SS-AAEA Journal of Agricultural Economics
The Future of the Family Farm: A Case Study for a Starting Family-Run Operation
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Abstract

Family farms are unusual management situations. Not only is the manager focused on building a profitable enterprise, he or she is also aiming to create one so profitable that it supports the family that owns and works it. Also, production agriculture has extremely high barriers to entry, including specialized knowledge, significant capital investments, variable prices of product and costs of inputs, and long production cycles. Although these difficulties are factors in the declining number of agricultural producers in the United States, young people are still returning to the family farm. This case study analyzes one young couple's whole farm management plan for starting their own operation in northeast Oklahoma, including accounting projections and financial ratio analysis. With Integrated Farm Financial Statements, software developed by Agricultural Economics Extension at Oklahoma State University, enterprise budgets and whole-farm financial statements were constructed for the intended enterprise, and also for three alternative scenarios.

Acknowledgements: I'd like to thank Dr. Damona Doye and Dr. Francis Epplin for serving on my OSU Honors College Thesis committee as director and second reader, respectively, and for providing constant support and guidance – even to late Friday afternoon emails. I also dedicate this paper to my fiancé, Steven, who inspires me constantly with his passion for agriculture (and answered a million questions about ag production), and to his family, who inspired many of the assumptions of these pages.

Family agriculture is one of the most personal industries in our country. The obligation of running both a business and a family (in an environment with high upfront expenses and variable output and prices, nonetheless) make farm management a unique situation. The Economic Research Service (ERS) of the United States Department of Agriculture (USDA) classifies farms into small family farms (less than $250,000 gross sales/year, and also broken down into four subcategories), large ($250,000 – $499,999), very large (more than $500,000) and non-family (non-family cooperatives or corporations). 88% of US farms fit into the "small" category, and 63% of farmland in the US is owned by farms in this category. Furthermore, most small farms create a negative profit annually, requiring these farmers to depend on off-farm income to support their families: expenses exceed sales in 45% of "medium sales" farms and in 75% of "low sales" farms (ERS 2010). In Oklahoma alone, 89% of the 86,600 farms are owned and managed by families (citation, 2010). For them, agriculture is more than a 9-to-5 job. Nationwide, however, 98% of the population is not directly involved with the production of food, fuel, and fiber (Dimitri, et al, 2005). Today, several organizations are encouraging consumers to be more food-aware through promotion of farmer's markets, organic farming, and sustainable practices. Family-run operations then should be of high public concern.

Public concern aside, the principles that make a successful business should be paramount to the producers on the tractor, on horseback, or in the greenhouse. Not only do agricultural producers face corporate issues such as the supply chain, consumer behavior, and employee relations, they also have the additional challenge of working with Mother Nature within circumstances out of anyone's control. Thus, a management plan (or whole farm plan) should

include risk management guidelines. The best experience for managing a real farm is recreating a farm on paper, and creating a whole farm plan. So begins the following case study.

The following case study was intended to represent a real-life family farm in as many ways as possible. Many case studies in farm management take a farm family and assess past performance as well as project the future. This project instead focuses on a hypothetical starting farm in northeast Oklahoma. All numbers used are reasonable estimates for the region, based on conversations with local farmers or Oklahoma State Extension faculty in the departments of Agricultural Economics and Plant and Soil Sciences.

The beginning assumption is that the starting farm will have many similarities with a real life farm in Washington County, Oklahoma, which raises soybeans, milo, wheat, and cattle. Hereafter, the project farm is referred to as Cowboy Farms, LLC. Since there is no historical data to analyze, the case study is to project three years of financial data with no changes in operations, management practices, or acreages. It also included calculating the "Legal 21" ratios (the 2011 update of the "Sweet 16" ratios) of Year 3 of the farm's current plan, to identify its strengths and weaknesses. To compare multiple scenarios, similar projections were made on three alternative plans that change land arrangements, enterprises, or operations.

The methods and procedures used in this project, although performed on what is classified by USDA as a large family farm, can apply to any size of farm – or non-farm business.

Farm Introduction

The farm, located in northern Washington County, Oklahoma, is 1000 acres in total size. The farmers, recently married, have been farming with their families for many years, but have finally started their own operation. The model begins with no land, 10 cows (a gift), and includes the expenses for creating an LLC to protect the family and farm. Their first step in farming is to secure financing for asset purchases and operating expenses – an operating line of credit from a local bank and a loan from Farm Credit of East Central Oklahoma through the Young, Beginning, and Small Farmers program to buy 600 acres farmland (85% of the land value). They are also acquiring leases for 400 acres. All of their cropland leases are on a shares-basis, as is typical in the region.

Next, the farmers plan purchase an additional 90 head of cattle (50 mature cows for fall calving and 40 weaned heifers to be pastured overwinter and bred with the 10 original cows for spring calving). The plan is to raise cattle on 250 acres of devoted pastureland, and rent out the 300 acres of wheat pasture produced for neighbors' stocker calves. Those 300 acres of wheat will also have short-season beans planted on them after harvest. Roughly 230 acres of beans will be planted in April (170 rented and 60 owned). 80 acres will be grain sorghum for adding to cattle feed rations in the winter. A perennial alfalfa stand will occupy 40 acres. The remaining land (generally around 100 acres) will be fallow for allowing crop rotations and adjustments over time.

Although the couple each have off-farm income (in varying degrees seasonally), this income is not included because the farm is intended to be self-sustaining as an LLC. A benefit for the couple's startup farm is the ability to trade labor hours on equipment for a neighbor for their

use of that equipment later – a common practice among the close-knit community. The couple plans to one day own machinery (this is also analyzed as an alternative plan).

Both farmers are graduates of the College of Agricultural Sciences and Natural Resources at Oklahoma State University, and thus have some training in strategic planning. They have identified their objective to be a farming operation that is both financially stable and environmentally conscious, to support their family in the process of supporting countless others via safe food production. Specific goals for the farm include (1) to pay off the Farm Credit loan ahead of at least ten years ahead of schedule; (2) to have the flexibility to take on more acres as family members start to retire from their own operations; (3) to approach farming with a sustainable perspective by integrating conservation tillage and practices where feasible, and begin regular soil testing; and (4) to participate with OSU Division of Agricultural Sciences and Natural Resources research and extension faculty in real-world trials.

A calendar for schedule of farm operations is in Appendix 1.

Table 1. Summary of Farm Production

Operation	Purchase price[1]	Yield	Sale price	Land
Alfalfa	$2.73/lb seed, 18 lb/acre planted 5 year stand	2 ton/ac in year 1, 4.5 thereafter	$100/ton[2]	Owned
Early soybeans	$48/bag seed, 150,000 seed rate	40 bu/ac	$13.09/bu[3]	170 rented, 60 owned
Late soybeans	$48/bag seed, 150,000 seed rate	28 bu/ac	$13.32/bu[3]	Owned
Wheat	$14/bu seed, 1.33 bu seed rate	35 bu/ac Wheat pasture	$8.00/bu[3] $10/head/mo[2]	Owned
Grain sorghum	$168/bag, 40,000 seed rate	55.8 bu/ac	$2.56/bu[3]	Rented
Fall calving	$1,100/head[4]	620 lbs steers, 580 lbs heifers	$136.30/cwt steers,[5] $126.70/cwt heifers[5]	Owned
Spring calving	$1,100/head[4]	529 lbs steers, 497 lbs heifers	$132.87/cwt steers,[5] $120.07/cwt heifers[5]	Rented

[1]Pioneer seed average

[2]Prices from experience

[3]Prices are based off current prices, reduced for bearish tendencies. Soybeans were obtained by estimating harvest price in October, November, and December, and finding a weighted average.

[4]Prices are estimates of value of mature cow. The only cattle actually bought are the spring calvers. The fall calvers were either gifts or bought as heifers in the fall.

[5]Prices obtained by averaging April 2011 Tulsa Feeder cattle sales for these weights, and applying a seasonality feature in IFFS, which adjusts April prices for the appropriate sale month.

Project Parts

The case study project is divided into two parts. Part A analyzes the future of the current plan. Three years of balance sheets, income statements, cash flow, and Legal 21 ratios are included in Appendix 1. Part B analyzes the effects of three alternative plans on the financial ratios of Year 3: (1) a different mix of owned and rented land, (2) the addition of purchased stocker cattle for additional grazing, and (3) purchase of necessary machinery.

Financial Analysis of Part A

Financial records from the farm were entered into Integrated Farm Financial Statements Software (copyright OSU) and the subsequent financial statements were obtained[1]. Figure 1 summarizes the state of the farm in Year 3, which allows time for rotations and multi-year projects to show returns, if no changes are made to the current ("original") farm plan.

The "Results" column is labeled with the level of stress each ratio is currently facing – "Low Stress" is good and "High Stress" is bad, with an unlabeled medium stress in between. No association is intended between the label of "low" or "high" stress and frequency of producers affected thereby. Net farm income is only considered as positive or negative, as the value is only good or bad in relation to total farm size. The cells of the actual calculated values are colored green (for good), yellow, and red (for bad) as a visual aid to understanding the results.

Overall, the farm's ratios are promising. The most critical ratios are the liquidity ratios: current ratio and debt to assets. These ratios are under higher stress than the others because the farm has few current assets, and a large initial debt load, which creates large current liabilities of principal and interest payments. The last two ratios on the list are also related to the heavy debt load: the farm pays much of its gross income in interest. The net farm income stepped up to $116,000 after being negative in Year 1, so the farm's returns are improving quickly. The increases are due to cattle and alfalfa reaching their full production potential in Year 3. Discussion on methods to improve these ratios is given later in the text.

Figure 1. Cowboy Farms, LLC, Financial Stress Analysis - Original Plan, Year 3

	Low Stress		High Stress	Farm	Result
Current ratio	2.0 or more	1.0 – 2.0	1.0 or less	1.83	OK
Debt to asset	30% or less	30%-60%	60% or more	74%	High
Net farm income	Positive		Negative	116,218	Low
Rate of return on assets	5% or more	1% - 5%	1% or less	12%	Low
Rate of return on equity	10% or more	5% - 10%	5% or less	27%	Low
Debt coverage	135% or more	110% - 135%	110% or less	206%	Low
Interest expense	10% or less	10% - 20%	20% or more	15.9%	OK
Asset turnover	40% or more	20% - 40%	20% or less	25.7%	OK

Source: Ratios and benchmarks from Oklahoma State University Extension Fact Sheet AGEC-237.

[1] Complete financial analysis is not included in this report, but available upon request.

Improving Financial Ratios

Kay, Edwards, and Duffy, in their sixth edition of their popular textbook *Farm Management,* dedicate an entire chapter to evaluating performance. When discussing financial ratios, they suggest refinancing debt, slowing farm growth, and selling assets as some possible fixes for liquidity problems, and retaining net income, reducing debt, and selling assets as cures for solvency issues (Kay, Edwards, Duffy, 319). In our case, the liquidity ratios show the highest stress.

Refinancing current debt and liquidating assets are not viable options for this starting farm. Since the farm grew significantly in the first three years (from negative $200,000 net farm income in Year 1 to over $100,000 in Year 3), debt ought to be paid off quickly, as indicated with the debt-coverage ratio (a measure of repayment capacity). A ratio greater than 1.0 (100%) means adequate cash flow to pay current portions of long term debt (Kay, Edwards, Duffy, 330) and the calculated value is over 200%. Over time, current assets will be accumulated and debt will be paid down. Therefore, measures beyond normal operations to improve liquidity are not warranted.

Since the farm was established as an LLC, family expenses are separate from farm operations, but having $116,000 of net farm income allows some flexibility to reward the farmers with salary bonuses or similar compensation. In this case, separating farm and personal finances allows the couple patience and flexibility for their starting farm without putting a crunch in the family budget.

Financial Analysis of Part B

Three alternative plans consider three distinct aspects of farming – financing, enterprise selection, and operating expenses. Each of these plans had a different effect on the farm's bottom line after three years, as displayed below in Figures 2 – 4.

Alternative 1

Alternative 1 is to change the combination of owned and rented land. Originally, the 1000 acres consisted of 600 purchased and 400 rented acres. Considering the farmers must provide 15% of the land purchase price in agreement with Farm Credit Services of East Central Oklahoma[2], it may be more feasible to start smaller. For Alternative 1, the arrangement is reversed to now favor leasing: purchasing 320 acres (two quarters) and renting 680 acres. The 320 acres would be half pasture, half cropland. 40 acres of alfalfa will be planted on owned acres, as will 120 acres of April-planted soybeans. Early soybeans will also be planted on 110 acres of rented ground, to keep the enterprise arrangement similar to the original plan. Changing the land base in this manner will reduce the explicit costs of land ownership (interest, taxes, and insurance and the opportunity cost of purchase money and interest) but also

[2] Unless FCSEOK can obtain an FSA guarantee, but the necessary steps to obtain such were not explored.

decreases cash inflows since cash sales are shared with the landlord. Depending on the productivity of each enterprise, this could result in substantial improvements in cash flow.

This plan was different from the original because a smaller Farm Credit Services loan was taken out to purchase land. The net effect on the current ratio was a significant improvement, as loan payments and interest opportunity cost were smaller, despite sharing gross sales with landlords. This alternative follows the Kay, Edwards, and Duffy text suggestions for improving liquidity. It had a similar effect on the solvency problem compared to the original plan, since similar production is achieved with smaller loans. In this case, the debt has been paid down to 58% of the value of the farm's assets in just three years, compared to a still very high 74% in Year 3 of Plan A.

Figure 2. Cowboy Farms, LLC, Financial Stress Analysis – Alternative 1, Year 3

	Low Stress		High Stress	Alternate Plan	Original Plan	Change
Current ratio	2.0 or more	1.0 – 2.0	1.0 or less	4.87	1.83	Better
Debt to asset	30% or less	30%-60%	60% or more	58%	74%	Better
Net farm income	Positive		Negative	$134,551	116,218	Higher
Rate of return on assets	5% or more	1% - 5%	1% or less	18%	12%	Better
Rate of return on equity	10% or more	5% - 10%	5% or less	39%	27%	Better
Debt coverage	135% or more	110% -135%	110% or less	368%	206%	Better
Interest expense	10% or less	10% - 20%	20% or more	9.5%	15.9%	Better
Asset turnover	40% or more	20% - 40%	20% or less	34.6%	25.7%	Better

Alternative 2

Alternative 2 is to retain the spring-born calves from the cow herd (in Years 2 and 3), run them on the 300 acres of wheat pasture (instead of renting it to neighbors), and sell as slaughter-bound yearlings. The plan benefits from higher selling weights, but is hurt by the loss of rental income, lower per-pound prices, and additional expenses in caring for the calves.

When compared to the original plan, this alternative has a few merits but is overall not as desirable. The current ratio is worse, as stockers contribute to the operating line of credit and did not help pay bills as weanlings. The interest expense ratio is worse for a similar reason: the extra interest accrued during the stocker season. The rate of return on assets is better because higher-weight calves brought more (in gross dollars) at the sale than feeder calves, but asset turnover is lower due to the longer time frame. From this, it is financially preferable to rent out wheat pasture than retain stockers. In the future, when debt is paid down and cash flow is less critical, stockers may be a viable enterprise.

Years 4 and 5 of this plan will look different from Year 3, because only 60 calves were considered in these three years (ten born at the end of Year 1 and sold at the end of Year 2, and 50 born in late Year 2 and sold at the end of Year 3). After another year or two, the effects of selling 50 fed calves (not counting for death loss) every spring will be more noticeable than here at the beginning. This plan also assumes that all heifers are sold, as recently purchased cows should not need replacements within this three-year time frame.

Figure 3. Cowboy Farms, LLC, Financial Stress Analysis – Alternative 2, Year 3

	Low Stress		High Stress	Alternate Plan	Original Plan	Change
Current ratio	2.0 or more	1.0 – 2.0	1.0 or less	1.69	1.83	Worse
Debt to asset	30% or less	30%-60%	60% or more	75%	74%	Worse
Net farm income	Positive		Negative	$115,752	116,218	Worse
Rate of return on assets	5% or more	1% - 5%	1% or less	12%	12%	Same
Rate of return on equity	10% or more	5% - 10%	5% or less	38%	27%	Better
Debt coverage	135% or more	110% -135%	110% or less	206%	206%	Same
Interest expense	10% or less	10% - 20%	20% or more	16.6%	15.9%	Worse
Asset turnover	40% or more	20% - 40%	20% or less	24.8%	25.7%	Worse

Alternative 3

The third alternative considered buying machinery for the majority of operations on the farm, leaving fertilizer applications and most hay activities as "custom", because of the stress on the farm purchasing these implements for 1000 acres. In this region of Oklahoma, most producers hire fertilizer and chemical application, and 40 acres of alfalfa (full production of 4.5 tons/year 4 of 5 years, and 2 during the establishment years, at $100/ton) do not justify purchasing hay equipment when it is readily available to rent. The equipment was purchased with the 6%-interest operating line.

Explicit expenses were the cash outlays for the tractor, chisel, disk, cultivator, no-till planter, seed drill, hay rake, and combine (all used equipment purchased at a farm auction), as well as the entire maintenance costs. The rent for borrowed machinery (in the original plan) included the fuel, lubricant, and repair used by Cowboy Farms, LLC – the fixed expenses and much of the lubricant and repairs were borne by the machinery owner. Now, the entire cost is on Cowboy Farms, LLC, even though they are using it for the same number of acres as in the original plan – a disadvantage of uncaptured economies of scale.

Figure 4. Cowboy Farms, LLC, Financial Stress Analysis – Alternative 3, Year 3

	Low Stress		High Stress	Alternate Plan	Original Plan	Change
Current ratio	2.0 or more	1.0 – 2.0	1.0 or less	.67	1.83	Worse
Debt to asset	30% or less	30%-60%	60% or more	75%	74%	Worse
Net farm income	Positive		Negative	$71,663	116,218	Worse
Rate of return on assets	5% or more	1% - 5%	1% or less	9%	12%	Worse
Rate of return on equity	10% or more	5% - 10%	5% or less	22%	27%	Worse
Debt coverage	135% or more	110% -135%	110% or less	153%	206%	Worse
Interest expense	10% or less	10% - 20%	20% or more	16.1%	15.9%	Worse
Asset turnover	40% or more	20% - 40%	20% or less	25.2%	25.7%	Worse

The decrease in farm financial performance in each ratio is related to the higher debt load from $80,000 worth of equipment. Also, expenses in many cases were higher from explicit cost

increases. Net farm income, for instance, was a result of high maintenance costs in relation to the original plan and interest payments on the operating line of credit (used to purchase the $74,000 machinery). Both the current ratio and the debt to asset ratios are affected by this current liability purchasing non-current assets.

This plan overall seems like a disaster, but has a few merits that aren't reflected in the numbers. For instance, buying machinery frees the farmers to pursue more of their own tasks, rather than paying labor and time to the equipment owner. Essentially, they were working a 1000-acre farm twice: once for the equipment owner and one for themselves. Now, Cowboy Farms, LLC, has those hours to employ in other operations, and also more control over machine availability.

Although buying hay equipment is not feasible on this acreage, it could be purchased as a business investment and hired out on a custom basis for additional income, with the extra time the farmers now have.

Further Study

Studying feasibility of two additional on-farm operations was a goal of this project early on, but due to time and data access constraints, they are still incomplete. The first of these is on-farm storage, to benefit from seasonality of grains while limiting storage costs. However, two volatile factors are making analysis difficult (but suggest infeasibility): the rising price of steel and weather problems during crop growth. Higher steel in turn creates a higher grain bin purchase price. Weather problems (drought in some areas and floods in others) during growth have increased demand for grain at harvest recently[3], but also typically encourage a wider basis at small elevators for lower-quality grain. The net effect on cash grain price at harvest depends on the magnitude of these shifts, and the status of Cowboy Farms' grain. If their grain was not damaged during growth, they will benefit from higher spot prices and would likely not benefit from paying higher (due to steel) storage costs for later sales. In turn, if they were affected by weather, their grain (if any) may not be high enough quality to store or bring high enough prices in the future to cover storage costs. For these reasons, in-depth analysis was determined to be outside the scope of the project.

The other on-farm enterprise is small-scale biodiesel production from soybeans. In light of rising fuel prices, a cheaper source for farm fuel is highly desirable. The cost savings of cheaper fuel must be weighed against the opportunity cost of the soybeans and the explicit costs of making the fuel. Complete cost-benefit analysis also wound up being beyond the scope of this project. Both analyses have great potential for profit, though, and will be addressed in future (independent) study.

[3] This study was completed before wheat harvest 2011, and was not updated to reflect current prices. All work done between January and May 2011.

Conclusions

Cowboy Farms, LLC, is on track to be a profitable member of the Oklahoma agricultural industry. Financial stress ratios can be performed at any stage of production, and should be completed after a few years of actual records by Cowboy Farms, LLC. A careful eye to records throughout the year will help keep the farmers on target, as will updating the enterprise budgets when significant changes from the assumptions arise. The budgets could also be modified to show pessimistic or optimistic inputs, yields, and prices, to provide a break-even analysis for the family. These methods could be used on any size or type of business unit, making this a valuable case study for students. The most critical issues for Cowboy Farms, LLC, are liquidity and debt coverage. An arrangement such as Alternative 1 is probably preferable to the Original Plan, to put less stress on this young couple. Family farms not only manage an economic operation, but also a family dynamic, as the success of the farm is highly dependent on family involvement and cooperation.

Personal Note

This study served as an eye-opening experience for me as a real life example of the importance of record-keeping and the benefits that can be derived from it. Being able to construct a partial budget is an important skill in decision making, especially for a family farm where each change has an impact on the family behind the steering wheel. Also, this project was multi-disciplinary as my background research called for legal issues, plant and soil sciences expertise, and agricultural engineering extension data. I truly built each of my operations from the soil up with a combination of scientific theory and real world situations. The model parameters used lean towards the conservative side – using market prices a little lower than current, generous fertilizer costs, and low yield estimates. Actually building these models considering all of these exogenous factors was a better preparation for the real world, where things don't always fit onto paper perfectly, than any classroom setting where you're given exact quantities and prices and yields.

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Appendix 1. Calendar of farm operations

May Y0 (Fiscal year 1)
- Breed (10 cows)

June
- Plant late beans (300 acres)

July
- Soil test acres for wheat

August
- Spray beans as needed

September
- Establish alfalfa (40 acres)
- Begin wheat groundwork

October
- Plant wheat (300 acres)

November
- Harvest late beans
- Buy 50 cows and 40 heifers

December 0
- Breed (50)
- Feed hay

January Y1 (still fiscal year 1)
- Feed hay

February
- Topdress wheat
- Feed hay

March
- Calving (10 cows)
- Groundwork for beans

April
- Plant early beans
- Groundwork for milo

May Y1 (Fiscal year 2)
- Cut alfalfa (1) (40 acres)
- Plant milo (80 acres)
- Breed (10+40)

June 1
- Harvest wheat (300 acres = 4 days)
- Wean (10)
- Plant late beans (300 acres)
- Cut alfalfa (2) (40 acres)

July 1
- Cut alfalfa (3) (40 acres)
- Soil test (wheat acres)

August 1
- Spray as needed (170+300+80 acres)
- Begin wheat work (170 bean + 100 fallow acres)
- Cut alfalfa (4) (40 acres)

September
- Harvest early beans (170 acres)
- Calving (50 cows)
- Plant wheat (270 acres)

October

November
- Harvest late beans (300 acres)

December
- Breed (50)
- Feed hay

January Y2 (still fiscal year 2)
- Feed hay

February
- Topdress wheat
- Feed hay

March
- Calving (50 cows)

April
- Plant early beans (300-fallow)

May 2 (Fiscal year 3)
- Cut alfalfa (1) (40 acres)
- Plant milo (~80 acres)
- Breed (50 cows)

June
- Harvest wheat (270 acres)
- Wean (50)
- Plant late beans (270 acres)
- Cut alfalfa (2)

ETC.

Deadlines & How Paper Will Be Evaluated

Undergraduate Paper Competition

Entries into the SS-AAEA undergraduate paper competition are required to give a presentation on their paper at the AAEA Annual Meetings. Students' written papers and presentations will be judged separately, and by different judges. The paper will represent 60% of the overall score, and the presentation will represent 40% of the overall score.

Students who cannot attend the meetings may still submit a paper for potential publication in the *SS-AAEA Journal of Agricultural Economics.*

Deadlines

a. Statement of Intent: Each student must submit a Statement of Intent (available at AAEA website) to present a paper by May 31, 2011. This statement is to include a tentative title.
b. Submission of Paper: Send an email with paper attached to SSAAEA@aaea.org by June 30, 2011. Authors must submit their paper in Microsoft Word or OpenOffice format.
c. Presentation: All students with accepted papers for written judging will be expected to give an oral presentation at the 2011 AAEA Annual Meeting, on July 24, 2010 (Sunday). Presentations will begin at 9:00 AM.
d. Award: the first place recipient will receive a $200 cash award.
e. All papers deemed acceptable by judges will be automatically published in the *SS-AAEA Journal of Agricultural Economics*.

Qualification for Paper Competition

Contestants must be registered at the AAEA annual meetings. Students who graduated in the previous Spring or Fall Semester must have completed a large majority of their work prior to graduation. For these students, their advisors will be requested to submit an email indicating this is the case.

Written Paper: Represents 60% of Total Score

Evaluation of the written paper will be made prior to the meeting by two or three professional agricultural economists. The written paper will be evaluated in accordance with the following criteria:

a. Statement of the problem and objectives—10%
b. Proper use of economic concepts—20%
c. Logic and conceptualization—10%
d. Conclusions and implications drawn from the analysis—20%
e. Writing system and clarity of presentation—20%
f. Evidence of student creativity and originality—20%
g. Note: There is often the perception that papers using the most sophisticated mathematical methods will most likely win the contest. In some years, this has led to students using methodological techniques they do not understand. Only use methods that have been taught in undergraduate courses or were learned by and are understood by the student. Know that a good paper using very simple techniques—even simple averages—may outperform a paper using advanced econometric techniques. Also note that item (f) is given more weight, and item (a) is given less weight, compared to previous years.

Oral Presentation: Represents 40% of Total Score

Students will present their paper on July 24, 2010 (Sunday) at a time to be decided prior to the meetings. The first paper will present at 9:00 AM. We will work with students also participating in the Quiz Bowl to ensure one activity does not interfere with the other. A room will be designated for the presentation, and a computer and projector will be in the room—students only need to bring a memory stick containing their PowerPoint presentation, and any other materials they wish to provide to judges.

Deadlines & How Paper Will Be Evaluated

Time—Each student is allotted twelve minutes for their oral presentation at the AAEA annual meeting. Each student will be signaled at the end of ten minutes and again at twelve minutes. Penalties for exceeding twelve minutes will be:

a. 12-13 minutes (1%)
b. 13-14 minutes (5%)
c. 14+ minutes (10%)
d. Students will be forced to cease their presentation if it lasts fifteen minutes, regardless of how close they are to finishing.

Questions—Each judge will be requested to ask one or two questions of each student. Students should be prepared to illustrate they understand any quantitative tool used in the paper.

Judging—Evaluation of the oral presentation will be judged using the following criteria:

a. Economic content—30%
b. Organization of material—10%
c. Communication of skills—25%
d. Ability to respond to questions—20%
e. Evidence of student creativity and originality—15%

SS-AAEA Journal of Agricultural Economics

This journal is a peer-reviewed online publication containing research articles performed and written by undergraduate students. Students may submit to the journal without having to enter the SS-AAEA Paper Competition. Students who write excellent articles for a class or Honors project are encouraged to submit to the journal. Published articles provide a prestigious resume-line, signaling to graduate schools and potential employers the authors possess self-discipline, intellectual talent, and a strong work ethic.

All submitted articles will be handled by the journal editor (Bailey Norwood) and reviewed by agricultural economists. All articles on an interesting subject, employing valid research methodologies, and polished writing will be published. Note that some students may be asked to make editorial revisions before publishing. No authors will be asked to alter their paper in response to the reviewers' appraisals. Thus, articles are either accepted or rejected "as is", save for editorial errors.

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Page and word limits—The abstract must not exceed 200 words. The paper (which includes the abstract) must not exceed 15 single-spaced pages. Succinctness can be rewarded, and students who have an excellent 10 page paper should not feel compelled to add material until the paper is 15 pages. That is, students will not be penalized for submitting papers under 15 pages.

Page title and author information—Both the title of the page and the author names should be inserted into the header of every page, as illustrated on the following page. As you can see, the journal title is inserted for you, and you must insert your paper's title (italics, 10 pt font) and author's name (no italics, 10 pt font; print first name then last name). Retain the straight line as indicated in the sample paper. After inserting this into the first header, Word will automatically insert the same header into every subsequent page. Do not print the paper title anywhere except for the header. Do not label the first section as *Introduction*.

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Example Table:

Table 1. Descriptive Statistics of …

Example Figure:

Figure 1. Illustration of Gasoline Prices…

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