

Iowa's Center for Agricultural Safety and Health

20th
ANNIVERSARY

*Helping Farmers Stay
Alive and Well*



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Vision Statement

To make Iowa the world's healthiest and safest agricultural environment in which to live and work through creative leadership and collaboration among I-CASH, its partners and Iowa's agricultural community.



Mission Statement

The Mission of I-CASH is to enhance the health and safety of Iowa's agricultural community by establishing and coordinating prevention and education programs.

2010 I-CASH Annual Report

Kay Mohling, Editor

Cover Design by Patti O'Neill,
University of Iowa College of Public Health

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Opening Thoughts From The Director

Iowa's Center for Agricultural Safety and Health (I-CASH): Progress from 1990 - 2010



In 1990, the Iowa Legislature passed House File 2548, which created Iowa's Center for Agricultural Safety and Health (I-CASH). The legislation gave general guidelines while the details were developed by an interdisciplinary committee with members from the University of Iowa, Iowa State University, the Iowa Department of Public Health, the Iowa Department of Agriculture and Land Stewardship and farm organizations. The legislative intent was that I-CASH be an organization consisting of those principle state public institutions. However, as new non-profit organizations came into existence, I-CASH began to serve as an integration

organization for farm safety and non-profits, as well as relevant state institutions, including Farm Safety 4 Just Kids, the AgriSafe Network, the National Education Center for Agricultural Safety, and AgriWellness, Inc. Producer groups and individual farmers also became a part of the consortium; Iowa pork producers, and corn and soybean growers have been active members of the I-CASH Board for many years.

In 2002, I-CASH underwent a consensus strategic planning process with its partners to renew the organization and structure. This helped to expand our efforts aimed at producer health by coordinating and working with many other organizations in the state. During the discussions and review of the goals and missions of I-CASH, one of the participants in the process, Dr. Stuart Melvin, now professor emeritus for Agricultural and Biosystems Engineering at ISU, presented a concept to describe and guide how I-CASH should function. The graphic model produced and agreed upon by the strategic planning group was a sunflower with I-CASH at the center. The overlapping petals represented the links of various state organizations indicated in the original legislation, and the non-profit organizations to which I-CASH had connected.

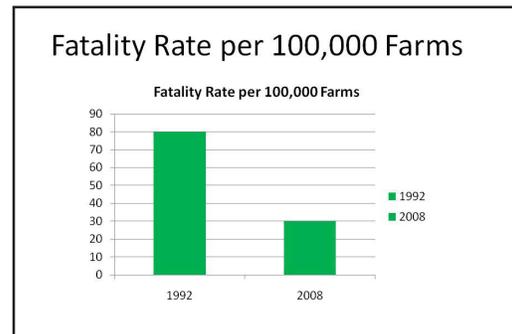
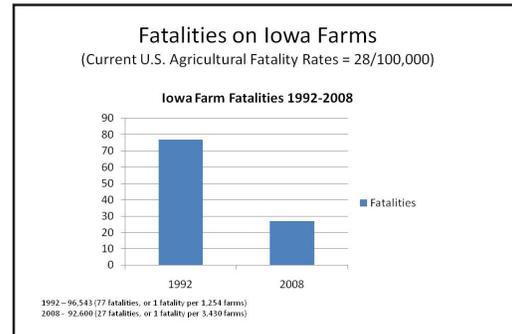
Over the past 20 years I-CASH has conducted research and educational efforts to help keep agricultural producers alive and well in agriculture. The following are just a few of the research and education efforts:

- Research on respiratory conditions resulting from breathing dust and gases inside swine buildings
- Research into defining how much dust and gas is too much for people and pigs in swine buildings
- Research on methods to control dusts and gases inside swine buildings
- Research into the best respirators to use inside swine buildings
- Research on hydrogen sulfide gas poisonings inside swine buildings and prevention techniques
- More than 140 articles published in scientific journals on producer health
- More than 600 doctors, nurses, veterinarians and other health care professionals trained in agricultural health exposures and health maintenance of producers
- More than 100 articles written in farm publications and more than 100 presentations given to producer groups on health and safety
- Agricultural Medicine text book written
- Creation of Certified Safe Farm Program

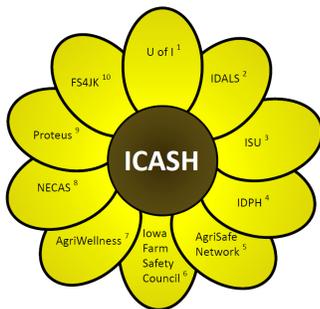
Now working into the 20th year of our existence it is time to review and celebrate the sunflower that describes I-CASH. The rough diagram used in the past was renewed into the diagram below and will carry us into the third decade of I-CASH. This diagram will be used in various places to remind us of our collaborative organization, mission and vision, along with our motto “*Helping Farmers Stay Alive & Well.*”

Have we done any good? We continually ask that question to ensure the programs have some positive effect. The graphs at right show the total number of farm fatalities and the number of fatalities per farm, at two time periods: 1992 and 2008. You can see that the total number of fatalities has declined by about 2.5 times, as has the number of fatalities per farm. This looks like progress to me. Other states have not shown the same trend. Although it is difficult to determine what has contributed to this success, it is likely the progress has been a result of the

Fatalities on Iowa Farms



Relationships Among I-CASH Inter-Institutional Partners and Voluntary Affiliates



1. The University of Iowa
2. Iowa Department of Agriculture and Land Stewardship
3. Iowa State University
4. Iowa Department of Public Health
5. AgriSafe Network
6. Iowa Farm Safety Council
7. AgriWellness
8. National Education Center for Agricultural Safety
9. Proteus
10. Farm Safety 4 Just Kids

Our Mission

The Mission of I-CASH is to enhance the health and safety of Iowa's agricultural community by establishing and coordinating prevention and education programs.

Our Vision

To make Iowa the world's healthiest and safest agricultural environment in which to live and work through creative leadership and collaboration among I-CASH, its partners and Iowa's agricultural community.

collaborative efforts of all the organizations within the sunflower model.

When we look back 20 years, it is apparent that we have come a long way with the development of Iowa as a nationally recognized leader in agricultural health and safety. We can celebrate that the numbers, and yes, even the risk rates for agricultural injuries and illness have been reduced from when we started – a tribute to everyone working in a collaborative fashion “helping farmers stay alive and well.”

For additional information, consult our web site at www.public-health.uiowa.edu/icash. We are more than willing to answer any questions you have via e-mail or phone, contact Julia Venzke, Information Specialist, at julia-venzke@uiowa.edu or 319/ 335-4427. She can answer your question or connect you with the right person who can answer your questions.

*Kelley J. Donham, MS, DVM
Director, Iowa's Center for Agricultural Safety and Health*

I-CASH Partner Programs

The following are brief descriptions of activities of the four I-CASH state institutional partners (the Iowa Department of Agriculture and Land Stewardship, Iowa State University, The University of Iowa, and the Iowa Department of Public Health).

Iowa Department of Agriculture and Land Stewardship

Pesticide Applicator Certification

The Iowa Department of Agriculture and Land Stewardship (IDALS) in cooperation with Iowa State University Extension (ISUE) and the US Environmental Protection Agency (EPA) conduct the pesticide applicator certification program. Private pesticide applicators are certified to apply Restricted Use Pesticides and Commercial Pesticide Applicators are certified to apply General and Restricted Use Pesticides. As of June 30, 2010, Iowa had 36,523 certified applicators. There were 12,923 certified commercial applicators, 596 certified commercial handlers, and 23,004 certified private applicators. Certification testing was held at about 1,800 sites in fiscal year 2010. Approximately 320 private and 1,528 commercial continuing instruction certification training sessions (including satellite downlink sessions) were offered by ISU Extension in fiscal year 2010.

www.IowaAgriculture.gov

The Worker Protection Standard

The Worker Protection Standard (WPS) for agricultural pesticides is a regulation issued by the EPA. The WPS emphasizes educating agricultural employers on farms, forests, nurseries, and greenhouses of the need to train their workers and pesticide handlers regarding the safe use of pesticides. The Pesticide Bureau worked in cooperation with the Iowa Department of Public Health, Proteus Inc., I-CASH, EPA, and ISUE to promote WPS compliance. Presently, the educational materials available to conduct WPS training are in video format, pamphlets, and booklets. With matching funds from EPA Region 7 and IDALS, ISUE has developed ten PowerPoint presentations, with scripts included, to train agricultural workers, early entry workers, and pesticide handlers in the WPS for vineyards, agriculture field crops, greenhouse/nursery, forestry, and fruit and vegetables.

The PowerPoint presentations are available on the Worker Protection Train-the-Trainer WPS Resources web page at www.extension.iastate.edu/WorkerProtection/resources.htm as well as the ISU Pest Management and the Environment Worker Protection Standard web page at www.extension.iastate.edu/pme/WorkerProtect.html. In addition, 25 CDs containing the presentations and scripts are available to ISU Field Agronomists and other interested parties.

www.extension.iastate.edu/pme/WorkerProtect.html

Iowa Department of Public Health

The Iowa Department of Public Health (IDPH) Occupational Health and Safety Surveillance Program (OHSSP) and State Office of Rural Health (SORH) continue to work with I-CASH and its partners to promote healthy and safe workplaces for all Iowans, including those living and working in agricultural settings. IDPH personnel serve on the I-CASH Board and Advisory Committee. Since the 2009 report, IDPH has included agriculturally-related injuries as a mandatory reporting condition under the Iowa Administrative Code [641] Chapter 1, Reportable Environmental and Occupational Diseases, Poisonings and Conditions. This was a first step in improving surveillance in this area. For information and updates throughout the year visit www.idph.state.ia.us/eh/reportable_diseases.asp.

Per Iowa Legislative Code Chapter 135.107 the Department continues to coordinate activities for the Center for Rural Health and Primary Care (CRHPC). The CRHPC addresses issues related to rural health care access and agricultural safety. I-CASH serves on the CRHPC Advisory Committee and partners in the Annual Legislative Breakfast held at the Capitol building in February.

IDPH was successful in competing for continued funding from the National Institute of Occupational Safety and Health (NIOSH) for the Iowa state-based OHSSP. This program includes funding for the Fatality Assessment and Control Evaluation (FACE) program based at the University of Iowa, and funding for human pesticide exposure surveillance in Iowa. This funding

will extend the life of these programs in Iowa for another 5 years.

IDPH also successfully submitted an application to participate in the Children's Safety Network National Rural Injury Prevention Community of Practice. The team will learn more about rural injuries, share resources, discuss prevention strategies and best practices, and develop action plans over the next year.

A key component of the IDPH OHSS program is collaborating with existing internal and external programs to analyze and disseminate data findings, impact the development of prevention and intervention strategies for agricultural safety and health, and work with our partners to assure the implementation of effective programming. In August, IDPH was the official host for the Farm Progress Show Health and Safety Tent, with OHSSP staff coordinating the exhibitors.

To further promote the mutual goal of access to health care and safe work environments in rural Iowa, I-CASH staff and programs have been featured in the Bureau of Health Care Access electronic newsletter. Additionally, the IDPH SORH provided scholarships for public health and medical professional attendees at the Agricultural Medicine training.

www.idph.state.ia.us

Iowa State University

Extension Farm Safety Program

Iowa State University Extension farm safety program and activities that are directed towards I-CASH goals are as follows:

- ISU Extension organized articles on farm safety issues by involved partners (Farm Safety 4 Just Kids, Iowa Farm Safety Council, ISU, Easter Seals, AgriWellness, Inc., National Institute for Farm Safety, National Institute for Occupational Safety and Health, and the University of Iowa) and distributed them to Iowa's newspapers during the National Farm Safety and Health Week September 20-26, 2009.
- Fifteen safety day camps, conducted by extension staff, were held throughout the state reaching 1,714 youth with their educational messages.
- A total of 10 safety events conducted by extension staff reached 779 participants.

www.abe.iastate.edu/safety

Iowa Concern Hotline

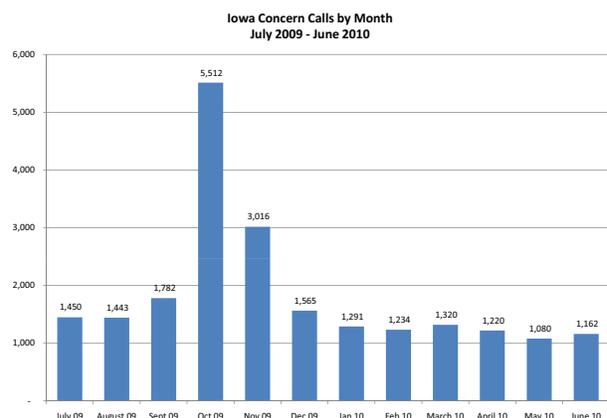
Iowa Concern is a part of Iowa State University Extension and offers information and referral, stress counseling, and legal education. The Iowa Concern Hotline received 22,075 calls from July 2009 to June 2010. Approximately 20% of those calls were from farm and rural families. The number of calls is up this year because of the increase in disaster calls. Not only has Iowa Concern helped those who had flood or tornado disasters the past two years, but it has also been instrumental in answering consumer questions and concerns about the H1N1 flu for the IDPH.

Farm and rural issues varied this year. In general, the crop situation was good. Dairy producers are still struggling this year with financial and stress issues, and since dairy producers also tend to have several family members as part of their operation, more stress and family conflict can occur.

Another concern was the weather in May and June. Some farmers were able to get into their fields early this year, but then wet conditions, hail, wind, and flooding affected crop conditions. Various crop damage and disease were concerns in June.

Farm and rural families called the Hotline regarding issues such as divorce, contracts, leases, and fence laws. Health insurance cost was another issue with rural families. Some indicated that a second job they had, or a spouse held, was cut back or lost causing financial concerns and insurance coverage loss. Farm and rural callers asked about the Hawkeye Insurance program for their children and qualification requirements.

Iowa Concern still has funding for behavioral health counseling. The Sowing the Seeds of Hope grant has provided money for "farm" and "Ag" related families



to receive behavioral health counseling. Iowa Concern has the list of providers and issues vouchers for people to receive up to five free counseling sessions. This service is confidential and counseling providers are available throughout the state. Approximately 85 families have accessed this program this past year.

Iowa Concern continues to receive questions and concerns through the web site, receiving approximately 8,000 hits per month. The site has FAQ's, links to other organizations and agencies, success stories from persons who have accessed mental health facilities, and a 'Live person' chat to talk directly with stress counselors. Iowa Concern is available 24 hours a day by calling 800/447-1985.

www.extension.iastate.edu/iowaconcern

The University of Iowa

Projects led by I-CASH core faculty and staff

Agricultural Medicine Training

The Agricultural Medicine: Occupational and Environmental Health for Rural Health Professionals course was held June 7-11 in Iowa City, IA. Forty-four health care professionals attended the training from California, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Missouri, New Jersey, New York, North Carolina, Texas, Utah, and Wisconsin. This training provides basic information and skills to enable health care professionals to function in the prevention of occupational illnesses and injuries in the farm community. Topics include agricultural respiratory issues, zoonotic diseases, ergonomics, behavioral health issues, agricultural trauma, personal protective



Allen Robison, extramural portfolio manager for agriculture, forestry, and fishing at the National Institute for Occupational Safety and Health, tours Amana Farms with Rich Gassman (left), Amana Farms Crop Manager, as part of the Agricultural Medicine Training.

equipment selection, and cancer in the farm environment. In addition to the didactic training, the participants toured Amana Farms and enjoyed a barbecue dinner at the farm. The annual course can be taken for three graduate credit hours from the University of Iowa College of Public Health, and continuing education credits are offered. The 2011 Iowa Agricultural Medicine training will be held June 13-17 in Iowa City.

www.public-health.uiowa.edu/icash/education/agmedtraining.html

Alive and Well Updates Listserv

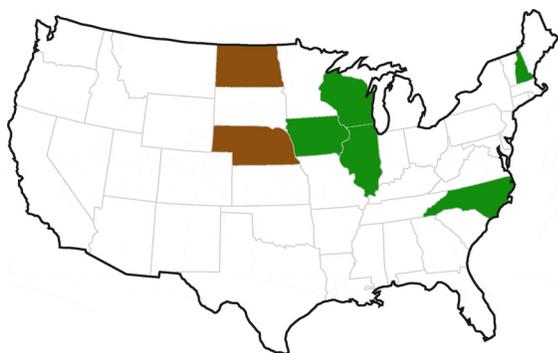
Since 2003, I-CASH has maintained the free listserv *Alive and Well Updates*. Originally developed for the AgriSafe Network providers as a continuing education service, it has become an efficient way for a variety of health care professionals to receive monthly abstracts from recent research publications on rural and agricultural health and safety issues. Upon request, subscribers receive full-text PDFs of the articles. An average of four requests per month are received and the listserv has also been utilized by subscribers to post notices about upcoming agricultural safety and health-related events offering continuing education credit.

Subscriptions to this listserv continue to grow. As of June 30, 2010, there were 57 subscribers from various locations, including The University of Iowa, Iowa State University, the Iowa Department of Public Health, AgriSafe, and health and safety organizations in California, Texas, Kentucky and Canada.

www.public-health.uiowa.edu/ICASH/programs/alive-well-updates-listserv.html

Building Capacity of Health and Safety Professionals

Iowa's Center for Agricultural Safety and Health initiated an agricultural medicine training in 1988. The growth of this program was advanced with NIOSH funding from the Great Plains Center for Agricultural Health Building Capacity Project, which aims to establish capacity in other regions to train health providers in agricultural medicine. The primary goal of this education/translation project is to address the critical shortage of agricultural occupational health and safety researchers and program leaders, by educating the next generation of agricultural safety



Building Capacity Sites

and health specialists through graduate and continuing education programs. In addition to Iowa, Agricultural Medicine training courses have been held in Illinois, North Carolina, Vermont, and Wisconsin. Future training opportunities are planned for health providers in Nebraska, and North Dakota.

www.public-health.uiowa.edu/icash/education/agmedtraining.html

Certified Safe Farm



The Certified Safe Farm (CSF) program has been an agricultural health and

safety intervention research project since 1996. The methods are multifactorial, consisting of occupational health screenings, wellness screenings, on-farm safety evaluations, incentives, and personalized education. The program has been implemented in over 25 Iowa counties. Some of the essential findings include:

- a 47% savings in insurance costs for occupational illnesses and injuries
- an increased use of personal protective equipment
- a 22% reduction in Organic Dust Toxic Syndrome (ODTS) in intervention farmers
- a reduction in bronchitis

The current phase is research 2 practice within different segments of production agriculture. The applications are in a variety of formats and include studies with senior farmers and large farms, and analysis of insurance claims and workman's compensation. Meetings are being held with representatives from Vermont to investigate the possibility of establishing the program in that state. In addition, North Carolina has established a three-year pilot program in three counties. The CSF program is one of the few interventions that has shown

effectiveness in reducing occupational injuries and illnesses and providing a cost savings in medical care. Our goal is to make CSF sustainable by integrating it into the agricultural infrastructure.

www.public-health.uiowa.edu/icash/programs/CSF/index.html

Certified Safe Farm for Large Farms

After a decade of refining the CSF program for family farms, I-CASH has been working with Amana Farms, Inc. of Amana, IA to develop a health and safety program for their company utilizing Certified Safe Farm program principles. LaMar Grafft, I-CASH Rural Health and Safety Specialist, is working with Amana Farms to modify CSF for large farms. This experience will aid in the development of a CSF for Large Farms Program that can be implemented in any large-scale agricultural operation which includes both crops and livestock.

The program includes the main components of the CSF program: occupational health and wellness screenings, on-farm safety reviews, personalized education, and incentives. In addition, the large farms program concentrates on OSHA compliance issues as well as preparing the operation for applying for OSHA's Voluntary Protection Program.

Since the Amana Farms, Inc. program began in April 2007, I-CASH has completed two rounds of on-farm safety reviews with recommendations for removing the hazards that were found. Several new practices have been implemented such as strategic placement of first aid kits, personal protective equipment, confined space program, and a lockout/tagout program. In addition, 17 educational meetings have been presented to the employees.

www.public-health.uiowa.edu/icash/programs/CSF/index.html

Hall of Fame Award

I-CASH named Jan Goldsmith of Des Moines, IA, the 2009 recipient of its Agricultural Safety and Health Hall of Fame Award. Goldsmith is an advanced practice registered nurse who led a 17-year career in the Governor's Traffic Safety Bureau and joined the I-CASH Advisory Council in 1998. As chair of the I-CASH Producer's Committee, Goldsmith has helped spearhead the initiative to raise rural roadway safety awareness through the "It's Preventable" campaign. Jan continues to provide leadership to the Iowa



2009 Hall of Fame recipient Jan Goldsmith, on right, with 2007 Hall of Fame recipient Cheryl Tevis.

stakeholders, who have developed an action plan to improve safety on rural roads. The award was presented on November 18, 2009 at the Midwest Rural Agricultural Safety and Health Forum held in Johnston, IA.

www.public-health.uiowa.edu/ICASH/programs/Hall-of-Fame/index.html

Injury Prevention in Agricultural Youth Grant

I-CASH has awarded funds to eight rural roadway safety projects for 2010 through its grant program aimed at decreasing the risk of illness and injury to young people living on Iowa farms or involved in production agriculture. Since its inception in 1990 I-CASH has designated funds each year for communities to develop farm injury prevention and education programs for Iowa youth. I-CASH is pleased to announce the following recipients for 2010: North Linn FFA (Troy Mills), Superior Lakers 4-H Club (Estherville), Washington County Extension (Washington), Grant 4-H (Ida Grove), Howard County 4-H (Cresco), Prairie City Champions 4-H (Prairie City), Town & Country Farm Safety 4 Just Kids (Ackley), and Spencer FFA (Spencer).

www.public-health.uiowa.edu/ICASH/programs/Youth-Ag-Safety-Grants/index.html

Midwest Rural Agricultural Safety & Health Forum

The annual Midwest Rural Agricultural Safety and Health Conference held on November 18-19, 2009 in Johnston, IA was attended by 75 participants from ten

states. The conference themes of community-based participatory research and social marketing drew participants from Arkansas, California, Georgia, Illinois, Indiana, Iowa, Kansas, Nebraska, Texas, and Washington D.C.

Dr. S. Leonard Syme, professor emeritus from the University of California-Berkeley, a nationally recognized expert on community-based participatory research energized the audience with his talk on “The Community as an Empowered Partner in Health Interventions: A Missing Link.” Dr. Syme gave numerous examples of how epidemiologists have failed to recognize the community as partners and how this has led to their failure to improve the health and lives of people and communities. He urged the public health community to partner with the communities whose behaviors they hope to change.

Captain Janice Huy, Deputy Director of National Institute of Safety and Health’s Research 2 Practice Division reinforced Dr. Syme’s presentation with a message to researchers to involve a multi-disciplinary team of partners from the very beginning stages of planning right through to dissemination of research-based practices. Dr. Douglas Gentile, Iowa State University, Ames, IA explained how advertisers get you to buy their product and posed the questions “What if the public health community were as effective at changing behavior as Phillip Morris?” Understanding how advertising works can allow us to use this power to effect positive change in society.

Finally, Dr. Chip Petrea described the GPCAH’s role in developing multidisciplinary teams in the GPCAH to work on rural roadway safety. The four plenary talks were digitally recorded and shared with others in the region over a secure website and on CDs. Conference proceedings of the four plenary presentations and a MRSA panel have been published in the Journal of AgroMedicine 15(2).

Rural Roadway Safety Committee

The Iowa Rural Roadway Stakeholders sub-committee is currently working to produce an educational video on rural roadway safety to raise awareness of motor vehicle and farm equipment drivers on rural roads. The video will be used by Iowa Driver’s License instructors, driving instruction for the older driver, and Iowa Public Service officers. The committee arrived at a consensus list of essential topics to be

covered and a plan to include interviews of specific groups of people in the video. The character roles in the video include a highway engineer expert, law enforcement officer, an adult, a farmer, and teens. Currently the University of Wisconsin Extension is working on adapting the video to Wisconsin. Other states who wish to adapt the video should contact Eileen Fisher at Eileen-fisher@uiowa.edu.

Other activities by the committee include continuing to disseminate the educational cards for prevention of farm equipment/motor vehicle crashes. The cards have now been used at ag elevators during harvest season, 4-H and FFA projects, public education presentations, state and county fairs, health fairs, senior citizen events, driver's license stations, and civic group meetings. County Sheriff offices in all 99 counties have copies of the cards to assist with their distribution.

ATV poles and flags with the "Ride Smart" logo were distributed in Boone, IA at the 2010 Farm Progress Show, and at a press conference in Hills, IA during National Farm Safety Week. The goal was to bring attention to the hazards of driving an ATV or utility vehicle on public roads. Farmers were encouraged to increase ATV visibility by installing a flag and motor vehicle drivers were reminded to watch for farm equipment on rural roads and to reduce speeds.

Safe Play Areas

Nothing can be worse than losing a child. And yet, that is exactly what happens to over 100 farm families each year in the U.S. About 43% of those fatalities are to children in the 0-9 year age group. A randomized controlled trial among three groups currently in the enrollment phase will evaluate the effectiveness of two specific interventions to motivate parents to build safe play areas. The long-term goal of this research is



to decrease injuries and deaths to children living on and visiting farms. The study is a collaboration involving a national insurance company, The National Children's Center for Rural and Agricultural Health and Safety in Marshfield, WI and The University of Iowa.

Agricultural Health Projects at other University of Iowa Research Centers:

Agricultural Health Study



The Agricultural Health Study is a prospective cohort study of agricultural exposures and chronic disease in Iowa and North Carolina among private pesticide applicators, their spouses, and commercial pesticide applicators. This is the 18th year of the study. Eligible subjects were enrolled during the first five years (Phase I); 89,656 in total including 58,562 in Iowa. Phase II began in 1998 and involved recontacting each cohort member to update exposure information (completed with 60,138), obtain dietary health questionnaire data (completed with 35,164), and obtain buccal cells (completed with 34,810). Phase III, which began in 2005, updated pesticide exposure histories and self-reported diseases. It was completed by 43,426 people and ended in 2010.

The study has resulted in over 130 peer-reviewed publications evaluating methods, exposure assessment, high pesticide exposure events, environmental pesticide measures, farm work-related injuries, and health outcomes. Health outcomes include mortality, cancer, eye disorders, neurologic symptoms/diseases, respiratory diseases, reproductive abnormalities, diabetes, and immunologic diseases. The study is now widely recognized as the best prospective cohort study of agricultural exposures and disease in the world. More information concerning these publications can be found at the website as well as information for scientific collaboration.

www.aghealth.org

Center for International Rural and Environmental Health

The Center for International Rural and Environmental Health (CIREH) conducts the International Training and Research in Environmental and Occupational Health (ITREOH) Program. It also houses the International Collaborative Trauma and Injury Research and Training (ICTIRT) Program, and the International Training and Research in Non-communicable Diseases Program in Romania. The programs are funded by the NIH Fogarty International Center. In fifteen years more than 100 young professionals have come to Iowa as Fogarty trainees. Trainees have conducted 50 in country workshops

after returning home, and have received funding from various sources for more than 40 collaborative research projects. The programs have welcomed trainees from Poland, Slovakia, Croatia, Serbia, Macedonia, Romania, China, and The Gambia. Examples of research interests include childhood injuries, domestic violence, traffic and bicycle safety, the establishment of national injury registries, indoor air quality, workplace health promotion, environmental contamination, and pesticide exposure.

Additionally, CIREH hosts a fourth program funded by the NIH, called the Minority Health and Health Disparities Research and Training Program which focuses on providing international research internships for 10 minority students each year who are students in the health sciences. Over the past five years, the program has worked with over 50 students.

www.public-health.uiowa.edu/Cireh

Environmental Health Sciences Research Center



The Environmental Health Sciences Research Center (EHSRC), established in 1990, is one of 23 NIEHS-funded Core

Centers of Excellence, and the only one located in the Midwest. Comprised of 56 faculty and 25 staff, the EHSRC is at the forefront of research in environmental lung disease, inflammation and innate immunity, oxidative stress, environmental genomics, and nanotoxicology. Health concerns such as community and occupational exposures to airborne hazards from concentrated livestock feeding operations, asthma among rural children, and exposure to agricultural chemicals, and bioaerosols are among the many issues currently under study by Center investigators. The EHSRC operates a pilot grant program and an enrichment program and also co-hosted two educational workshops for state legislators from across the Midwest.

www.ehsrc.org

Great Plains Center for Agricultural Health



The Great Plains Center for Agricultural Health (GPCAH) serves America's most agriculturally intensive region: Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota,

South Dakota, and Wisconsin. The GPCAH advances knowledge about agricultural injuries and illnesses through its research activities, education, outreach, and intervention efforts.

The Keokuk County Rural Health Study (KCRHS) is a prospective cohort study of approximately 1,000 rural Iowa families for over 15 years. The study has focused on the association between rural life exposures and risk factors for respiratory disease, injuries, mental illness, and hearing loss.

Building Capacity of Health and Safety Professionals is a GPCAH Education and Translation project that has played a major role in training health and safety professionals on agricultural hazards and ways to prevent disease and injury. The Agricultural Medicine course has been presented in Illinois, Iowa, North Carolina, Vermont, and Wisconsin, with additional courses projected for health providers in Nebraska, and North Dakota. With support from this project, a PhD, MS and certificate training program in agricultural safety may now be earned through the University of Iowa College of Public Health.

The Determinants of Gas and Dust Exposures Among Swine Workers Study provided results from swine facilities confirming that tasks such as moving pigs during winter conditions, (when air flow rates are low), produce the greatest exposure levels. These conditions produced dust concentration and endotoxin levels above the recommended levels. This research will lead to recommendations for respirator use among swine workers for tasks and time periods that pose the greatest risk.

The Pilot/Feasibility Projects program has funded the development of new and creative research projects which show promise of leading to more comprehensive studies. Four projects were funded in the last funding cycle:

- “Invest in Your Child’s Health” – Young Farmer Social Marketing Campaign
- Measure Driver Response to Left-turning Tractors
- Anticipatory Guidance by Primary Healthcare Providers Regarding ATV Safety and Injury Prevention in Rural Communities
- Antibiotic-resistant Staphylococcus Aureus: Investigation of a Poultry Reservoir

Outreach opportunities included a continuation of the 2009 Farm Equipment–Motor Vehicle Crash Prevention Conference by means of GPCAH support

for development of the core Rural Roadway Safety video with the Iowa Rural Roadway Safety Committee, and the creation of trailers which customize the presentation for their state's audiences.

The *Farm Families Alive & Well* newsletter and distribution of press clippings (Farm and Agricultural Injury Monitoring System-FAIMS) accounts of farm and agricultural injuries provide additional outreach in the 9-state GPCAH region.

www.public-health.uiowa.edu/gpcab

Injury Prevention Research Center

IPRC Since 1990, the University of Iowa Injury Prevention Research Center (IPRC) has been a national leader in identifying ways to reduce the high number of preventable injuries that occur in rural communities. Faculty and staff from sixteen departments within the Colleges of Public Health, Medicine, Engineering, Nursing, and Liberal Arts participate on research in the Center. In addition to supporting research, the IPRC also serves as a national resource for rural injury prevention. The Center provides information, educational programs, and multi-disciplinary training to injury control advocates and programs across the Midwest.

The Center currently has several research and policy initiatives focused on preventing crashes among young drivers. In Iowa, as well as across the country, newly licensed teen drivers are significantly overrepresented in motor vehicle crashes. An IPRC researcher is currently studying the effectiveness of using video recordings taken from the inside of teen driver vehicles to provide feedback to their parents on how safely their son/daughter is driving. Another IPRC project involves working with parents of newly licensed drivers to teach them communication techniques to use when coaching their children's driving skills. The IPRC is also part of a statewide coalition encouraging the strengthening of Iowa's Graduated Drivers License (GDL) law. The IPRC and coalition members were successful during the 2010 session in encouraging the legislature to increase the age for seat belt use in the back seat from ten to seventeen years of age.

A collaborative effort between the IPRC and the Iowa Department of Public Health resulted in publishing

the first Burden of Injury in Iowa that provides state and county level data on the leading causes of injuries to Iowans. This report and other Center information can be found on the IPRC website.

On April 6-8, 2011 the IPRC is hosting a large national meeting of injury and violence prevention researchers and practitioners at the Marriott Hotel & Conference Center in Coralville, IA. For the first time, this conference is bringing together the Society for the Advancement of Violence and Injury Research, the Safe States Alliance (previously called STIPDA), and the CDC Injury Center core grantees. Approximately 300 of the leading international injury prevention professionals will be in attendance.

www.public-health.uiowa.edu/iprc

Iowa Fatality Assessment and Control Evaluation Program



The Iowa Fatality Assessment and Control Evaluation Program (FACE) is a program carried out by the Department of Occupational and Environmental Health under a subcontract with the Iowa Department of Public Health. The FACE program identifies all occupational fatalities in the state and conducts in-depth investigations of specific incidents. The FACE Program investigators develop recommendations aimed at preventing similar occupational injuries.

Fatal injuries while on the job remain a serious public health concern in Iowa, as well as the entire country. During calendar year 2009, 76 workers in Iowa were killed on the job by traumatic injuries (compared to 88 deaths in calendar year 2008). All but four of the occupational deaths in Iowa during 2009 were males. The victims tend to be older with 34.2% being 60+ years of age; there were no victims 21 years of age or younger.

www.public-health.uiowa.edu/face



I-CASH Affiliate Programs

The following are brief descriptions of Iowa farm safety and health programs and organizations that are associated with I-CASH and its mission of enhancing the health and safety of Iowa's agricultural community.

AgriSafe Network



The AgriSafe Network represents health professionals who provide agricultural occupational health and safety services to farmers and their families. AgriSafe dedicates itself to partnering with health professionals to permanently shift cultural norms so future farmers can enjoy farming without suffering from occupationally induced illness. The AgriSafe message is simple - Farmers deserve the right health care, at the right time, from the right person. That "right person" is an AgriSafe healthcare provider specially trained to deliver occupational health care to farm families. AgriSafe provides training to rural healthcare professionals through a variety of techniques. Each year, AgriSafe provides over 1000 hours of direct technical assistance to professionals across the country. An additional 100 professionals receive extensive training in the field of agricultural health. Free monthly webinars are attended by over 400 professionals per year. Training opportunities, clinical resources, and membership information can be found on the AgriSafe website.

www.agrisafe.org

AgriWellness, Inc.



AgriWellness, Inc. has as its mission to "promote accessible behavioral health services for underserved and at-risk populations affected by rural crisis in agricultural communities." In 2009 AgriWellness continued the Sowing the Seeds of Hope (SSoH) behavioral health support program along with its seven state partners: Iowa, Kansas, Minnesota, Nebraska, North Dakota, South Dakota and Wisconsin. During 2009 the SSoH program provided services to over 40,000 people. AgriWellness also continued a three-year promotional campaign for SSoH services in North Dakota and Minnesota, with funding from the Otto Bremer Foundation.

The development of a curriculum to focus on the behavioral health of the agricultural population was initiated with funding from the Farm Foundation, the

Iowa Office of Rural Health, and the Otto Bremer Foundation.

In August 2009, AgriWellness, Inc. convened the fourth biennial "The Clock is Ticking for Rural America" conference in Sioux Falls, SD.

www.agriwellness.org

Farm Safety 4 Just Kids



Farm Safety 4 Just Kids (FS4JK) is a non-profit organization with a mission of promoting a safe farm environment to prevent health hazards, injuries, and fatalities to children and youth. The organization produces and distributes farm safety and health resources, and a chapter network of volunteers in 136 locations throughout the United States and Canada deliver educational programs. Outreach coordinators that conduct educational programs within their states are located in CA, IL, IN, IA, KS, MN, MO, NE, OH, and SD. Many of these college students use the position as income during school and as an internship for their college major. The following activities were provided by FS4JK during the past year:

Ten Farm Family Grants, funded by Successful Farming® magazine, were awarded to families and community leaders in NE, NY, MN, IN, OH, KS, and MO. Projects ranged from videotaping safe farm practices to providing reflective address signs for better EMS visibility.

- The Children's Safety Campaign is working to help build a future for the organization. The goal is to keep our communities healthy, prevent injuries, and save lives.
- Kristi Ruth and Trevor Hoff, youth representatives for FS4JK, traveled to Washington, DC to attend NOYS (National Organizations of Youth Safety) events, including participation in a Rural Youth Traffic Safety panel with US Department of Transportation Deputy Secretary LaHood.
- The Buckle Up or Eat Glass campaign, sponsored by the Governor's Traffic Safety Bureau, held

nineteen youth organized programs in Iowa. The goal of the project is to increase the awareness among youth about hazards that exist on rural roads and the importance of seat belt use.

- The USDA NIFA (National Institute of Food and Agriculture) funded the FS4JK chapter assessment project for a second year. Fourteen FS4JK Chapters conducted SWOT (strengths, weaknesses, opportunities, and threats) exercises. Chapter training took place to address weaknesses identified within the SWOTs.

www.fs4jk.org

Iowa Farm Safety Council

The Iowa Farm Safety Council is a volunteer organization that has worked to make rural Iowa a safer place to live, work, and raise a family for over 60 years. The Council is a grass roots effort supported by a network of professionals in agricultural production, education, insurance, industry, and government. This year the Council's ongoing efforts to promote good safety and health practices resulted in a presence at the Iowa Power Farming and Machinery Show and the Iowa State Fair. While the number of members in the Iowa Farm Safety Council is relatively small, the people involved have consistently turned out to staff events and continue to bring the safety and health message to farmers and their families.

www.abe.iastate.edu/safety/ifsc.html

National Education Center for Agricultural Safety



The National Education Center for Agricultural Safety (NECAS) is dedicated to preventing illnesses, injuries, and deaths among farmers and ranchers, agricultural and horticultural workers, their families, and their employees. In the past year

NECAS developed the Farm First Aid Kit, which was created with farming injuries in mind. Some of the changes to a standard first aid kit include four times the eye wash solution as a normal first aid kit, a finger amputation kit, trauma sheers, and an isothermic blanket. The Center also placed a new



mobile grain engulfment simulator on the road. This simulator can be used to teach grain safety as well as grain bin rescue to volunteer fire departments.

NECAS developed the theme for the 2010 National Farm Safety and Health week "ATV's-Work Smart; Ride Safe and NECAS is now on facebook at www.facebook.com/necasag.

www.necasag.org

Proteus, Inc.

PROTEUS
INC

Proteus, Inc. is a not-for-profit organization that since 1990 has operated the Bureau of Primary

Health Care-funded Migrant Health Project in the state of Iowa. From offices located in Des Moines, Fort Dodge, and Iowa City, Proteus provides outreach, home visits, and clinics around the state for migrant and seasonal farmworkers.

After farmworker families are certified as eligible, Migrant Health Aides conduct health histories and the families are seen by the Project's Physician Assistants (PA), student PAs, volunteer providers, or contracted providers. Proteus conducts clinics and educational activities at sites such as migrant camps and employer sites. Each year, 1,000 to 2,000 migrant farmworkers come to Iowa to perform work such as seed corn rouging, pollinating, detasseling, sorting, and bagging. Other jobs include working with crops such as flowers, grapes, apples, cucumbers, and melons.

Iowa is also home to as many as 10,000 low income seasonal farm workers. These individuals reside in Iowa throughout the year and perform seasonal agricultural work, work in hog confinement operations, egg production, or are employed as general farmhands.

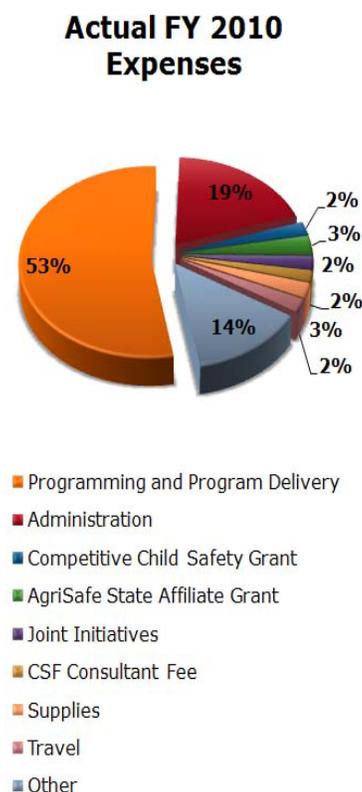
In 2009 the Proteus Migrant Health Project served 1,500 farmworkers in Iowa and this year the Project is well on its way to serving the same number of farmworkers. Over the past 2 years, the National Farmworker Jobs Program was able to provide support for Workplace and Pesticide Safety training for over 300 migrant farmworkers utilizing the EPA curriculum and issuing certification cards. The Latino/Hispanic Alliance for Tobacco Control & Health (LATCH) was also initiated, which is working to decrease smoking in the Hispanic community.

www.proteus.net

Financial Report

The I-CASH budget consists of FY 2010 state funds, plus competitive grant and contract funds listed below. The following table and chart depict the state appropriated expenditures divided into three areas: 1) personnel expenditures for programming and administration; 2) program delivery contracts; and 3) general expenses.

PERSONNEL EXPENDITURES		
	Budget Dollars	Actual Dollars
Programming and Program Delivery	136,470	124,466
Administration	49,934	45,006
Total Personnel Expenditures	186,404	169,472
PROGRAM DELIVERY CONTRACTS		
Competitive Child Safety Grant	5,000	5,000
AgriSafe State Affiliate Grant	8,000	7,387
Joint Initiatives	5,000	5,000
CSF Consultant Fee		4,300
Total Program Delivery Contracts	18,000	21,687
GENERAL EXPENSES		
Supplies	4,500	5,744
Travel	6,000	5,094
Other: Includes computer system support, required semi-annual board meetings, conferences, outreach materials, annual report, telephone, and newsletters	18,292	31,194
Carry-over		5
Total General Expenses	28,792	42,037
TOTAL BUDGET	233,196	233,196



Grants and contracts that I-CASH faculty and staff have received to conduct intervention and research activities in Iowa:

	Annual Total	Project Term
Amana Farms Consultation Project	\$ 30,460	09/01/2009 to 08/31/2010
ERC Ag (Heartland Center for Occupational Health and Safety)	\$ 118,000	07/01/2002 to 06/30/2013
GPCAH Building Capacity	\$ 150,988	09/30/2006 to 09/29/2011
GPCAH Swine Worker Exposure	\$ 164,122	09/30/2006 to 09/29/2011
Motivating Farm Owners to Create Safe Play Areas (National Children's Center for Agricultural Health and Safety/NIOSH)	\$ 73,800	10/01/2008 to 09/30/2013
Total	\$ 537,370	

I-CASH Presentations/Educational Activities/ Newspaper Publications

July 2009

"I have dirt in my veins." Kelley Donham. Iowa Pork Producer Magazine. July 2009.

"Occupational and environmental concerns in swine production." Kelley Donham. Presentation at the 2009 Joint Annual Meeting ADSA/CSAS/ASAS. July 12-16; Montreal, Quebec, Canada.

"Agricultural trauma." LaMar Grafft. Presentation at the Tama Community Center. July 20; Tama, IA.

"Use caution in grain bins." LaMar Grafft. Iowa Farmer Today, July 22, 2009.

"PTO safety." LaMar Grafft. Demonstration at Stutsman, Inc. July 30; Hills, IA.

August 2009

"Agricultural trauma." LaMar Grafft. Presentation and farm tour at the Agricultural Occupational Health Training. August 3-7; Springfield, IL.

"Introduction and course overview," "Veterinary biological and therapeutic occupational hazards," "Agricultural and rural zoonotic and emerging diseases," "Prevention of illness in agricultural populations," and "Personal protective equipment/Fit." Kelley Donham. Presentations at the Agricultural Occupational Health Training. August 3-7; Springfield, IL.

"Agricultural medicine: Occupational and environmental health for rural health professionals...The core course." Eileen L Fisher. Exhibit at the NIOSH Agriculture, Fishing, and Forestry Researchers Conference. August 10-11; Cincinnati, OH.

"Risk of chronic central nervous system disease in farmers." Kelley Donham. Interview with Successful Farming Magazine. August 12; Iowa City, IA.

Farm safety display. LaMar Grafft. Exhibit at the Iowa State Fair. August 18; Des Moines, IA.

"Confined space pre-plan." LaMar Grafft. Iowa Farmer Today, August 19, 2009.

"Agricultural safety & health." LaMar Grafft. Presentation at the University of Iowa Carver College of Medicine. August 24; Iowa City, IA.

September 2009

"Farm Families Alive & Well Newsletter." I-CASH and GPCAH staff. Vol 15(4). September 2009.

"Occupational health risks to veterinarians and associated personnel: Handling pharmaceuticals and biologicals." Kelley Donham. Presentation at the American Association of Bovine Practitioners. September 12; Omaha, NE.

"Occupational health risks to veterinarians and associated personnel: The need for behavioral health services." Kelley Donham. Presentation at the American Association of Bovine Practitioners. September 12; Omaha, NE.

October 2009

"Certified Safe Farm." LaMar Grafft. Certified Safe Farm auditor training at the Johnston County Extension office. October 12-15; Greenville, NC.

"Harvest safety imperative with weather conditions." LaMar Grafft. Iowa Farmer Today. October 17, 2009.

November 2009

"Novel H1N1 influenza virus: Over hype or appropriate protection?" Kelley Donham. Iowa Pork Producer Magazine. November 2009.

"Farmers health." Kelley Donham. KVFD Radio interview. November 12; Ft. Dodge, IA.

"Agricultural trauma." LaMar Grafft. Presentation at the Agricultural Medicine: The Core Course - Session I training. November 12-14; Marshfield, WI.



“Introduction and course overview,” “Veterinary pharmaceuticals, biologicals, antibiotics, and needle sticks,” “Zoonotic diseases,” and “Rural environmental health problems.” Kelley Donham. Presentations at the Agricultural Medicine: The Core Course - Session I training November 12-14; Marshfield, WI.

“Agricultural medicine: Occupational and environmental health for the health professions.” Kelley Donham. Ambulatory Practice Module presentation at the Carver College of Medicine. November 16; Iowa City, IA.

“A complete safety program for a large Iowa farm.” LaMar Grafft. Presentation at the 2009 Midwest Rural Agricultural Safety and Health Forum; November 18-19; Johnston, IA.

“H1N1 update.” Kelley J Donham. Presentation at the 2009 Midwest Rural Agricultural Safety and Health Forum; November 18-19; Johnston, IA.

“Methicillin-resistant staphylococcus aureus (MRSA).” Kelley Donham. Panel discussion at the 2009 Midwest Rural Agricultural Safety and Health Forum; November 18-19; Johnston, IA.

“Farm fatalities misdiagnosed at post mortem exam.” Kelley Donham. Presentation at the Iowa Association of County Medical Examiners Fall Meeting and Education Expo. November 20; West Des Moines, IA.

“Harvest stress weighs on farmers.” LaMar Grafft. Iowa Farmer Today, November 21, 2009.

“Agricultural trauma,” “Farm tour,” and “Case presentations.” LaMar Grafft. Presentations at the Agricultural Medicine: Core Course training November 30-December 4; Greenville, NC.

“Introduction and overview: Brief history and description of agricultural health,” “Agricultural respiratory diseases,” “Veterinary biological & therapeutic occupational hazards,” “Physical factors affecting health in agriculture,” “Overview of prevention of illness & injury in agricultural populations,” “Use of PPE in agriculture,” and “Case presentations.” Kelley Donham. Presentations at the Agricultural Medicine: Core Course training. November 30-December 4; Greenville, NC.

December 2009

“Farm Families Alive & Well Newsletter.” I-CASH and GPCAH staff. Vol 16(1). December 2009.

January 2010

“Certified Safe Farm.” Kelley Donham. Presentation at the National Institute for Farm Safety Board Meeting. January 19; Boise, ID.

February 2010

“I-CASH.” Kelley Donham. Presentation to the Iowa Legislature. February 9; Des Moines, IA.

“Farm safety/Grain engulfment rescue unit.” I-CASH staff. Press conference/presentation at Hills Fire Department. February 27; Hills, IA.

March 2010

“Amanda’s story revisited.” Kelley Donham. Iowa Pork Producer Magazine. March 2010.

“Farm Families Alive & Well Newsletter.” I-CASH and GPCAH staff. Vol 16(2). March 2010.

“What clinicians need to know about their rural/farm patients.” Kelley Donham. Ambulatory Practice Module presentation at the Carver College of Medicine. March 1; Iowa City, IA.

“Certified Safe Farm,” “Preparation for farm safety walk through,” and “Dairy farm and anaerobic digester health and safety assessment/Farm tour.” LaMar Grafft. Presentations at the Agricultural Medicine: Core Course - Session II. March 18-20; Marshfield, WI.

“Wellness and prevention of agricultural injuries and illness,” “Personal protective equipment selection/Respiratory protection/Fit testing/Fit checking,” and “Case presentations/Problem solving.” Kelley Donham. Presentations at the Agricultural Medicine: Core Course - Session II. March 18-20; Marshfield, WI.

“Farm equipment/Motor vehicle crash prevention.” Eileen L Fisher. Exhibit at the Governor’s Traffic Safety Bureau Conference. March 24-25; Coralville, IA.

“Grain bin safety still pressing issue.” LaMar Grafft. Iowa Farmer Today. March 24, 2010.

“Agricultural medicine in the Building Capacity Project: History and overview.” Kelley Donham. Webinar for Vermont course instructors. March 26; Iowa City, IA.

“Agricultural medicine: Occupational and environmental health for the health professions,” and “Novel H1N1.” Kelley Donham. University of Iowa webinars. March 30; Iowa City, IA.

April 2010

“Agricultural safety & health.” LaMar Grafft. Presentation at the University of Iowa Carver College of Medicine. April 5; Iowa City, IA.

“Acute traumatic injuries on the farm and in farm forests.” LaMar Grafft. Presentation at the Farm Health and Occupational Safety training. April 7-11; Fairlee, VT.

“Introduction and overview,” “General environmental health issues,” “Use of personal protective equipment to prevent and manage respiratory diseases,” “Prevention of agricultural illnesses and injuries: Overview, theory and program examples,” “Certified Safe Farm program and briefing for farm tours,” “Farm tours, review, and discussion,” and “Case presentations/problem solving.” Kelley Donham. Presentations at the Farm Health and Occupational Safety training. April 7-11; Fairlee, VT.

Farm safety display. LaMar Grafft. Exhibit at the Iowa Department of Public Health Annual Meeting. April 13; Ames, IA.

“Keeping farmers alive and well.” Eileen L Fisher. Exhibit at the Governor’s Public Health Conference. April 14-15; Ames, IA.

“Grain rescue.” LaMar Grafft. Presentation at the Floyd Valley Hospital. April 28; LeMars, IA.

May 2010

“Methicillin Resistant Staphylococcus Aureus (MRSA): A bacterium common to animals and humans.” Kelley Donham. Iowa Pork Producer Magazine. May 2010.

“Agricultural safety & health.” LaMar Grafft. Presentation at the University of Iowa Carver College of Medicine. May 21; Iowa City, IA.

June 2010

“Farm Families Alive & Well Newsletter.” I-CASH and GPCAH staff. Vol 16(3). June 2010.

“Agricultural medicine training.” I-CASH staff. Continuing education course. June 7-11; Iowa City, IA.

“Farm safety.” LaMar Grafft. Group discussion at Hay Expo. June 17; Strawberry Point, IA.

Farm safety display. LaMar Grafft. Exhibit at Whoopee Days. June 18; Brighton, IA.

“Adapting AgriSafe and Certified Safe Farm to the diverse agriculture of North Carolina.” Kelley Donham, Natalie Roy, Robin Tutor, Julia Storm, Bryant Spivey, Barbara Gallagher. Presentation at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.



“Boosting safety knowledge: Preliminary findings from the REACCH Safety Day Project.” Deborah B Claunch, Deborah B Reed, Debra M McCallum, Charles V Schwab, and Susan J Reynolds. Abstract presented at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

“Certified Safe Farm auditor training.” LaMar Grafft, Aaron Kline, Kelley Donham, Julia Storm, Robin Tutor. Presentation at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

“Certified Safe Farm identifying and removing injury and illness hazards on the farm.” Risto Rautiainen, LaMar J Grafft, Aaron K Kline, Murray D Madsen, Jeffrey L Lange, Kelley J Donham. Poster Presentation at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

“Cholinesterase testing for pesticide exposure.” Carolyn Sheridan and Kelley Donham. Presentation at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

“Continued safety improvement on a large Iowa farm.” LaMar Grafft, Aaron Kline, Kelley Donham, and Risto Rautiainen. Presentation at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

“Enhanced curriculum for enhanced outcomes in Farm Safety Day programs.” DM McCallum, DB Reed, DT Claunch, SJ Reynolds, C Schwab, and K Pivik. Abstract presented at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

“Motivating farm parents to create safe play areas: A randomized control trial.” Eileen Fisher, Risto Rautiainen, Marizen Ramirez, Tammy Ellis, Po-Huang Chyou, and Barbara Lee. Presentation at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

“Program evaluation of Building Capacity for Agricultural Health and Safety Professionals.” Eileen Fisher, Kelley J Donham, LaMar Grafft, Kay Mohling, Aaron Kline. Presentation at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

“Respiratory hazards and protection.” Kelley Donham and Carolyn Sheridan. Presentation at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

“Strategies for reducing hearing, respiratory & chemical exposures in the farm environment for non-health professionals.” Kelley Donham and Robin Tutor. Presentation at the National Institute for Farm Safety 2010 Annual Conference. June 27-July 1; Wilmington, NC.

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- Coffman CW, JF Stone, AC Slocum, AJ Landers, CV Schwab, LG Olsen, and S Lee. 2009. Use of engineering controls and personal protective equipment by certified pesticide applicators. *ASAE Journal of Agricultural Safety and Health* 15(4):311-326.
- Donham KJ. 2010. Community and occupational health concerns in pork production: A review. *Journal of Animal Science* 88:E102-E111.
- Donham KJ. Health risks to veterinarians and associated personnel: Handling pharmaceuticals and biologicals. *Journal of American Association of Bovine Practitioners*. (In press)
- Donham K, J Lange, A Kline, R Rautiainen, L Grafft, S Schneiders. Prevention of occupational respiratory symptoms among Certified Safe Farm participants. *Journal of Agromedicine*. (In press)
- Gillette JC, CA Stevermer, RH Miller, SA Meardon, and CV Schwab. 2010. The effects of age and type of carrying task on lower extremity kinematics. *Ergonomics* 53(3): 355-364.
- Harper A, D Ferguson, K Leedom-Larson, B Hanson, M Male, K Donham, T Smith. 2010. An overview of livestock-associated MRSA in agriculture. *Journal of Agromedicine* 15(2):101-104.
- Jennissen C, J Wallace, K Donham, D Rendell. Unintentional needlestick injuries in livestock production: A case series and review. *Journal of Agromedicine*. (In press)
- O'Shaughnessy PT, KJ Donham, TM Peters, C Taylor, R Altmaier, KM Kelly. 2010. A task-specific assessment of swine worker exposure to airborne dust. *Journal of Occupational and Environmental Hygiene* 7(1):7-13.
- Rautiainen R, L Grafft, A Kline, M Madsen, J Lange, K Donham. 2010. Certified Safe Farm: Identifying and removing hazards on the farm. *Journal of Agricultural Safety and Health* 16(2):75-86.
- Schwab CV, LJ Miller, and L Graham. 2010. Les Club des Mystères: Ces Machines Puissantes. Iowa State University Extension publication Pm-1877e(f).
- Schwab CV, LJ Miller, and L Graham. 2010. Les Club des Mystères: Découvrir les Dangers Cachés De La Ferme. Iowa State University Extension publication Pm-1877f(f).
- Schwab CV, LJ Miller, and L Graham. 2010. Les Club des Mystères: La Bonne Piste De La Sécurité Des Tracteurs. Iowa State University Extension publication Pm-1877a(f).
- Schwab CV, LJ Miller, and L Graham. 2010. Les Club des Mystères: La Sécurité Avec Les Oiseaux, Les Abeilles Et D'autres Bêtes. Iowa State University Extension publication Pm-1877b(f).
- Schwab CV, LJ Miller, and L Graham. 2010. Les Club des Mystères: Les Accidents À La Ferme: Qui Vas-Tu Appeler? Iowa State University Extension publication Pm-1877d(f).
- Schwab CV, D Stabler, and B Abbott. 2010. Les Club des Mystères: Les Méthamphétamines - reste à l'écart, reste en sécurité. Iowa State University Extension publication Pm-2069a(f).
- Schwab CV, LJ Miller, and L Graham. 2010. Les Club des Mystères: Les Produits Chimiques: Le Bon, Le Mauvais Et Le Mortel. Iowa State University Extension publication Pm-1877c(f).
- Thorne P, S Perry, R Saito, P O'Shaughnessy, J Mehaffy, N Metwali, T Keefe, K Donham, S Reynolds. 2010. Evaluation of the Limulus Amebocyte Lysate and recombinant factor C assays for assessment of airborne endotoxin. 2010. *Applied Environmental Microbiology* 76(15):4988-4995.



Notes