

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Global Food Security and Hunger - Farm and Agribusiness Systems Economics

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	28%		60%	
602	Business Management, Finance, and Taxation	22%		10%	
603	Market Economics	20%		10%	
607	Consumer Economics	12%		10%	
610	Domestic Policy Analysis	18%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	4.0	0.0
Actual Paid Professional	7.0	0.0	0.0	0.0
Actual Volunteer	3.3	0.0	3.4	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
305000	0	150226	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
305000	0	150226	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
445000	0	854536	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Developed and communicated research based information that farm and agribusiness managers use to improve decisions.

Developed decision aids that assist farm and agribusiness managers in improved decisions.

Conducted educational programs that improved the management skills of farm and agribusiness managers.

Farm and agribusiness managers are able to better understand economic consequences and make more informed decisions.

2. Brief description of the target audience

Managers, owners, and employees of farms and agribusinesses; policy makers; agency leadership

3. How was eXtension used?

The Cooperatives community of practice on eXtension was used extensively to develop and deliver information to cooperative managers, board of director members and producer members. During 2013 two national webinars were conducted, 10 articles in a new blog "Farmer Cooperative Commentary" were published 17 section of educational content were publications on eXtension.

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	7409	130000	130	3000

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2013

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	35	24	59

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of board members of farmer-owned cooperatives receiving credentialed director training for board governance

Year	Actual
2013	35

Output #2

Output Measure

- Number of software decision analysis aids developed

Year	Actual
2013	4

Output #3

Output Measure

- Number of manuscripts submitted to refereed journals

Year	Actual
2013	48

Output #4

Output Measure

- Number of farm income tax management schools conducted

Year	Actual
2013	11

Output #5

Output Measure

- Number of participatory experiential learning workshops conducted

Year	Actual
2013	3

Output #6

Output Measure

- Number of extension fact sheets, current reports, department staff papers, newsletter articles and other reports developed.

Year	Actual
2013	55

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of tax preparers using information from OCES tax schools
2	Number of credentialed board members serving on agricultural cooperative boards (cumulative)
3	Number of beef producers applying some level of financial management decision skills learned through Master Cattleman certification
4	Number of producers and agribusiness managers using OSU developed decision aids
5	Number of producers gaining an improved understanding of risk management through participatory experiential learning experiences
6	Confirming why Use of No-Till Crop Production is Limited in Oklahoma
7	Improved Chicken Litter Handling and Transport
8	Fertilization and economic feasibility of sweet sorghum grown as biofuel feedstock using commercial fertilizer
9	Grain Grading Schools - Agribusiness Personnel Trained
10	Estate Planning - Number trained
11	Grain Handling Infrastructure Replacement in Oklahoma
12	Number of specialty crop producers and goat producers improving farm management and/or financial management skills

Outcome #1

1. Outcome Measures

Number of tax preparers using information from OCES tax schools

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1950

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Frequent changes in Federal and Oklahoma State Tax Laws create a need to keep tax preparers informed of the impact of the changes and how to best help their clients utilize the tax planning and management opportunities available in the current tax laws. These tax schools are designed to update tax preparers about new laws and regulations covering farm, non-farm business and individual taxpayer issues.

What has been done

This program has been conducted for the past 48 years. It has grown from a one-day seminar to its present form of two days per location for the fall Farm and Business Tax Institutes and the summer Tax Clinic. The combination of all the schools allows a preparer to get the full 40 hours of CPE/CLE as required by state. Topics covered range from presentation of new tax laws and their implications, agricultural issues, business issues, tax planning opportunities, professional ethics, retirement, and social security to name a few. Twelve two day sessions are conducted each year with two of these in the summer and ten in the fall and two one day special topics courses. Total 2013 attendance for the schools was approximately 1,950 tax preparers in 11 workshops. Certified public accountants make up 46 percent of the attendance, 27 percent are tax preparers and bookkeepers, 10 percent are enrolled agents, 2 percent are attorneys, and the remaining 15 percent come from a variety of backgrounds. These tax preparers file roughly 80 percent of the farm returns for taxpayers in the state of Oklahoma.

Results

High quality, professional instruction is provided to make continuing education credit available for Certified Public Accountants, Enrolled Agents, and Tax Attorneys. Many of those attending have stated that they have been coming to these programs since they began. Participants filed more than 37,000 Federal farm tax returns and 250,000 Federal non-farm tax returns as reported by the participants in the most recent program evaluations. Most of the tax preparers that attend are

from Oklahoma however there have been preparers from Kansas, Texas, New Mexico, Arkansas, Florida, and California attending the program in order to maintain their Oklahoma accreditation.

An evaluation question asks the participants to place a subjective value on the education received which they then use to assist their clients with tax planning advice to reduce Federal and Oklahoma income taxes, to increase return filing accuracy, to provide retirement planning assistance, and/or to educate their clients of important estate planning tools. The participants were asked specify a value per return they filed which averaged just slightly greater than \$80.00 per return. With a little over 26% responding, and each of them completing about 250 returns means the value of the tax schools to their (just those responding to the survey not all Tax School participants)customers is over \$10,000,000 annually.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #2

1. Outcome Measures

Number of credentialed board members serving on agricultural cooperative boards (cumulative)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	150

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The board of directors of an agricultural cooperative has responsibility for strategic decisions and for safeguarding the organizations assets. Agricultural cooperative board members are producers who are elected by the membership to serve with only token remuneration. In recent times, all board members, including cooperative board members are under intense scrutiny. The incidence of legal proceedings against board members has increased dramatically. These litigations are typically initiated by owner (member) groups and they focus on the competency and diligence of the board. The severe repercussions from errant business decisions and the intense scrutiny of board member competency have created a critical need for educational programs.

What has been done

In response to the critical need to improve the competencies of cooperative board members the Oklahoma Credential Cooperative Director (OCCD) program was created. The OCCD program involves two days of training on finance, legal responsibilities, parliamentary procedure, effective meeting management, strategic planning and other related topics. In designing the OCCD curriculum, board of director training material from across the U.S. was examined. OCCD instructors include OCES faculty as well as industry experts including bankers, auditors, attorneys and consultants. The OCCD program is supplemented with advanced training open only to directors completing the credentialed training.

The OCCD program was initiated in November of 2001. Since then it has been offered eleven times (spring and fall) with nine advanced sessions. Over 3,600 directors have attended the Credentialing sessions and over 1,800 directors have returned for advanced training.

Results

The directors completing the OCCD program have a better understanding of financial management and the legal roles and responsibilities of the board of directors and are able to make better business decisions and to safeguard the assets of their cooperative organizations. The OCCD program impacts thousands of Oklahoma producers by enhancing the board's ability to manage and safeguard cooperative assets.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #3

1. Outcome Measures

Number of beef producers applying some level of financial management decision skills learned through Master Cattleman certification

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	71

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Production management, business planning, risk management and marketing are major issues for the beef producers who comprise Oklahoma's #1 agricultural industry.

What has been done

An Animal Science Specialist and an Agricultural Economics Specialist developed a comprehensive educational program in cooperation with Animal Science, Plant and Soil Science, Vet Med, Biosystems and Ag Engineering. The OSU Master Cattleman Program was launched in 2004 with the objective of enhancing the profitability of beef operations and the quality of life of beef producers by equipping them with vital information on many aspects of beef production, business planning, risk management and marketing. The educational curriculum is based on the Oklahoma Beef Cattle Manual. Power Point presentations and lesson plans are available to educators via the Master Cattleman website. Producers must complete 4 hours in each of 6 subject matter areas plus an additional four hours of instruction or special projects. Local Extension educators plan and organize the Master Cattleman educational series and select the specific curriculum offered.

Results

70 additional producers were certified under the OSU Master Cattleman Program in 2013

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation

Outcome #4

1. Outcome Measures

Number of producers and agribusiness managers using OSU developed decision aids

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Number of producers gaining an improved understanding of risk management through participatory experiential learning experiences

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	125

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Price discovery is consistently cited as a critical issue in the beef industry. Increasing consolidation of buyers and changing pricing methods have heightened the need for producers, cattle feeders and affiliated agribusiness professionals to understand fed cattle market dynamics, the behavior of buyers and sellers, and alternative pricing methods.

What has been done

The Fed Cattle Market Simulator was developed at Oklahoma State University in 1990 and has been used in all three missions of the Land Grant University mission ? teaching, extension, and research.

While the focus of simulation workshops is on price discovery, participants also learn the importance of several economic concepts, including value of information, market dynamics, breakeven analysis, derived demand, production efficiency, economies of size, hedging and risk management, and industry behavior and performance. This one-of-a-kind market simulator is used for groups of 24-48 people. The team has conducted workshops with persons as young as teenagers to persons in corporate executive management positions. Workshops of four hours are most common, but more in-depth, intensive workshops are offered to some groups, up to two-day sessions at large agribusiness corporations. Numerous extension and research publications have been written concerning the Fed Cattle Market Simulator in classroom teaching, extension education, and experimental simulation research.

Results

The simulator has been the basis for an OSU course offered once a year for 14 years. It has been the basis for marketing workshops with over 100 groups of 25 or more participants. One of the largest agribusiness firms has incorporated it into its annual employee training program. The developers have conducted 18 workshops with its managers from sales, procurement, and corporate operations. The developers have conducted producer workshops in 17 states, two provinces in Canada, and one state in Mexico, including 8 times at the national convention of the National Cattlemen?s Beef Association. Over 20 workshops with producers have been conducted in Oklahoma. A large foundation in Oklahoma has included the simulator in its annual AgVenture youth camp for the past 9 years. Agricultural economists in other states have adopted the software for use in classroom teaching and extension education programs (Colorado State University, Iowa State University, Kansas State University, Sam Houston State University, South Dakota State University, Texas A&M University, Texas Christian University, and University of Kentucky). During 2013, 3 workshops were conducted with over 125 participants.

Workshop evaluations clearly indicate the value of the simulator in teaching economics concepts.

Anecdotal evidence indicates the market simulator changes attitudes about how markets work and why; increases knowledge and understanding of pricing methods for various genetic types of cattle; and enhances the bargaining skills of producers. Evaluation comments indicate the market simulator aids participants to better understand price discovery.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics

Outcome #6

1. Outcome Measures

Confirming why Use of No-Till Crop Production is Limited in Oklahoma

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Based on data reported by the Conservation Technology Information Center (CTIC), the use of no-till (NT) for crop production in Oklahoma is low compared to the national average. In 2004, NT was used on less than 6% of the acres cropped in the Southern Plains of Texas and Oklahoma. This is less than one-quarter of the national average of 22.6%. This is somewhat disconcerting since the heart of the 1933-35 Dust Bowl that ravaged the nation was in the Southern Plains, and NT is the most soil conserving production system. Most (75 %) of the Oklahoma cropland that is neither in pasture nor in the Conservation Reserve Program (CRP) is seeded to continuous winter wheat. More Oklahoma cropland is currently in CRP than any crop other than wheat. CRP contracts involving thousands of acres are scheduled to expire in the next decade.

A conversion from CRP to annual crops with NT rather than intensive tillage (IT) would be more desirable from an environmental perspective. Information regarding the characteristics of farms in the region that currently use NT relative to those that don't could be used to aid in explaining the

relative economics of conversion of CRP acres to annual crops.

For years, crop rotations have been recommended to mitigate yield-robbing weed, insect, and disease problems prominent with continuous cropping to wheat. However, crop rotations are not common in Oklahoma. Alternative winter small grain crops such as oats, barley, and rye are not economically competitive. In many cases, attempts to include summer crops such as corn, have not been successful because they do not fit well in a rotation with winter wheat and do not perform well in dryland conditions in western Oklahoma. On average, 17 percent of corn acres planted for grain in the state are not harvested. In some years corn is plagued with mycotoxins. For example, in 2009, grain yields were reported for only one of three OSU corn variety yield trial locations.

What has been done

OSU scientists have been evaluating wheat production tillage systems that maintain surface residue since the 1940s. These studies of continuous wheat production have found that when wheat is grown year after year in the same field, grain yield is reduced when a substantial quantity of wheat residue from the previous wheat crop is retained on the surface. For continuously cropped winter wheat in the region, yields from NT are significantly less than yields from IT. The predominance of continuous cropping to wheat may explain the low rate of NT use in Oklahoma.

Additional studies have found that the economics of NT for continuous wheat production depends on farm size. IT is relatively more economical for small sized continuous wheat farms because of the investment required in NT drills and seeders required to use NT.

Results

A survey was mailed to 9,500 Oklahoma farmers. It was found that on average, Oklahoma farms that use NT crop more than twice as many acres as those that use IT. Fifty percent of the farms that use NT plant more than 1,000 acres to annual crops compared to 16 % the farms that use IT. The NT farms have more diversified cropping operations and use crop rotations. The IT farms plant more than 90 percent of their annual crop acres to wheat and seldom rotate to other crops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #7

1. Outcome Measures

Improved Chicken Litter Handling and Transport

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The poultry industry has an economic importance in Eastern Oklahoma, serving as a major source of employment in rural areas and often a more profitable alternative to traditional agricultural enterprises in the region. Most of these poultry operations are concentrated animal feeding operations (CAFOs). Poultry CAFOs are supported by the import of animal feed containing nutrients such as nitrogen (N), phosphorus (P), and potassium (K); these nutrients are then exported from the farm in the form of agricultural products. However, much of the nutrients imported with the feed will remain on the farm in the form of manure. There hence lies a need to reduce litter mass with little monetary and labor inputs for the purpose of reducing litter transport costs and increasing hauling distances.

What has been done

A study was conducted to determine to what degree an alternative litter storage process (composting) designed to promote C degradation would decrease mass and affect litter properties including nutrient concentrations and carbon forms, and to conduct an economic analysis of this storage process in the context of transporting litter from poultry dense watersheds to areas deficient in soil P.

Results

Our published results suggest that composting chicken litter will reduce its mass by about 20 percent. This is expected to result in a savings of over \$35 million over the next 20 years in subsidies, transportation costs, and reduced fertilizer expenditures. Our on-going research is estimating the impact on energy savings.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #8

1. Outcome Measures

Fertilization and economic feasibility of sweet sorghum grown as biofuel feedstock using commercial fertilizer

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Oklahoma's poultry industry creates an excess of poultry litter and its associated nutrients in some watersheds. Strategies for economically using these nutrients in crop enterprises are needed.

What has been done

A reticular set of environmental, agricultural, and energy issues may be alleviated through beneficial re-use of poultry litter as a nutrient source to poor quality soils for production of sweet sorghum as biofuel feedstock. This study assessed the viability of an integrated biofuel system that seeks to increase profitability of producing a biofuel crop using an organic by-product as an alternative to commercial fertilizer (CF). Sweet sorghum was established annually for three years on a relatively poor quality soil. Poultry litter was annually applied at four different application rates and CF applied at equivalent nitrogen (N), phosphorus (P), and potassium (K). Yield and changes in soil properties were monitored. Yield and input costs were used to determine economic return and viable litter transportation distances. Our results are in the process of being extended to producers and stakeholders in the biofuel industry.

Results

Our field experiment results (under review in *Agronomy Journal*) found that after three years of litter application, several soil quality parameters increased for litter amended soils compared to CF. Overall yields increased with nutrient application rate and yields from litter were not significantly different from CF, although economic return was greater for litter. While increased nutrient application rate increased overall economic return, this was a function of the year (i.e. climate). As a result of increased economic return from litter compared to CF, litter could be transported various distances depending on application rate. Break-even transport distance decreased with increased application rates. Use of litter as a nutrient source for growing sweet

sorghum as biofuel feedstock can potentially improve water quality in source watersheds, improve soil quality, and reduce dependence on fossil fuels in an economically sustainable manner.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #9

1. Outcome Measures

Grain Grading Schools - Agribusiness Personnel Trained

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	400

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

An OSU research team sampled over 3600 trucks delivering grain during harvest. The OSU research indicated that grain elevator personnel underestimated dockage, foreign material and over estimated the test weight in loads of grain delivered at harvest. The ten percent of producers delivering the highest quality grain were under compensated by \$.05/bushel while the 10% of producers delivering the lowest quality loads were over compensated by \$.22/bushel. This price distortion which totaled more than \$13M/year reduced the incentive for producers to deliver cleaner, better grain. Inaccuracies in grading hinder communication and increase procurement risk all through the grain supply chain.

What has been done

OSU personnel designed a new hands-on grain grading school. Grain grading school participants received classroom instruction on grain grading principles and federal grain standards. They also grade a series of grain samples and compare their results with official grain inspection service grades on the same samples.

Results

As a result of the workshops, grain grading accuracy improved, reducing risks for both producers and grain handling firms. The grain pricing system became more efficient, increasing the

premiums for producers delivering high quality grain. Over 400 agribusiness personnel attended one of the nine grain grading schools offering in 2013.

4. Associated Knowledge Areas

KA Code	Knowledge Area
603	Market Economics

Outcome #10

1. Outcome Measures

Estate Planning - Number trained

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	370

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Stakeholders (particularly rural landowners and agricultural producers) have made numerous requests for more information and programming regarding the basics of the estate planning process.

What has been done

Presented seminars providing general overview of estate planning considerations for farm operations including basics of the probate and property disposition process, inventory of estate assets, and considerations in choosing estate planning tools.

Results

370 producers received training on estate management at 8 separate workshops offered during 2013. As a result of the training the participants are able to make better decisions regarding estate planning issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #11

1. Outcome Measures

Grain Handling Infrastructure Replacement in Oklahoma

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There are 477 grain storage structures in Oklahoma and 390 of them are past their current design life. Grain industry leaders need information on the regional changes in the structure of the grain storage industry as they make decisions on infrastructure replacement at their firms. Producers also need information as to how structural changes that may occur as facilities are replaced could impact their grain transportation costs.

What has been done

Data on the age, location, capacity, structure type and handling speed was obtained for every commercial grain facility in Oklahoma. Grain production trends were calculated for every township in Oklahoma. A mixed integer programming model was developed to predict the construction decisions that will occur as the oldest facilities are sequentially replaced.

Results

The research findings were extended through the Oklahoma Agricultural Cooperative Council and the Oklahoma Grain and Feed Association. The results indicated that Oklahoma grain cooperative's and private grain companies are likely to need to make over \$125M in re-investment in infrastructure in the coming years. The results also modeled the path of grain facility replacement including locations where existing facilities are likely to be combined into larger regional operations. These results are very useful for grain firms in their strategic planning relating to infrastructure replacement.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

603 Market Economics

Outcome #12

1. Outcome Measures

Number of specialty crop producers and goat producers improving farm management and/or financial management skills

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Production management, business planning, risk management and marketing are major issues for meat goat producers. Meat goat production is an important enterprise for small and medium scale farmers and for those beginning a farming operation.

What has been done

The Oklahoma Meat Goat Boot Camp is a three day camp that uses the combination of classroom exercises and hands-on instructions about the different production practices involved in a meat goat operation. Production practices include but are not limited to ear tagging, castrating, tattooing, hoof trimming, electric fence building, forage testing, forage production, farm business planning, nutrition, ration balancing, FAMACHA, determining fecal egg counts, herd health practices, kidding, neonatal care, reproduction and pregnancy determination using ultra sound. Class size is small to facilitate teacher-participant interaction.

Results

38 producers from 5 states participated in the meat goat boot camp in 2013. The participants knowledge and understanding of a wide range of production issues including: parasite management and control, record keeping, general herd management including herd health, herd nutrition, forages and forage production systems, marketing and business planning were measured by administering tests before and subsequent to the training. Average test scores improved from 58% correct to 80% correct. While it is difficult to place a dollar value on the knowledge gain, it is obvious that the educational program increased the efficiency and profitability of the participants operations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Tax School participants were asked specify a value per return they filed which averaged just slightly greater than \$80.00 per return. With a little over 26% responding, and each of them completing about 250 returns means the value of the tax schools to their (just those responding to the survey not all Tax School participants)customers is over \$10,000,000 annually.

Key Items of Evaluation