



Southeast Center for Agricultural Health and Injury Prevention

CDC/NIOSH Cooperative Agreement 5U54OH007547-14

Annual Report

09/30/2014 through 09/29/2015

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Submitted September 30, 2015

SECTION I — CENTER SUMMARY

The mission of the Southeast Center for Agricultural Health and Injury Prevention (SCAHIP) is to develop and sustain an innovative program of research, education, and health promotion to prevent work-related illness and injury and to improve the health of agriculture/forestry/fishing industry workers and their families in the southeastern United States. The Southeast Center conducts and supports applied research throughout its 10-state service region: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

The Center aims to:

1. Conduct research on the prevention of occupational disease and injury among agriculture/forestry/fishing workers and their families;
2. Develop, implement, and evaluate education and outreach programs to promote the safety and health of agriculture/forestry/fishing workers and their families;
3. Develop, implement, and evaluate model programs to prevent illness and injury among agriculture/forestry/fishing workers and their families; and
4. Develop links with other governmental and non-governmental bodies involved in public health and safety, especially other agricultural safety and health research centers.

RELEVANCE

US Department of Labor trend data for the southeast United States, 2006–2014, indicate despite overall downward trends, the burden of fatal occupational injuries remained disproportionately heavy among those employed in agriculture, forestry, and commercial fishing/aquaculture (AFF) industries. Nationally, preliminary data from 2014, identifies that agriculture, forestry, fishing and hunting recorded the highest fatal injury rate of any industry sector at 24.9 fatal injuries per 100,000 FTE workers, up 9% from 2013. This toll is *over 8 times higher* than the all-industries rate of 3.3 per 100,000 FTE workers (BLS-CFOI 2014). The increase in AFF fatalities was led by fatalities involving agriculture workers (up 12%) and fatalities involving logging workers (up 31%).

The agriculture, forestry, fishing and hunting sector also continues to record much higher rates of non-fatal occupational injuries than the all-industry average: 112 cases per 10,000 full-time U.S. workers in 2012 (all industries average), compared to 192 per 10,000 full-time workers in agriculture, forestry, fishing, and hunting. (BLS-IIF, 2013).

Following are the current SCAHIP projects with their associated relevance:

Research Core: Latino Farmworkers, Work Organization, Safety and Health (J Swanberg)

The goal of this 5-year research project is to improve the occupational safety and health of Latino workers employed on thoroughbred horse farms in Kentucky by reducing job-level and work organization-related hazards in horse production.

Specific Aims:

- identify job hazards and work organization factors inherent within thoroughbred horse production;
- describe the work and social demographic characteristics of Latino workers employed on thoroughbred horse farms, the number, type, characteristics and severity of illness, injuries and near miss incidents experienced by these workers;
- determine how work organization factors may increase exposure to and interact with job hazards as well as occupational illness, injury and near misses among Latino workers;
- develop and disseminate educational safety and health materials for thoroughbred horse farm owners/managers and Latino horse workers.

The research continues to yield promising results with a hard-to-reach employer population—thoroughbred farm representatives and a hard-to-reach vulnerable worker population that experiences significant health disparities: Latino farmworkers.

Prevention/Intervention Core: Economics of Preventing Agricultural Injuries to Adolescents and Adult Farmers (J Mazur)

The earlier **EOP I** project (2006–2011, CDC/NIOSH Cooperative Agreement U50 OH007547 and supplemental) developed and evaluated online versions of narrative simulation exercises and injury cost analysis tools within college courses for post-secondary students preparing for careers as high school social studies and vocational agriculture teachers and agricultural extension agents. Upon graduation, these professionals used the online exercises with hundreds of youths and adults enrolled in their respective educational programs. The current **EOP II** project expands the use of digital, interactive instructional materials aimed at promoting risk-hazard exposure reduction among persons at-risk for farming-related injuries, youth aged 16-20. The project focuses on injuries associated with farm tractor overturns, farm equipment/motor vehicle roadway collisions, head-injuries due to un-helmeted horse and ATV riding and use on farms.

Specific Aims:

- Targeting Agricultural Education programs in the Southeast, expand the cadre of pre-career professionals trained in the use of online simulations, cost tools, and digital instructional materials that emphasize the cost-effectiveness of injury prevention.

- Expand regional, national and global access to the Economics of Prevention: Social & Individual Costs course by making it available online in interactive Web formats.
- Develop and field test new highly-engaging digital intervention products, requested by EOP1 partners, including an [internet game template](#) from the research-tested simulations and economic cost tools from EOP1 and [virtual tractor inspections](#) that motivate youth at high risk of injury to identify hazards and take preventive measures.
- Conduct a multi-state controlled evaluation using the reliable EOP1 measures with the addition of a revised behavioral intention measure that provides greater sensitivity to impact and behavioral change regarding safe farm practices.

The uptake and institutionalization of farm safety materials into school curriculum requirements is a highly sustainable outcome of farm safety material development. This project enlists the support of local agricultural educators as safety advocates as a measurable farm safety intervention, as each teacher interacts with and influences hundreds of students in the course of a school year – impact that extends over the course of many years of their teaching careers. Students in agricultural education classes typically become local community leaders and continue to grow the culture of farm safety in their rural communities.

Education/Translation Core: Nurses Utilizing Research, Service, Education and Practice (NURSE-AP) (D Reed)

The long-term goal of the NURSE-AP project is to provide farm communities with tailored, evidence-based health care and health promotion delivered by trans-disciplinary teams. The intermediate goal is to advance agricultural health and safety nursing practice through emerging education and communication strategies, new clinical interventions, service learning, and community collaborations. This 5-year educational r2p project addresses barriers to optimal care created by delayed access to agricultural health and safety research, lack of evidence-based nursing practice tailored to local farm communities, and the limited number of nurses with expertise in agricultural health and safety. The NURSE-AP project includes collaborating faculty at Frontier University, Western Kentucky University (WKU), East Tennessee State University (ETSU), the University of Alabama- Tuscaloosa, and Southeastern Louisiana University (SELU).

Specific Aims:

- Collect, package, and deliver state-of-the-art farm health and safety research to clinical and academic nurses and students using emerging e-learning technologies and social media.
- Develop innovative strategies for nurse students and other students to develop expertise in agricultural health and safety.
- Increase the capacity of nurses to develop and deliver tailored health programs for local farm constituencies.

- Strengthen and increase a networked cadre of agricultural health nurses in practice, education, and research settings that can sustain the project post-funding. Methods include emerging pedagogy, mass communication information dissemination strategies, student internships and individualized study, faculty and clinical practice fellowships, and consultation services for agricultural nursing research and practice.
- Disseminate health and safety education directly to farm communities.

This project has a direct impact on farmers and their families across the U.S. as noted by the new associations with multiple farm organizations and the continued work with media and other institutions. It shows the hunger that farm families have for health and safety information delivered by nurses who understand and appreciate their work. The presentations have a global reach and the new on-line course (NUR234) proved successful and influences the practice of new nurses. All these indicators point to the rapid translation of research to practice (r2p) that this project accomplishes. The project demonstrates a further “ripple effect” impact, as many disciplines and the public look to the project for guidance, education, and resources.

Education/Translation Core: Graduate Certificate in Agricultural Safety and Health (ASH) (J Mazur)

Service providers and clinical professionals in rural communities regularly encounter workers, patients or colleagues who live and work on farms. Current knowledge of agricultural safety and health issues is essential to serving these individuals well. However, agricultural education, public health, and gerontology, higher education and professional preparation programs rarely include a focus on health and safety issues related to living and working on farms. Continuing professional education at the post-secondary level is a solution that targets rural populations and advances the *Healthy People 2010* goal to increase the quality and years of healthy life as well as NORA Strategic goals 1-5 related to surveillance, vulnerable workers, outreach/communications and partnerships, agricultural safety and agricultural health. The Certificate in Agricultural Safety and Health, offered through the University of Kentucky College of Public Health addresses the need for the preparation of professionals to serve the needs of agricultural populations. A particular focus has been working faculty to design and prepare course content in the Certificate anchor course Health of Agricultural Populations (HAP) (CPH 728) for offering as e-learning course modules.

Specific Aims

- To develop a cadre of post-career professionals knowledgeable in the principles of agricultural safety and health at the post-baccalaureate level.
- To implement a graduate level certificate in Agricultural Safety and Health emphasizing the novel approach of progressive inquiry learning and research-to-practice skills.

2014-2015 Administrative Core Supplemental: Cost-effective Roll-over Protective Structures (CROPS) (S Vincent)

This project replicates and extends the impact of the KY CROPS pilot project originally funded through SCAHIP feasibility funding into additional KY school districts (including 3 Appalachian districts) and two additional states (TN, NC). The project integrates NIOSH CROPS plans and installations in high school Agricultural Power Equipment & Mechanics programs. Students identify community need for CROPS installations and through a supervised project, construct and install the CROPS. Increased installations of CROPS will reduce exposure to crush and roll over injury and fatality in the targeted communities.

The multi-state project aims are:

1. Develop social media and marketing strategies to increase students' and public knowledge & awareness.
2. Design and conduct teacher professional development workshops for CROPS construction and installation.
3. Address implementation issues, if any, associated with the CROPS projects.
4. Track the number of CROPS installations pre- and post the project implementation year (24 anticipated).
5. Dissemination of findings and strategies in local communities as well as with state and national agricultural educators at the national and international conferences of NAAE and ISASH.

Pilot Feasibility Studies and Emerging Issues Program: (W Sanderson)

This program (1) provides initial funding to develop innovative methods of investigation and prevention/intervention in agricultural/forestry/fishing (AFF) occupational safety and health; (2) stimulates investigators in diverse disciplines to apply their expertise to AFF safety and health issues; (3) enhances external partnerships and cross-center collaboration; (4) provides support for activities designed to move the results of research into practice; and (5) provides pilot data to support successful R-01 type funding.

Outreach Program: (J Mazur)

The Outreach program uses purposeful, trans disciplinary approaches for print, online, and face-to-face delivery of safety and health information and training materials to farm/forestry/fish industry owners and operators, hired workers, and the membership organizations, businesses and agencies that serve them. This translation of research activity to real-world application is developed in response to priority health and safety topics identified by input from agriculture/forestry/fishing stakeholders across the 10 state region. Improved access to stakeholders including Hispanic farm workers and other vulnerable populations is a priority. Materials are developed to ensure that farm safety instruction, guidelines, and other prevention activities are culturally, linguistically, and educationally appropriate and achieve the widest possible diffusion of Center knowledge and research findings, including evidence-based "Simple Solutions", work organization strategies, and best practices for farm safety and health. A multi-Center outreach strategy is continually

developing with collaborations with the Northeast Center (Cooperstown, NY) the High Plains and Intermountain Center (Colorado State University) and Conceptual Arts, Inc., (Gainesville, FL) on expansion of the National Agricultural Safety Database (www.nasdonline.org) as the top online source for stakeholder access to resources and tools identified, developed, and evaluated by the NIOSH Agricultural Centers. The program with its strong ties to the University of Kentucky's instructional design program is using state-of-the-art technology to package, market, and distribute field-tested agricultural occupational safety and health materials and tools.

Evaluation Program: (Ingram/Westneat)

This program monitors and reports the current and ongoing progress and regional/national/international impact of all SCAHIP programs through systematic and widespread tracking in an organized, easily reportable database. A sample of activities being tracked include: classroom research subjects from EOP II and CROPS projects – not only their progress through the program but post program activities including their work placement (county specific) after program completion. This post program tracking allows us to gauge state and county-wide impact of knowledge gained in the research programs. Project-specific publication numbers, citation numbers and journal impact are also being tracked as well as oral, poster, other professional presentations. Number and type of attendees at presentations is also being monitored. These combined activities provide actual numbers to measure the continued impact of our funded programs and trace the web of regional/national/international influence.

The Evaluation core also maintains an up to date email roster of stakeholders across all 10 states and includes representation from each of the ag/forestry/fishing industries. The roster is used to conduct periodic online stakeholder surveys to solicit opinions regarding important health and safety issues across agriculture/forestry/fishing industries. This information is used to guide funding decisions for pilot projects as well as to ensure ideas for future research proposals are meeting the health/safety needs of the region. Questions about use of various forms of media are also included to assure the SCAHIP methods of disseminating information/results are appropriate and usable.

Key Personnel – Southeast Center for Agricultural Health and Injury Prevention

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Ag Center weblink: <http://www.mc.uky.edu/scahip/>

SECTION II — PROGRAM HIGHLIGHTS OF HIGH IMPACT

Research Core: Latino Farmworkers, Work Organization, Safety and Health (J Swanberg)

The goal of this 5-year research project is to improve the occupational safety and health of Latino workers employed on thoroughbred horse farms in Kentucky by reducing job-level and work organization-related hazards in horse production. The research is yielding promising results with a hard-to-reach employer population—thoroughbred farm representatives and a hard-to-reach vulnerable worker population that experiences significant health disparities: Latino farmworkers. Over the past year, the project has had success across all aims. Data collection has concluded and the focus of Year Four was on data analysis and dissemination. Research findings have been shared with the scientific community via 2 peer-review manuscripts that are in publication, 2 that are under review, and 4 that are in progress. Dissemination to the research community has also been achieved through 9 conference presentations and a feature on NIOSH's Science blog. Dissemination of research findings and outreach materials to community and industry stakeholders has been successful in Year 4 as the research team has distributed over 800 materials to its target audience over the past year. Materials include six topical research briefs in which study findings are conveyed in a brief, easy-to-understand format that has been widely praised by both community and industry contacts (see www.workersafetyandhealth.com/issue-briefs). In addition, the research team helped to update, format, and disseminate a Spanish-language community resource guide that has been very popular among Latino thoroughbred farm workers (see: www.workersafetyandhealth.com/wp-content/uploads/2015/05/Resources-booklet_Bilingual5.22.15.pdf.) Dissemination efforts to the Latino community have included participation in: the Kentucky Children's Health Insurance Program Hispanic Christmas Party, the University of Kentucky Hispanic Dental Health Fair, the Festival Latino Health Fair, formal community advisory council meetings as well as 1:1 meetings community advisory council members. Dissemination efforts to the thoroughbred Industry have included participation in: the University of Kentucky Equine and Farm Expo, a presentation to the Kentucky Thoroughbred Farm Managers' Club, formal industry advisory council meetings as well as 1:1 meetings with advisory council members. Finally, the project's website (www.workerhealthandsafety.com) has been a highly successful medium for disseminating research findings to academic, industry, and community audiences. In the 4 months since its launch, the new website has garnered over 2,082 visits from 2,029 users. As of 9/20/15, 66 research briefs have been downloaded through the website.

Prevention/Intervention Core: Economics of Preventing Agricultural Injuries to Adolescents and Adult Farmers (J Mazur)**Hazard Ridge**

During this year, data collection with the *Hazard Ridge 3-D* immersive game intervention continued. An additional set of analysis tools has been developed by the game development partners at SuperSoul to incorporate student tracking data. These tools will enable the research team to log specific areas of the game that students visit, how long they spend viewing and interacting with various content elements. These logs will be synced via a Web 2.0 'back end' database to online pre-post measures also delivered with PHP/MySQL database applications. Online development progressed with the EOP II Web site <http://eoonline.org> along with additional tools for the online *Economics of Prevention: Risk and Social Costs of Ag Injury* course offered during the 4-week summer session at UK. Webcasts of materials and measures were made available online for the course in a fully online format (as a final full asynchronous pilot) available to upper level undergraduate as well as graduate students. Eighty students from four ag classes at the University of Kentucky and Arkansas Tech participated during the fall 2014 semester.

Virtual Tractor Inspection (VTI): The *Virtual Tractor Safety Walk-around Inspection* materials being used with adults at cooperative extension venues were completed. A 'modularized' version (in five parts) and additions to the interface to include enhanced user tracking to support multiple uses of the materials to complete the extensive virtual tractor inspection content has been implemented. A user test was conducted in December 2014 with 114 students in the Agricultural Education program at North Laurel High School in London, Kentucky. Refinements to the content, delivery system and instructor management interfaces on this online product resulted. A VTI Instructor Guide was developed in summer 2015. Implementation of VTI online training, delivered using the NASD tools developed as part of the Outreach Program and the VTI Instructor Guide is underway in four Appalachian Kentucky county (Boyle, North Laurel, Garrard and Whitley) high schools in agricultural education classes with approximately 240 students. Teacher training sessions have been conducted. A demonstration of VTI was presented to the Ag Center ECO (Evaluation/Coordinator/Outreach) group at the September 2015 monthly conference call as part of the progress report on the development and implementation of the NASD interactive tools.

Education/Translation Core: Nurses Utilizing Research, Service, Education and Practice (NURSE-AP) (D Reed)

Dr. Jones taught Agricultural Health Nursing (NUR 234) in the fall 2014 with 21 students completing the course. 85% of the students (n=13) completing the evaluation reported to agree or strongly agree with the statement, "I can apply information/skills learned in this course." An on-line CE Module: *The Nursing Response to Mental Health Issues in Agriculture Populations* course was created using interactive technology and field expert video clips. Content was organized based on the program objectives: to (1) assist practicing nurses to identify sources of stress, (2) recognize the manifestations of stress such as anxiety, depression and the risk for

suicide, (3) assess the mental health status of farmers, and (4) identify appropriate nursing interventions to assist the farmer and the family deal with occupational stress. Initial evaluation of the CE program occurred during the fall 2014 with 100 individuals completing an anonymous evaluation. Fifty-two (100%) of the expert and RN reviewers “strongly agreed or agreed” that the program content was interesting, their knowledge based was increased, new insights relevant to their work were gained, adequate time was allowed, and the content was appropriate for the audience. Forty (95%) of the RN reviewers indicated they intended to make at least one practice improvement as a result of the CE program. The program is now available on-line at Western KY University at <http://campusce.net/wku>.

The AGNURSE Facebook page has grown to 172 likes (up from 73 in September 2014). This has proven to be a very popular media format for farmers and for health and other farm service professionals. The increase in likes is directly attributable more postings with links and to the increased exposure due to Dr. Reed’s presentations. Interactive messages are also markedly increased. Dr. Reed made six oral presentations through organizations such as AgriSafe webinars, keynote addresses in KY and TN, inter-professional honors course at UK, and Farm Bureau total “live” reach: 383. Project faculty mentoring of Ms. Eastman, the project’s UK undergraduate nurse research intern, resulted in her publication: Eastman, A. (July, 2015) Adapting care to culture: Aging in agriculture. Kentucky Nurse: Vol63, No. 3 p 8. Principal investigator Dr. Reed continued to receive high recognition within the agricultural health and safety field, receiving the Laura Clay Award from KY Women in Agriculture in November, 2014. She was also appointed to the KY Farm Bureau State Safety Directors Board March, 2015.

2015 Administrative Core Supplemental: Cost-effective Roll-Over Protective Structures (CROPS) (S Vincent)

As of September 29, 2015, the program has installed 52 CROPS in 19 schools, involving 500 agricultural education high school students. The resulting CROPS products were prominently displayed in the local press in these communities. In July 2014 Drs. Vincent and Mazur had met with CROPS agricultural mechanics teachers and NIOSH representatives, Dr. David Hard and Dr. Tony McKenzie. The teachers provided feedback on the need for and design of, a CROPS Curriculum Guide. The Guide, developed in fall 2014, was implemented at the KY, TN and NC sites. In July 2015, a 3-day Teacher Seminar was held with the new 2015-2016 CROPS teachers cohort (n= 13) to review the CROPS curriculum and to engage in a hands-on construction of an actual CROPS using the NIOSH plans, using the Agricultural Mechanics shop at the Gatlinburg High School. The participants also received a Social Media Crowd Funding Packet to implement an internet CROPS funding strategy in the upcoming 2015-16 school year in their FFA program.

An additional aspect of the 2015-2016 CROPS program was the addition of faculty partner Dr. Preston Byrd, assistant professor of agricultural education, specializing in teaching and learning strategies in agricultural mechanics, from Clemson University. In summer 2015, the CROPS program purchased an EPOCH 650, a portable ultrasonic flaw detector with excellent inspection performance and usability for a wide variety of applications (<http://www.olympus-ims.com/en/epoch650/>). The EPOCH 650 is designed to meet the requirements of EN12668-1 and allows a full range of standard and optional flaw detection features. Dr. Byrd has completed the EPOCH 650 training. Beginning in October 2015, he will visit CROPS program schools, as they complete CROPS constructions, to inspect the CROPS products. Dr. Byrd has developed an inspection protocol that focuses on fidelity to plan specifications, correct bolt torque and the structural integrity of welds. Dr. Byrd has generated an inspection checklist from the blueprints of the CROPS system. Data from this inspection protocol will be compiled and used for quality control and teacher professional development. Pre-test data, plans and curriculum materials have been delivered and projects are underway in 11 schools (25 CROPS) in Kentucky, Tennessee and North Carolina for the 2015-16 school year.

Education/Translation Core: Graduate Certificate in Agricultural Safety and Health (ASH) (J Mazur)

The Certificate in Agricultural Safety and Health (ASH) offers a sequence of rigorous coursework comprised of 12 hours of content (4 graduate level courses) designed to develop expertise and facility in the use of scientific public health investigative methods and a sound research to practice orientation to provide services to rural populations at risk for agricultural health issues and/or occupational injury. Dr. Mazur assisted by Ms. Ellen Bloomfield, M.S., an experienced instructional designer and educator (and doctoral candidate in Instructional Systems Design at the University of Kentucky), completed the instructional design and development for the online 'anchor' course for the ASH Graduate Certificate Program – Health of Agricultural Populations (HAP) (CPH 728). The online course instructional core components have been designed and are in the learning management system delivery system (Canvas) at the University of Kentucky.

Additional development documents were also distributed, including the Subject Matter Expert (SME) content form to assist Mazur and Bloomfield with instructional design tasks. Drs. Sanderson and Purschwitz are co-teaching the course and have revised the syllabus from previous offerings. This rigorous course emphasizes inquiry and problem solving using sound research methods to investigate a variety of agricultural health and safety issues. Coursework includes on-site classes, guest lectures from national experts in various agricultural health and safety topics (using teleconferencing tools), farm visits and collaborative group investigations that employ scientific field research methods. During the fall 2014 semester (August-December 2014), weekly digital video taping of on-site and teleconferenced guest lectures through the use of the Adobe Connect Telecourse delivery system was conducted. These digital lectures have been edited and have been provided to lecturers for approval. After this process is complete, they will be available for inclusion in the online course learning management system.

Remaining courses in the ASH certificate program were reviewed and modified as necessary to better meet the aims of the program. This included the streamlining of courses with the fourth course recognized by completion of either the capstone course (CPH 608) or Advanced Agricultural Health and Safety (CPH 729). Recruitment into the ASH certificate program continues to show a steady increase in enrollment with a total of 33 students enrolled in the final CPH 729/608 course in 2015 compared to 28 in 2012.

Outreach (J Mazur)

The Outreach program uses purposeful, trans disciplinary approaches for print, online, and face-to-face delivery of safety and health information and training materials to farm/forestry/fish industry owners and operators, hired workers, and the membership organizations, businesses and agencies that serve them. This translation of research activity to real-world application is developed in response to priority health and safety topics identified by input from agriculture/forestry/fishing stakeholders across the 10 state region. Improved access to stakeholders including Hispanic farm workers and other vulnerable populations is a priority.

Activities and Results:

Multi Center Collaboration – Evaluators/Coordinators/Outreach (ECO) Group

An ongoing multi-center collaborative outreach strategy was developed between SCAHIP and the ECO Group comprised of representation from the 10 US Ag Centers and Conceptual Arts, Inc., (Gainesville, FL) on expansion of the National Agricultural Safety Database (www.nasdonline.org) as a premier online source for stakeholder access to resources and tools identified, developed, and evaluated by the NIOSH Agricultural Centers. The program with its strong ties to the University of Kentucky's instructional design program is using state-of-the-art technology to package, market, and distribute field-tested agricultural occupational safety and health materials and tools.

Stakeholder Outreach

In addition to the specific Center Outreach work with the ECO group and Center faculty, Drs. Reed, Swanberg and Mazur and their programs engaged in numerous outreach activities and distribution of materials to stakeholders as part of their funded research, intervention and educational program. In 2014-15, presentations have reached 764 stakeholders and 1,013 safety materials have been distributed as part of these presentations and events.

Regional Outreach to Women and Minority Small Farmers

Dr. Mazur and outreach staff efforts to foster outreach with under-represented groups was successful during the reporting period. A collaboration with Georgia Women in Agriculture (GWIAA) was developed and shows great potential for future outreach and research collaborations. Dr. Mazur became a collaborator on the “Safe Children on Georgia Farms: A Statewide NAGCAT Training Program through the Georgia Women in Agriculture Association (GWIAA) grant. Dr. Mazur in collaboration with the National Children’s Center will work to ‘grow’ regional Child Safety initiatives with links to various regional Agricultural Centers. Four workshops with follow ups began in March, 2015 (N=30). This work also included a one-day workshop for graduate students from the Emory University College of Public Health Rural Occupational Health Course (with Dr. Judith Wold) participating in a Migrant Outreach Health Clinic in Moutrie, GA (N=20).

USAgCenters YouTube Channel. A social media kit was developed for US Ag Centers which included customized urls to various You Tube videos as part of National Farm Safety & Health Week (NFSHW) 2015. The purpose was to create awareness of National Farm Safety Health Week and drive viewers to the Channel. Further social media efforts continue to be explored as part of strategy to promote and increase awareness around issues addressed by the videos. The URL for the YouTube site is <http://www.youtube.com/UsAgCenters>

Social Media: a persistent effort has been made to increase our social media efforts through regular messages on Facebook and Twitter. Twitter fans have increased from 19 to 60 and Facebook friends have jumped from 50 to 91 in the last 6 months.

Southeast Center electronic outreach at a glance:



<http://www.mc.uky.edu/scahip/>



<http://www.eoponline.org>

<https://www.facebook.com/580178002007732>



<https://www.facebook.com/Agriculture.nurse>

<http://www.uky.edu/Centers/iwin/thoroughbred.html>



<https://www.twitter.com/SCAHIP>

<http://www.youtube.com/watch?v=VfYLX4eJ0fk>



<http://www.youtube.com?USagCenters> (cross-center collaboration)

Additionally, the AgNURSE Facebook page (part of the NURSE-AP project) has increased its visibility and research. Over the reporting period, it increased to 173 likes (up 233% since last reporting period). Interaction has also increased and networking with other ag resources has expanded. <http://www.facebook.com/Agriculture.nurse>. The most popular post this year was farmers and arthritis with 262 views, three requests for resources (tip sheets). Research brief downloads from the Latino Farmworkers website as of 9/20/15 (66) also showed the effectiveness of the electronic media in outreach.

Evaluation (Ingram/Westneat)

An email roster of stakeholders across all 10 states in the SCAHIP region and representing each of the agriculture/forestry/fishing industries was created. An online stakeholder survey was developed and distributed to the roster. Data collection yielded over 240 responses across the 10 state region and across industries. Respondents provided rich open-ended data on what they deem to be the topic areas of concern in health and safety across the industries of agriculture, forestry and fishing. This information provides vital feedback to the outreach core as well as guides pilot project funding and future proposal development. In addition, valuable information about smart phone and access to and interest in social media has been collected on the survey, supporting the Center's social media development plans. Tracking of students, publications, citations, presentations and outreach activities is also ongoing.

Pilot Feasibility/Emerging Issues Program (W Sanderson)

Investigator	Institution	Project
Bourgeois, Marie	University of South Florida	A pilot study of malathion, atrazine, carbaryl and chlorpyrifos in breast milk of women in suburban and agricultural communities of central Florida.
Carter, Craig	University of Kentucky	Equine immune response to leptospiral infection
Smidt, Mathew	Auburn University	Modeling trainer behavior with advanced toolbox training
Westneat, David	University of Kentucky	Transmission of bacteria between livestock and house sparrows and the potential pathogenic risk to farm workers

Pilot Project abstracts are shown in Appendix A.

APPENDIX A – PILOT PROJECTS FUNDED 2014-2015

Project Title: A pilot study of malathion, atrazine, carbaryl and chlorpyrifos in breast milk of women in suburban and agricultural communities of central Florida

PI: Marie Bourgeois, Center for Environmental/Occupational Risk Analysis and Management, Department of Environmental and Occupational Health, University of South Florida College of Public Health

Summary of Project:

This study determined the concentrations of malathion, atrazine, carbaryl and chlorpyrifos in the breast milk of donors to assess potential differences in lactational transfer among agricultural populations. Many common pesticides are lipophilic and may bioaccumulate or biomagnify in breast milk. Additionally, pesticides are found in both the aqueous and lipid phases of breast milk due to their relatively low octanol to water partition coefficients. Specific aims included: 1) determine the concentration of common pesticides in the breast milk of volunteers; 2) compare and contrast concentrations of 4 study pesticides in suburban and agricultural resident volunteers; 3) compare the levels of study volunteers to levels detected in the breast milk of women in studies performed in other countries.

Project Title: Equine immune response to leptospiral infection

PI: Craig Carter, DVM; Veterinary Diagnostic Laboratory, University of Kentucky

Summary of Project:

Leptospirosis is a reemerging zoonotic infection of worldwide importance. *Leptospira spp.* are found in over 160 mammals worldwide, including horses. The bacterium is easily transmitted via urine and fetal membranes/fluids from horse to horse and potentially humans. Veterinarians, farmers, slaughterhouse workers, butchers, sewer workers and others are at risk for contracting the disease either through direct contact (urine or body fluids) or indirect contact (contaminated water or soil). The specific aims include: 1) compare the immune response in serum samples of leptospiral positive pregnant mares who carried full term vs. those that aborted looking at 2 potentially key cytokines, tumor necrosis factor alpha and interleukin-10 and one enzyme hemoxygenase-1; 2) compare the immune response in pregnant mares vs. non-pregnant mares exposed to and/or infected with leptospirosis over time (3 months) from four central Kentucky horse farms. It is hoped that the information gained from this investigation will decrease the number of abortions and reduce the risk of exposure of those individuals working on farms and veterinarians exposed to the aborted fetus and placenta.

Project Title: West Virginia Logger Hazard Awareness and Injury Risk Perception

PI: Mathew Smidt, School of Forestry and Wildlife Sciences, Auburn University

Summary of project:

Standard operating procedures are critical for improving logging safety. Training is a critical component of these safety systems. Specific aims include: 1) develop java programmed training materials to support three critical hazards in logging: trips/slips/falls, caught-in, and struck-by. Program materials will be oriented towards “toolbox talk” formats and will provide opportunities for the crew and crew-leaders to define the “next steps” in hazard avoidance. 2) evaluate materials to determine whether the additional support in the toolbox talks have an effect on training desirability, efficacy or on self-assessment of safety management skills.

Project Title: Transmission of bacteria between livestock and house sparrows and the potential pathogenic risk to farm workers

PI: David Westneat, Morgan School of Biological Sciences, University of Kentucky

Summary of project:

Zoonotic disease occurs when humans come into close contact with the normal reservoirs or vectors of disease-causing pathogens. Farms provide multiple opportunities for exposure of workers to pathogens carried by livestock, and possibly by wildlife associated with livestock. The demography of pathogens in livestock is likely influenced by interactions with wildlife, yet little is known about the factors affecting these interactions. This project builds upon a preliminary study funded by the Central Appalachian Regional Education and Research Center (CARERC) and proposes a follow-up study of disease-causing bacteria and the role of avian-livestock interactions in the demography of these bacteria in the agricultural landscape. Specific aims include: 1) definitively assess the transmission of three types of bacteria, *Corynebacteria*, *E.coli*, and *Salmonella* between livestock and local house sparrows; 2) to assess the level of risk of these pathogens by assessing antimicrobial resistance of isolates collected from both birds and livestock; 3) to further define bacterial demography in birds by using a wider identification screen and assaying multiple age classes, sampling individuals repeatedly, and monitoring the movement of infected birds among locations. The results have provided initial findings on prevalence, spatial and temporal dynamics, and possible transmission mechanisms.

Appendix B – SCAHIP OUTPUTS October 2014 through September 2015

Publications:

Kearney GD, Phillips C, Allen DL, Hurtado GA, Hsia LL. Sun Protection Behaviors Among Latino Migrant Farmworkers in Eastern North Carolina. *JOEM*. 2014 Dec; 56 (12): 1325-1331. doi: 10.1097/JOM.0000000000000275.

Mazur, JM., Vincent, SA, Watson, J, Westneat, S. (2015) CROPS Assembly & Installation In High School Agricultural Mechanics Classes: A feasibility study. *J. Agromedicine*. (In press)

Mazur, JM., Vincent, SA, Watson, J, Westneat, S. (2015). Integrating CROPS Installation in High School Agricultural Mechanics Classes: A feasibility study. *J. Agromedicine*, vol 20, issue 2, pages 149-159

Watson, J.M., Mazur, J.M., Vincent, S.K. (2015). Youth-driven Youth-Adult Partnerships: A Phenomenological Exploration of Agricultural Education Teachers' Experiences. *Journal of Agricultural Education* (In press)

Cole, H.P., Myers, M.M., Westneat, S.C., Mazur, J.M., Watson, J.M. (2015) Rural Kentucky High School Students' Exposure to ATV Riding and Injuries. *J. Agromedicine*. (In press).

Swanberg, J. E., Clouser, J. M., Gan, W., Mannino, D. M., & Flunker, J. (2015). Individual and occupational characteristics associated with respiratory symptoms among Latino horse farm workers. *American Journal of Industrial Medicine*, 58(6), 679-687. doi: 10.1002/ajim.22452

Clouser, J. M., Swanberg, J. E., & Bundy, H. (2015). Keeping workers safe: Does management risk perception match PPE provision? *American Journal of Industrial Medicine*, 58(8), 886-896. doi: 10.1002/ajim.22464

Eastman, A. (July, 2015) Adapting care to culture: Aging in agriculture. *Kentucky Nurse*: Vol63, No. 3 p 8. (Ms. Eastman is the Nurse-AP UK undergraduate nurse research intern).

Arcury,TA, Gabbard, S., Bell, B., Casanova, V., Flocks, J.D., Swanberg, J.E., & Wiggins, M. (2015). Collecting Comparative Data on Farmworker Housing and Health: Recommendations for Collecting Housing and Health Data Across Places and Time. *New Solutions*, doi:10.1177/1048291115601052.

Publications under Review:

Swanberg, J., Clouser, J. M., Bush, A. M., Westneat, S., & Reed, D. B. (2014). Work Organization and Safety Practices on Thoroughbred Farms. *Journal of Agricultural Safety and Health*.

Mazur JM, Westneat, S. Barriers to agricultural safety with adolescent & adult farmer populations: Exploring apprenticeships of observation. *J Agromedicine*.

Swanberg, J., Clouser, J.M., Bush, A.M., Westneat, S.C. (2015) From the horse worker's mouth: A detailed account of injuries experienced by Latino horse workers. *Journal of Immigrant and Minority Health*.

Swanberg, J.E., Clouser, J.M., Bush, A.M., Westneat, S.C. & Reed, D.B. (2015). Understanding Work Organization Factors on Thoroughbred Farms. *International Journal of Agricultural Management*.

Mazur, J., Cole, H, Myers, M., Vincent, S., Swan, G., Swan, K., Issacs, S., Westneat, S., Donovan, T., Ashford, A., Schneider, M., Leytola, C., Ibendahl, G., Watson, J. (In preparation for submission). Economics of Preventing Injury to Adolescent & Adult Farmers: Investing in School-Based Farm Safety Advocates in Rural Communities. *Journal of Agriculture Safety and Health*.

Swanberg, J., Mannino, D., Wenqi, G., Clouser, J. & Flunker, J. (in preparation for submission). Respiratory Symptoms among Latino Horse Workers: Does Job Quality Matter?

Oral Presentations (including number in audience where available):

Reed, D.B. (2014). *Elder farmers: transitions of care*. Deans Honors Colloquium presented one hour lecture (39 interdisciplinary reached) Nov.14, 2014

Swanberg, J. E., Clouser, J. M., Westneat, S., Bush, A., & Reed, D. (2014). *From the Horse Worker's Mouth: A Detailed Account of Injuries Experienced by Latino Horse Workers*. Paper presented at the American Public Health Association, New Orleans, LA. (45 reached)

Swanberg, J. E., Clouser, J. M., Bush, A., Westneat, S., & Reed, D. B. (2015). *Thoroughbred Worker Health and Safety Study: A community and industry engaged approach to promoting health and safety on thoroughbred farms*. Paper presented at the SouthON Conference, Lexington, KY. (80 reached)

Flunker, J., Swanberg, J.E., Clouser, J.M., Mannino, D.M., & Gan, W. (2015). Pulmonary function among Latino thoroughbred workers: A pilot study. Paper presented at the Center for Clinical and Translational Science Annual Conference, Lexington, KY. (30 reached)

Flunker, J.,(2015). Pulmonary function among Latino thoroughbred workers: A pilot study. Master's Thesis defense, Lexington, KY. (10 reached)

Swanberg, J., Clouser, J. M., Mannino, D. M., Gan, W., & Flunker, J. (2015). *The role of work and non-work factors on respiratory health of Latino Thoroughbred Workers*. Paper presented at the International Society for Agricultural Safety and Health, Bloomington, IL. (40 reached)

Clouser, J.M., Swanberg, J. (2015). A community and industry engaged approach to studying work organization and the occupational health of Latino thoroughbred workers. Colloquium invitation to the Eastern Kentucky University Department of Psychology.(50 reached)

Swanberg, J., & Clouser, J.M. (2015). Locating an invisible latino workforce: Strategies & lessons learned. University of Maryland Research Group on Work, Family & Well-being. Baltimore, MD. (12 reached).

Fullen, Mark. West Virginia Logger Hazard Awareness and Injury Risk Perception: Results from a Pilot Study. Paper presented at National Occupational Injury Research Symposium (NOIRS), WV, 2015 May 19-21

Reed, D.B. (2015). *Shaping the future, using the past*. Western Kentucky University Research Day, Bowling Green, KY. April 2015. (175 reached)

Reed, D.B. (2015). *"This is my world": Perspectives of senior farmers and their families on risk and behavior*. AriSafe webinar. Feb 25, 2015, one hr CE. 64 "live" participants (This is archived with free access).

Reed, D.B. (2015). *Farm safety: It's important not to forget!* Farm Bureau meeting. Invited speaker. Covington, KY. March 2015. (70 reached)

Reed, D.B. (2015). *A nurse's perspective on farm health and safety: What works and why*. Arthritis, AgrAbility and Rural Health Conference. Knoxville, TN. August 25, 2015. Invited keynote. (38 reached)

Reed, D.B. (2015). *Older farmers' safety strategies: What we've learned*. Arthritis, AgrAbility and Rural Health Conference. Knoxville, TN. August 27, 2015. (38 reached)

Mazur, Joan. (2015) National Occupational Injury Research Symposium (NOIRS), Closing Plenary Session. Kingwood, WV. May 2015,

Mazur, JM. (2015) Use of a 3-D Immersive Game, Hazard Ridge, for ATV Safety. Preliminary data on Attitude and Knowledge Measures. Presentation at the International Society of Agricultural Safety & Health (ISASH). Normal, IL, June, 2015

Mazur, JM., Watson, J., Wood, K. Nelson, J., Olion, B. (2015). NASD 2.0: Beta Testing An Interactive Online Training Environment with Agricultural Mechanics High School Students. Poster Presentation at the International Society of Agricultural Safety & Health (ISASH). Normal, IL, June, 2015.

Pending oral presentations

Flunker, J., Swanberg, J., Clouser, J. M., Mannino, D. M., & Gan, W. (2015). Respiratory health among Latino thoroughbred workers. Paper submitted to the American Public Health Association Annual Meeting, Chicago, IL.

Swanberg, J.M. & Clouser, J.M. (2015). Community Health Workers as Researchers: An Effective Strategy for Conducting Research with Vulnerable Latino Workers. Society for Social Work Research Conference.

Poster Presentations:

Clouser, J. M., Swanberg, J.E., & Bundy, H. (2014). *Safety Perceptions and Behaviors of Managers and Latino Workers*. Paper presented at the National Institute for Occupational Safety and Health's Total Worker Health, Bethesda, MD. (30 reached)

Bush, A., Flunker, J., Clouser, J. M., & Swanberg, J. (2014). *Agricultural workers' living arrangements: An examination of Latino thoroughbred workers and a national crop worker sample*. Poster presented at the Farmworker Housing Quality and Health: A Transdisciplinary Conference, Arlington, VA. (75 reached)

Clouser, J. M., Swanberg, J., & Bundy, H. (2015). *Safety perceptions and PPE provision of thoroughbred farm management*. Paper presented at the National Occupational Injury Symposium, Kingwood, West Virginia. (80 reached)

Flunker, J., Swanberg, J.E., Clouser, J.M., Mannino, D.M., & Gan, W. (2015). Pulmonary function among Latino thoroughbred workers. Poster presented at the COPD9 annual conference, Chicago, IL. (200 reached)

Jones, M.S., Reed, D.B., & Honaker, A. (2014). *An agricultural health nursing course designed for distance education*. Poster presentation. Kentucky Rural Health Association (KRHA) Conference, Bowling Green, KY, September, 2014.

Jones, M.S., Reed, D.B., & Honaker, A. (2014). *An agricultural health nursing course designed for distance education*. Poster presentation. Kentucky Nurses Association (KNA) Convention, Louisville, KY, October, 2014.

Jones, M.S., Main, E., Wright, D.G., & Reed, D.B. (2015). *Using technology to respond to the stress and mental health concerns among farmers and their families*. [Poster]. International Society for Agricultural Safety and Health (ISASH) annual conference. Normal, IL. June 21-24, 2015. Repeated at Western KY University Nursing Research Day

Schafbuch, M.L., Vincent, S.K., Mazur, J.M., Watson, J.M., Wood, K. Saving Lives in Rural Appalachian Communities through Agriculture Mechanics Education. Paper presented at North Carolina Agriculture Education Conference, 2014 Oct.

Richards SL, Balanay JG, Harris JW, Banks VM, and S Meshnick (2015) Duration of effectiveness of permethrin-treated clothing for prevention of mosquito bites under simulated conditions. 80th Annual American Mosquito Control Association, New Orleans, Louisiana. 2015 Mar.

Richards SL, JG Balanay, JW Harris, VM Banks, and S Meshnick (2014) Duration of effectiveness of permethrin-treated clothing for prevention of mosquito bites under simulated conditions. 49th Annual North Carolina Mosquito and Vector Control Association, Greenville, North Carolina. 2014 Nov.

Pending Posters:

Posters at the Capital: Feb, 2016. Two abstracts in preparation for this event in Frankfort, KY to present research posters to the legislature and public. Using Social media to inform nurses about farm health and safety; Our Aging Farmers: Risks and Benefits of Lifetime Work. Both posters will be lead authored by NURSE-AP students.

Conference presence/booths: SCAHIP staff, demonstrations and materials displayed/presented:

Future farmers and the educators who lead them. The SCAHIP exhibit at the National FFA Convention held in Louisville, KY, in October 29-Nov 1, 2014 attracted contacts with more than 500 FFA members. Many of these future farmers subsequently visited Center social media (*i.e.*, Facebook and Twitter) and hundreds of contacts, including high school vocational agricultural instructors, were added to the outreach mailing list.

The American Public Health Association Conference, New Orleans, Nov 15-19, 2014 attracted contacts with all the Schools of Public Health in our 10 state region that were represented at APHA. Visitors from the following states came by to learn about the Center and take materials home for dissemination: AL, AR, AZ, CA, CO, DE, FL, GA, HI, IL, IN, IA, KY, LA (including several high school/middle/elementary school teachers from “north shore” Louisiana who took materials and assured they’d be distributed to all the students in these parishes); MD, MA, MI, MN, MS, NE, NJ, NY, NC, OH, PA, SC, TN, VA, WI.

Participation in the “Farmworker Housing Quality and Health: A Transdisciplinary Conference” organized by the Center for Worker Health, Wake Forest School of Medicine, Nov 15-17, 2014.

Participation in the Governor’s Safety Conference www.kshn.net 2015 May, Louisville, KY.

Participation in 6th National Occupational Injury Research Symposium (NOIRS) May 2015, Kingwood, WV.

Participation in the International Society for Agricultural Safety and Health (ISASH) 2015, June 21-25, Normal, IL.

Pending booth/conference presence:

Russell County, KY presentation to the Russell Co Farm Bureau: Health and aging for farmers, Oct 6, 2015.

SCAHIP booths at the National FFA Conference, Louisville, KY Oct 28-31, 2015 and The American Public Health Association Conference, Chicago, Oct 31 – Nov 4, 2015.

National Association of Agricultural Educators (NAAE), Nov 18-22, 2015

SCAHIP is planning and hosting the 2016 International Society for Agricultural Safety and Health (ISASH) annual conference in Lexington, KY, June 2016.

Community Presentations/Material Distribution:**Latino: Community presentations/material distribution (1013 items distributed):**

Kentucky Children's Health Insurance Program Hispanic Christmas Party, distributed 35-page Spanish language resource booklet (40)

UK Equine and Farm Expo, tabled and distributed research briefs (16)

UK Hispanic Dental Health Fair, tabled and distributed health and safety photo novellas (15)

Kentucky Thoroughbred Farm Managers' Club Meeting, presented and distributed research briefs (84 packets of 6)(504)

Advisory Council Meetings, presented to community and industry advisory councils and distributed research briefs (62 packets of 6) (372)

Research brief downloads from website as of 9/20/15 (66)

Latino: Dissemination/reach via web:

Total sessions from 5/10/15- 9/20/15: 2,082

Total unique users from 5/10/15-9/20/15: 2,029

NIOSH Science Blog highlighted research: Swanberg, J. & Clouser, J.M. (2015, May). Respiratory Hazards for Latino Horse Farm Workers. May 28, 2015. Available at <http://blogs.cdc.gov/niosh-science-blog/2015/05/28/horse-farm-workers/>

Advisory council activity

SCAHIP external advisory board met January 2015 in Lexington, KY to review progress to date and to provide feedback.

The Latino Farmworkers, Work Organization, Safety and Health (J Swanberg) project held multiple stakeholder meetings with: 1) the Industry Advisory Council including members of the Kentucky Thoroughbred Farm Managers Club, Kentucky Thoroughbred Association, Bluegrass Community Health Center, Commerce Lexington, farm owners, and human resource personnel and 2) the Community Advisory Council including members of the Kentucky Migrant Farmworkers with Disabilities Employment Partnership, Blue Grass Farms Charities, Office of Multicultural Affairs/Lexington Fayette Urban County Government, North Central Kentucky Area Health Education Center (AHEC), and the Migrant Network Coalition, et al.

Activity with both councils this past year included: 10 attendees at formal advisory council meetings; 10 individual meetings/consultations; 3 formal industry endorsements. Nearly 800 community resource brochures and occupational safety training guides were distributed throughout the central Kentucky area.

Courses Developed/Offered:

Agricultural Health Nursing (3 credit hours, WKU NUR234, online course) fall 2014. 21 students completed the course. 85% of the students (n=13) completing the evaluation agreed or strongly agreed with the statement, "I can apply information/skills learned in this course." To date, the 2012-2014 course has been completed by 47 nurses.

On-line Nursing CE Module developed. *The Nursing Response to Mental Health Issues in Agriculture Populations* CE course was created using interactive technology and field expert video clips. Content was organized based on the program objectives: to (1) assist practicing nurses to identify sources of stress, (2) recognize the manifestations of stress such as anxiety, depression and the risk for suicide, (3) assess the mental health status of farmers, and (4) identify appropriate nursing interventions to assist the farmer and the family deal with occupational stress. Initial evaluation of the CE program occurred during the fall 2014 with 100 individuals completing an anonymous evaluation. Fifty-two (100%) of the expert and RN reviewers "strongly agreed or agreed" that the program content was interesting, their knowledge based was increased, new insights relevant to their work were gained, adequate time was allowed, and the content was appropriate for the audience. Forty (95%) of the RN reviewers indicated they intended to make at least one practice improvement as a result of the CE program. The program is now available on-line at Western KY University at <http://campusce.net/wku>

Student Involvement:

Spring/ Summer 2015– An Agricultural Education Master’s student was funded to work on Center Outreach activities and the CROPS project for the Center. This includes visits to high schools with ag programs for data collection and preparation of materials for dissemination at conferences.

Fall 2014-present: NURSE AP project involved undergraduate and graduate students in a variety of ways including:

- Undergraduate Ag Education major worked on the Facebook Page (FB) and helped with literature review for project. FB page likes increased by 233% during this time frame.
- Undergraduate nursing student served as research intern, helps with project and presentations. Publication listed above (Eastman).
- PhD nursing student working on her dissertation under guidance of Dr. Reed. Manuscripts in preparation.
- PhD student scholar funded to study motivation of hearing protection use among young farmers. Dr. Reed advisor

Other SCAHIP Faculty Achievements:

Dr. Reed received the Laura Clay Award from KY Women In Agriculture, November, 2014.

Dr. Reed was appointed to the KY Farm Bureau State Safety Directors Board March, 2015

NIOSH Evaluation Contest winners: UK-CROPS Project – Cost-Effective Roll-over Protective Structures recognized for this accomplishment at the National Occupational Injury Research Symposium (NOIRS) on 5/21/15 in Kingwood, WVa. (Mazur, Vincent, Westneat, with graduate students Watson, Schafbuch, Wood).

Dissemination of products through social media:

During the past year, the Center continued to expand its online/social media presence and online outreach activity. A stakeholder survey was completed yielding over 240 responses from all states in our region, supported this effort showing 75% of the respondents having smartphones and half indicating interest in receiving health and safety information via Facebook; YouTube, text messaging and app platforms.

SCAHIP sites now include:



<http://www.mc.uky.edu/scahip/>



<http://www.eoponline.org>

<https://www.facebook.com/580178002007732>



<https://www.facebook.com/Agriculture.nurse>

<http://www.uky.edu/Centers/iwin/thoroughbred.html>



Drs. Mazur and Purschwitz continued working with Jeff Nelson and Chris Knack of Conceptual Arts, Inc., to refine the design of online training tools and resources for the [National Agricultural Safety Database](#) (NASD). An updated and robust compendium of didactic instructional or prevention materials on the NASD site will complement and enhance the NASD 2.0 site that SCAHIP is developing.

Examples of Uptake & Use of Southeast Center Information and Products

During the reporting period, **Intermediate outcomes** have been achieved from SCAHIP's activities. Selected examples from the Latino Farmworkers, Work Organization, Safety and Health (Swanberg) research project include the following:

- Based in part on the study findings showing a proliferation of injuries to the feet, one large farm with over 200 employees has decided to instate a policy to reimburse workers for the purchase of steel-toe boots.
- An advisory group of Chief Financial Officers has reviewed the research briefs related to the study and is using them to determine if changes are needed in farm operations.
- The Blue Grass Farms' Charities, a farm-funded outreach organization that provides outreach to Latino thoroughbred farm workers is using the study's research briefs to inform the development of future programming and outreach efforts for farms and workers.