advisory committee

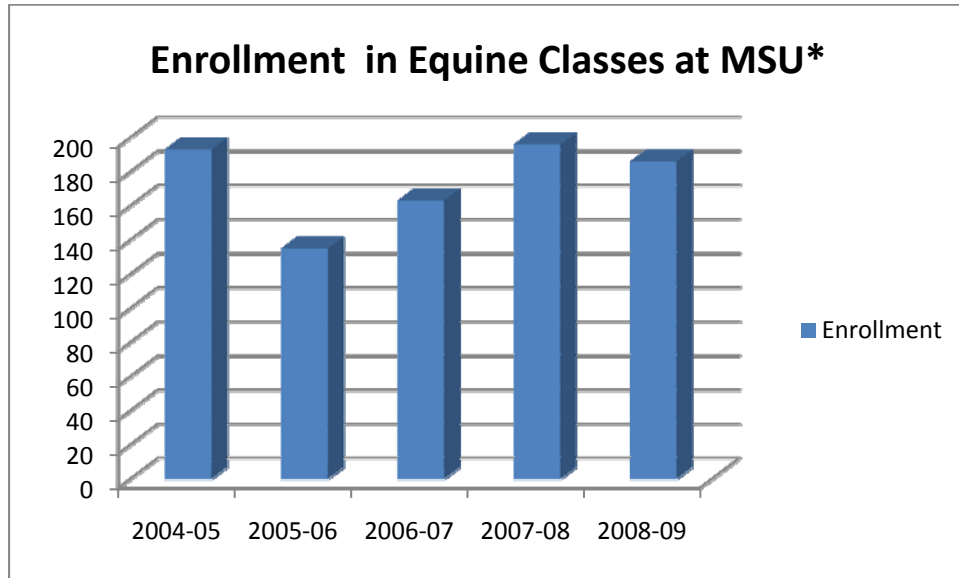
Opportunities

- Degree Program or option in Equine Science
- Animal Science Graduate Degree
- Increase community awareness and support through implementation of advisory committee

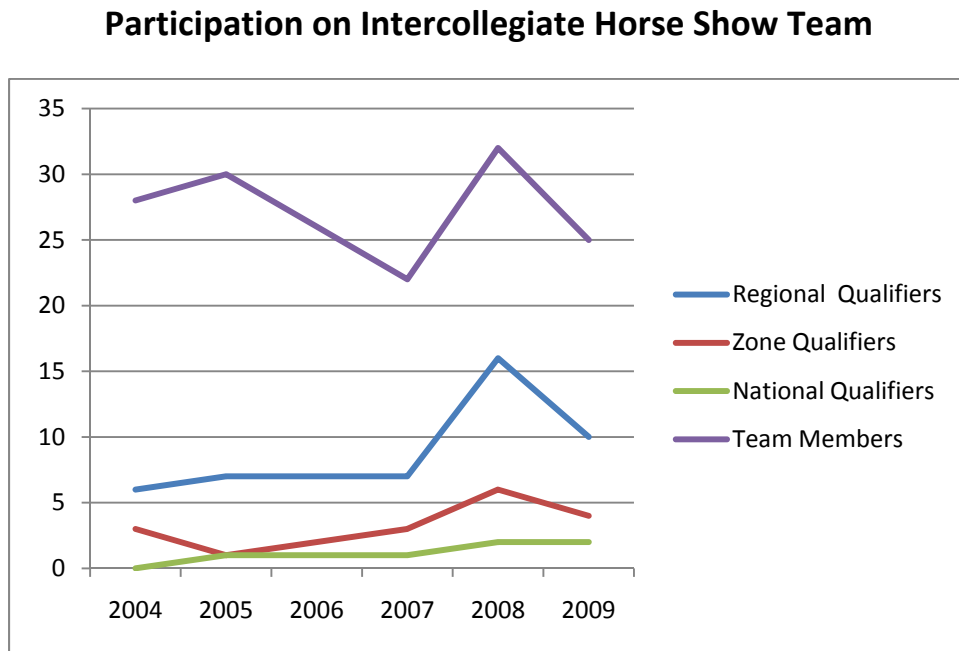
Threats

- Inability to supplement budget due to current economic status of the horse industry
- Lack of funding in the department overall resulting in competition for limited resources and return to hostilities/frustrations between sections

- Loss of students to other programs in the state due to inability to actively recruit and provide scholarships to incoming students



*values reflect head count not FTE



EQUINE GRADUATE PROGRAM REVIEW

Strengths

- Referred Publications 2007-2009

Effect of ingestion of endophyte-infested fescue on post exercise recovery of horses. Gary W. Webb, Susan P. Webb, Rachel A. Humes. 2008. *Journal of Equine Veterinary Science, Volume 28:363-366*

A comparison of the ability of three commercially available diluents to maintain the motility of cold stored stallion semen. Gary W. Webb, M.M. Dean, Rachel A. Humes, J.S. Heywood .2009. *Journal of Equine Veterinary Science, 29:229-232*

Effect of centrifugation technique on post storage characteristics of stallion spermatozoa. Gary W. Webb, M.M. Dean 2009 (accepted *Journal of Equine Veterinary Science*)

- Presentations at Scientific Meetings , 2007-2009
 - Oral Presentations-4
 - Poster Presentations -6
- Current Equine Graduate Students-3
 - Due to graduate December, 2009-1
 - Due to graduate May, 2010-1
 - Due to graduate May, 2011-1
- Success of graduates
 - 1 completed PhD, 3 employed in faculty positions at land grant universities
 - 3 employed in Agriculture Industry
- Students graduated
 - 2004-1
 - 2006-2
 - 2008-3
 - 2009-1
- Grants & contracts -2007-2009 -(applied for/received)
 - Internal - 2/2
 - External -3/1
- Opportunity for housing support and management experience at Darr Center

Weaknesses

- Lack of guaranteed assistantships for teaching makes it difficult to recruit graduate students from other universities

Amount of assistantship stipends as compared to other graduate programs

SMALL RUMINANT (SHEEP AND GOAT

Dr. Lyndon Irwin has been an active leader in the American Sheep Industry (the only National all breed Sheep Association in the US) as well as a leader in the Missouri Sheep Association. He has started the leadership role of Missouri State University in the small ruminant field in Missouri. Dr. Beth Walker has recently been hired who also has shared interest in the sheep and goat production in Missouri. Dr. Walker is a certified American Boer Goat Association Judge and as such has opportunity to visit with meat goat producers across Missouri and the United States. Dr. Walker also talks to livestock producers about the opportunity for multispecies grazing. Drs. Irwin and Walker hope to continue the long standing leadership role of MSU in small ruminant production.

Strengths

- Dr. Lyndon Irwin
 - Dr. Irwin has done extensive research in animal management, focusing on sheep production and is a past President of the Missouri Sheep Producers Association (MSPA).
 - Leadership in Missouri Sheep Producers Association
 - Board of directors
 - Leadership in American Sheep Industry
 - Production, Education and Research Council (PERC)
 - Board of directors
 - Agriculture WebQuest Series
 - He and his wife have developed an agricultural education website for Farm Bureau featuring sheep production (among other agricultural teaching units)
 - Speaking events
 - Missouri Livestock Symposium (regular speaker/moderator) in the sheep section (approximately 1000 producers attend per year)
 - National Institute for Animal Agriculture
 - Excellence in Teaching Award – MSU 2009
 - Sheep Producer in personal life
- Dr. Elizabeth L. Walker
 - Dr. Walker has started a small ruminant research program at MSU with a joint venture at Redlands Community College (part of the Pathways Partnership) focusing on plant/animal nutritional interactions.
 - Leadership role in the American Boer Goat Association
 - Genetics Committee
 - Education Committee
 - ABGA certified judge
 - Judges shows across the nation
 - Member of E-extension
 - Is a reviewer for sheep and goat related publications that go out through the E-extension website
 - Speaking events
 - Missouri Livestock Symposium (regular speaker/moderator) in the goat section (approximately 1000 producers attend per year)

- Has spoke to the Southwest Grazing Conference in Springfield on multispecies grazing
 - Missouri Youth Meat Goat Camp – approximately 120 students served
 - Consultation
 - Missouri sheep and goat producers,
 - Food Alliance as a reviewer for their humane meat goat treatment protocol for certification of farms as “humane”. (August 2008)
 - Consults with individual livestock producers and feed store managers
 - Teaching of AGS 342 – Sheep and Goat Science
 - 17 students taught
- Strong Relations with Redlands Community College (RCC) – El Reno, Ok
 - Modern goat artificial insemination laboratory
 - Modern dairy goat facility
 - Trained staff
 - Modern goat artificial insemination laboratory
- Access to the USDA Grazinglands Research Center, El Reno, Ok
 - Dr. Mike Brown – renowned sheep specialist
 - Dr. Charles McCowen – plant scientists
- Darr Agricultural Research Center
 - 30 sheep/goat panels
- Meat Goat A.I. Clinic
 - Done in conjunction with Mr. Sam Nusz (RCC instructor, MSU graduate student), Mr. Joe Raft (Texas meat goat producer) and Dr. Beth Walker
 - Has been conducted 3 times to meat goat producers and veterinarians (including Ok Veterinary Board of Directors) in Ok, will be doing it clinic other states starting in 2010
- Graduate Students
 - Ms. Angela Boyer– 2nd year masters students; winner – Graduate College Interdisciplinary Forum (IDF) Oral Presentation–done on project related to meat goat production
 - Mr. Sam Nusz – manager of the goat facilities at Redlands Community College
 - Has presented 2 abstracts to sectional animal science meetings regarding meat goat and sheep production

Weaknesses

- Lack of knowledgeable undergraduate workforce – Most students at MSU have never had hands –on work with small ruminants which then requires extensive training to perform research by P.I.
- Perception of small ruminants seems to be negative by some staff and undergraduate farm workers.
- Lack of a small ruminant class that has a laboratory with it to teach the hands-on skills of handling small ruminants.
- Lack of permanent facility for research on MSU campus – must plan research around more traditional events at Darr Center.

Opportunities

- Interest in expansion of research opportunities have been expressed by Crowder College, Neosho, MO.
- Development of research plans/goals at Redlands Community College
- Use of modern A.I. laboratory at Redlands – interest in how stress affects success of an A.I. program (both male and female)
- Development of joint research program with faculty in Illinois (submitted one unsuccessful grant; but confident door has been opened for future collaboration).
- Increase in production numbers of small ruminants in Missouri and surrounding states.
- New hires by other 4-year schools in the area of small ruminant production may lead to future collaboration.

Threats

External factors which could impact the program in the future may include program budget changes, personnel retirements and changes, agriculture industry changes, and the impact of a poor economy.

- The agriculture industry is in need of workers that not only know the information but can do what is required of them in a “hands on” setting. Students lack the opportunity to develop hands-on experience in small ruminant production.
- Lack of significant exterior fencing on the Darr Center, Bakers Acers, and Mt. Grove prevent the expansion of the small ruminant program from developing into a sustainable program on the MSU campus.

AGRONOMY

Strengths

- **Quality students**
 - consistent number of majors (2004-08 average 25)
 - high retention and graduation rates (2004-08 graduate average 10)
 - good academic skills and strong work ethics
 - active participation in Agronomy Club, soil judging team, and other Agricultural Department sponsored events
 - high participation in internship program
 - high graduate placement for employment
- **Faculty**
 - three faculty with PhD degrees in soil and crop science (emphases in crop breeding, plant ecology, grain/forage production and management, soil chemistry/fertility, plant nutrition, sustainable crop production, soil management)
 - one supply instructor (retired soil scientist) with strong background in soil genesis, morphology, and classification
 - all faculty participate in numerous teaching, research, and service activities
 - generally excellent collaboration and teamwork in sharing of resources
- **Teaching/Research**
 - lecture and laboratory facilities, including greenhouse, in Karls Hall
 - support of classes by other agriculture disciplines (AGA 105, AGA 215 required by all majors)
 - adequate acreage at Darr Agricultural Center to conduct small plot research
 - active interaction and support of teaching/research activities with local, state, and federal agencies (NRCS, DNR, Springfield Public Works, University Extension, MCD)
 - excellent support from UMC Southwest Center on cooperative research projects
- **Public/University**
 - Good support from agronomy advisory committee comprised of producers and agronomists in southwest Missouri
 - excellent collaboration with Agriculture firms in placing student interns
 - good interaction with other MSU Departments (Chemistry, Biology, and GGP)
 - active involvement in Spring Forage Conference and Missouri Small Fruit and Vegetable Conferences
 - five scholarships funded by the general public specifically designated for agronomy majors (soils, soil conservation, ecology, and crops)

Weaknesses

- **Students**
 - low number of agronomy majors – increased recruitment efforts needed
 - low number of graduate students in agronomy
 - low number of scholarships designated towards agronomy major

- failure of “Agronomy” to describe teaching and research topics
- lack of “attractiveness” of agronomy for urban students
- **Faculty**
 - need for additional faculty to expand undergraduate program (one professor is Department Head, the other 2 have 3-hr teaching load reductions for research and/or administrative duties)
 - lack of time to conduct research projects and participate in many service opportunities
- **Teaching/Research:**
 - Lack of support (equipment, laboratory supplies) for undergraduate teaching
 - lack of support (financial, number of classes, equipment, laboratories, faculty) for graduate program in Agronomy -- currently not possible to provide adequate course offerings for the regular and/or accelerated masters degree programs
 - lack of up-to-date equipment and supplies for teaching and research purposes
 - inability to provide important undergraduate course offerings such as plant breeding/selection/improvement (a course in plant selection or genetics is typically required in an undergraduate agronomy/horticulture program) to support Agronomy and Horticulture due to lack of sufficient faculty time
- **Public/University:**
 - low funding/Incorporation of public and industry needs into MSU teaching and research objectives
 - lack of public participation in MSU sponsored conferences, seminars, etc.

Opportunities

- **Students**
 - Change name of the agronomy major more attractive to all students interested in soils and crops (e.g. Crop and Soil Sciences, Plant and Soil Sciences, Plant and Natural Resource Mgmt, Sustainable Agriculture, etc.)
 - Increase breadth of internship opportunities (locations, roles, duration, etc.)
 - Work with new assistant administrator Jim Bellis to recruit students to the Agronomy program
 - Enhance agronomy program by hiring / recruiting faculty with expertise in water quality/conservation, sustainable agriculture, etc. when current faculty retire (2 retirements anticipated in next 2 years)
 - New “green” initiatives could provide unique challenges for additional resources for teaching and research in agronomy
- **Teaching/Research:**
 - increase use of electronic teaching tools to broaden appeal of agronomic program to students
 - expand (or make optional) laboratory experiences for all agronomic classes
 - increase collaboration/funding of research projects with private, public, and government agencies

- increase use of online course offerings from other institutions to fill gaps in our own graduate and undergraduate programs
- become a dependable provider of online course offerings to other institutions
- **Public/University:**
 - increase support of agronomy program with agricultural firms
 - increase visibility of MSU agronomy program
 - increase funding for agronomy student scholarships
 - increase Agronomy-related publications in the popular press (e.g. watershed management to reduce nutrient runoff)

Threats

- Loss of ability to provide a well-rounded set of course offerings, if a “lean” agronomy/horticulture faculty only has sufficient time to teach core courses. Students may pursue education elsewhere.
- Declining enrollment if students do not realize that the courses we offer are well aligned with student interests in learning about environmental stewardship, combating world hunger, ecology, etc.

HORTICULTURE

Strengths

- The groundswell in the U.S. to provide a safe, sustainable, environmentally-friendly food source, highlighted by First Lady Michelle Obama starting a “Victory Garden” at the White House, plus recent food (produce) safety scares, puts learning about horticulture in the forefront
 - Forty-four (44) percent of U.S. homeowners have a vegetable garden, up 12% from 2008
 - Nineteen (19) percent of U.S. homeowners grew herbs, up 8% from 2008
 - (above taken from article “Whats Growing On,” in *American Nurseryman*, 8/1/2009, Vol. 209 Issue 8, p. 16-17)
- Missouri State University has the **only four-year B. S. in Horticulture degree offered in Missouri**, which helps draw students from around the state when searching for a four-year degree in Horticulture
- Quality instruction—most lectures and labs are taught by full-time faculty with Ph.D. degrees
- Small class size—most classes and labs are less than 40 students
- Interaction with the Mountain Grove Fruit Science faculty and staff for class and research opportunities
- The Food and Agriculture Education Information System <http://faeis.ahnrit.vt.edu/> shows enrollment and degrees awarded in horticulture to be steady or slightly increasing in the areas of ornamental horticulture and turf management; plant science enrollment and degrees offered has been slightly increasing over the same period evaluated, 2003-2007
- The Mountain Grove wine facility that helps draw students interested in viticulture and enology to horticulture undergraduate and graduate degrees
- Long-standing excellent reputation of the Horticulture program at Missouri State as established by the quality and success of graduates in the industry
- The metropolitan location of Missouri State University helps provide:
 - Abundant opportunities for part-time work, summer work, internships and full-time post-graduate employment for majors, making it more convenient than other Missouri 4-year horticulture programs
 - Opportunities for student community-oriented activities—service learning, workshops, consumer-supported agriculture (CSA) activities that will be well-supported
- Availability of the Darr Agriculture Center to both faculty and students for horticulture research and demonstration plots
- Availability for undergraduate research projects with horticulture faculty in Springfield and Mountain Grove
- Availability of the greenhouse for research and teaching and Horticulture Club activities
- Dedication of all Agriculture Department faculty to undergraduate education

- Ability of students to easily interact with faculty for academic advising and for assistance in obtaining part-time and full-time employment and entrance to graduate school
- Support of past graduates and area horticulture businesses for the horticulture program, through participation on advisory boards, hiring of interns and graduates, and donation of materials for academic and research activities.
- Three to five scholarships available each year primarily for horticulture majors, plus many other Agriculture Department scholarships available for qualified horticulture majors
- The flexibility that allows student-driven projects has attracted 8 graduate students to the M.N.A.S. and M.S. Plant Science programs who have completed their research theses and master's landscape design projects since the start of the program.
- Attention from national, regional (and international) horticulturists for the "Gardening in a Bag" research of Dr. Alsup-Egbers, which has resulted in several national presentations and one refereed journal article.
- Receipt of a USDA Challenge Grant by Dr. Clydette Alsup-Egbers (Weston Walker co-author) for the Pathways Program that allows area community colleges to complete four-year degrees on their campuses, via distance learning and internet courses sent from Missouri State University.
- Initiation and continuation of the Ball (and others) seed variety trials by Dr. Clydette Alsup-Egbers, testing new varieties of annual and perennial flowers and vegetables.
- Annual participation in the Ozark Lawn and Garden Show by both Springfield horticulture faculty members, MSU Horticulture Club and other interested students.
- Supervising the southwest district Nursery Landscape and Floriculture FFA contests, where over 200 students participate in these two high school vocational activities.
- Being a source of weed and landscape plant identification for the region and internationally through weed, floriculture and landscape plant photo websites

Weaknesses

- Lack of sufficient recruitment efforts and appropriate recruitment materials to reach urban and suburban high school students and community college students who may have a strong interest in what we offer, but just don't associate the term "horticulture" with it
- Inability to teach all courses desired due to lack of sufficient faculty numbers
- Long periodicity required for teaching some classes makes it difficult for transfer students to get the courses they desire
- Lack of support from administration to update curriculum to meet current industry needs—may be contributing to recent decline in majors
- Lack of B. S. in Applied Horticulture to entice and meet the needs of students transferring in with a number of technical credits in horticulture
- Lack of knowledgeable technical support to assist in maintenance of the greenhouse and horticulture plot areas at the Darr Agriculture Center requiring full-time faculty to assume the supervisory roles in these areas

- Lack of adequate funding to encourage quality undergraduate students to pursue graduate study on assistantship in Plant Science at Missouri State University

Opportunities

- Increased interest in horticulture that addresses the issues of sustainable, organic and/or locally-grown produce and products, global perspectives, green roofs, rain gardens and carbon neutral lifestyles opens the door to improving our curriculum to reflect these issues
- Updating our horticulture curriculum, including new or changed courses to reflect industry needs in organic and sustainable production of horticulture crops, globalization of horticulture, and carbon neutral and “green” horticultural practices
 - Increase imbedding of social skills within technical courses—good work ethic, teamwork, communication, ethical-decision making, adaptability
 - Increase service-learning offerings within horticulture to meet need for social conscious and social relevance of today’s students, as well as expectations of employers
 - Increase global component of courses, and offer courses related to international horticulture—national and international study courses, tropical horticulture
- Updating recruitment materials to target the suburban and urban students with interest in science, social responsibility, caring for the environment, global sustainability and “green” practices
- Increasing interaction with and recruitment from two-year colleges offering horticulture classes to facilitate the transfer of more students into our program
 - Create a B.S. in Applied Horticulture (paralleling our B.S. in Applied Agriculture) that will help many who would be interested in adding to their A.S. degree technical training to qualify for better paying and more diverse career opportunities
- Increasing program exposure to high school students, showing the science and environmental benefit aspects of horticulture, so that the perception isn’t just that horticulture is “playing in the dirt, planting trees and mowing lawns.”
- Meeting the needs of students interested in horticulture who cannot come to Springfield and Missouri State to start or continue their degrees through development and online delivery of more upper division horticulture courses to area community colleges, as well as beyond
- Enhancing interaction with Mountain Grove Fruit Science faculty and staff for undergraduate classes and graduate research through:
 - Interaction in development of a consumer-supported agriculture (CSA) organic farm plot in Mtn. Grove and/or Springfield
 - Enhancement of our curriculum through development of more courses on sustainable horticulture and/or viticulture and enology
- Developing credit and/or non-credit “hands-on horticulture” activities via:
 - Develop a consumer-supported-agriculture (CSA) organic farm-plot at the Darr Agricultural Center that is run by students

- Present faculty and student-led short-courses or workshops for the university community and/or Springfield area, such as the following:
 - Water-Wise Techniques for Containers and Landscapes
 - Grow Your Own Cut Flowers
 - Sustainable Horticulture Practices (“Earth-Friendly Gardening?”)
 - Green Roofs
 - Rain Gardens
 - Gardening in a Bag
 - Antifreeze for the Garden
 - Container Gardening
 - Gardening for Wildlife
 - Garden Rooms
 - Native Plants
 - Gardening with Bulbs
 - Hot Beds and Cold Frames
 - Cuttings and Seeds
 - Organic Gardening
 - Plant Breeding for the Amateur
- Offer graduate-credit short courses for primary and secondary educators to address the interests and needs of the public in many areas of horticulture, particularly including the issues listed above
- Add more service learning components to existing horticulture classes
- Developing horticulture-based travel short-courses to other parts of U.S. as well as international locations to enhance student awareness of the diversity of horticulture:
 - Courses could parallel the Ag Industries Study for U.S. based trips:
 - Visit vegetable, fruit, nut, and/or wine production areas of California
 - Visit vegetable, fruit production areas of Minnesota, Wisconsin, Michigan
 - Visit tropical plant, citrus, container plant and plug production areas of Florida
 - Visit vegetable production areas of southeast Missouri
 - Visit tropical crop production in Hawaii
 - Courses could parallel the Belize or Costa Rica trips for international trips, but focus on production of cacao, coffee, banana, taro, cut flowers and/or other location-specific tropical crops—Mexico, Central and South America, Caribbean locations could be considered—perhaps a Belize trip mainly focused on horticulture?
 - Visit European production areas:
 - Visit cut flower, greenhouse production, bulb production in the Netherlands
 - Visit wine grape production areas of France
 - Implement a service-component to student travel trips to allow students to gain more experience
- Increasing interaction with Ozark Technical College horticulture program to open opportunities for our students to take courses and interact with students there, as well

as to encourage transfer of OTC graduates to MSU to complete the four-year degree in Horticulture

- Offer joint-enrollment, dual-credit classes for both MSU and OTC students by gaining administrative support to develop shared courses and to split student fees between cooperating schools. Models for this have been successfully developed by other 4-year/2-year colleges as well as between 4-year colleges. OTC and MSU horticulture faculty have already expressed willingness to offer such classes.
- Starting or joining an intercollegiate horticulture course consortium that allows students to take courses offered by other Universities for MSU credit and allows our faculty to send courses to other universities (with fee-splitting structure as mentioned above)
- Increasing interaction with faculty from Food and Nutrition, Sociology, Biology, Planning and other areas within and beyond our college through research and individualized majors
- USDA and other federal grants are available to help fund sustainable projects and intercollegiate consortiums that can help drive and capture the new opportunities in horticulture
- Adopting and promoting sustainable horticulture practices and be sure the university and public are aware of what we are doing *right*
- Continuing the “Gardening in a Bag” concept to include “Bulbs in a Bag,” and possibly “Veggies in a Bag.”
- Continuing the seed variety trials as part of the demonstration work at the Darr Agricultural Center
- Continuing the yucca and western oak adaptation trials at the Darr Agricultural Center
- Continuing the involvement with the FFA contests and Ozark Lawn and Garden Show

Threats

- Perception of horticulture and traditional agriculture as being part of the environmental problem, not a solution, by the media, public and non-rural potential students
- Perception by high school students that horticulture is not a science, but more of technical trade, and that they cannot “change the world for the better” by majoring in horticulture in college
- Lack of knowledgeable technical staff to maintain the existing greenhouse, Darr Center plots and the proposed new features at the Darr Agriculture Center that thins out full-time faculty efforts in other areas
- Difficulty in expressing the value and opportunities for horticulture in a way that produces needed administrative support, which results in needed program changes not being approved. Thus, there is a lack of understanding from administration of what is important to continue to grow our horticulture program.
- Concern that horticulture may be combined with other plant agriculture curriculum to become a “plant science” degree with options, which often makes the horticulture option less visible to high school or transfer students seeking a degree in one of the horticulture fields.

- Perceived reluctance within the Agriculture Department to expand the focus and activities of horticulture beyond what has been traditionally offered
- Lack of adequate funding to keep quality undergraduate students on as graduate students with assistantships to help with classes and greenhouse and Darr Center care
- Requirement for horticulture faculty to teach at least 9 hour loads (frequently 11-12) in order to teach the courses required for the curriculum, meaning less time is available for research and recruitment
- Lack of time to do the high school and community college recruitment needed by the horticulture faculty
- Draw of Ozark Technical Community College for area students interested in horticulture for first two years to obtain A.A. degree (due to low cost)
- Students who complete Turf and Landscape major at Ozark Technical College may not choose to complete a four-year degree in horticulture
- Increasing number of students taking horticulture courses at Ozark Technical College (or other community colleges offering horticultural training) often do not take as many horticulture courses at Missouri State University when transferring here to complete a four-year degree
- Increasing costs of tuition at Missouri State compared to Ozark Technical College

WILDLIFE CONSERVATION

| Strength | Weakness |
|---|---|
| Two departments, Agriculture and biology, fully participate in the administration of this major. It is an excellent meld of basic and applied science. | No downside |
| The student is exposed to numerous faculty with a broad range of expertise. | The University continues to emphasize the graduate program, as this strategy intensifies more classes will be taught by graduate students and full time professors will be less and less available to undergraduates. |
| Students in this program have the opportunity to emphasize an area of their interest within the major. | A student with limited vision, lack of a goal, can stumble through the program and have little to offer in pursuit of their career. |
| Students are encouraged to seek internships, volunteer work, part time worker, etc. Those students, with degree in-hand and work experience, tend to realize a full outcome of the major. | Some students don't have the means to pursue "real world experience", are not motivated to do so on their own or are limited in their vision. Those students have a difficult time realizing the fruition of the major. |
| The number of students graduating with this major has remained fairly constant over the last five years (60 or >). | No downside. |
| Students graduating with this degree tend to work for federal, state, county, local governments and some private businesses/agencies. | "Stimulus" money in the economy favors us at present. All bets are off once the debt is to be repaid. Where will our society see the importance of wildlife/conservation? |
| Serendipity has blessed this major in the "Green" parlance of the day. | Fads are whimsical. |
| Cooperation with our students from federal, state, county/local governments and some private businesses/agencies is laudable. | No downside as long as we continue to provide the fundamental knowledge for our students to function effectively outside of the classroom. |

- **DARR AGRICULTURE CENTER**

College of Natural and Applied Sciences Mission

The College of Natural and Applied Sciences develops educated persons who, upon graduation, are prepared to make sound decisions relative to the natural and applied sciences and society and to be productive and successful in their careers. We are committed to excellence in teaching, research and scholarly activities, and community and professional service. Ethical leadership, cultural competence and community engagement are the cornerstones of our commitment to public affairs.

Agriculture Department Mission

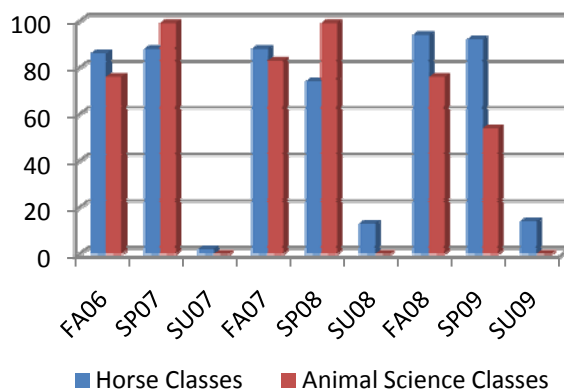
To prepare students with professional expertise leading to successful careers in business, government agencies and educational institutions while experiencing fulfilled lives and meeting mature responsibilities in a constantly changing society; and to be a source of agricultural knowledge that is obtained through study and research that may be utilized for the improvement of the quality of the citizens of the United States.



Teaching The center provides a setting for laboratory and field experiences for the study of livestock management, equine science, horticulture, agronomy, animal science, and wild life conservation and management.

Strengths

- The Darr Agricultural Center is located within the city limits of Springfield and only 5 miles from the main campus; a 100 acre agricultural education unit within a metropolitan setting.
- Pinegar Arena renovation provides a small class room (30 seats), two animal laboratories (one equine, one bovine), clean laboratory space, a 100 X 200 arena, and stabling for 13 horses.



- Multipurpose arena and wash rack provides an alternative covered teaching area.
- Size of Center allows for a number of instructional activities to take place at the same time.

- Green space with a variety of forage and weed species is available for laboratory activities for horticulture and agronomy students.
- Twenty-two acres of pasture to provide forage for livestock used for instructional programs.

- Horse herd—currently there are a total of 30 horses, with 20 riding age horses, 2 stallions, 2 yearlings, and 4 2-yr olds. Horse contact was recorded each time a horse was used by and individual or in a class or service activity. The report indicates the number of times a horse was used not number of students using the horse or total hours the horses were used. The amount of time the horses were used ranged from ½ hour to 2 hours depending upon class or activity. Horses were used a total of 1,385 times spring semester 2008; 1,937 times fall semester 2009, and 2,461 times spring 2009.



- Beef herd—the number maintained on site ranges from 0-40 as needed for classes and activities.

- South Creek provides laboratory sites for other departments.
 - Biology courses
- Facilities provide a site for leadership activities
 - Ag Fest, 250 high school students visit as part of Ag Leadership class.
 - DTA National meeting Spring 2009, approximately 50 students and advisors.
- Opportunities for students to live and work on site and develop management skills.
- Opportunities for students to work directly with livestock to develop an understanding of appreciation for the livestock industry.
- Facilities and farm provide site for a variety of co-curricular and club activities.
- The size and quality of the facility provides a recruitment tool for individuals interested in agriculture production and intercollegiate competition.
- Quality of instruction and availability for department clubs and activities aids in the department’s recruitment efforts.

Weaknesses

- Budgets have remained stagnant although the programs have grown to meet student demand requiring managers to do more with less.
- Original fencing is aging: some fencing and gates are in need of replacement.
- Current facilities support only two large animal species. Permanent facilities for other smaller livestock species (i.e., sheep, goats, pigs) would provide a more well rounded hands-on exposure to working with livestock.
- Original manager housing is aging and when it is not longer functional, student management/work opportunities will be decrease significantly. This will also increase the cost of animal care and facility maintenance. Currently 50 man hours per week are provided by students living in the current Center’s housing.
- Lack of transportation from the main campus limits access to classes and activities.
- South Creek is a major drainage for south Springfield. With heavy rains water rises to levels which make it impossible to get to the horses and equipment above the creek. Water draining from the surrounding areas sometimes causes additional maintenance challenges.



Opportunities

- Plans have been developed for a learning/service building to provide additional classroom, laboratory, and office space.
- Planned composting facility would provide improved waste management for the Center and compost for use in the horticulture program and a possible an income source through sales to area gardening industry.
- Increase access through traditional and non-traditional offerings with the improved infrastructure in class room, technology, and lab space.

Threats

- Lack of support for maintenance and custodial. Currently one 1000 hr employee, student workers, live in student managers, equine and bovine managers, and farm manager attempt to maintain the facility and complete the custodial work needed. With increasing demands for use of facilities at the Center, meeting these needs with the present budget allocation will be impossible.
- Animal waste disposal in a metropolitan area with water crossing the property and feeding into a community lake could raise water quality questions.
- The concentration of livestock in a metropolitan area on limited space requires constant diligence to avoid perceived animal welfare concerns.

Research and Scholarly Activities The center provides a setting for research activities close to the campus to allow access by students and faculty to facilitate the study of livestock management, equine science, horticulture, agronomy, animal science, and wild life conservation and management.

Strengths

- The Center provides space for a variety of research activities.
 - Blueberries
 - Walnut trees
 - “Gardening in a bag”
 - Equine reproduction
 - Small ruminant management
 - Water quality/forage systems
 - Ultrasound technologies as predictors of meat quality
 - Nutrition effect upon fertility in the bovine



- Size and location of Center provides space and access for a variety of graduate student research activities.
 - Nine equine students have completed their Masters in Natural and Applied Science degrees at the center since 2001.
 - Additional students in biology have also completed part of their research at the Center.
- Undergraduate students gain valuable experience and knowledge from part-time work with faculty on research projects being conducted at the Center.

Weaknesses

- Locations of original water sources limit the ability to utilize pastures for forage research activities.
- Limited facilities/shelters for housing livestock combined with the heavy instructional and service use of the arenas limit animal research activities.
- Current facilities support only two large animal species. Permanent facilities for other smaller livestock species (i.e., sheep, goats, pigs) would facilitate research these areas.
- Lack of equipment and available labor limit field plot activities.

Opportunities

- Promote institutional and public awareness of importance of research through field day and community educational activities.
- Extension of Ag in the Classroom to include hands-on laboratory activities will be possible with the completion of the new facility.

Threats

- Economic challenges and increased competition for grant dollars make funding research projects difficult.
- Difficulty in filling critical faculty positions minimizes the effectiveness of research efforts.

Community and Professional Service The center provides a setting to host local, state, national and international service activities and to provide educational activities to help citizens of all ages to understand and appreciate agriculture.

Strengths

- The combination of forage, agronomy, and horticulture activities provide agriculture/green space within the rapidly expanding Springfield metropolitan area.
- Pinegar Arena and the multipurpose arena provide covered facilities that can be used for a large variety of community service activities.
 - Therapeutic Riding of the Ozarks (TRO)—18-24 disabled youth served for six weeks each semester by up to 80 volunteers and TRO staff per week.
 - Local and regional dog shows
 - Clinics and educational equine competitions (10-50 participants/activity)
 - Intercollegiate Horse Show qualifying and regional



- competitions (100-120 participants/show)
- Cattle shows and sales (100-125 animals and approximately 200 people/show)
- Cattle Barrons Ball (American Cancer Society Fund Raiser) (800 first event)
- FFA local, regional and district judging competitions (District contest serves approximately 150 livestock, 150 Dairy, and 200 Horse students)
- Youth livestock fitting clinics (100 youth working with 20 college students)
- Missouri Agri-Business Academy (30 student participants)
- Youth Goat Camp (120 students)
- Boy & Girl Scout and other you group educational activities (10-30/activity)
- Camp Bear riding camp (8 participants for 5 days)
- Kindergarten and grade school educational demonstrations (10-60/activity)
- Political leadership events
 - Blunt tour (approximately 100 people)
 - Dixon campaign kick-off event (1500 people)



Weaknesses

- Conflicts with teaching a research needs.
- Facility not designed for meeting and banquet activities

Opportunities

- Completion of new learning center will provide better meeting and banquet facilities as well as additional classroom and laboratory space.

Threats

- Increased pressure to rent the facility to support the Darr Center's programs and maintenance of facilities will have a negative impact on access and quality of teaching and research activities.

THE CENTER FOR GRAPEVINE BIOTECHNOLOGY

Strengths

- The Center for Grapevine Biotechnology (CGB) in the Department of Agriculture, Missouri State University, is an internationally known research center with a mission to explore genetic resources and to identify health-promoting compounds in diverse grapevine species for securing the profitability and sustainability of the grape and wine industry and for improving human health. The CGB is leading the research in the transcriptomics and functional genomics study of grapevine defense pathways against the most destructive pathogens and in the discovery of regulatory and structural genes that are involved in the biosynthesis of grapevine polyphenolic compounds that determine wine quality and impact human health.
- The CGB scientists analyzed the microarray data of 72 GeneChips that represent the powdery mildew fungus (PM)-responsive genes in two grapevine varieties and identified 625 PM-responsive genes in a disease-susceptible grape variety Cabernet Sauvignon and three in a disease-resistant variety Norton, an elite North American red grape variety. We discovered that a large number of plant defense-related genes were differentially expressed in Cabernet Sauvignon. Some of these defense-related genes were constitutively expressed at higher levels in Norton. The significance of these discoveries was highlighted in the “On the Inside” column of the 2008 January issue of *Plant Physiology*. The entire microarray data have been deposited in the public-accessible database, the Gene Expression Omnibus and PLEXdb so that the grape research community can utilize these data to make more discoveries. This is the first comprehensive study of grapevine-pathogen interaction at genomics levels.
- The CGB scientists are in the process of discovering transcriptome changes in seeds and berry skins of Norton grape in comparison to Cabernet Sauvignon grape during berry development by using the second generation of the Affymetrix GeneChip. We have discovered key regulatory genes that are expressed differentially in Norton and Cabernet Sauvignon by the quantitative polymerase chain reaction.
- The CGB established a foundation vineyard of seven grape varieties, Norton/Cynthiana, Vignoles, Vidal Blanc, Chambourcin, Chardonel, Cayuga White, and Traminette. These grapevines were tested for grapevine viruses and found to be free of the tested viruses. These “clean” vines compose the foundation propagation materials for grape growers and help reduce the risk of incurable viral diseases. This is the first foundation vineyard specifically for grape varieties for the Midwest region.
- The CGB scientists gain national and international reputation by invitations to review research proposals for grant agencies, and research papers for international journals. We have published numerous research papers in highly impacted journals. The CGB has secured over \$2 million of federal and state funds to support research projects over last four years.
- The CGB scientists achieved fruitful collaborations with international research institutes, such as the Ningxia Forestry Institute in Yinchuan, Ningxia Hui Autonomous Region and China Agricultural University, Beijing, China. These international collaborations have greatly enhanced the visibility of CGB, the Department of Agriculture and Missouri State University.

- The current research team of the CGB consists of three doctoral Research Associates, one technician, two graduate students and one undergraduate student. The CGB has provided opportunities for local high school and undergraduate students to get training in biotechnology, molecular biology and genetics every summer. The CGB has trained nine graduate students with six of them graduated with MS degrees, and five postdoctoral researchers with three of them hired as permanent positions in academic institutes.

Weaknesses

- There are much less interactions with professionals and colleagues on Springfield campus. There is an urgent request for presence of a Plant Science Laboratory with focus on molecular biology and genetics in Karls Hall so that undergraduate and graduate students can get hands-on training of basic laboratory skills in the Department of Agriculture.
- Location of the CGB in a small town adversely affects the visibility of the research projects and lowers the impact of the CGB on a larger community. As a result, the CGB is not well known to undergraduate students majoring in agriculture, biology and chemistry. The CGB is not successful in recruiting MSU undergraduates into the graduate research projects. The well-equipped laboratories are not fully utilized for educating and training undergraduate students.

Opportunities

- The public release of the grapevine whole genome sequences creates ample opportunities for CGB scientists to use the Pinot Noir genome as a reference to acquire the whole genome sequence of North American grapevines of agriculturally and economically importance. As stated in the *Vitis* Community Priority List that formulated by grapevine geneticists and genomicists in the first Annual NSF Grape Research Coordination Network Conference on May 16, 2009, sequencing the whole genomes of additional grape varieties including wild species is the top priority for grape research community. At this right time, the CGB proposed to sequence the whole genome of the Missouri State Grape 'Norton', which is the first American red grape to be sequenced and will allow us to discover the genes, regulatory elements and genome structures that determine the distinct phenotypes of Norton in disease resistance and wine characters.
- Recruitment of a grapevine breeder and geneticist to the Department of Agriculture adds another valuable talent for achieving the CGB's goal and missions. With the results and discoveries that have been accumulated in the CGB and grape research community, the new recruited faculty can utilize these new resources to develop research programs that complement with the research projects that are currently conducted in the CGB.
- Severe viral diseases emerge in commercial vineyards in the state of Missouri and surrounding states, and pose a threat to the sustainability of Midwest grape and wine industries. The emergence of threatening viral diseases challenge and charge the CGB scientists with mission of developing new technology for detecting grapevine viruses and producing clean grapevine propagation materials for the industries. The recently formed National Clean Plant Network (NCPN) includes the CGB as one of the NCPN partners and the funding from the NCPN secures the establishment of the Midwest Grapevine Tissue Culture and Virus Testing Laboratory under the CGB.

Threats

- Transition of administration at departmental level because of Dr. Anson Elliott's plan of retiring in 2011 creates an uncertainty on the long-term vision of the Missouri State Fruit Experiment Station and the CGB. The focuses of the CGB are on the fundamental research in areas of genomics, functional genomics, genetics and molecular biology. The research projects can get into jeopardy if the new Head/Director is not visionary and threatens to change the direction of the research.
- One of the biggest threats to the CGB is the lack of sufficient fund or discontinuation of funding for the current projects. Although we continue writing research proposals and applying for funds, it is always uncertain if the funding would be renewed. Some of the research projects would have to be terminated without sufficient funding.
- No undergraduate students apply for the Master of Sciences in Plant Science program. Undergraduates and graduate students are not willing to live on Mountain Grove campus, which is physically isolated from the vibrant Springfield campus. The less engagement and commitment to the research projects by students significantly reduce the productivity of research projects.
- No transportation between West Plain, Mountain Grove and Springfield campuses creates inconveniences to and isolation of Mountain Grove professionals and staffs. The two and half hour commuting is a big threat to the productivity and safety of Mountain Grove professionals.
- It is extremely challenging to recruit professional staff because Mountain Grove does not have the same cultural, social and commercial resources as Springfield.

HORTICULTURE – STATE FRUIT EXPERIMENT STATION

WINERY/DISTILLATION PROGRAM

Strengths

- Skilled personnel at the professional and support level
- All aspects of wine/distillation program from the plantings to the finished commercial product
 - This holistic experience enhances both outreach and applied research
- Quality fruit for processing produced on site
- Funding base for research through retail sales
 - Revenue approximately \$22,000 to date
- Mountain Grove Advisory committee supports both the winery and distillation programs
- VESTA Viticulture and Enology Science and Technology Alliance program affiliation

Weaknesses

- Labor needs in winery/distillery
- Distance from main campus
 - Lack of transportation for student interns, undergraduate and graduate students
- Limited in the depth of some endeavors due to the wearing of many hats by senior personnel
- Analytical support for sophisticated analysis (HPLC, GC, etc.)

Opportunities

- Position of support and education for craft distillation operations in the Midwest
 - Potential collaboration with MSU LTE Artisan Distilling Program
<http://www.artisandistilling.org/>
 - Artisan Distillation Workshop Planned
- Site for internships/practical experiences in the areas of enology and distillation
- Increased wine and spirits production
 - Includes non-grape fruits and fits well with the State Fruit Experiment Station Mission
- Undergraduate class in wine appreciation planned
- Home Winemaking Workshop scheduled

Threats

- Uncertainty in the level of future support with pending change in department head position
- Financial cutbacks for the University as state monies continue to decrease

HORTICULTURE – STATE FRUIT EXPERIMENT STATION - POMOLOGY

Strengths

- Three faculty and two professional staff that have all or some responsibility in fruit crops
- Four permanent field crew and one equipment maintenance personnel
- Mountain Grove research farm
- State Fruit Experiment Station component of the Mountain Grove research farm
- Fruit crop plantings at Mountain Grove in apple, peach, grape, blueberry, strawberry, pawpaw, persimmon, and walnut
- Field equipment available for planting maintenance
- Four greenhouses available for research
- Three laboratories with varying equipment available for research
- One large and two smaller cold storage facilities available for fruit storage
- Department of Agriculture offers undergraduate degree work in Horticulture and graduate degree work in either Plant Science or Natural and Applied Science
- Undergraduate and graduate courses in pomology and viticulture offered at MSU and through distance learning
- Summer internships available to undergraduates
- VESTA (Viticulture and Enology Science and Technology Alliance) program is in the Department of Agriculture and draws students interested in these disciplines
- Cooperative agreement with China Agricultural University draws students into the department graduate program some of which work on fruit crops
- Annual Small Fruit and Vegetable Conference draws approximately 150 attendees

Weaknesses

- Lack of sufficient 'research depth' in some faculty disciplines; i.e. pomology and fruit crop entomology have one Ph.D. in each
- Lack of cooperation among disciplines to accomplish larger projects or submit more competitive grant proposals
- Lack of sufficient field and laboratory support personnel (permanent, part-time) during busy spring start-up or fall harvest periods
- Greenhouse and laboratory space becomes limited at certain times of the year; i.e. spring start-up and fall harvest
- The distance of Mountain Grove from Main Campus in Springfield (65 miles) makes it more difficult for undergraduate students to get involved in research and 'hands-on' educational experiences
- Post-doctoral and graduate student housing on the Mountain Grove campus is limited to seven people
- Graduate student assistantships can be limited at times
- Resistance to change from what has traditionally been done

Opportunities

- Increasing awareness in global sustainable living; fruit crop production using reduced pesticide or organic practices contributes to this.
- Increasing awareness of the contribution that fruit consumption makes to a healthy human diet
- Potential for fruit crop production to be a viable alternative enterprise for farmers in Missouri
- Potential for more cooperation with Main Campus Horticulture Faculty
- Mountain Grove can be an outdoor classroom for undergraduate courses
- Mountain Grove can be a site for undergraduate research

Threats

- Lack of large fruit crop industry groups to support research
- Perception that business opportunities in fruit crop production are not viable
- Perception by University Administration that agriculture, horticulture, and fruit crop production are not science but more technical trade; support diminishes with time
- Undergraduate and graduate students often move-on to larger out-of-state programs because of their notoriety or availability of the Ph.D.
- Loss of faculty or professional staff positions or delay in hiring with retirements
- Lack of recruitment efforts for undergraduate and graduate students

HORTICULTURE – STATE FRUIT EXPERIMENT STATION - OUTREACH

Strengths

- Recent and unprecedented interest in locally produced food and flower crops by consumers, retail and wholesale markets.
- Excellent involvement and cooperation of the entire staff at the State Fruit Experiment Station in outreach events.
- Supportive director with excellent people and fund raising skills.
- Excellent care and consideration for event participants by staff members. Consistent comments, verbal and in written event evaluation responses, of our excellent and caring staff.
 - “I was late getting to the event and it was raining. Out of the blue a staff member in a go-cart hands me an umbrella!”
 - “Staff is always ready to help. They really made me feel welcome.”
 - “It must be so great to work here, everyone is so nice.”
- Addition of an elementary education professional to the permanent staff.

- Availability for undergraduate research projects in educational gardens and in outreach projects, as well as in participation in events.
- Advisors with strong background and rich and varied experience in horticulture and related areas such as beekeeping.
- Very active Fruit Grower Advisor, John Avery, conducting numerous grower consultations and participating in many events including:
 - **SW Center Field Day**-Sept 10-High school tours-1000 to 1200 students- Talk on Bees and Beekeeping
 - Sept. 11-Public tour-400 to 500 –Talk on home fruit production
 - **Ozark Celebration Festival**-Sept, 12-13-Booth and hand out publications and answer questions on fruit and general horticulture-800 to 1000 general public
 - **Fruit Station School tours**-Sept 16-17, K-2nd?- students-talk on bees and beekeeping
 - **Laura Ingall-Wilder Days**-Mansfield, Sept. 18-20. General public-hand out publications and answer questions about fruit growing, gardening, and MSU. Attendance?
 - **Rutledge-Wilson Farm Celebration**-Springfield, Sept.26-27, General public- hand out publications and answer questions about fruit growing, gardening, and MSU. Attendance?
 - **Small Farm Today Show**-Columbia, Mo, Nov. 4-8. General public and small growers- hand out publications and answer questions about fruit growing, gardening, and MSU. Attendance-1500 -2000 last year. Could be up to 4000.
 - Advisory at the Station-
 - Phone calls-app. 500 per year
 - Emails-250 per year
 - Station visits for information-50-60 per year

- Grower visits-12-15 per year
 - Educational events-Gardening Seminar-Springfield Extension-130 participants Feb. 7
 - Espalier Pruning-Green Cty. Master Gardeners-15 participants, March 14
 - Grafting Workshop-Ava Organic Grower Club-25 participants, March 21
 - Pruning Field Day - March 7
 - Wright County Youth Fair-June 19-student and general public-Grape production.
 - Cabool Farm Fest-general public, May 9. Talk on grape production and composting.
 - Master Gardener Education-talks on propagation, fruit production, general botany.
- The pending addition of a person with a strong background and long experience in horticulture with 50% time dedicated to outreach.
- Recent receipt of grants for Ozark Rain Gardens (\$5,000 DNR) and for the High Tunnel Season Extension Technology Demonstration (\$20,700 U.S. Department of Agriculture's Rural Business Enterprise Program).
- Vesta Regional Coordinator for Missouri based at Mountain Grove cooperates with and enhances Fruit Experiment Station and Mountain Grove Cellars outreach events.
- Excellent support by Library Associate/Outreach including brochure and publication development, development of event web pages and promotion of outreach events.
- Mountain Grove Cellars may have 50% outreach/technical support person with redistribution of position responsibilities of horticulture advisor.
- Since 1981, weekly Ozarks Fruit and Garden Review (formerly Ozarks Fruit Review until 2008) column to highlight horticulture at Missouri State sent to newspapers statewide and posted on the web at <http://mtngrv.missouristate.edu>
- Annual and ongoing participation in many events both at the station and off site, including.
 - Small Fruit and Vegetable Conference annually since 1981.
 - Missouri Horticulture Society Mid-America Fruit Growers Conference.
 - National Small Farm Trade Show and Conference
 - Missouri Governor's Conference
- Participation in Missouri Department of Agriculture Block Grant Fiscal Year 2009
 - \$5,000 - Establishment of a Specialty Crop Growers Association. Led by the University of Missouri Extension and **supported by the Missouri State Fruit Experiment Station** this project is designed to educate and train growers and consumers including a marketing and promotion effort for their products throughout a 16 county region. The South Central Specialty Crop Growers Association will complement the Missouri Farmers Market Association with a focus on regional challenges and opportunities.
 - <http://mda.mo.gov/abd/financial/specialtycroprecipients.php>
- Good cooperation with area extension agents and offices
 - Master Gardener classes at Mountain Grove.
 - Tri-County Master Gardener club meetings and projects at Mountain Grove.

- Participation of advisors in area Master Gardener educational presentations.
 - Participation in the State Master Gardener Conference.
- Excellent facilities and features for outreach activities including Faurot Lecture Hall, Pavilion, Horticulture Garden, Ozarks Rain Gardens, Ozarks Arboretum and Centennial Garden.
- Even though a remote location, most on-site program at Missouri State Mountain Grove now draw from 30 – 75 participants.
- Excellent new media geared to our clientele on website, including:
 - Real Time Weather station and archives.
 - What’s happening in the field – Fruit Experiment Station blog.
 - Photostream – photos available for public education and use.

Weaknesses

- No representative on the Mountain Grove Advisory Committee who regularly attends public education events at the Mountain Grove Campus.
 - Commercial growers and vintner and Mountain Grove residents presently comprise the board.
 - Need to recruit a person who regularly attends public education events and who represents our “home garden” clientele.
 - Suggest contacting Barry and Debi Baker, 926-3240, to ask them to attend the meeting on Friday, September 11 since they participate in many of the public education programs and are good examples of our home grower clientele.
- No maintenance budget built in to educational gardens. After development they are low priority.
 - Find line of funding to be directly used by Horticulture Advisors and Viticulture and Enology Technician II for replant and maintenance of the educational gardens.
 - Summer student internship potential for maintenance of all gardens in a given summer.
 - Have a summer hourly employee devoted to gardens similar to the arrangement with the hourly employee dedicated to the greenhouse.
- Horticulture outreach misunderstood by administration.
 - Often grouped in with voluntary service.
 - Events do not make money – at best will cover its own costs with extra for future programs.
 - Often mistaken for the University of Missouri Extension Service.
 - Some consider “outreach” to be the same as “fruit and wine sales”.
- No incentives for faculty participation in outreach projects and events.
 - Need to make participation in outreach valuable to faculty in either monetary or tenure/promotion incentive.
- Low number of students for outreach internships and projects in rural, south-central Missouri.
 - Need to recruit student interns.

- Need to recruit dual-credit high school students as interns.
- Little integration of Fruit and Wine sales activities with outreach or student teaching and learning.
 - Eg. “Carrie’s Restaurant” on main campus is used for student experiential learning and therefore is not seen as competition with the restaurant business or Sodexo on campus.
 - Need to consider this in sales plans and incorporate students or educational features.
- Horticulture training opportunities for permanent staff in charge of grounds, greenhouse, and field operations appears to be low priority.
 - Using best practices is important since we are involved in horticulture education and outreach. We should practice what we preach.
 - Training opportunities are not usually discussed or sought.
 - There are many in-state opportunities for training in horticulture.
 - Annual greenhouse management workshops in Columbia
 - Annual tailgate meetings via the ICCVE
 - Conferences and workshops
 - Possible visits to vineyards, orchards and planting operations

Opportunities

- Increased interest in horticulture by consumers both in the aspect of locally grown food as well as in gardening.
- Planned collaboration with the MSU-LTU Artisan Distilling Program to provide internationally recognized educational workshops in artisan distillation.
- Merging of the Small Fruit and Vegetable Conference with the Department of Agriculture’s Agri-Tourism Conference may broaden our reach and lessen the cost to the department.
- New media support at Missouri State University is excellent and aids in our efforts of using new media to reach horticultural producers and the public.
- Missouri State online and other distance teaching opportunities has opened a new opportunity for horticulture instructors at Mountain Grove.
- International faculty, staff and graduate students can lend a broader view to outreach programs.
- Potential collaboration with the Ningxia Forestry Institute in the construction of a Chinese Garden.
- Increasing participation between departments and outside agencies on projects located at Mountain Grove resulting in better recognition to and appreciation of the Mountain Grove Campus and its facilities and personnel.
 - Ozark Arboretum tree map (Missouri State Biology, GGP, Agriculture and the Ozarks Environmental and Water Resources Institute)
 - Ozark Rain Gardens (NRCS, DNR, Grow Native!, Tri-County Master Gardeners and Missouri State Agriculture)

- Specialty Crops Grower Association project (University Extension)
- Master Gardener Classes (University Extension)

Threats

- Shrinking funds and disadvantages of the non-land grant universities in open competition for grants.
- Perception that Fruit Sales and Wine Sales are in competition with area specialty crops growers and wineries.
 - Jan Wooten, member of the Mountain Grove Advisory Council, expressed concern about this when Dr. Onwueme presented the State Fruit Experiment Station FESTival series of jams and jellies. “I am a grower and have a value added line of products. I don’t like the idea of competition from the university.”
 - Dr. Joe Kovach in his presentation at the 29th Annual Missouri Small Fruit and Vegetable Conference Modular Ecological Design: A Fruit and Vegetable Polyculture System stated “All of the produce from the polyculture plots is given to the local food bank. We do not want to create the perception that we are competing with the growers that we serve.”
- Lack of understanding of the inputs and professional management involved in horticulture outreach programs and applied horticulture research by administrators.
- Lack of appreciation by administrators of the importance of employing best horticultural practices when possible (as opposed to any practice) in order to reflect professionalism (remember that Missouri State grants degrees in Horticulture!).

HORTICULTURE – STATE FRUIT EXPERIMENT STATION - ENTOMOLOGY

Strengths

- Entomology program has 100 year-old tradition at Mountain Grove Station and provides expertise badly needed by local growers and householders.
- Entomology lab provides diverse research program carrying on four major research programs aiming on rationalization of insecticide use and minimizing adverse impact of insecticides on environment and water quality.
- During its activity under Dr. Pszczolkowski, the lab has produced about \$70,000 in extramural and about \$15,000 in intramural support.
- The lab provides national and international interfacing and MSU promotion through
 - Major nationwide and worldwide professional organizations: Entomological Society of America and International Congress of Entomology, where the lab leader, Dr. Pszczolkowski is an active member, and frequent keynote speaker and symposium organizer.
 - Top ranking professional journals, where the lab members regularly publish, and where Dr. Pszczolkowski is a member of editorial board and a regular reviewer.

Weaknesses

- Entomology lab is not adequately equipped and its infrastructure does not allow utilizing the potential of human resources to its maximum. Additional exhaust/hood, new furniture and floor are needed. New balances and microcentrifuge are needed. A cool room is needed. Storage space is needed.
- The lab lacks sufficient professional housing. It should be expanded and physically separated from horticulture lab and activities occasionally exercised in entomology labs by Grower Adviser. These types of activities and programs may complement, but should be kept separately due to the nature of the research and chemicals such as insecticides involved.
- The lab relies upon extramural sources of insect material. This costs money and in a long run does not allow expanding the research program. The lab needs additional space, facilities and personnel for insectary.

Opportunities

- The lab has long records of insect pest population dynamics in Mountain Grove Research Farm together with weather data, which could be used toward producing a grant for long-term data acquiring research, funded by National Science Foundation.

However, the data exist only as hardcopies and require digitizing. The lab needs additional GA funded by MSU to prepare such proposal.

- Similarly, the lab is in possession of a small but unique insect collection having been kept from 1909 and recording insects from three adjacent counties in Southeast MO. Sanitation, expansion and digitizing of this collection could be granted by National Science Foundation. However, to apply, the Station would have to have this collection operational. For that the collection needs to undergo sanitation, identification, inventory and partial digitization, and would have to have a separate room with appropriate equipment in Mountain Grove. Funds are needed here for cabinets, drawers, freezers and stereomicroscope and for a GA student before additional funds from NSF could be requested.

Threats

- The lab may lose the insect collection if no action is taken shortly. Entomology lab leader curates this collection in his free time and without any funds allocated for this purpose. Due to inadequate housing and curatorship in the past, about 500 specimens have been lost to museum pests such as book lice and *Dermestes*.
- The lab may lose fluidity of operations together with remodeling of Shepard Hall. There will be simply no place to move the lab operations unless an annex to the hall is build and made operational first. Prospects of losing operation fluidity, together with no clear and rigid schedule of remodeling make planning the operations and applying for grants very difficult. The applicant cannot be sure what facilities will actually be available in a given time, and this is necessary for writing a proposal and required by every grant giver.