

Missouri State University
External Review of School of Agriculture Report
February 20, 2010

Executive Summary

Drs. Tony Brannon, Dean, School of Agriculture, Murray State University, Murray, KY, and Jennifer Ryder Fox, Dean, College of Agriculture, CSU, Chico, Chico, CA were asked to conduct a preliminary external review of the William H. Darr School of Agriculture at Missouri State University by Provost McCarthy and Dean Tamara Jahnke. The School of Agriculture currently is housed in the College of Natural and Applied Sciences. The purpose of this review, which took place in January 2010, was to assess the current status of the program leadership and to provide recommendations of a path forward for this successful program with regards to its potential for continued growth and development.

Significant support by upper administration was given for the continued growth and development of Agriculture at each level.

"We can and need to continue to grow our Agriculture Program. Agriculture deserves additional investments" – Dr. Michael T. Nietzel, President

"Agriculture can grow and flourish at Missouri State in targeted ways. I want to help that growth" – Dr. Belinda McCarthy, Provost

"Agriculture needs some kind of boost and I totally support the effort to help them" –Dr. Tammy Jahnke, Dean

It is readily evident that Agriculture at Missouri State is in the condition that it is because of the great dedication of its faculty and supporters and the exemplary and extraordinary leadership of Dr. Anson Elliott. In his 30 years plus of service, he has served as the backbone and very foundation of the strong Agriculture program. Yet, all things must change and it is a guarantee that Missouri State will not hire another person to come in and immediately wear his many hats and fill his worn shoes. Dr. Elliott is approaching retirement and has agreed to continue his service until such time that an appropriate leadership team/structure can be put in place to allow for the continued growth and development of the program.

Indeed, shortly after the reviewers began the on-campus review, it became evident that the primary scope and recommendation of this review needed to evolve to address the issue of "its time to put a structure into place to make sure the next person after Anson succeeds". Hopefully, this report puts forward some recommendations to address this issue.

The primary recommendation of the review is that the Agriculture unit at Missouri State University should be an autonomous unit reporting to the Provost. Other major/critical recommendations regarding the program are given and several minor recommendations/suggestions are offered for program improvement. A potential timeline for administrative transition is presented.

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Introduction and Background

The School of Agriculture's mission is "*To prepare students with professional expertise leading to successful careers in business, government, and 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 citizens of the United States.*" The overall impression of these reviewers is that the faculty and staff want to fulfill that mission but recognize that they are at a crossroads, perhaps even a crisis point, in their trajectory. They are seeking ways to effectively utilize existing resources as efficiently as possible to serve students. The forthcoming donation of a 3500-acre ranch in close proximity to an existing research station may be the challenge and opportunity that focused the faculty's attention on their need to develop a path forward to ensure they control the direction of their School's growth. The ranch provides a unique synergistic opportunity for faculty, staff and students to expand their scholarship and practical 'hands on' experiences in managing natural and managed landscapes outside of the classroom or laboratory to respond to the dynamic needs of agriculture and its role in society.

The School of Agriculture is well connected within the university and to the community at large. It serves students and its industry partners through its educational and research programs and is an active partner with the agricultural community through myriad service projects the School sponsors. Faculty-student interactions either in the classroom or through participation in research projects are a hallmark of their successful efforts to provide students with knowledge that will augment their entire academic experience. Student comments during several interview sessions with the reviewers reflect that a strength of the university is the commitment of the unit – from Secretaries to the Chair – to serving students in a personal and meaningful way. This one-on-one opportunity for students to work with faculty is a motivating factor in their selection of Missouri State's School of Agriculture over other four-year universities. This interaction is most likely a primary factor responsible for an overall retention rate that exceeded 85% from the freshmen to sophomore year in the 2007/08 academic year.

The School offers seven , interconnected, degree programs: Agricultural Business, Agricultural Communications, Agricultural Education, Agronomy, Animal Science with Pre-Professional in Veterinary Medicine, General Agriculture, Horticulture, and Wildlife Conservation and Management. Student enrollment is approximately 400 and they have 15 tenured and tenure track faculty and approximately 13 per class faculty. The existing academic programs have evolved to meet the needs of students and the agricultural industry alike according to the School's Web site.

Missouri State University's Darr School of Agriculture formed the "Agricultural Pathways Partnership" with Crowder College, Missouri State-West Plains, Northeast Oklahoma A&M and Redlands Community College to offer baccalaureate degree completion via distance education delivery systems and other mechanisms. This program signifies a significant commitment to serving students in rural locations who might not otherwise have the opportunity to complete a four-year degree. Although the reviewers did not focus on this program, two distance learning students, via ITV, were a part of one of the interviews we held with students. Additionally, the School coordinates, through the Mountain Grove campus, the Viticulture and Enology Science and Technology Alliance (VESTA) certificate and two year program to train students for work in the viticulture and enology industry throughout Mid-America.

An assessment carried out by School of Agriculture personnel finds the following strengths of its programs:

- Unique location in the center of businesses, governmental agencies and production units in the food and renewable resources industry,
- Many supporters who participate in programs through six advisory committees and provide financial support and,
- Committed, innovative, diverse and dedicated faculty who focus on providing high quality educational programs including career development for students.

Facilities

The Darr School of Agriculture currently has one building on campus and three off-site facilities (one more in the process of being added) available for teaching, research and service projects.

Karls Hall: This renovated building is impressive in the facilities it offers for student learning and faculty scholarship. It has seven classrooms, five research and teaching laboratories, two computer labs, student study areas, faculty offices and conference rooms. It appears to have state-of-the-art teaching tools and research equipment. The common area has natural daylight and an open ambience fostering a positive environment for students, faculty and visitors. The School received \$4.9M from government sources for the renovation, indicating a very positive relationship between the School's administration (Dr. Anson Elliott) and federal government officials which has benefited the entire campus.

Darr Agricultural Center: Located approximately 5 miles from campus is the site of many of the laboratories offered in agronomy, horticulture, animal science and wildlife management/conservation. It has been the recipient of financial support from William Darr and Ed Pinegar which has allowed the School of Agriculture to significantly upgrade this facility. It is a 100-acre unit with a newly constructed arena including livestock handling space, a classroom, research laboratory and office space, and graduate student housing. The Agricultural Center's placement in the metropolitan area makes it ideal for not only a learning center for the School of Agriculture students but as a venue for agricultural literacy efforts such as livestock judging competitions and auctions, horticultural tours and workshops for the community at large. According to documents provided to Brannon and Fox, a challenge of this facility is managing the daily operations since there is no 'farm manager' overseeing routine maintenance and business matters. Additional facilities that are planned at the Ag Center (Learning Center Complex to include a conference room, laboratory, office space, classrooms, and greenhouses) will require staff time to manage and attend to maintenance issues and event coordination to ensure that use of these facilities will be optimal and serve the campus and community at large as intended. Additionally, faculty members have expressed a desire to expand the scope of livestock kept at the unit which will require even more staff/faculty time to manage than currently.

Bakers Acres: Located in Marshfield, this farm provides 80 Acres of rotational grazing for the beef program. The reviewers did not visit this facility nor was there much mention of it in documentation or during the visit. The impression is that this acreage serves its basic purpose and no adjustments are needed.

Mountain Grove State Fruit Experiment Center: Located about 60 miles from the campus core, this 180-acre research and teaching facility is another opportunity for expanding student learning and faculty scholarly activities. However, its location also presents a challenge for management by campus administration and some of the facilities are in need of renovation. It houses the Center for Grapevine Biotechnology which is internationally known and has as a core mission the exploration "of genetic resources . . . to identify health-promoting compounds in diverse grapevine species". The research team has three PhD research associates, a technician, two graduate students and an undergraduate, presumably on an internship to conduct research. This

program provides opportunities for high school and undergraduate students to obtain training in biotechnology and other high-tech areas of interest in viticulture.

Additionally the Mountain Grove facility is the State Fruit Experiment Station and personnel there host fruit and vegetable conferences/field days, beekeeping training, Master Gardner programs, field trips for elementary schools and conduct fruit tree research that benefits the entire state.

There appears to be a desire among its personnel to capitalize on the increasing interest among the public to support local farms and produce, but questions arise regarding how to address this topic with existing resources. Overall, it appears that the remote location of the Mountain Grove facility masks opportunities it affords for undergraduates on the Springfield campus for internships, etc., and may hinder collaborative projects with campus colleagues as well, presenting yet additional management challenges to those already mentioned.

Leo Journagan Ranch (prospective): The university is in the process of receiving its second largest donation in the form of this 3500-acre ranch and has a herd of 243 top quality Herford cattle. The ranch is located approximately 70 miles from the Springfield campus, but only 7 miles from the university's Mountain Grove facility. This proximity to an existing campus teaching and research facility is serendipitous as it has great potential to broaden the scope of disciplines/faculty that will use both facilities for teaching and scholarly activities. The synergy that can be obtained from faculty and students across multiple disciplines collaboratively studying Farm/Ranch management and natural and managed landscapes appears to be boundless. While it is the opinion of these reviewers that this ranch will enrich the School of Agriculture in ways yet to be imagined, we recognize that the ranch presents management concerns mentioned above for other satellite facilities, and these concerns must be addressed in order to seize on this great opportunity to enhance student learning and gain hands-on experiences.

Assessment of the Program/Answers to Questions by Dr. Jahnke

1. *What should the leadership team for the Ag Department look like? What qualities would be required for each member of the team? How could the team most effectively administer the various aspects – Springfield campus, Mountain Grove campus, Darr Center, and any future additions?*

The foremost part of this question is the words “leadership team”. It becomes very apparent to outside evaluators, substantiated by remarks from every group and/or person interviewed, that the current “leadership team” structure is very “flat” consisting of basically one individual. Currently, Chair Dr. Anson Elliott serves as the only recognized administrative leader of the School of Agriculture and, to this point, his 30⁺ years of leadership have served the School and the university very well. However, it is apparent to the reviewers that the School of Agriculture must, over the next couple of years, transition to a “team” of leaders in various capacities to help it proceed to the next level. Another very apparent leadership/administrative question became very evident during the review. There seems to be confusion throughout the university administration, faculty, staff and students regarding the name and function of the unit. Is it the “Department of Agriculture”, “School of Agriculture”, “College of Agriculture” or just “Missouri State Agriculture”. The review team saw/heard all of these terms being used during our visit. Certainly some clarity needs to be provided to this issue. Further, there were questions regarding the operating structure of the unit. Should it be a Department within a College, a School within a College, a School within the University or a College within the University? The reviewers conclude that the current answer is evident...the unit has just officially become known as the “William H. Darr School of Agriculture”. Yet, even with that apparent designation, we heard the comment “Yea, but the School functions as a Department within a College”. It was of particular notice that on some material the term “Missouri State Agriculture” was utilized...this term probably arose from this confusion.

Concurrent with the leadership recommendation, the reviewers recommend that the “William H. Darr School of Agriculture” become an autonomous unit answering to the Provost.

This change/transition can be accomplished relatively easily by leaving it as the Darr School of Agriculture, or if the university decided to do so at any time in the future it could be elevated to the College of Agriculture level. Models for both of these infrastructures exist at other non-land grant universities. From the national perspective, it is evident that those programs that are flourishing within their universities are organized as either a School or College. Each of these Schools or Colleges has a dean as the lead administrator, answering to the provost. Dr. Anson Elliott's title should be changed from Head to Dean to reflect his true contribution to the Unit. This structure ensures that the School/College of Agriculture will be an equal academic partner participating in educational, professional development and service projects across campus and it allows for the future cross disciplinary expansion of programs and facilities. The role of a dean requires strong leadership characteristics as it often requires tough decisions to be made that provide for what is best for the entire School or College, and sometimes these decisions may appear to be at least partially detrimental to individual units or faculty within the program. The dean would continue be responsible for external stakeholder relationships, donor communications, advisory board participation, public relations and overall academic program integrity. (Note: The recommended change in administrative structure is NOT based on any belief that the current Dean has in any way impeded the progress of the unit; rather she has supported the unit as much as possible while serving 8 other units. This recommendation IS based on setting up the best organizational structure that will allow the unit to flourish and grow.)

Immediately with this recommended change of administrative organization, the reviewers realize that the question will be "Why is Agriculture different?" During the review, evidence was provided at every level to provide answers to this question. Following are reasons why Agriculture at Missouri State is somewhat different from other Departments/Schools/Units:

- Management of multiple facilities and faculty/staff employees in multiple locations, some 60-80 miles from campus
- Broad base and Scope of operation includes not only academic component but also extension and outreach activities
- Dealing with multiple budgets that include significant revenue streams and operational expenses
- Enormous fund raising responsibilities/opportunities
- Interface of chair/faculty/staff to alumni and graduates
- Relationships and ties with surrounding Agricultural Industry
- Strong ties to area secondary Education schools through Agricultural Education and FFA

Imperative in any change in administrative structure will be accompanying budgetary adjustments. The administrative change should not cause any costs to go up. The additional funding that has been calculated to operate the new Journagan Ranch should be added to the School of Agriculture budget when the property is accepted. All funding dedicated from the past agreements and funding from previously committed sources should be transferred also. The important factor in the success of the school will be the initial set-up. Every effort should be made to set the autonomous unit up for continued success and to avoid any potential strangleholds.

The reviewers also recommend that, over time, an Associate Dean or Director of Operations and Development be appointed who has the ability to oversee routine operations of satellite facilities as well as provide academic and professional development guidance to personnel at these facilities. This person should also have a firm understanding of livestock and range management considering the impending donation of the Journagan Ranch. These skills are transferable to the two other satellite campuses as both require resource allocation for land management. (Note: On a initial basis someone internal may be able to shift to this position on a part-time basis.)

An additional member of the leadership team needs to be an Associate Dean, Assistant Dean, or Assistant to the Dean for student affairs to oversee effective academic advising and recruiting activities. Considering the academic partnerships with community colleges and high schools in the region the school has forged, growth in these efforts will be best handled by

someone who can focus on them. (Note: the current Director of Student Services and Public Affairs may be able to function in this role.)

Finally, we recommend that at least one academic program coordinator be appointed. The academic program coordinator functions as a department chair and oversees academic course scheduling, academic advising, signs off on graduation checks/course substitutions, and coordinates assessment and academic program reviews. Needless to say, this person should have a strong academic background and be student-centered. Eventually, with continued growth and development, the School/College may need to be broken down into specific and defined departments

2. *What kinds of support staff would be most important to support the leadership team?*

The reviewers believe that a dedicated development officer, perhaps housed within the existing Office of Development but with specific duties in Agriculture, would be beneficial to enhance the development activities that Dr. Elliott already undertakes. This position would be responsible for helping to coordinate alumni events, fundraising efforts and communicate with alums and influential stakeholders through personal communications and newsletters. The reviewers assume that at a minimum, existing administrative support staff will remain.

Additional technical staffs (technicians) appear to be needed at the Darr Agricultural Center to oversee routine maintenance issues. As the unit expands, the need will grow to have technical staff with livestock, agronomic and horticultural expertise; these staff may need to assist with lab preparation and/or teaching so appropriate educational backgrounds for these potential duties should be considered. Depending on the size of the outreach efforts, an event coordinator, perhaps hired as an independent contractor at first, may also be helpful.

Upon visit to the Mountain Grove campus, one reviewer noted a crucial improvement that could be made within the support staff. Presently, the number of support staff is adequate; however, it seems somewhat awkward that the maintenance staff positions report to the Facilities Management area in Springfield rather than the administrative team within the School of Agriculture at the Mountain Grove and Springfield campuses. No doubt this staff should coordinate major projects with Facilities Management but for efficiency and effectiveness of the day to day operations this reporting relationship should be directly within the School of Agriculture. This model being recommended has been proven to be successful at other Universities.

3. *Based on current and projected enrollments what kinds of faculty should be on staff? What should be the role of scholarship and research in the department (both faculty and student)?*

Disciplines of existing faculty [animal science, plant and soil science (horticulture/agronomy/pest management), ag/technical education and ag business] seem appropriate and adequate to address future growth. Existing faculty have expertise in focused areas within their broader disciplines, however, because the School of Agriculture is relatively small and will likely remain smaller than most others across campus, it is essential that faculty be willing to teach in areas that are outside their 'comfort zone' within their respective disciplines. For example, you probably will not have the luxury of having an entomologist, weed scientist and a plant pathologist on the faculty; but if you have someone with knowledge in each of these areas of plant protection, you will be able to offer courses in the important area of integrated pest management that takes a holistic approach to crop production and protection. Although this approach may require teaching and research sacrifices at the micro level of the discipline, it provides for a comprehensive approach to plant protection and offers more choices for student learning than may otherwise be afforded.

The reviewers acknowledge that an active scholarship program for faculty is key to maintaining currency in their respective fields and is essential to ensure delivery of a dynamic and relevant teaching program. Scholarship efforts differ from science-related disciplines such as plant or animal science to those from the social sciences such as ag business or ag education. Scholarship successes need to be measured in terms of their contributions to the academy, impact to the discipline and adoption by peers. Scholarly inquiries and activities on the part of the faculty should lead to currency in the classroom and ideally involve undergraduates in their data collection and analysis efforts. Every effort should be made to further integrate and utilize the expertise of the Mountain Grove faculty in teaching and research opportunities.

Study should be given to make more effective use of resources by analyzing whether the temporary number of adjunct “per course” faculty could be replaced by full-time lecturer/support staff personnel. One such area might be the Greenhouse Management area. Are there sufficient course work/management responsibilities to support the shift of resources for the addition of a full-time Lecturer/Greenhouse Manager? It seems that this type position has served well in the Equine Science/Darr Center position.

4. *The Ag Department currently offers a number of options for majors. Which ones are key to the future and which ones should be combined and/or eliminated?*

As mentioned previously, there are seven majors offered by the Darr School of Agriculture. These reviewers believe that there would be benefit to combining and/or revamping the existing programs into one of two possible structures – either three broad program areas or five majors with options/concentrations or ‘areas of emphasis’ being available within each of the remaining majors. This recommendation is made in recognition of limited faculty and staff resources for the foreseeable future. Narrowing the number of majors, will allow faculty to determine which classes are core to their respective disciplines and eliminates the need to teach low enrollment courses. The reviewers were provided with enrollment numbers in majors and it appears that Missouri State has experienced the same trend as other ag programs in the country. Animal Science seems to remain relatively strong although there has been an approximate 25% decrease in enrollment since 2005. Horticulture has seen enrollment drop by more than 50% in that same time frame. Other majors seem to have remained relatively stable over the last five years, while the general Agriculture degree program appears to have grown by approximately 60% in the same time period, perhaps because of increased opportunities for distance learning degrees.

Two possible ways of possible restructuring the majors/programs offered could be:

Option 1: Three Program Areas

Animal Science/ Preveterinary Medicine
Plant Science and Natural Resource Management
Agricultural Business/Education/Communication

Option 2: Five Program Areas

Animal Science and Wildlife Management - with tracks for pre-vet, animal husbandry and a science-based option for those going on to grad school, vs. veterinary school)
Plant and Soil Science - with tracks for production oriented students that would look like an urban ag or urban horticulture program and include pest management, and a science-based track for those interested in grad school.
Ag Business – with a track for the production-oriented student who wants to understand the business of production better and a finance track for those interested in grad school.
Ag Education and Communication –with a track designed for high school ag teachers and one for those interested in policy and public affairs/communication.
General Agriculture – designed principally for distance learning students

5. *What are some future areas of Agriculture that we should be preparing our students for that we are not doing?*

Areas of future growth that don't appear to be included in the current scope of disciplines include agrienergy, Ranch Management (particularly with the addition of the Journagan Ranch) food safety/security, local/sustainable agriculture including food production and distribution chains, and animal welfare. The reviewers are not familiar enough with the scope of the current degree programs to address this question definitively but the areas mentioned above seem to be outside the current scope. An additional area for consideration that may not be addressed currently is a blend of natural resource management and economics and deals with sustainability of agro ecosystem services and agro ecosystem management, again substantiated by the addition of the Journagan Ranch.

6. *How might we better take advantage of money-making opportunities to support agriculture at the station and Darr Center?*

Certainly there are revenue opportunities at the Mountain Grove station, the Journagan Ranch and the Darr Center. However, these opportunities are as a result of the instruction and laboratory development and should not be the key emphasis. Management of these facilities will always be the key factor.

7. *There are predictions that budgets for higher education in the state of Missouri will decrease significantly over the next two years. How might we balance our opportunities to raise money with the realities of the cuts?*

There is a proven track record of external support for the Agricultural program at Missouri State. This fact allows the School of Agriculture to be somewhat more resilient against budget cuts than most units. These external support mechanisms promise to keep agriculture from being a drain on the rest of the university campus.

8. *The donor base for agriculture is outstanding and their annual banquet is the highlight of all banquets on this campus. We have nearly outgrown the largest facility on campus. What's next?*

The reviewers did not have a chance to address this question.

Major/Critical Recommendations

- The current administrative infrastructure of the Darr School of Agriculture is not sustainable and may not be conducive to fostering future development opportunities when Dr. Elliott retires. It needs to be modified.
- The School of Agriculture needs to become an autonomous unit, either remaining as the Darr School of Agriculture or be elevated to the Darr College of Agriculture, reporting directly to the provost.
- The department head, Dr. Elliott, operates as a dean and should be elevated to the level of dean, answering to the provost.
- Appropriate funding to allow for the successful transition to the autonomous unit needs to be transferred at the time of transition.
- A management team needs to be established quickly to allow for its grooming by Dr. Elliott to assist with the myriad management decisions that accompany the unit. That proposed management team consists of the dean, associate dean, assistant dean of student affairs and at least one, possibly two program coordinators who answer to the associate dean with dotted line responsibilities to the assistant dean of student affairs.

- Additional support staff needs to be hired as the satellite facilities expand, such as the Darr Ag Center and once the Journagan Ranch is obtained, including technicians and a development officer.
- The additional resources needed for these positions and to maintain the Journagan Ranch must come from a source external to the existing School of Agriculture's budget.
- The existing maintenance staff at Mountain Grove and their supporting funding be transferred from Facilities Management to the Mountain Grove budget within the School of Agriculture
- Resist offsetting budget cuts at the University through savings anticipated with numerous upcoming retirements and half-time contracts in the School of Agriculture.

Supplementary Recommendations

- Consider a reduction in the number of degree programs/majors offered from seven to five/three—to be determined by faculty and administration.
- Provide 'resources for faculty retooling' as a means of professional development to allow them to address emerging issues. This retooling may need to include travel allowances to the Mountain Grove and Journagan Ranch facilities to promote more use of them as teaching tools, increase distance learning opportunities, and to increase interest in the facilities as 'living laboratories' for research purposes for faculty and students alike.
- Continue to integrate the faculty/professional staff of the Mountain Grove and Springfield campuses to the greatest extent possible.
- Form a Journagan Ranch Advisory Committee to provide input on how to implement this facility and its assets to the maximum benefit of the faculty, staff and students and to insure that it does indeed become an asset.
- Consider establishment of an Agriculture Career Fair to assist students in Career Placement.
- Consider establishment of a Student Awards structure and Spring Banquet.
- Look for ways to increase Internationalization of the Curriculum. Consider establishment of International Study tours to take students on short term international trips.
- Strive for greater utilization of the existing and new farms to support the academic mission and serve as a hands-on learning laboratory for students.
- Expand internship opportunities at the Mountain Grove Campus and the Journagan Ranch. Consider utilization of the soon to be renovated dormitory at Mountain Grove to provide a housing option for these interns.
- Consider expanded programs in Farm/Ranch Management utilizing the Journagan Ranch and the significant strength of the College of Business.

Suggested Timeline of Administrative Leadership Changes for Consideration

July 1, 2010	Darr School of Agriculture becomes Autonomous Unit reporting to the Provost
July 1, 2010	Anson Elliott title change to Dean
July 1, 2010	Present Director of Student Services title change to Assistant to the Dean for Student Services and Public Affairs
July 1, 2010	Academic Program Coordinator named to assist with Academic operations
July 1- June 30, 2011	Administrative Support help given to Anson in the area of Operations and Development or greatest need to assist with Mountain Grove/Journagan
Fall, 2011	Begin Search for Dean, School of Agriculture to begin July 1, 2012
July 1, 2012	New Dean begins
July 1, 2012	Anson Elliott assume Associate Dean/Director of Operations and Development (full time or half time, at his choosing) with management oversight responsibilities for Mountain Grove and Journagan Ranch and Development responsibilities with Corporate and Alumni Relations
July 1, 2012	Final School/College Structure goes into place; consideration to Departments