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TO: Dr. Robert Jolly & Dr. Steven Nissen

FROM: Jane Doe

DATE: July 5, 2007

SUBJECT: Developing a High School Agricultural Entrepreneurship Curriculum

With the mission of creating the foremost programs for training and developing high growth agricultural entrepreneurs in the United States, the Agricultural Entrepreneurship Initiative attempts to increase the number of students, faculty and staff engaged in entrepreneurial activities. The Initiative strives to create a broad understanding of entrepreneurship among faculty and students of the College of Agriculture and Life Sciences and its supporting components.

Almost two years after establishment, the Initiative's focus is still firmly on the creation of new and improved programs for College of Agriculture and Life Science students, faculty and staff. As the Initiative has gained footing in recent years, it has also gained insight into better means of reaching students to increase their comprehension of entrepreneurship as it relates to their career future. Student feedback determined that introducing students to entrepreneurship earlier in their educational careers is essential for early adoption and development of the entrepreneurial spirit. Preparing students prior to college, through a high school-based agricultural entrepreneurship curriculum, is one opportunity to do just that. With no current agricultural entrepreneurship curriculum available, I believe the Agricultural Entrepreneurship Initiative has the ability to seize this opportunity and prepare students prior to their enrollment at Iowa State University, while also broadening the Initiative's portfolio of programs.

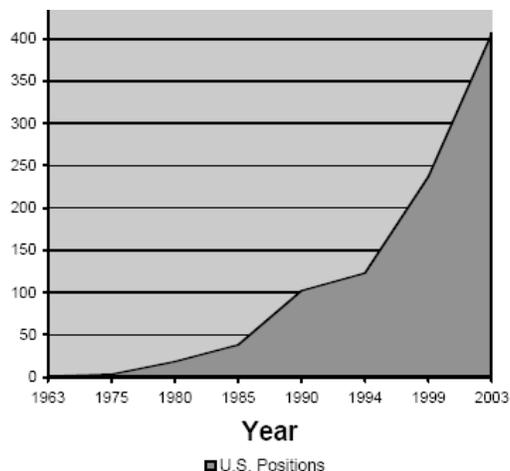
The purpose of this proposal is to seek approval to proceed with the development and implementation of a high school agricultural entrepreneurship curriculum. In this proposal, I will first touch on what has brought about the focus on entrepreneurship education throughout the United States. Secondly, I will discuss the plan to create and implement a curriculum over the next year. Finally, I will give an overview of the cost and benefits for moving forward with this plan. My goal is to show you that developing this curriculum will be beneficial for our program as we work to increase the understanding of entrepreneurship in agriculture.

MOVING ENTREPRENEURSHIP EDUCATION TO THE FORE FRONT

The evolution of entrepreneurship education has been influenced by many factors over the years. Thirty years ago, the perception of entrepreneurship was not often a favorable one. Entrepreneurship was synonymous with being a schemer, using smoke and mirrors to make the public purchase what was being sold. This perception of entrepreneurship was fueled by the economic situation at this time in history. It wasn't until the public experienced a recession year, with job cuts and high unemployment rates that citizens began to realize the opportunities that being an entrepreneur can present. Paul Hawkins, author of *Growing a Business*, and lifelong entrepreneur, stated it best: "Some of them realized what I had discovered: no institution in American life is freer to do what it wants to do than a business, and that includes creating its own jobs¹."

As the perception of entrepreneurship changed, so did the view on entrepreneurship education. Throughout the United States there has been a drive to incorporate entrepreneurship education into varying disciplines, beyond the typical business courses. The Iowa Department of Education has recognized entrepreneurship education as an important component for all levels of education, stating, "Entrepreneurship education is a vehicle for bringing academics together with career and technical education²." At the same time the state of Iowa's increased emphasis on economic development has consequently amplified the focus on entrepreneurship education in institutions around the state. Judi Eyles, Program Coordinator for Iowa State University's Pappajohn Center for Entrepreneurship affirms this, "Iowa recognizes that entrepreneurship activity at our state institutions is a key component of economic growth in our state, and the state has committed resources as well as enacted legislation to support technology commercialization and start-up activity on our campus and within our state." The support for local, state and the national government has led the push for entrepreneurship education across the United State. Universities are developing program and professorships to assisting in integrating entrepreneurship into the core curriculum.

Figure 1: Number of endowed university positions on entrepreneurship education – 1963-2003³



The early adopters of entrepreneurship education have been those disciplines that lend themselves to new discoveries and research, primarily the engineering and science-based fields. Stanford University, one of the world's leading research and teaching institutions, established the Stanford Technology Ventures Program within the Truman College of Engineering in 1997 to focus efforts to integrate entrepreneurship education into the core curriculum of the University⁴. In comparison to engineering, the agriculture industry is led through innovation and technological advances, making it an extremely well-matched partner for entrepreneurship education.

With colleges and universities placing more focus on entrepreneurship, a trickle-down effect has helped to introduce entrepreneurship education at the secondary level. High school agricultural programs have historically been structured as vocational programs, teaching students trades or technologies. Coupling with entrepreneurship education could give these students the needed business sense to connect the “art” with industry. Joel Frost, agricultural instructor for Northeast High School in Goose Lake, Iowa feels strongly about the benefits of teaching entrepreneurship within agricultural programs and the need for a developed curriculum. “This is an area that we as agriculture instructors have a major advantage over other high school teachers, even the business teachers that teach entrepreneurship ‘from a book’. The Supervised Agricultural Experience (SAE) projects, which agriculture students complete, are the hands-on model of an entrepreneurship curriculum. It is, in affect, a small business that students operate themselves and a curriculum in this area would be very helpful.”

With the ever evolving agricultural industry, preparation of future leaders is essential. The introduction of entrepreneurship education to agricultural high school students will work to prepare students to be innovative leaders in their fields. As Iowa State University's College of Agriculture and Life Sciences strives to become the leader in agricultural entrepreneurship education, it is essential for our program to assist in the preparation of our future students.

DEVELOPING THE CURRICULUM

Developing a comprehensive agricultural entrepreneurship curriculum requires a plan which will gain input and expertise from a variety of sources to ensure implementation success. Therefore, I believe that a successful curriculum development process must meet the following objectives:

- Drafted in conjunction with curriculum development professionals who have experience in writing high school curriculums.
- Curriculum will be tied to a current award or grant program available to schools.
- Adequate feedback from Iowa agricultural instructors in regards to curriculum content and lesson plans.
- Easily accessible curriculum materials and supporting tools.
- Time-efficient and effective initial roll-out of completed curriculum.

The advantages of meeting these objectives will be a clear and complete plan for a successful implementation of the curriculum in high school agricultural courses.

QUALIFICATIONS OF PERSONNEL

In moving forward with the development process I would like to emphasize the qualifications of those involved in the process. While working for the entrepreneurship program I have studied entrepreneurship and the entrepreneurial process. Specifically, my involvement on the youth conference presentations, introductory course presentations and the assistance in the assemblage of curriculum modules for Agronomy 114 & 410 has given me a solid understanding of the study of entrepreneurship. However, developing a curriculum takes an understanding of methods to challenge students and engage their interests to support their learning experience. For this factor of the equation I will enlist the assistance of Dr. Wade Miller, ISU professor of Agricultural Education and Curriculum and Instruction. Dr. Miller has an extensive background in curriculum research and development through his past work on campus and through the Iowa Department of Education (for Dr. Miller's complete vita, see Appendix C). His past experience will ensure the curriculum meets the needed outcomes and assessments required for high school classes.

TESTING THE CURRICULUM

To ensure the curriculum is truly applicable to the classroom, it will be important to test the curriculum and make needed adjustments before launching. Agricultural instructors know best what works and what does not in the classroom. A pilot test group will be arranged to test the curriculum in their classrooms and then provide feedback on what improvements or changes needed to be addressed. Participation in the pilot group will be solicited during the fall agricultural teacher's in-service meeting. Approximately 4-6 agricultural instructors will be selected to participate. Through a one day training sessions the instructors will be trained on the curriculum and the feedback process. All recommendations and adjustments from the pilot program will be addressed following the first of the year.

It is recommended that the test curriculum consists of eight separate units with the first being an introduction to the study of entrepreneurship and then progressing into each of the specific areas of the entrepreneurial process. A complete list of all units and titles are available in Appendix D.

INCENTIVES TO TEACH

With the wide array of agricultural topics, instructors are continuously bombarded with a variety of curriculums to teach to their students. With only so much time in a school year, instructors must select curriculums that will be most beneficial for their students and have the most impact for their program. Tying a curriculum to an award or grant program gives instructors an incentive to implement selected curriculums. Currently, the National FFA Organization offers the Agri-Entrepreneurship Program to increase the amount of entrepreneurship being taught in high school agricultural classes. Students apply to the state for \$100 of matching funds to assist in their entrepreneurial endeavor. Ten national awards are announced each year with winning students receiving \$1000 and

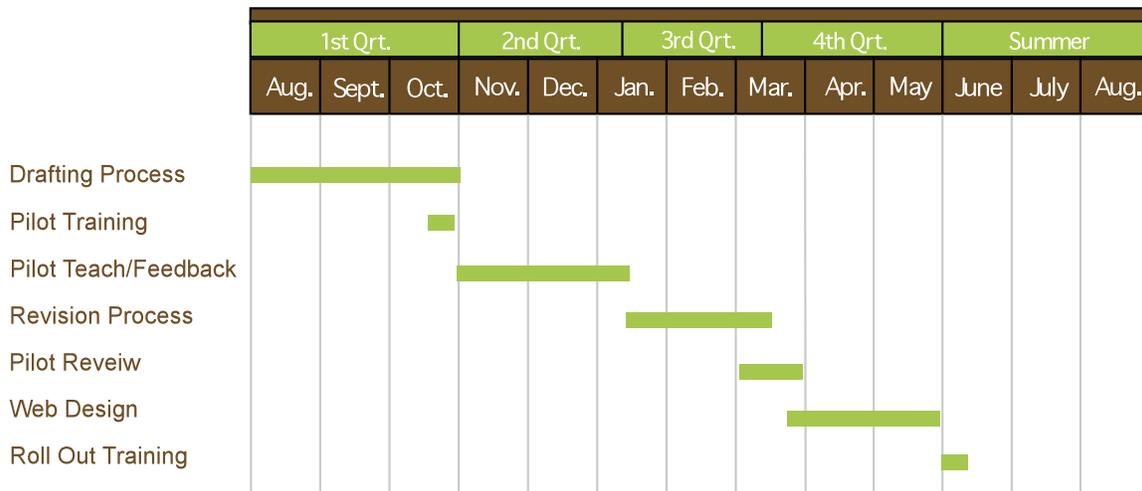
the school chapter \$500⁵. Incentives like this program will help to enhance implementation of the entrepreneurship curriculum across the state.

ACCESSING THE CURRICULUM

The final stage of this process will be the creation of an on-line resource page providing access to the curriculum and supplemental resources. Instructors will logon to the website for easy access to downloadable units and supplemental teaching tools. Instructional entrepreneur video highlights and clips will also be available through the website.

Following the completion of the Internet based resource page, the curriculum will be ready for launching. The curriculum will be rolled out to all agricultural teachers during the summer agricultural teachers conference held mid-June in Ames, Iowa. Hard copy versions, with all additional teaching tools, will be available to teachers following a brief training session. Fully equipped with the needed tools, Iowa agricultural teachers will leave the summer conference prepared to implement entrepreneurship into their coursework during the new school year.

Figure 2: Timeline for Curriculum Development Process



INVESTING IN ENTREPRENEURSHIP EDUCATION

In conclusion, I would like to summarize the benefits of the proposal and the costs associated with moving forward with this plan. My research has shown an opportunity exists for the Initiative to lead in educating future undergraduate students in agricultural entrepreneurship. Exposing students earlier in their educational career will help to create awareness and an understanding of the relationship between entrepreneurship and a successful career future.

Creating the curriculum and its supporting tools is an investment in the future. As illustrated in Appendix B, developing and implementing a high school agricultural curriculum would cost \$7,010. I believe the benefit of reaching students across Iowa is worth this low initial investment.

The modest cost of the program however, is not the only benefit of the plan. Completing this plan will finally provide a curriculum for high school agriculture teachers to use in conjunction with SAE projects and FFA awards. Lacking a sense of curriculum organization in the past, agricultural instructors will now be able to integrate the curriculum to ensure their students take away business knowledge from their SAE experience.

Through the Initiative we have strived to reach students earlier in their educational career at ISU in the hopes of spurring involvement in the entrepreneurship programs offered. Exposing students while in high school will familiarize them with the concept of entrepreneurship while making our programs more inviting for participation during their freshman year. Roger Underwood, the Initiative's sponsor, has expressed his deep passion to support undergraduate student development in entrepreneurship stating, "I think some of our best entrepreneurs are college students today ⁶." I believe this curriculum will help us to reach goals set for our program and the perceived goals of our sponsor.

Constant growth of the Initiative's portfolio is essential for continued endorsement from the administration of the College of Agriculture & Life Sciences. Programs that have the potential to recruit new students to the College are looked upon favorably by administration. With the curriculum in place Iowa State University, the College of Agriculture & Life Sciences, and the Agricultural Entrepreneurship Initiative will be in the front of hundreds of potential students. The curriculum could potentially serve as an excellent marketing tool for all involved, while positioning Iowa State University as a leader in the agricultural entrepreneurship discipline.

I look forward to discussing the aspects of the proposal in greater detail in the near future. I would welcome the opportunity to do just that at our next monthly staff meeting on July 16th. If you have any questions regarding the proposal prior to this meeting, please do not hesitate to contact me.

Appendix A: Bibliography

1. Hawkins, Paul, *Growing a Business* (New York: Simon & Schuster, 1988), 18.
2. Iowa Department of Education. *Iowa Department of Education- Entrepreneurship*, 2006, <http://www.iowa.gov/educate/content/view/262/4013>.
3. Jerome A. Katz, PhD., "2004 Survey of Endowed Positions in Entrepreneurship and Related Fields in the United State." *Ewing Marion Kauffman Foundation*, 2005, http://www.kauffman.org/pdf/survey_endowed_chairs_04.pdf.
3. Stanford University. *Stanford Technology Ventures Program*, 2007, <http://stvp.stanford.edu/about/index.html>.
4. National FFA Organization. *Agri-Entrepreneurship Program*, 2007, http://www.ffa.org/index.cfm?method=c_programs.AgEntrepreneurship
5. *Agricultural Entrepreneurship Video Series*, dir. Stacey Noe., ed. Rod Bodholt, B&G Productions, Ames, IA, 2006, DVD.

Appendix B: Budget

Through cost effective means developing a high school entrepreneurship curriculum can be accomplished for a low initial investment. In this appendix, I would like to review some of the costs associated with the plan presented in this proposal. The figures below are estimates and an itemized budget will be available in the future.

Table A: Budget Summary	
Item	Cost
Publication fees	\$500
Video Production	\$2,500
Supplemental Resources	\$450
Web-Site Development & Programming	\$1,000
Travel	\$60
Pilot Group	
<i>Substitute Teacher Stipend</i>	\$450
<i>Training Materials</i>	\$100
<i>Meeting Meals & Refreshments</i>	\$300
<i>Hotel/Travel</i>	\$650
<i>Honorarium</i>	\$1,000
TOTAL	\$7,010

As shown in Table A, the largest amount of the budget is designated for the video production fees. Eight video interviews of agricultural entrepreneurs will be produced and developed as supplemental resources for teachers to use during class lectures. Costs associated with these videos include traveling to the interview locations, video recording fees and editing costs.

Other leading costs include website development and programming costs and the honorarium offered to agricultural teachers involved in the pilot program. Developing an attractive website that is easy to navigate is important as teachers access the site to download the curriculum and its supplemental materials, including the video clips. Of the same importance is the initial pilot group involvement by agricultural instructors. We understand teachers are busy and taking time to be part of the pilot group could potentially take them away from other responsibilities. To compensate for this, we will be offering an honorarium of \$200 each.

Appendix C: Dr. Wade Miller Vitae

W. WADE MILLER

Vitae

Education

Bachelor of Science (Magna Cum Laude)	Texas A&M University	1970
Master of Education	Stephen F. Austin State University	1976
Doctor of Philosophy	Texas A&M University	1980

Professional Experience

1992 to present	Professor of Agricultural Education and Curriculum and Instruction, Iowa State University, Ames, Iowa.
1985 to 1992	Associate Professor of Agricultural Education and Curriculum and Instruction, Iowa State University, Ames, Iowa.
1980 to 1985	Assistant Professor of Agricultural Education and Secondary Education, Iowa State University, Ames, Iowa.
1978 to 1980	Visiting Instructor of Agricultural Education, Texas A&M University, College Station, Texas.
1977 to 1978	Graduate Teaching Assistant of Agricultural Education, Texas A&M University, College Station, Texas.
1975 to 1977	Teacher of agriculture and ornamental horticulture, Lancaster High School, Lancaster, Texas.
1974 to 1975	Teacher of agriculture and cooperative part-time employment training, San Marcos High School, San Marcos, Texas.

Courses Taught at Iowa State University

Presentation and Sales Strategies for Agricultural Audiences
Methods of Teaching in Agricultural Education Programs
Internship in Agricultural Education
Supervised Teaching in Agricultural Education Programs
Short Course in Agricultural Education
Instructional Methods for Teaching in Agricultural Education
Distance Teaching and Learning in Agriculture

Curriculum Materials

Miller, W. Wade and Jasper Lee (Eds.) Aquaculture. Curriculum manuals for teaching aquaculture National Council for Agricultural Education. Alexandria, VA. 1992.

- Miller, W. Wade and Martin J. Frick (Eds.). Lessons in Food and Agricultural Sciences, Volume I. (Teaching materials) Iowa Association Vocational Instructional Materials, Ames, IA. 1988.
- Miller, W. Wade and Timothy J. Rollins (Eds.). United of Instruction in Landscape and Nursery Management. (Teaching materials). Department of Agricultural Education, Iowa State University, Ames, IA. 1987.
- Miller, W. Wade, Larry D. Trede, and others. Agricultural Information and Networking Services - Seminar, 1987. (Microcomputer programs and teaching materials). Iowa Association Vocational Instructional Materials, Ames, IA. 1987.
- Hildebrandt, Reinee E., W. Wade Miller, and Stephen G. Eckles. Christmas Tree Production and Marketing. (Curriculum materials). Iowa Curriculum Assistance System. Ames, IA. 1986.
- Hildebrandt, Reinee E., W. Wade Miller, and Stephen G. Eckles. Wood as Energy - Production and Marketing. (Curriculum materials). Iowa Curriculum Assistance System. Ames, IA. 1986.
- Trede, Larry D., W. Wade Miller, and others. 1986 Agribusiness Data Base Management Workshop "Joe's Feed and Seed". (Microcomputer programs and teaching materials). Iowa Association Vocational Instructional Materials, Ames, IA. 1986.
- Trede, Larry D., W. Wade Miller, and others. 1985 Crop Production and Management Computer Assisted Instruction in Vocational Agriculture. (Microcomputer worksheets and programs). Iowa Association Vocational Instructional Materials, Ames, IA. 1985.
- Trede, Larry D., W. Wade Miller, and others. 1984 Swine Management Computer-Assisted Instruction in Vocational Agriculture. (Microcomputer worksheets and program). Iowa Association for Vocational Instructional Materials, Ames, IA. 1984.
- Harrison, Brad L. and W. Wade Miller. An Instructional Packet on Soil and Water Conservation for Vocational Agriculture Students. Iowa Association for Vocational Instructional Materials, Ames, IA, 1983.

Appendix D: Sample Curriculum Outline

For a better understanding of the planned curriculum structure I have included a sample outline of the units suggested for the agricultural entrepreneurship high school curriculum. Each of these units will be developed in hard copy on request and web-based

for downloadable access. The units will include background information on the topic and then suggested exercises and assignments to complete the unit.

Table 2: High School Agricultural Entrepreneurship Curriculum Outline

Unit 1: What is Entrepreneurship?
Unit 2: Who are Entrepreneurs?
Unit 3: Opportunity Recognition & Creativity
Unit 4: Market Research
Unit 5: Securing Information and Resources
Unit 6: Developing a Business Plan
Unit 7: Starting the Business
Unit 8: Maintaining and Growing the Business

As you can see, each key step of the entrepreneurship process will be covered through the separate units. There is also adequate amount of base information presented early in the curriculum to give students a clear understanding of entrepreneurship prior to developing a business plan.

Appendix E: Sample Curriculum Unit Exercise

The following exercise is a sample of what supplemental material will be developed to complement the curriculum. Exercises or activities will be part of each unit.

Interviewing an Entrepreneur

In order to develop a comprehensive case study, you must learn about the entrepreneurs' background and motivations. A quality one-on-one interview of the entrepreneur is the number one method for acquiring this information. To assist you in the process use the provided outline to conduct your interview.

1. Entrepreneur's background
 - Family history, experience with small or entrepreneurial businesses
 - Education
 - Work experience
 - Professional or personal goals, values

2. Description of current firm or organization
 - Product line
 - Markets served
 - Firm size, organization
 - Key skill sets, core competencies
 - Business strategy

3. Describe the origins and evolution of the firm or organization
 - Opportunity – what was it, how was it recognized
 - Assembly of resources, people, money, contacts
 - Founding the business
 - Changes in direction, business objectives, organization
 - Crisis points

4. Describe the role of the entrepreneur in creating and operating the business or organization
 - Motivation – why did they take this course of action over others that were available?
 - What were the key tasks undertaken
 - Skills and resources provided
 - What weaknesses needed to be overcome? How?