

**ACCESSION NO:** 0219715 **SUBFILE:** CRIS

**ROJ NO:** MOW-2009-03859 **AGENCY:** NIFA MO.W

**ROJ TYPE:** OTHER GRANTS **PROJ STATUS:** TERMINATED

**CONTRACT/GRANT/AGREEMENT NO:** 2009-49400-05896 **PROPOSAL NO:** 2009-03859

**START:** 01 SEP 2009 **TERM:** 31 AUG 2012

**GRANT AMT:** \$541,239 **GRANT YR:** 2009

**INITIAL AWARD YEAR:** 2009

**INVESTIGATOR:** westhoff, P.

**PERFORMING INSTITUTION:**

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***COMPREHENSIVE FINANCIAL AND RISK MANAGEMENT SOLUTION FOR BEGINNING FARMERS AND RANCHERS - A FARM LEVEL APPROACH***

**NON-TECHNICAL SUMMARY:** This project draws upon the experience of FAPRI-MU in developing and maintaining representative panel farms, stochastic analysis for potential agricultural and economic volatility, and web-based, decision support and educational tools to provide financial risk management assessment for beginning farmers and ranchers. This research is supported by a 10 member advisory council comprised of individuals from federal and state supported lending programs experienced with the financial risk borne by new agricultural enterprises, commercial banks specializing in rural lending, University of Missouri extension specialists experienced in education programs targeted at beginning farmers and ranchers, and existing farmers and ranchers that have successfully overcome the obstacles to establishing a farm or ranch. Primary outcomes include (a) the development of representative farms that model diverse, beginning farm or ranch operations; (b) a comprehensive whole farm analysis to provide "what-if" scenarios for existing beginning farmers with respect to expansion or changes in the farming operation; and (c) the development of web-based risk management and decision support tools that can be utilized to help beginning farmers and ranchers nationwide manage the inherent risk involved with establishing a production agriculture enterprise. This project targets the Standard BFRDP project type focusing primarily on the priorities associated with business management and decision support strategies that enhance the financial viability of beginning farmers and ranchers. The target audience for years 1 and 2 of this proposal are beginning farmers and ranchers within the state of Missouri with a year 3 focus on all beginning farmers and ranchers in the US. No specific commodity or type of operation or operator will be targeted, but diversity of the representative farms is a primary goal. Working with individuals skilled in education programs targeted at farm women, through Annie's Project, a sub-set of female, beginning farmers and ranchers is anticipated for inclusion in the representative panel farm process.

**OBJECTIVES:** The short-term goal of this project is to provide Missouri's beginning farmers and ranchers with a comprehensive set of decision support tools and educational materials to help them ensure financial stability of their farming operation. Longer-term, the goal is to make the information and tools available to any beginning farmer or rancher via the World Wide Web. The three main objectives of this proposal are as follows. 1. Leverage the existing representative farms framework at FAPRI-MU to look at the farm level financial outlook for beginning farm and ranch operations by developing a diverse set of representative farms that model diverse forms of beginning farm and ranch operations. 2. Work with the representative farm participants to model their individual operations so they have a comprehensive whole-farm analysis of their current operation and a set of "what-if" scenarios. 3. Develop a set of web-based decision support tools, drawing from the information gleaned from the first two objectives, that can be used to help beginning farmers and ranchers throughout the nation manage the inherent risk involved in production agriculture. Year 1 - October 2009 - September 2010 - Formalization of advisory council - Advisory council meetings to determine: - Representative farm panel Report results of representative farm whole farm analysis Year 2 - October 2010 - September 2011 - Individual operator whole farm analysis - Representative farm panels - Report results of representative farm whole farm analysis - Web based

risk management tools Year 3 - October 2011 - September 2012 - Representative farm panels - Report results of representative farm whole farm analysis - Web based risk management tools - Final project report

**APPROACH:** The representative farms component of this proposal will leverage the existing system of 38 Missouri representative farms (FAPRI-MU, April 2008) currently in use for policy analysis. This system has been in existence at FAPRI-MU since 1990. The addition of representative farms focused on beginning farmers and ranchers will allow the unit to serve another sector of Missouri agriculture and look at the financial health of these beginning operations. At the end of the project, these panels will remain in the core set of representative farms and be tracked over time to monitor growth and examine potential barriers and policy impacts related to long-term survival for an established farm or ranch. Additionally, this research would provide an opportunity to interact with representative farm panel members to model their existing operations and look at "what-if" policy, risk and financial scenarios. This will provide each of the participants with a comprehensive set of financial statements for their existing operation and possible changes they may be contemplating. At the end of the three years, we will identify what characteristics appear to have contributed to the success of these producers. The web-based decision support tools component will adapt existing spreadsheet based tools developed over the years by FAPRI-MU staff. These existing spreadsheet tools will be converted to web-based tools with an emphasis on risk management. Additional decision support tools will be identified with input from the advisory council and representative farm panels. Once these tools are developed, they will be tested by the panels of producers to analyze their operations. Further refinement will allow the dissemination of these risk management decision support tools to all beginning farmers and ranchers via the FAPRI-MU web page and through links provided by stakeholder groups and organizations.

**PROGRESS:** 2009/09 TO 2012/08

**OUTPUTS:** The representative farms component of this project leverages the existing system of 38 Missouri representative farms (FAPRI-MU, April 2008). The project began by creating an advisory council, establishing 4 panel farms in Missouri, and generating a computer baseline and scenarios for the farms and disseminating preliminary information. Over the course of the project, there were 27 workshops held with panel farm members to obtain various results. In Year 1, 14 workshops established the panel farm, discussed scenarios and presented findings, as well as included a brainstorming session for additional scenarios and to plan for the web-based decision support tool's dissemination. In Year 2, a total of 9 workshops were held with panel farm members to update the representative farm data and discuss the financial health and future projections of the panel farms; these workshops also discussed the makeup and financial results of the panel farm baselines and scenarios, as well as what tools would be beneficial to beginning farmers and ranchers nationwide. A total of four workshops were held in Year 3. To augment the 11-person advisory council (9 males, 2 females) for the project, an additional 21 participants were included in the panel farm sessions (19 males, 2 females). The average years of farming for these 21 participants was 3 to 6 years at the outset. 100% of the participants are currently engaged in farming and 100% plan to continue farming in the coming year. **PARTICIPANTS:** In the workshops held throughout the project, 11 advisory council members (3 males, 1 female) and 21 panel participants (19 males, 2 females) with an average of 7 years in farming participated. 100% of the participants are currently engaged in farming and 100% plan to continue farming in the coming year. **TARGET AUDIENCES:** The short-term goal of this project was to provide Missouri's beginning farmers and ranchers with a comprehensive set of decision support tools and educational materials to help them ensure financial stability of their farming operation. Longer-term, the goal is to make the information and tools available to any beginning farmer or rancher via the World Wide Web. In order to reach our target audience of beginning farmers and ranchers in Missouri and the U.S., we added a section to the FAPRI web site devoted to beginning farmers and ranchers. This section on the FAPRI web site had 3,375 visits during the final year of the project. **PROJECT MODIFICATIONS:** Not relevant to this project.

**IMPACT:** 2009/09 TO 2012/08

peer and mentor network was established through interactions among participants and advisory council members. The

our panel farms in Missouri were continuously updated by working individually with producers to simulate and analyze their operations, developing and disseminating a needs-assessment survey, and beginning development and testing of web-based risk management tools. Six panel farm participants submitted their financial data to be simulated and analyzed. Baseline financial indicators were established, as well as what-if scenarios, for all 6 participants. A needs-assessment survey that addressed the needs, abilities and interests of beginning farmers' and ranchers' use of computers, software, the internet, cell phones, and social media was developed and disseminated using existing networks and collaborations with farm and commodity organizations. A total of 339 beginning farmers and ranchers from 43 states completed the survey. Of those completing the survey, 78% were 34 years old or younger, 63% were males, and 82% farm with family members. From the review of web-based decision support tools, the advisory council, panel farm participants, and the results of the needs-assessment survey shaped the components of the web site. Final reports on each of the 4 panel farms in Missouri were written and included the updates from the final workshops held with each panel and the resulting financial analysis utilizing the updated inputs and the latest FAPRI baseline data. The final reports also included a summary of how the panel members' operations changed over the three years of the project and how those changes were reflected in the panel farms.

**PUBLICATIONS (not previously reported): 2009/09 TO 2012/08**

1. Zimmel, P. & Wilcox, L. (2011). A representative farm approach to outreach with beginning farmers and ranchers. *Choices*, 26(2).
2. Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project: Online Decision Making Tools Summary, FAPRI-MU Report #16-10. December, 2010.
3. Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project: West Central Feedgrain Representative Farm, FAPRI-MU Report #14-10. December, 2010.
4. Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project: North Central Feedgrain and Cow/Calf Representative Farm, FAPRI-MU Report #13-10. December, 2010.
5. Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project: Northeast Feedgrain and Cow/Calf Representative Farm, FAPRI-MU Report #12-10. December, 2010.
6. Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project Southwest Missouri Cow/Calf Representative Farm, FAPRI-MU Report #11-10. December, 2010.
7. Zimmel, P., Westhoff, P. (2012). FAPRI Beginning Farmer and Rancher Development Project: North Central Feedgrain and Cow/Calf Representative Farm: Final Report, FAPRI-MU Report #07-12, September 2012.
8. Zimmel, P., Westhoff, P. (2012). FAPRI Beginning Farmer and Rancher Development Project: Northeast Feedgrain and Cow/Calf Representative Farm: Final Report, FAPRI-MU Report #08-12, September 2012.
9. Zimmel, P., Westhoff, P. (2012). FAPRI Beginning Farmer and Rancher Development Project: Southwest Missouri Cow/Calf Representative Farm: Final Report, FAPRI-MU Report #09-12, September 2012.
10. Zimmel, P., Westhoff, P. (2012). FAPRI Beginning Farmer and Rancher Development Project: West Central Feedgrain Representative Farm: Final Report, FAPRI-MU Report #10-12, September 2012.

**PROGRESS: 2011/09/01 TO 2012/08/31**

**OUTPUTS:** The primary goals for Year 3 of this three-year project were focused on updating the four panel farms in Missouri, publishing final reports for each of the four panel farms, completing the development and testing of the web-based risk management tool, and adding the web-based tool to the FAPRI Beginning Farmer and Rancher web site. A total of four workshops were held with panel farm members to update the representative farm data and to discuss the financial health and future projections of the panel farms. In these workshops, 4 advisory council members (3 males, 1 female) and 1 panel participants (19 males, 2 females) with an average of 7 years in farming participated. 100% of the participants are currently engaged in farming and 100% plan to continue farming in the coming year. Final reports for each of the four panel farms were published. These reports included the updates from the final workshops held with each panel and the

resulting financial analysis utilizing the updated inputs and the latest FAPRI baseline data. The final reports also included a summary of how the panel members' operations changed over the three years of the project and how those changes were reflected in the panel farms. A third major part of the project--the design, development, and testing of the web-based component--was completed in Year 3. Based on input from the testing phase, updates and enhancements were made to the initial design of the web-based tool. Upon completion of development and testing, the web-based tool was added to the FAPRI Beginning Farmer and Rancher web site and made available to producers via the world wide web.

**PARTICIPANTS:** In the four workshops held in Year 3, 4 advisory council members (3 males, 1 female) and 21 panel participants (19 males, 2 females) with an average of 7 years in farming participated. 100% of the participants are currently engaged in farming and 100% plan to continue farming in the coming year. **TARGET AUDIENCES:** In order to reach our target audience of beginning farmers and ranchers in Missouri and the U.S., we added a section to the FAPRI web site devoted to beginning farmers and ranchers. This section of the FAPRI web site had 3,375 visits during Year 3. **PROJECT MODIFICATIONS:** Nothing significant to report during this reporting period. **PARTICIPANTS:** In the four workshops held in Year 3, 4 advisory council members (3 males, 1 female) and 21 panel participants (19 males, 2 females) with an average of 7 years in farming participated. 100% of the participants are currently engaged in farming and 100% plan to continue farming in the coming year. **TARGET AUDIENCES:** In order to reach our target audience of beginning farmers and ranchers in Missouri and the U.S., we added a section to the FAPRI web site devoted to beginning farmers and ranchers. This section of the FAPRI web site had 3,375 visits during Year 3. **PROJECT MODIFICATIONS:** Not relevant to this project.

**IMPACT:** 2011/09/01 TO 2012/08/31

Throughout Year 3 of this project, the emphasis was split between working with the panel farm participants within Missouri and completing the development and testing of the web-based tool. In meeting with the panels, changes the panel members made to their operations over the three years of this project were discussed and incorporated into the panel farms. An update to the financial outlook facing these producers was established and shared with the panels. The FAPRI Beginning Farmer and Rancher web site was completed in Year 3. The main addition to the web site was the completion of the web-based tool. The web site had 3,375 visits during Year 3.

**PUBLICATIONS:** 2011/09/01 TO 2012/08/31

- . Zimmel, P., Westhoff, P. (2012). "FAPRI Beginning Farmer and Rancher Development Project: North Central Feedgrain and Cow/Calf Representative Farm--Final Report", FAPRI-MU Report #07-12, September 2012.
- . Zimmel, P., Westhoff, P. (2012). "FAPRI Beginning Farmer and Rancher Development Project: Northeast Feedgrain and Cow/Calf Representative Farm--Final Report", FAPRI-MU Report #08-12, September 2012.
- . Zimmel, P., Westhoff, P. (2012). "FAPRI Beginning Farmer and Rancher Development Project: Southwest Missouri Cow/Calf Representative Farm--Final Report", FAPRI-MU Report #09-12, September 2012.
- . Zimmel, P., Westhoff, P. (2012). "FAPRI Beginning Farmer and Rancher Development Project: West Central Feedgrain Representative Farm--Final Report", FAPRI-MU Report #10-12, September 2012.

**PROGRESS:** 2010/09/01 TO 2011/08/31

**OUTPUTS:** The primary goals for Year 2 of this three-year project were focused on updating the four panel farms in Missouri, working individually with producers to simulate and analyze their operations, developing and disseminating a needs assessment survey, and beginning development and testing of web-based risk management tools. A total of eight workshops were held with panel farm members to update the representative farm data and to discuss the financial health and future projections of the panel farms. Additionally, a larger workshop was held in March 2011 to allow advisory council members and panel farm participants to discuss the makeup and financial results of the panel farm baselines and scenarios as well as discuss what tools would be beneficial to beginning farmers and ranchers nationwide. In total, 9 workshops were held in Year 2. In these workshops, 11 advisory council members (9 males, 2 females) and 21 panel participants (19 males, 2 females) with an average of 6 years in farming participated. 100% of the participants are currently engaged in farming and 100% plan to continue farming in the coming year. Additionally in year 2, six panel farm participants submitted their

financial data to be simulated and analyzed. Baseline financial indicators were established as well as what-if scenarios for 16 participants. A needs assessment survey was developed and disseminated using existing networks and collaborations with farm and commodity organizations. The survey focused on the needs, abilities and interests of beginning farmers and ranchers pertaining to the use of computers, software, the internet, cell phones, and social media. The survey was available in printed format as well as online. A third major part of the project, the initial design, development, and testing of the web based component, began in Year 2. With input from Year 1's review of web-based decision support tools, the advisory council, panel farm participants, and the results of the needs assessment survey, the components of the web site were designed. Development of the web site is under way and being tested. The web site development and testing is on schedule and the web site will be rolled out during Year 3. PARTICIPANTS: Nothing significant to report during this reporting period. TARGET AUDIENCES: Nothing significant to report during this reporting period. PROJECT MODIFICATIONS: Nothing significant to report during this reporting period.

**IMPACT: 2010/09/01 TO 2011/08/31**

Throughout year two of this project, the emphasis was again on working with the panel farm participants within Missouri. An update to the financial outlook facing these producers was established and shared with the panels as well as working with individuals to look in detail at the financial outlook for their individual operations. The information received from these panels was used to help develop the FAPRI Beginning Farmer website. The web site design, initial development and testing took place in year 2. Year 3 will see the final development and testing and the web site will be made available to all beginning farmers and ranchers in the U.S.

**PUBLICATIONS: 2010/09/01 TO 2011/08/31**

- . Zimmel, P. & Wilcox, L. (2011). A representative farm approach to outreach with beginning farmers and ranchers. *Choices*, 26(2), n.pag.
- . Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project - Online Decision Making Tools Summary, FAPRI-MU Report #16-10. December, 2010
- . Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project - West Central Feedgrain Representative Farm, FAPRI-MU Report #14-10. December, 2010
- . Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project - North Central Feedgrain and Cow/Calf Representative Farm, FAPRI-MU Report #13-10. December, 2010
- . Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project - Northeast Feedgrain and Cow/Calf Representative Farm, FAPRI-MU Report #12-10. December, 2010
- . Westhoff, P., Wilcox, L., Zimmel, P. (2010). FAPRI Beginning Farmer and Rancher Development Project Southwest Missouri Cow/Calf Representative Farm, FAPRI-MU Report #11-10. December, 2010

**PROGRESS: 2009/09/01 TO 2010/08/31**

OUTPUTS: The primary goal for Year 1 of this three year project was focused on creating an advisory council, establishing 4 panel farms in Missouri, generating a computer baseline and scenarios for the farms and disseminating preliminary information. Emails were utilized along with networks of leaders throughout the state to identify advisory council members from stakeholder groups identified in the project proposal. Newsletters and brochures were utilized by University of Missouri Extension to recruit potential participants in panel farm workshops. There were 12 workshops held with panel farm members to establish the panel farm, discuss scenarios and present findings. In addition, a larger workshop was held in March 2010 to allow advisory council members and panel farm participants to engage in a brainstorming session for additional scenarios and to discuss dissemination in Year 3 of web based decision support tools. A beginning workshop was held in November 2009 with advisory council members to establish parameters for the panel farms. In total, 14 workshops were held in Year 1. In addition to an 11 person advisory council (9 males, 2 females), an additional 21 participants were included in the panel farm sessions (19 males, 2 females) and the average years of farming for these 21 participants was 3 to 6 years. 100% of the participants are currently engaged in farming and 100% plan to

continue farming in the coming year. As a result of Year 1, financial simulations have occurred for 4 beginning panel farms with scenario analysis resulting from "real-world" scenarios suggested by the participants. A peer and mentor network has been established through interactions among participants and advisory council members. A review of over 100 existing web-based decision support tools has occurred and will be utilized to inform Year 3 development of a web-based, financial simulation decision tool focused on beginning farmers and ranchers. This review will also be utilized while developing a needs assessment survey in Year 2. The Annie's Project panel will have additional participants joining in Year 2 that were not able to participate in initial meetings as a result of family medical issues. Although primarily focused on female participants in the Annie's Project, the participants for this panel farm are farm families as the Annie's Project participants wanted to include their spouses in the workshops. PARTICIPANTS: Nothing significant to report during this reporting period. TARGET AUDIENCES: Nothing significant to report during this reporting period. PROJECT MODIFICATIONS: Nothing significant to report during this reporting period.

**IMPACT:** 2009/09/01 TO 2010/08/31

The first two years of this project are, by design, focused on panel farm participants within Missouri. Information gleaned from these participants will be used in development of a web-based decision support tool that is available to all beginning farmers and ranchers throughout the US in Year 3. The initial target audience includes 11 advisory council members and 2 panel farm participants. In Year 2 a needs assessment survey will be developed and disseminated utilizing existing networks and collaborations with farm and commodity organizations and hopefully other beginning farmer project participants. The survey will focus on interests and ability to utilize web-based tools to assist with farm management decisions, especially as it relates to the first 10 years of operation.

**PUBLICATIONS:** 2009/09/01 TO 2010/08/31

no publications reported this period