

2001 annual report

CASH



Iowa's Center for Agricultural Safety and Health

A partnership of: The University of Iowa + Iowa State University + Iowa Department of Public Health + Iowa Department of Agriculture and Land Stewardship



Iowa's Center for Agricultural Safety and Health

2001 Annual Report and Compendium of Agricultural Health and Safety Activities in Iowa



Iowa's Center for Agricultural Safety and Health

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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.

2001 I-CASH Annual Report

Editor: Kay Mohling

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Opening Thoughts From The Director

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

Helping Farmers Stay Alive and Well



When thinking of a catchy phrase for a new I-CASH display, we considered what we are really about. The phrase, "Helping Farmers Stay Alive and Well," came to the table. The phrase seemed right and it stuck. It really seems to say what we are all about. The "we" is the association of state and private organizations, working collectively to reduce injuries and illnesses in our farming community (44% reduction in deaths and 32% reduction in injuries since 1990).

Staying alive and well in agriculture could also be a theme for the existence of I-CASH. The funding for I-CASH was threatened last year in a very tight budget year. Buttressed by an outpouring of support across the state, I-CASH was retained, but sustained a 10% budget cut. There are some administrative changes pending for I-CASH. It is likely that we will now be administered

under the College of Public Health, rather than the Office of Vice President for Research, (our colleagues and constituents should see no changes). Although I-CASH may receive more cuts in these tough times, I-CASH is "Staying Alive and Well."

I-CASH will have a little different look as the changes from the strategic planning process of 2000-2001 are implemented. A Board of Directors has replaced the Coordinating Committee. This Board is comprised of two members each from the relevant state agencies (University of Iowa, Iowa State University, Iowa Department of Agriculture and Land Stewardship, and the Iowa Department of Public Health), and up to seven at-large members from non-profit agencies and producers. This significantly broadens the decision-making body of I-CASH. There will also be a new 18 member Advisory Council on whom the Board will depend for advice and council. The overall effect will be improved representation, communication, and broader ownership. These changes will help us collectively work at "Helping Farmers Stay Alive and Well."

Economic conditions are down and the future is uncertain. Terrorist attacks on the U.S. drive us closer together, and unify us as a nation against a common enemy. We wonder what life is going to be like in the future, and what we can do to help. There is one thing for certain; we will always need food and fiber. We will always need farmers and farm workers to produce the raw agricultural products. What can we do in these times of uncertainty? We can face our common enemy together – the agricultural exposures and hazards that cause deaths, injuries, and illnesses in our farm families, children and workers. We must work even more closely together in order to continue "Helping Farmers Stay Alive and Well."

I-CASH Partner Programs

The following are brief descriptions of major activities of the four I-CASH inter-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 the Iowa State University Extension (ISUE) and the U.S. Environmental Protection Agency (EPA) conducts the pesticide applicator certification program. The purpose of Iowa's pesticide applicator certification program is to protect public health and the environment by providing training for those who will be using pesticides and by limiting the use of restricted use pesticide products to those individuals who have received training or demonstrated their competence. IDALS, as its portion of the cooperative certification program, administers examinations, issues and maintains pesticide applicator certifications and licenses, and monitors and approves training programs for applicators wishing to obtain recertification through training.

The IDALS has been licensing pesticide applicators since 1964. In 1974 the program was upgraded to meet federal certification requirements for both commercial and private applicators. The *Pesticide Act of Iowa, Iowa Code* chapter 206, is the state law that is administered and enforced by IDALS. The grant funds received from EPA allow IDALS to perform our portion of the program in order to achieve our state objectives.

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, 2001, Iowa had 11,463 certified commercial applicators, 528 certified commercial handlers, and 30,669 certified private applicators. The initial certification for private and commercial applicators is accomplished by successfully completing the respective written certification exams. Recertification must be accomplished by either successfully completing the appropriate written exam once every three years or by attending two hours of approved training each year of the three-year certification cycle. Recertification training is generally scheduled prior to seasonal demands for the use of restricted agricultural pesticides. It is reasoned that providing training prior to the seasonal use of pesticides will give the applicator the opportunity to be educated within a reasonable time before the use of restricted pesticides.

Training videotapes have been produced and distributed by ISUE to each County Extension Office for private applicators wishing to review before taking the exam. The availability of the training tapes is a more efficient manner of providing training for those individuals testing for the first time or reviewing for the test in renewing their certification. Training meetings will remain as the only method of providing training for recertification.

Approximately 25 private and 7 commercial initial certification training sessions will be offered in fiscal year 2002 (July 1, 2001 to June 30, 2002). There are 130 certification testing sessions and 180 recertification training sessions or continuing instruction courses planned for private applicators. ISUE classifies a certification session as one specifically scheduled for certification purposes. Crop production meetings will generally cover pesticide safety and use; but not all sessions qualify for certification. When applicable, training in the use of new techniques in pest control will be introduced through the certification process, through the updating and/or amendment of training materials and written tests as well as information presented in continuing instruction sessions.

Worker Protection Standard



The Worker Protection Standard (WPS) for agricultural pesticides is a regulation issued by the U.S. Environmental Protection Agency (EPA) under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act

(FIFRA), which makes it unlawful for a person to use pesticide products in a manner inconsistent with its labeling. The WPS emphasizes educating agricultural employers on farms, forests, nurseries, and greenhouses of the need to train their workers and pesticide handlers with regard to the safe use of pesticides and personal safety aspects of working in pesticide treated areas that are addressed in the regulation. The EPA and the States have developed and distributed WPS training materials and held presentations to raise the awareness of agricultural employers to their responsibilities regarding their pesticide handlers and workers.

Iowa State University Extension (ISUE) developed three WPS outreach projects in 2001 with funding from IDALS and EPA. The first project involved the development and distribution of over 167 Worker Protection Standard training packets to greenhouse growers, fruit and vegetable growers, nursery operators, Christmas tree farmers, and agricultural crop producers. The second project was the distribution of packets to 65 agribusinesses and producers, which contained 14 of EPA's National Agricultural Compliance Assistance Center 1998 publications. These publications include topics about definitions of workers and handlers, eyeflush requirements, closed systems, enclosed cabs, posted warnings, monitoring of handlers, information exchange, and what is required in the display of information about pesticide applications. The third project was the development of a table top display, entitled 'For Pesticide Work Guard Your Hands with Gloves,' about choosing and using the correct gloves for handling and application of pesticides in accordance with a product's toxicity and formulation. The text of the display explains how the letters on the pesticide label relate to the categories in the EPA's Chemical Resistance Category Chart. An accompanying publication was developed so that the chart could be taken home for reference.

There were 434 workers that were trained and issued EPA WPS Worker Verification Cards and 79 handlers issued

EPA WPS Handler Verification Cards during fiscal year 2001. There were 4 trainers of workers and 4 trainers of handlers that were qualified by IDALS. The qualified trainers were issued 735 worker and 85 handler EPA verification cards. The card program is voluntary for agricultural employers. The cards provide the company with a formal record of training and allows the WPS trained employee to move from employer to employer in seasonal work employment.

IDALS received assistance from I-CASH in the distribution of the EPA's fifth edition of the *Recognition and Management of Pesticide Poisonings* manual to health care providers in Iowa. IDALS coordinated with EPA to send the manual to each of 125 hospitals across Iowa.

IDALS WPS activities include continued training activities and the inspection of agricultural production establishments for compliance. In fiscal year 2001, compliance inspections were conducted by the Pesticide Bureau at greenhouses and seed corn production farms. Future efforts will seek to identify areas where additional training will best support the employers and employees of agricultural establishments to reduce the exposure of people to pesticides.



Iowa Department of Public Health

Sentinel Project Researching Agricultural Injury Notification System (SPRAINS)



The Sentinel Project Researching Agricultural Injuries (SPRAINS) began in 1990. All injuries incurred on a farm, by any farmer, farm worker, farm family member, or other

individual or off the farm injuries related to producing, transporting, handling, processing, or warehousing farm commodities are reported. Data is analyzed for annual reports and provided upon request to persons interested in farm safety and for alerts on hazardous situations.

Iowa's trauma system went on-line January 1, 2001 following a four-year implementation period and prior to implementation, a five-year planning period. The Iowa Department of Public Health is designated as the lead agency responsible for the development, implementation, and evaluation of the system. The Bureau of Emergency Medical Services, under the Division of Administration and Regulatory Affairs has coordinated the system to date.

Iowa's trauma system is fully inclusive integrating all 117 licensed hospitals, over 400 transporting ambulance service programs and 9 rehabilitation excluded units. This integration provides a foundation to match injured patient needs to existing resources in Iowa. All 117 licensed hospitals in the state are certified as trauma care facilities.

Part of Iowa's trauma system includes a comprehensive injury registry encompassing out-of-hospital emergency medical services, emergency departments and hospitals and rehabilitation facilities. The purpose of the Injury Registry is to provide information on injury cause, acute care and outcome. This data allows trauma care evaluation at the local and systems level and allows community health assessment relating to availability and utilization of services across the state of Iowa. The SPRAINS data collection activities have been incorporated into this injury registry with all inclusion criteria and data elements. With farm and agricultural information being included as part of a comprehensive injury data collection system, this data will always be a part of the collection system within the Department of Public Health.

Iowa State University

Farm Safety Program



The activities of the Iowa State University Extension farm safety program are directed towards three major objectives. Accomplishments of the Iowa State

University Extension farm safety program are listed by these objectives.

Increasing farm safety awareness with the intent of encouraging farmers to adopt safe farming practices.

 "The Mystery Club – brought to you by Captain Overalls, the safety crusader" is a new fact sheet series developed and printed by Iowa State University Extension. This publication was designed to be used in farm safety day camps and in-school programs. This newest extension resource accommodates multiple learning styles and interests with a variety of activities including mazes, puzzles, logic problems, and stories.



Captain Overalls Logo for new ISU Extension publication series.

- Iowa State University Extension distributed awareness articles on farm safety issues to Iowa's newspapers. A collaborative promotional effort, organized by Iowa State University during the National Farm Safety and Health Week September 16-22, 2001, involved the Iowa Farm Safety Council, Farm Safety 4 Just Kids, National Safety Council, Sharing Help United Awareness Network, I-CASH, AgriWellness Inc., and Iowa State University. This effort receives tremendous visibility.
- The Safe Farm radio program uses four-minute interviews to produce 52 weeks of broadcast-quality CDs that are distributed to 68 radio stations. Experts from around the state, including partners of I-CASH participated.
- Safety presentations were made and educational displays were exhibited at the Iowa Power Farming Show and Iowa State Fair.
- Several journals and periodicals carried safety articles with information supplied by extension staff.



Tractor operator skill examination for the tractor certification training program.

Reducing the number of farm-related injuries and fatalities:

- ISU Extension staff in 12 Counties offered tractor safety training courses during 2001. The course requires 20 hours of classroom activities and 4 hours of hands-on equipment-specific training. This training fulfills the federal requirement to obtain certification for youth employment. A total of 161 youth (14 and 15 years olds) participated.
- Safety day camps conducted by extension staff were held throughout the state. A total of 33 counties participated reaching 5,375 youth with their educational messages.
- A total of 21 county extension offices provided an inschool farm safety program. These programs delivered safety materials and education to 3,584 children.
- Non-youth safety meetings that reached 1,424 adults were conducted in 7 counties by extension staff.

Enhancing the efficiency of Iowa State University Extension to provide farm safety programming:

- The World Wide Web home page www.ae.iastate.edu/ safety.htm on farm safety was maintained. These pages provide Iowa farm injury and fatality data, current listing of farm safety day camps, information on tractor and machinery certification classes, printable copies of Safe Farm publications, and other requested resources.
- The Tractor and Machinery Virtual Classroom www.tmvc.iastate.edu was maintained. Participants learn about universal symbols accepted for agricultural controls and indicators, standardized hand signals accepted for agricultural operations, and the location and functions of the operational controls for a tractor by interactive educational modules.
- A monthly electronic farm safety newsletter was produced and distributed to more than 100 Iowa extension educators. This newsletter provides details of current farm safety resources, grant opportunities, conferences, and other items of interest.
- Ten of the 36 single-page Safe Farm fact sheets, were updated and reprinted. One new web-based fact sheet was developed.

Iowa Concern Hotline



Calls at the Iowa Concern Hotline were fairly stable this past year. We received 9,848 calls from July 2000 through June 2001. This is approximately 300 calls less than received

last year. Iowa Concern has heard a variety of concerns this past year. Farm related topics and concerns have included: information and education on contracts. bankruptcy, estate taxes, credit information, stress related problems, health insurance issues, and financial issues. Weather conditions have had an effect upon farm crops this past summer. We continue to hear from farm families who are trying to adjust their living expenses and add another job or niche marketing idea to their operation. Stress is another factor that is prevalent with farm families and the hotline continues to have stress counselors available to do some stress counseling on the phone. Counselors hear about their family problems and the whole issue of not having enough time to do everything. They also hear about conflict and divorce issues. Some may be dealing with alcohol abuse and grandparenting issues. Family farm succession is another topic that we routinely receive calls about. We continue to be available for resources, referrals, stress counseling & legal education. We have a variety of marketing materials, including magnets, cards, and posters. Please call 1-800-447-1985 if you would like free marketing materials or wish for us to provide a news release.



Iowa Concern Hotline Calls

July 2000 - June 2001

The University of Iowa

Projects led by I-CASH core faculty and staff:

Certified Safe Farm



Certified Safe Farm (CSF) is an incentive-based, voluntary project for farmers interested in improving their health and safety. As we

progress in our fourth of five years we have outlined some important objectives towards making CSF a self-sustaining organization. These objectives include:

- To keep CSF farmers, the research community, and the general population informed of current research findings through the generation of regular reports, press releases, and journal articles.
- To continue to push forward with the creation of a non-profit organization which will provide CSF services to farmers through incentives from agribusinesses and insurance companies.
- To expand the locations where CSF services are offered to include all of Iowa and adjoining states.

In working towards this last objective, we are pleased to announce that four AgriSafe Clinic sites in Iowa will receive funds from a Wellmark Foundation grant awarded to I-CASH in June, 2001. The awarded clinics were chosen based upon the strength of grant proposals submitted. The clinic locations that were awarded included Sioux City, Ida Grove, Dubuque, and Manchester. Unfortunately, the Sioux City site is no longer able to participate in this project, and an alternative site will be chosen at a later date. Staff at each of the four sites will recruit 25 farmers and provide the CSF occupational health screening, education, and farm safety review to each of them.

In August, we had our second CSF Farm Review Training for AgriSafe clinic staff and other interested parties in Sioux City, IA. Eleven people attended and nine took the examinations necessary to become CSF Farm Safety Reviewers. The purpose of the training was to teach attendees to perform CSF farm safety reviews in a standardized manner, and for them to use that knowledge to help improve the safety of the farms they visit. The CSF Farm Review Training also prepared the staff at each of the four clinic sites to perform the 25 reviews for the Wellmark Foundation grant.

Community Acceptable Pork Production (CAPP)



This project was initiated in 1998 with funding from the U.S.D.A. The objective of the study was to investigate factors that may be making pork production unacceptable and

create an educational effort in rural communities that would help them address these issues. There were four major components to the study:

- 1. An assessment of the air quality in the yard of homes near family style and highly concentrated swine production, in comparison to a control region with no livestock.
- 2. A companion health interview study of residents where air quality was assessed.
- 3. An investigation of manure plans from permitted facilities compared to actual performance of those plans.
- 4. A sociologic study of residents in different areas of livestock production.

The results of these studies can be summarized as follows:

- Hydrogen Sulfide levels are significantly higher in the regions of highly concentrated swine production, compared to family type production and the control area.
- No differences (preliminary analysis) were found in the physical or mental health symptoms between the three areas.
- The manure management plans on file for the highly concentrated area were far from adequate for the actual environmentally safe disposal of manure.
- There is a great deal of concern among residents in all of these areas about the loss of family farms to industrial agriculture.



Farm Safety Youth Grant



Since the beginning of I-CASH in 1990, \$5,000 per year has been designated for community grants targeted at the prevention of farm-related injury in young people. This

year grant funds were awarded to six different organizations.

- The Cascade FFA Chapter used funds to host a Farm Safety Day Camp for 5th and 6th grade students from two local schools. Eighty-three students participated in the program that covered topics including chemical and machinery safety.
- O'Brien County Extension also received funds to initiate an area Safety Day Camp for 95 second graders. Students rotated to five different stations that provided a "hands-on" learning experience, and received a packet of safety information and activites at the end of the day.
- Mitchell County Extension used funds for a Farm Safety Day Camp intended to reach 100 youths. Safety lessons about tractors, roadways, lawnmowers, chemicals, and livestock were included.
- Montgomery County Extension expanded on current agricultural safety programming with their grant funds. They coordinated an educational program for students in grades 1-4 to provide various lesson plans covering topics such as gravity flow wagons, grain bin safety, and animal and tractor safety.
- In Delaware county, ISU Extension staff teamed up with an I-CASH clinic to offer a children's Fire Safety Education Program aimed at children ages 3 to 7. Participants used the stop, drop and roll vests from the Progressive Farmer curriculm and a Fire Safety Kit was made available to child care providers.
- "Marilyn Adams A Voice for Rural Children" received funds to launch a new statewide campaign to promote farm safety and the educational initiatives available through Farm Safety 4 Just Kids.

Iowa AgriSafe Network



The Iowa AgriSafe Network (IAN) has had another year of activities and growth. The overarching goal of the Network is to measurably increase access to preventive health and safety services and increase early detection

of agriculturally-related health and safety problems through clinical screenings, environmental assessments, and educational outreach programs. Network clinics throughout the state strive to meet this goal by providing various types of services in their local community and by assisting with regional and state activities.

Summary of Activities:

- The seminar "Program Development, Grant Writing, and Grant Management" was provided for the IAN clinic directors in Iowa City, September, 26-27, 2000. The presenter was Ron Mirr of The Higher Plain, Inc.
- Charlotte Halverson and Kristi Fisher participated in the I-CASH Fall Meeting 2000 by giving presentations, which reviewed IAN activities and the completion of the Rural Health Outreach grant.
- The state IAN meeting was held in Spencer on January 24, 2001. Nine IAN clinics were represented by 14 clinicians.

- IAN clinic staff provided health and safety information and screenings at the 2000 Iowa Farm Bureau Federation Annual Trade Show and Conference, 2001 Iowa Pork Congress, and the 2001 Iowa Medical Society annual meeting.
- In February and June 2001, nine nurses from Iowa completed the I-CASH Agricultural Occupational Health Training. After successfully completing the training, two new clinics were added to the IAN site listing. They are located in Rock Rapids and Le Mars, Iowa (please see IAN map).
- In Spring 2001, funding was secured by I-CASH to increase the number of clinics who provide the Certified Safe Farm program. Along with the Spencer site, four additional IAN clinics are in the process of completing the program's health screenings, on-farm reviews, and individualized educational sessions.
- For quality assurance purposes, the IAN manual, occupational history form, and the clinic screening forms were all reviewed and revised to make them more useful as clinical and data resources.

Throughout the year, many of the clinics participated in their local county fairs and other community events by providing educational materials, giving health screenings, and selling personal protective equipment. The IAN continues to seek funding resources to expand the existing programs and to facilitate the development of new agricultural health and safety services.



Iowa AgriSafe Network

Agricultural health projects at other University of Iowa research centers:

Agricultural Health Study in Iowa



The Agricultural Health Study (AHS) is a prospective cohort study of agricultural exposures and chronic disease (especially cancer) in Iowa and North Carolina among

commercial or private pesticide applicators and spouses of married private applicators. The National Cancer Institute is the primary source of funding. We are in the ninth year of the study. The first five years were devoted primarily to enrolling eligible subjects; 89,658 subjects were enrolled in the two states. In Iowa, 58,564 subjects were enrolled, exceeding our goal of 50,000. In Iowa, response rates were 82.1% for private applicators and 80.3% for their spouses, again exceeding our goals of 80% and 70%, respectively. Staffs of the Iowa Department of Agriculture and Land Stewardship and the Iowa State University Extension Service assisted in enrolling subjects through Iowa's Pesticide Certification Program.

For the last several years, we have linked cohort members to Iowa mortality and incidence databases. Personal identifiers sufficient for linkage are available for the entire Iowa cohort. As of February 2001, 893 deaths and 1,278 incident cancers had been identified since enrollment. Cohort incidence/mortality analyses are just beginning.

Currently, our primary activity consists of recontacting each cohort member to conduct a computer-assisted telephone interview (CATI) to update exposure information, obtain dietary health questionnaire data, and obtain buccal cells. As of September 30, 2001 in Iowa among private applicators, 15,754 (77.3%) of those approached) have completed some or all of the CATI interview, 9,994 have returned buccal cells, and 10,154 have returned the dietary health questionnaire. For spouses of private applicators, 14,182 (82.9%) of those approached) have completed some or all of the CATI interview, 9,085 have returned buccal cells, and 9,758 have returned the dietary health questionnaire. We estimate it will take through 2003 to cycle through all private applicators and their spouses.

There are also several completed/ongoing/planned special

studies that involve cohort members. More information about these studies, publications to date, and the Agricultural Health Study in general can be found at a new website, www.aghealth.org.

Center for Health Effects of Environmental Contamination (CHEEC)



The Center for Health Effects of Environmental Contamination (CHEEC) was established at the University of Iowa by the 1987 Iowa Groundwater Protection Act. The

Center's mission is to "*determine the levels of environmental contamination which can be specifically associated with health effects.*" CHEEC supports and conducts research to identify, measure and prevent adverse health outcomes related to exposure to environmental toxins. The Center also organizes and participates in educational and outreach programs, provides environmental health expertise to local, state and federal entities, and serves as a resource to Iowans in the field of environmental health.

New research involves a statewide study of drinking water quality in Iowa communities without public water supply systems. The study seeks to find if residents of communities utilizing private wells (rather than a central public water supply system) are at risk of consuming contaminated drinking water, through surface and sub-surface contamination of those wells. A statewide study will be conducted of a subset of incorporated communities utilizing private wells for drinking water. The objectives of the study are to monitor wells in those communities to assess the level of population exposure to various water contaminants that may impact the risk for chronic health effects. As part of this study, computerized information will be gathered on the location and number of nearby contaminant sources, hydrogeology, and other factors that may impact water quality in wells drawing water from a vulnerable, shallow groundwater source. In addition, well construction information will be collected from the owners. The data will be analyzed to assess the probability of population exposure to water contaminants. Further information on CHEEC is available at www.cheec.uiowa.edu/

Center for International Rural and Environmental Health (CIREH)



Agriculture and Environmental Health in Central and Eastern Europe: Opportunities for Research and Intervention

In mid-September, 2000, about 60 invited delegates from Central Europe, Western Europe and North America met in Bratislava, Slovakia for two days. Participants discussed agricultural, occupational and rural health issues, research, and current interventions in the targeted countries of Slovakia, the Czech Republic, Poland, Hungary and the Ukraine. The goal was to raise the level of awareness and understanding about agriculture and its relationship to rural health and environmental protection, and to develop action plans for the future. This "working conference" came about because of ongoing collaboration in Central Europe by The Center for International Rural and Environmental Health that has focused on environmental and occupational health issues mainly affecting rural populations.

One of the goals of the conference was to gain a perspective on the similarities and differences among Central European countries of the health status of agriculture and rural populations as related to the environment and the occupational hazards of agriculture. Each country report provided a different focus, which enabled discussions to be very inclusive of all related topics. Rural health and rural population issues were found to be relevant as a place of departure for research and intervention programs. Prevalent health problems in rural areas (such as tuberculosis, heart disease and high infant mortality rates) are due to socio-economic factors rather than to agricultural occupational exposures. However, it was also common to all countries that very little information concerning occupational disease and injury in agriculture is officially reported, since few workers are covered by insurance plans. It was also agreed that within the rural population, it would be feasible to develop collaborative projects focusing on agricultural health and safety. Four areas that were cited were occupational cancer, allergic disease (skin and respiratory), reproductive diseases, and traumatic injury.

Important long-term development areas included examining available databases for information on rural

populations and the development of new and/or improved registries to provide accurate information for creating research and intervention priorities. Collaboration within country among different players – governmental and nongovernmental institutes and offices – was seen as key to understanding country-specific issues. Other key issues that were discussed include identification of funding sources, adapting successful programs from other countries, epidemiological surveillance system as a tool, using statistics, the World Health Organization and private companies (health insurance, agricultural equipment) as resources, and many other useful topics.

The final discussion focused on ways to sustain attention and induce action as follows: (1) Each delegate can seek ways to bring a greater awareness of agricultural and rural environmental health issues within their sphere of influence. (2) A website will be created which will allow conference participants to share information, to invite or seek collaboration, and to promote new research or intervention programs. (3) If possible, a second working conference will be planned for 2003 which can measure progress and further investigate particular research and intervention areas of interest.

Environmental Health Sciences Institute (EHSI) for Rural Youth



Designed to expose interested rural youth to cutting-edge environmental health research, to increase awareness of career options, and to develop community

partnerships, EHSI participants are required to return to their rural communities and develop two presentations on an environmental health topic of interest to them. For the fifth time in as many years, the institute was held at The University of Iowa in June 2001. Sixteen high school students attended the weeklong session, which is gaining in statewide visibility and interest in rural school districts. The students were introduced to many aspects of environmental health through lectures, field trips, and small group sessions. Interest areas that were covered included: (1) phytoremediation of soil; (2) human genome research; (3) water quality issues; (4) pulmonary biology research; cancer and the environment; (5) the Middleton Ammunitions Plant project; (6) environmental assessment; and (7) environmental justice.

Environmental Health Sciences Research Center (EHSRC)



The University of Iowa Environmental Health Sciences Research Center (EHSRC) is one of 21 university-based Environmental Health Core Centers funded by the National

Institute of Environmental Health Sciences (NIEHS). Established in 1990, the EHSRC is the only NIEHS center in the rural Midwest and the only center to focus on rural environmental exposures and related injury and diseases. It is an interdisciplinary center promoting interaction and collaboration through its three research cores and five dedicated research facilities. The EHSRC also serves as a core center for other environmental programs at the University of Iowa. In recent years, Center investigators have reported important scientific achievements in many areas including environmental assessment, cancer and lung disease among others.

The EHSRC strives to respond effectively to a wide range of environmental health issues, especially the impact of chemically based agricultural production on human health and the nation's environment.

Great Plains Center for Agricultural Health



The Great Plains Center for Agricultural Health is currently in its eleventh year of funding. The center submitted a competitive application and received funding for the next five years, starting

GREAT PLAINS CENTER FOR AGRICULTURAL

During the past year, the Great Plains Center for

Agricultural Health produced 86 scientific publications, 151 presentations, sponsored 2 training courses, sponsored 5 meetings, and contributed to 21 other products. Twelve MS and PhD students, and 5 postdoctoral students worked with GPCAH researchers on agricultural health projects.

GPCAH with collaborating universities from Kansas and Nebraska held a regional conference "Health and Safety

in Agriculture – Challenges and Plans of Action" in Kansas City, KS on September 20-22, 2000. The goal of this meeting was to disseminate information and build working relationships between agricultural health and safety experts, advocates, and producers in the region. The participants represented a broad spectrum of multidisciplinary research and agricultural health and safety practice. For more conference information, please visit this web site: http://www.public-health.uiowa.edu/GPCAH/ conference.html.

GPCAH Clearinghouse published an Educational Resources in Agricultural Health and Safety catalogue. This catalog contains a listing of 4,316 agricultural health and safety materials and is now on the web at: http:// www.public-health.uiowa.edu/GPCAH/clearinghouse.htm

The Center worked with FS4JK to help develop their network of chapters, which has now grown to 139 in 33 states and four Canadian provinces. We worked with FS4JK on youth training programs, and a safety contest with Successful Farming magazine and a videotaping of Marilyn Adams' book "Rhythm of the Seasons".

The ergonomics core investigated the effects of overhead work on cardiovascular and neuro-physiological parameters involved with carpal tunnel syndrome. This project was designed to determine whether the decrease in finger blood pressure correlates to a decrease in oxygenation of the tissues in the hand or wrist. Pilot work found that elevating the involved arm overhead, in the upright position produced reductions in the neurophysiological and cardiovascular variables. The subjective ratings of tingling and numbness also increased during and following overhead positioning.



IPRC The theme of the University of Iowa Injury Prevention Research Center (IPRC) is prevention and control of rural injuries. Based on available epidemiological data, rural populations at high risk for injury include children, the elderly, and farmers and farm families. Therefore, the goal of the IPRC is to control and prevent rural injuries in these high risk populations through research, education and training, and public policy targeting rural motor vehicle injuries and farm and other occupational injuries. The specific aims of ongoing IPRC supported research projects include:

- Examining the rates and risk factors of farm-related injuries among Iowa farmers;
- Evaluating the effectiveness of trauma care in Iowa;
- Driving after head injury.

The IPRC also provides outreach information and education programs, supports multidisciplinary training in injury prevention, and promotes development of public policies to prevent and control rural injuries. The IPRC supports the Midwest Injury Prevention Consortium in order to provide an organizational mechanism to promote and advocate injury prevention in Iowa and the Midwest and to serve as a national resource for rural injury prevention.

IPRC activities during the fiscal year included:

• Conducting the 2000 Iowa Child Passenger Restraint Survey and initiating the 2001 survey. Survey results indicate an increasing number of Iowans are restraining their children in motor vehicles. However rural areas continue to have significantly lower restraint usage rates when compared to urban locations within the state. Also increasing is the number of children being placed in the rear seat of motor vehicles, which is considered the safest place for children to ride. The 2000 survey found over 80% of the children in the rear seat.

• Participating in the Iowa Department of Public Health's statewide trauma plan implementation process.

• Sponsoring the Workplace Violence Intervention Research Workshop held April 5-7, 2000 in Washington, DC. This workshop was highly successful in bringing together key stakeholders from a wide range of disciplines. The workshop white papers and recommendations were peer-reviewed and published in the February 2001 issue of the American Journal of Preventive Medicine. The IPRC also published a "Report to the Nation" containing the workshop findings and recommendations. Nearly 10,000 copies of this Report have been disseminated and it is also available on several websites. During the past year IPRC faculty and staff have conducted numerous interviews and presentations related to the Workplace Violence Workshop findings and recommendations. Funding from the National Center for Injury Prevention and Control and the National Institute for Occupational Safety and Health supported this workshop.

• Working with the State of Missouri Department of Health, Center for Health Information Management and Epidemiology on a project to analyze injury patterns and risk factors within the state's urban, rural-agricultural, and rural-recreational counties.

• John Lundell, IPRC Deputy Director, participated on a State and Territorial Injury Prevention Directors Association (STIPDA) site visit team to the Utah State Department of Health. The site visit team critically reviewed Utah's injury control program and provided recommendations.

Iowa Fatality Assessment and Control Evaluation (Iowa FACE)

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 using funds provided by the National Institute for Occupational Safety and Health (NIOSH). The FACE program collects basic information on all occupational fatalities in the state of Iowa and performs in-depth studies of specific types of fatal injuries. The goals of these investigations are to identify workplace fatalities and to alert employers, employees, and farmers about these risks. The investigators aim to make recommendations and develop programs to prevent similar occupational injuries. In addition, the alerts generated by the Iowa FACE project have been widely disseminated throughout the nation and descriptions of Iowa FACE investigations have been published in a variety of popular magazines aimed at specific trades and farmers, such as *Wallace's Farmer*, *Arbor Age*, *World of Welding*, and *American Towman*.

During the twelve months from July 1, 2000 to June 30, 2001, a total of 78 occupational fatalities were identified in Iowa. Of these, 27 were agriculture-related.

During the past year a competitive renewal grant application for the Iowa FACE Program was submitted to NIOSH. The five-year application was approved resulting in increased funding for expanded occupational injury surveillance and prevention activities including a unique proposal for Iowa FACE and State Medical Examiner personnel to conduct joint investigations.

Keokuk County Rural Health Study



The Keokuk County Rural Health Study, Round 1 data collection on 1,004 rural families (1,640 adults, 616 children) began in June 1994 and ended in February 1998. Analysis

of Round 1 data to date has resulted in 12 publications and 64 presentations. The distribution of households in Round 1 was 337 farm, 457 town, and 199 rural nonfarm. Nearly 90% of rural nonfarm men engaged in farming, and 77% of town men currently or previously engaged in farming. Among women living on farms, 89% worked in farming currently or in the past, while nearly 60% of rural nonfarm women and nearly 47% of town women gave similar histories. The proportion of children engaged in farming follow the patterns of their parents. We have documented in detail the demographics and environmental characteristics of this cohort, and studied health outcomes including injuries, respiratory disease, mental health and neurobehavioral disease, and hearing loss. While not the primary focus of the KCRHS, risk factor information regarding other common health outcomes, such as cardiovascular disease, was also collected as the residents of the county expressed strong interest in improving their general health and we concluded that it was important to collect these data to ensure good participation in this study and to encourage community-based intervention studies.

The KCRHS has resulted in several spin-off grants. Childhood Health Outcomes in a Rural Cohort (NIOSH) allowed us to complete a case-control study on childhood asthma, to assess depression and suicide ideation and to evaluate rural injuries and their risk factors among children and adolescents. A finding of prevalent childhood asthma (16.5%) resulted in funding of the study, The Etiology and Pathogenesis of Airway Disease in Children from Rural Communities, a multi-component intervention study funded as the intervention project of the University of Iowa Childhood Environmental Health Center (NIEHS/EPA). We are collaborating with a DSHEFS/ NIOSH childhood pesticide evaluation project. KCRHS data has been made available to University of Iowa Agricultural Health Study investigators as population-based data to help them design spin-off studies from that large cohort (NCI and NIEHS/NIH, EPA, NIOSH). We have collaborated with the CDC National Center for Environmental Health to measure persistent and non-persistent pesticides in the serum of a random sample of 100 study participants. The KCRHS was featured in a training video by CDC/ATSDR on the use of GIS in public health. Round 2 data collection on the same 1,004 families began in April 1999 and is scheduled for completion in March 2003 (Year 2 of the proposed project). Over 90% of Round 1 participants are returning to participate in Round 2. We continue to be guided in the conduct of the study by a 32 member Community Advisory Committee with which we have met 2-4 times each year from the beginning of the study.



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.

AgriWellness, Inc.

AgriWellness, Inc. is a new non-profit corporation that has been formed to serve the behavioral health needs of the rural agricultural population in seven upper Midwestern states: Iowa, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska and Kansas. Initially funded by a combination of private foundation and federal agency funds, the program seeks to develop permanent behavioral healthcare supports for farmers, farm workers, ranchers, their families, and members of the associated agricultural business community. Key features of the program are the use of outreach workers, who are farm men and women, to identify persons in need of assistance and to link them with appropriate resources. Additionally, the program offers training to mental health and substance abuse professionals, other primary care providers, the faith community, and other interested individuals and agencies to improve their cultural sensitivity and skills in serving the rural agricultural population. Other aims are to insure that behavioral health needs of the rural agricultural population are met, including the underserved and minorities. The program also seeks to establish a national center for agricultural behavioral health to provide technical assistance and training to individuals, organizations and agencies throughout the region.

The AgriWellness Board includes leaders from the seven states that comprise the regional program. The AgriWellness office is located in Harlan at AgriWellness, Inc., 1210 7th St, Suite C, Harlan, IA 51537. Ph : (712) 235-6100. Fax : (712) 235-6105. Email : agriwellness@fmctc.com.

The Executive Director is Michael R. Rosmann, former Executive Director of Sharing Help Awareness United Network and Adjunct Associate Professor in the College of Public Health at the University of Iowa.

Easter Seals FaRM program



The Easter Seals Farm Family Rehabilitation Management (FaRM) program was developed in 1986 to address the technological and psychological needs of farm families affected

by physical disabilities. The FaRM program provides onsite rehabilitation services that promote the return to farming and the community, and increased independence. The services provided include adaptive equipment, modifications to the farm and home, secondary injury prevention education, equipment loan and community and peer support.

Easter Seals collaborates with Iowa State University Extension through the AgrAbility Project, and the Division of Vocational Rehabilitation Services to assist farm family members to remain in farming after a disability.



Farm Safety 4 Just Kids

Form Safety



Mission – To promote a safe farm environment to prevent health hazards, injuries, and fatalities to children and youth.

FS4JK Chapters

In an effort to promote a safe farm environment in 2000, FS4JK Chapters have reported over 500 activities and impacted nearly two million children, youth, and farm families. In 2000, chapter volunteers logged an amazing 12,000 hours of time devoted to preserving the future of agriculture – children.

Educational Initiatives

Buckle Up or Eat Glass....tough choice huh?

For the second year, FS4JK is proud to join with the National Highway Traffic Safety Administration and the Iowa Governor's Traffic Safety Bureau to conduct a rural roadway safety program. Communities across the nation stressed the issues of rural roadway safety and encouraged youth to wear seat belts while in pickups. Youth groups organized an educational program, a seat belt check up of pickup trucks, and conducted a media campaign.



Akron, IA FFA students stop a pickup to find out if they are wearing their seat belts. This was a part of the Governor's Traffic Safety Bureau project.

Rural Roadway Education Packet

FS4JK 2001 educational packet addresses the importance of staying safe while using the rural roadway system. Each packet includes background information, posters, brochures, activity sheets for the kids, and lesson plans for instructors. The packet is designed so teachers, parents, and older students can teach the concepts of why speeding can be costly, the influence of momentum on a vehicle, SMV reflectivity, and the importance of wearing a seat belt.

Successful Farming Participation

For the seventh year Successful Farming® magazine has conducted a Farm Family Safety Incentive project, asking farm families to submit ideas for funding to make safety improvements on their farms. FS4JK's screens applicants and determines winners.

Dress For Farm Safety Success

Funds from I-CASH allowed the local Madison County Chapter to conduct a program at the Earlham Middle School. The program was made fun by encouraging the students to dress in a unique way each day of the week. Educational programs took place throughout the week, a field trip was taken to a local farm on Friday, and the kids performed skits for the younger kids the next week.

General Farm Safety "Cawshus" Brochure

"Cawshus" spreads the farm safety message again in his new brochure. This brochure depicts potential farm hazards and asks the reader to find them. "Cawshus" rules the farmstead by giving nine safety rules to follow. A note to parents is included.

Jeopardy Game

The game was developed based on the TV show using farm safety related answers for the corresponding questions. Play money is used to encourage active competition among participants.

Promotional Items 2001 Promotional CD

A short 5-minute CD/video was developed to highlight the successes of Farm Safety 4 Just Kids. Special permission was given to use the song *Angels Among Us* by Alabama.

Toys

- Zipper reflective pull tabs
- Peterbilt 379 Conventional Semi is dedicated to FS4JK Chapters
- P51 Mustang Miss America racing plane
- "Watch-It" iron-on transfers

Iowa Farm Safety Council

The Iowa Farm Safety Council was once again very busy in 2001. The Council remains a grass roots effort supported by a network of professionals in agricultural production, education, insurance, industry, and government working toward a common goal of preventing injuries and illnesses in rural Iowa.

An accomplishment the council continues to be very proud of is the Iowa Fire Prevention Poster Contest. Each year 3rd-6th graders from around Iowa are asked to submit posters that warn of fire hazards and identify prevention techniques. Hundreds of children from across Iowa participate in the program each year. We now have 2nd generation children participating in this very worthwhile program. With the support of the State Fire Marshall, Iowa Firemen's Associations, and many industry and insurance leaders, the Iowa Farm Safety Council continues to provide this educational program for the children of Iowa.

The council also supports other educational activities designed to promote good safety and health practices. For example, each year the Council has a visible presence at both the Iowa State Fair and the Iowa Power Farming and Machinery Show. As we look towards the future, we will continue to work to make rural Iowa a safer and healthier place to live and work.

National Education Center for Agricultural Safety (NECAS)



The National Education Center for Agricultural Safety (NECAS) is located in Peosta, Iowa. NECAS, a partnership between the National Safety Council and Northeast Iowa Community College, is a national training center dedicated to lowering the excessive level of preventable accidents in agriculture. It delivers hands-on, intensive training programs on the many safety and health issues affecting our nation's agricul-

tural populations. It offers diverse educational initiatives for at-risk populations. Youth, seniors and female farmers and ranchers have a high risk of injury and death related to livestock, chemical, mechanical and confined space hazards. NECAS also provides training for emergency medial service personnel.

This year The National Education Center for Agricultural Safety sponsored and cosponsored a variety of classes and activities. Some of the programs included:

- Forklift Operator Classes
- Ice Rescue Awareness Course
- CPR for Farm Families
- Farm Chemical Awareness Class
- Anhydrous Ammonia Emergency Response
- Tractor Safety for Youth Class
- John Deere 2001 Corporate Product Safety Conference
- Flagging Certification Classes
- DNR Hunter Safety Class
- 2001 EMS Fire School
- ATSSA Traffic Control Technician Training Course
- "Surviving Summer Safely" Field Trips for Elementary Students
- Interior Fire Attack Simulator Classes
- Shoring & Trenching Class
- Two Progressive Farmer Safety Day Camps
- Farm Combine Safety Workshop
- Ag Families USA for 2001
- National Safety Council Youth Congress program staff
- FFA Fall Harvest Safety Days
- Dry Hydrant Class
- Health Screenings for Area Farmers
- Certified Safe Farm Dairy Project Research





Proteus, Inc. is a not-for-profit **PROTEUS** organization that since 1990 has operated the BPHC-

funded Migrant Health Project in the state of Iowa. From offices located in Des Moines, Fort Dodge, and Muscatine, Proteus provides outreach, home visits and clinics around the state where migrant and seasonal farm workers are found. Since the migrant farm worker population in Iowa that works with crop-related tasks has decreased significantly within the past 5-6 years, Proteus' funding has decreased. In 2001 BPHC cut the project's funding by 37%. This required the project to rethink how it could provide services to an increased level of users with a greatly diminished capacity for providing enabling services (translation and transportation services and nursing personnel). Local providers contracting with Proteus for the project's voucher services find these enabling services to be very necessary in working with the population.

Proteus spent a very busy migrant season and even found a few new pockets of farm workers in communities where we hadn't seen them previously. Through the end of August, Proteus had served 1,330 farm worker users.

After farm worker families are certified as eligible, Migrant Health Aides or Nurses conduct Health Histories by lifecycle. Farmworker family members are seen by the PA, volunteer providers or contracted providers. The Nurses and Migrant Health Aides attempt to conduct some educational activities as well as follow-up after a provider sees a farmworker. Proteus conducts clinics at sites such as migrant camps, employer sites, motels and other living sites, etc. This summer we also began conducting home visits when it could be determined that multiple farmworker families resided in clusters within a larger community. In this way the PA made contact with each and every family member-increasing the number of patients seen by Proteus. Many farm workers are found to have untreated hypertension and diabetes, and need tetanus boosters. Providers also encounter skin rashes and UTIs, as well as foot problems from working in the corn fields. Many adult farm workers have never seen a dentist until a tooth needs to be extracted, and may lack other lifecycle-specific screening procedures.

Needless to say, the year has been full of challenges.

Sharing Help Awareness United Network (SHAUN)



Jeris Petersen founded SHAUN (Sharing Help Awareness United Network) in 1998 in response to her own long journey through grief after the death of her son, Shaun, in a farm accident in 1989. Jeris felt that by

uniting people with similar backgrounds and experiences a peer network could be developed. Her own recovery began when she met Marilyn Adams, Spokesperson, Founder and President of Farm Safety 4 Just Kids, who had also experienced the death of her son in a farm accident. Jeris states; "Marilyn gave me hope...now that's what SHAUN provides, we give hope to numerous individuals throughout the Midwest who have experienced a death or disability due to farming." SHAUN is a nonprofit organization that helps farm families deal with their losses. The board of directors includes various health and safety advocates and individuals that have experienced a death or disability in their own families.

This spring SHAUN trained over 20 outreach workers that are dispersed throughout Iowa to serve as survivor advocates and make services available to farm families. They have been trained to help families cope with financial, emotional, health, spiritual and grief issues. The mental health issues facing rural communities have a broad foundation including issues relating to economic and social stress, as well as issues of families and individuals who have experienced an agriculturally related death or disability. While SHAUN's main focus is on those families experiencing a loss, mental health services and the care of SHAUN staff and outreach workers are available to all people in farming communities. We collaborate with many state and national groups for outreach, education, stress management, life planning and other programs that serve farm communities in their entirety. SHAUN's aim is to create a seamless network for the support of Iowa's farm families.

Please contact SHAUN for access to an outreach worker in your area. Our new address: 2672 Mulberry Ave, Corning, IA 50841-8042. Phone: 641-322-4555 or 877-TO-SHAUN, fax: 641-322-3967. E-mail address is info@shaunnetwork.org (website: www.shaunnetwork.org)

Financial Report

The I-CASH budget consists of state funds, (\$284,452 FY 2001) plus competitive grant and contract funds, (\$1,178,259 for the period 1998-2004). The following table and graphs depict the state appropriated fund expenditures. Expenditures are divided into three areas: 1) personnel expenditures for programming and administration; 2) program delivery contracts; and 3) general expenditures. The individual outside grants and contracts are listed at the bottom of page 22.

PERSONNEL EXPENDITURES				
	Total I-CASH Effort	Budget Dollars	Actual Dollars	
Programming and Program Delivery	75%	131,452	121,101	
Administration	25%	43,818	40,367	
Total		175,270	161,468	
PROGRAM DELIVERY CONTRACTS				
Competitive Child Safety Grant		7,119	7,407	
Delivery of Occupational Health and Safety Services to Far	mers	11,000	11,000	
Iowa State University Extension Safety		49,000	49,000	
Total		67,119	67,407	
GENERAL EXPENSES				
Supplies		2,000	3,527	
Travel		4,400	5,521	
Other: Includes computer system support, required semiar meetings, outreach materials, annual report, telepho and newsletters		35,663	46,529	
Total General Expenditures		42,063	55,577	
TOTAL BUDGET		284,452	284,452	



The following are grants and contracts that I-CASH faculty and staff have successfully competed for to conduct intervention and research activities in Iowa:

Certified Safe Farms (CDC, NIOSH)	\$540,070 (1999 - 2003)	
Community Acceptable Pork Production (USDA)	160,000 (1998 - 2001)	
Iowa / Nebraska Certified Safe Farm (Pioneer Hi - Bred International)	20,000 (2002 - 2002)	
New Frontiers: Certified Safe Farm Expansion (Wellmark)	48, 919 (2001- 2002)	
Occupational Safety and Health Training - Ag. Component (CDC)	105,088 (2001 - 2003)	
Physicians Assistant Training Grant (Bureau of Health Professions)	304,182 (2001 - 2004)	
Total:	\$ 1,178,259	

Appendix A

I-CASH Presentations / Newspaper Publications

July 2000

- "Community health issues of livestock production." Kelley J. Donham. Presentation at AVMA Meeting, July 25; Salt Lake City, UT.
- Farm safety display, LaMar Grafft. July 12; Keokuk County Health and Safety Fair.

August 2000

- "Agricultural mental health: A collaborative project." D. Provorse, and M.R. Rosmann. Paper presented at The National Association for Rural Mental Health Conference, August 4-6; Portland, OR.
- "Agricultural mental health: Training and curriculum." R. Petersen, and M.R. Rosmann. Paper presented at The National Association for Rural Mental Health Conference, August 4-6; Portland, OR.
- "International review of agricultural health and safety programs." Kelley J. Donham. Presentation at The 26th International Congress on Occupational Health, August 27-Sep 1; Singapore.
- "Making farming safer: The Certified Safe Farm project." M.R. Rosmann, K. Donham, L. Grafft, R. Rautiainen, and K. Thu. Paper presented at The National Association for Rural Mental Health Conference, August 4-6; Portland, OR.
- "Setting exposure limits for organic dust exposure in agriculture." Kelley J. Donham. Presentation at The 26th International Congress in Occupational Health, August 27-September 1; Singapore.

September 2000

- "Agricultural injuries." Kelley J. Donham. Presentation to Iowa Lutheran Hospital, Family Practice Program, September 23; Des Moines, IA.
- "Agricultural rescue." Presentation by LaMar Grafft, September 23; Manchester, IA.
- Agricultural safety instruction, LaMar Grafft. Presentation to FFA students, September 20, 22; Delhi, IA.
- "AgriSafe: A model agricultural health service program." Kelley J. Donham. Presentation at the Central States Agricultural Health and Safety Conference. September 20-22; Kansas City, KS.
- "Care of the multi-system trauma patient." Presentation by LaMar Grafft. September 10; Allison, IA.
- "Certified Safe Farm An insurance–based intervention for agricultural health and safety promotion." K. Donham, R. Rautiainen, K. Thu, et al. Paper presented at The Central States Agricultural Health and Safety Conference. September 20-22; Kansas City, KS.
- "Certified Safe Farm Preliminary injury and health outcome results." Kelley J. Donham. Presentation at The Central States Agricultural Health and Safety Conference. September 20-22; Kansas City, KS.
- "Community and environmental health issues around hog production." Kelley J. Donham. Presentation at The Central States Agricultural Health and Safety Conference. September 20-22; Kansas City, KS.

- "How much dust is too much for people and animals in livestock facilities?" Kelley J. Donham. Presentation at the Central States Agricultural Health and Safety Conference. September 20-22; Kansas City, KS.
- "Integrating behavioral health into agricultural safety and health training." M.R. Rosmann, and Kelley J. Donham. Paper presented at the Central States Agricultural Health and Safety Conference, September 20-22; Kansas City, KS.
- "Keeping farmers from harm: Sowing seeds of safety." Sara Schneiders, *Waterloo Cedar Falls Courier*, Sept 9, pages C1 and C5.
- "Program highlights from Federal Region VII; Addressing needs in agriculture now and in the future." Kelley J. Donham. Presentation at the Central States Agricultural Health and Safety Conference. September 20-22; Kansas City, KS.
- "Relationships among farmers' financial stressors, safety and health beliefs, and stress indicators." C. J. Hodne, K. Donham, and K. Thu. Paper presented at Central States Agricultural Health and Safety Conference. September 20-22; Kansas City, KS.
- "Training of health & safety professionals: Infrastructure needs in agricultural occupational health." Kelley J. Donham. Presentation at the Central States Agricultural Health and Safety Conference. September 20-22; Kansas City, KS.

October 2000

Farm crisis television program, Mike Rosmann. Participated in nationally-aired Odyssey Channel program. "Rural health and agricultural medicine: Addressing the health and safety needs of the agricultural population." Kelley J. Donham. Presentation to the Spencer Municipal Hospital AgriSafe Program. October 26-27; Spencer, IA.

November 2000

- "A review of the first decade of Iowa's Center for Agricultural Safety and Health." Kelley J. Donham. Tenth Anniversary Meeting of Iowa's Center for Agricultural Safety and Health. November 9–10; Iowa City, IA.
- "The Certified Safe Farm: Recent results." Kelley J. Donham. Tenth Anniversary Meeting of Iowa's Center for Agricultural Safety and Health. November 9–10; Iowa City, IA.
- "Community hazards in livestock production." Kelley J. Donham. Tenth Anniversary Meeting of Iowa's Center for Agricultural Safety and Health. November 9–10; Iowa City, IA.



- "Comprehensive and incentive–based programs: Certified Safe Farm." Kelley J. Donham. Rogers Memorial Seminar, Carle Center for Rural Health and Farm Safety. November 17; Urbana, IL.
- "Dust control in swine confinements: International experiences and results of Iowa oil sprinkling experiments." R. Rautiainen, K. Donham, M. Nonnenmann, S. Kirchuk, S. Reynolds, P. Thorn, P. O'Shaughnessy. Tenth Anniversary Meeting of Iowa's Center for Agricultural Safety and Health. November 9–10; Iowa City, IA.
- Farm safety display, LaMar Grafft. November 29; Iowa Farm Bureau Annual Meeting.
- "Public health effects of confined animal feeding operations." C.J. Hodne. Regional meetings of Iowa Citizens for Community Improvement. November 14; Carroll, IA and December 5; Clarion, IA.
- "The role of health psychology in Certified Safe Farm: Focus on farm stressors." C.J. Hodne, K. Donham, and K. Thu. Tenth Anniversary Meeting of Iowa's Center for Agricultural Safety and Health. November 9–10; Iowa City, IA.
- "Rural agricultural health issues." M.R. Rosmann. Keynote address at the Prairielands Addiction Technology Transfer Center Regional Meeting, Sioux Falls, SD.
- "Tractor Risk Abatement and Control (TRAC)." Kelley J. Donham. Tenth Anniversary Meeting of Iowa's Center for Agricultural Safety and Health. November 9–10; Iowa City, IA.

December 2000

"Agricultural injuries." Kelley J. Donham. Visiting Professor, Broadlawns Medical Center, Family Practice Residency Program. December19; Des Moines, IA.

January 2000

- Farm safety presentation, LaMar Grafft. Jan 18; Worth County Corn & Soybean Clinic.
- Poster display, LaMar Grafft and Eileen Fisher. January 23-25; Iowa Pork Congress.
- "Skin diseases of farmers." Kelley J. Donham. Visiting Professor, Iowa Lutheran Hospital. January 11; Des Moines, IA.

February 2000

- "Agricultural dusts and respiratory diseases: Recommendation for exposure limits." Kelley J. Donham. Minnesota Veterinary Medical Association. February 3; Minneapolis, MN.
- "Community health effects of intensive livestock production." Kelley J. Donham. Minnesota Veterinary Medical Association. February 3; Minneapolis, MN.
- "Agricultural respiratory hazards, and biological hazards." Kelley J. Donham. Agricultural Occupational Health Training Program. February 21-23; Iowa City, IA.

March 2000

"Dissolution of radium from pipe-scale deposits in a public water supply." Eileen Fisher. Presentation for Iowa Ground Water Association Annual Meeting. March 22; Ames, IA.



- "Exposure limits and occupational health hazards in poultry buildings, with a view to the future." Kelley J. Donham. Presentation at Midwest Poultry Conference. March 14; Minneapolis, MN.
- "Farm policy links to mental health of farmers and rural residents: Research and resources." C.J. Hodne. Agricultural Mental Health Training, Sharing Help Awareness United Network. March 23–25; Panora, IA.
- Iowa AgriSafe Network poster display, Eileen Fisher. Occupational Health Symposium: Caring for Workers in the Heartland. University of Iowa. March 29-30; Iowa City, IA.
- "Occupational and community health considerations of large scale swine confinement operations." Kelley J. Donham. Presentation at Colorado State University Institute for Rural Environmental Health. March 12; Ft. Collins, CO.

April 2000

- "Acute trauma." LaMar Grafft. Presentation at Agricultural Occupational Health Training Program. April 18-20; Iowa City, IA.
- "Rural health vs. agricultural medicine." Kelley J. Donham. Agricultural Occupational Health Training Program. April 18-20; Iowa City, IA.
- Testimony on public health and socio-economic effects of factory farms, C. J. Hodne. Yates County Public Hearing. April 5; Penn Yan, NY.

May 2000

"Agricultural Occupational Health and Safety Certification Course." Kelley J. Donham. An eight hour workshop for occupational health professionals. May 8; West Branch, IA.

June 2000

- "Agricultural respiratory diseases and zoonotic diseases." Kelley J. Donham. Physician Assistants Annual Meeting. June 13; Okoboji, IA.
- Agricultural rescue class, LaMar Grafft. June 19; Morley, IA.
- Agricultural rescue class, LaMar Grafft. June 21; Spring Grove, MN.
- "Ambient air quality assessment of two Iowa communities exposed to swine production." J. Lee, S.J. Reynolds, K. Donham, M. Nonneman. Presentation at American Industrial Hygiene Conference. June 4; New Orleans, LA.
- "Community health concerns in agriculture: From hog lots to water pollution." Kelley J. Donham. Visiting Professor, College of Medicine. June 16;Mason City, IA.
- "Incentive–based agricultural health and safety programs: A review and historical development of the Certified Safe Farms Program." Kelley J. Donham. Presentation at NORA 2001 Bi-Annual Agricultural Health Centers Conference. June 27-30; Kansas City, KS.
- "The need for ergonomics in agriculture." Kelley J, Donham. Presentation at Swedish Agricultural University. June 12; Lund, Sweden.
- "Resources for the family practitioner for his/her rural/ agricultural patients from Iowa Agricultural Health and Safety Clinic Network to the Agribility Program." Kelley J. Donham. Visiting Professor.
- "Respiratory and Other Health Issues in Agricultural Medicine." Kelley J. Donham. National Institute for Farm Safety Professional Development Course. June 28-29; Pittsburgh, PA.

Appendix B I-CASH Publications

- Cumro D, Donham K, Reynolds S. 2001. Synergistic affects of dust and ammonia on the occupational health affects of poultry production workers. *JAgric Med.* (submitted).
- Donham KJ. 2000. The concentration of swine production: Effects on swine health, productivity, human health, and the environment. *Veterinary Clinics of North America: Food Animal Practice* 16(3): 559-597.
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- Donham KJ, Ehlers J, Sheridan C, Willard P, Chapman R (in press). Agricultural occupational health nurse training and certification program: Fulfilling the needs for occupational health. *JAgromedicine*.
- Donham KJ, Roy N, Wheat J. 2001. Agricultural health and safety training for health professionals: A historical description with eyes to the future. *J Agric Safety and Health* (submitted).
- Donham KJ, Storm J. 2001. Agriculture at risk: A report to the nation – a historical review critical analysis and implications for future planning. *J Agric Safety and Health* (in press).
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Appendix C

Iowa AgriSafe Network Directory

AgriCare

Veterans Memorial Hospital 401 1st Street SE Waukon, IA 52172 Nurse Directors: Diane Butikofer / Jeff Mitchel Ph: 319-568-3411 E-mail: vmheduc@rconnect.com

AgriHealth

Regional Medical Center 709 West Main Street / PO Box 359 Manchester, IA 52057 Nurse Director: Joan Deutmeyer Ph: 563-927-7303 or 563-927-7567 E-mail: education@regmedctr.org

AgriHealth and Safety Center Mahaska County Hospital 1308 17th Ave E Oskaloosa, IA 52577 Nurse Director: Lynn Armstrong Ph: 641-672-3143

AgriSafe Sioux Center Community Hospital 605 South Main Avenue Sioux Center, IA 51250 Nurse Director: Cheryl Hulstein Ph: 712-722-8244 E-mail: cheri.hulstein@mckennen.org

Agri-Safe Hawarden Community Hospital 111 11th Street Hawarden, IA 51023 Nurse Director: Dee Meerdink Ph: 712-551-3127 E-mail: meerdind@mercyhealth.com AgriSafe Occupational Health Services Spencer Hospital 1200 First Avenue East Spencer, IA 51301-4330 Nurse Director: Carolyn Sheridan Ph: 712-264-6107 or 888-424-4692 E-mail: csheridan@spencerhospital.org

AgriSafe Rural Neighbors Butler County Public Health 428 6th Street / PO Box 325 Allison, IA 50602 Nurse Director: Linda Truax Ph: 319-267-2934 or 800-873-0191 E-mail: ltruax@butlercoiowa.org

AgriSafe Rural Neighbors Franklin County Public Health 1600 Central Avenue East Hampton, IA 50441 Nurse Director: Jean Hirth Ph: 641-456-5820 E-mail: hirthj@mercyhealth.com

AgriSafe Rural Neighbors Grundy County Home Care Services 802 1st Street Grundy Center, IA 50638-2030 Nurse Directors: Gloria Dielschneider and Carol Heetland Ph: 319-824-6312 E-mail: gcphns@gcmuni.net

Floyd Valley Hospital Hwy 3 East / Box 10 LeMars, IA 51031 Nurse Directors: LaVonne Galles and Karla Anthony Phone: 712-546-3450 E-mail:agrisafe@floydvalleyhospital.org Horn Memorial Hospital 701 East 2nd Street Ida Grove, IA 51445 Nurse Director: Sandy Lacey Ph: 712-364-3311 E-mail: slacey@pionet.net

Merrill Pioneer Community Hospital 801 S Greene Street Rock Rapids, IA 51246 Nurse Director: Linda Katt Ph: 712-472-2591 ext. 128 E-mail: kattl@siouxvalley.org

NECAS 10250 Sundown Road Peosta, IA 52068 Nurse Director: Charlotte Halverson Ph: 563-557-0354 ext. 374 E-mail: halversc@nicc.cc.ia.us

Northwest Iowa Health Center 118 N 7th Avenue / PO Box 250 Sheldon, IA 51201 Nurse Director: Jean Boone Ph: 712-324-6402 E-mail: boonej@siouxvalley.org

Occupational Health Outreach Myrtue Memorial Hospital 1213 Garfield Avenue Harlan, IA 51537 Nurse Directors: Nancy Osborn / Sue Hough Ph: 712-755-4288 E-mail: nosborn@shelbycohealth.com

Palo Alto County Hospital 3201 First Street Emmetsburg, IA 50536 Nurse Director: Mary Kay Nissen Ph: 712-852-5469 E-mail: nissenm@trinity-health.org Rural Health and Safety Mercy Health Center 250 Mercy Drive Dubuque, IA 52001 Nurse Director: Charlotte Halverson Ph: 800-637-2920 or 563-589-8111 E-mail: halversc@trinity-health.org

Wayne County Public Health 417 South East Street / PO Box 102 Corydon, IA 50060 Nurse Director: Teri Walker Ph: 641-872-1167

Worth County Public Health 100 Enterprise Drive / PO Box 228 Northwood, IA 50459 Nurse Director: Betty Chapin Ph: 641-324-1741 E-mail: worthph@rconnect.com

Migrant and Seasonal Farm Worker Clinics

Proteus 175 NW 57th Place /PO Box 10385 Des Moines, IA 50306-0385 Nurse Director: Mark Sundet Ph: 515-244-5694

Proteus 1812 Central Avenue Fort Dodge, IA 50501 Nurse Director: Nancy Strub Ph: 800-798-8225

Proteus 620 East Country Club Road / PO Box 207 Iowa Falls, IA 50126 Nurse Director: Lianne Hovden Ph: 800-213-6177

Appendix D

I-CASH Board of Directors

Marilyn Adams (11/04) Farm Safety 4 Just Kids Ph: 515-758-2827 E-mail: fs4jk@netins.net

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Eldon Prybil 11/04) Producer - Iowa City, Iowa Ph: 319-351-6210

Steve Quirk (11/03) Iowa Department of Public Health Ph: 515-281-5099 E-mail: squirk@idph.state.ia.us

Charles Schwab (11/04) Agricultural and Biosystems Engineering Iowa State University Ph: 515-294-4131 E-mail: cvschwab@iastate.edu

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Sam Steel (11/03) National Education Center for Agricultural Safety Ph: 800-621-7615 ext. 2023 E-mail: steels@nicc.cc.ia.us

Jeff Ward (11/04) Iowa Dept. of Agriculture and Land Stewardship Ph: 515-281-8784 E-mail: jward@max.state.ia.us

Wendy Wintersteen (11/03) College of Agriculture Iowa State University Ph: 515-294-1823 E-mail: wwinters@iastate.edu

Appendix E

I-CASH Advisory Council

Rev. Sarai Schnucker Beck (11/03) Ecumenical Ministries of Iowa Ph: 515-255-5905 E-mail: emofiowa@aol.com

Joan Deutmeyer (11/03) AgriHealth-Regional Medical Center Ph: 319-927-7303 E-mail: education@regmedctr.org

Jan Goldsmith (11/04) Governor's Traffic Safety Bureau Ph: 515-281-6583 E-mail: goldsmit@dps.state.ia.us

David Hansen, (11/04) Chairperson Farm Safety 4 Just Kids Ph: 515-758-2827 E-mail: davidlh@netins.net

Charles A. Jennissen, MD (11/04) Pediatric Emergency Medicine/ Blank Childrens Hospital Ph: 515-241-5926 E-mail: jennissen@home.com *Tracy Keninger* (11/04) Easter Seals FaRM Program Ph: 515-289-1933 extension 251 E-mail: tkeninger@eastersealsia.org

Norm Moklestad (11/03) Iowa Dairy Products Association Ph: 515-331-8989

Michael Rosmann (11/03) AgriWellness, Inc. Ph: 712-235-6100 E-mail: agriwellness@fmctc.com

Margaret VanGinkel (11/04) Iowa Concern Hotline Ph: 515-727-0656 E-mail: vangin@iastate.edu

Peter Weyer (11/03) Center for Health Effects of Environmental Contamination - The University of Iowa Ph: 319-335-4550 E-mail: cheec@uiowa.edu

Appendix F

I-CASH Partners and Associates Directory

AgriWellness

1210 7th St., Suite C Harlan, IA 51537 Contact: Mike Rosmann Ph: 712-235-6100 FAX: 712-235-6105 E-mail: agriwellness@fmctc.com

American Lung Association

5601 Douglas Avenue Des Moines, IA 50310 Contact: Kris Schechinger Ph: 800-278-5864 FAX: 515-334-9564 E-mail: kris@iowalung.com

Blank Childrens Hospital

Pediatric Emergency Medicine 1200 Pleasant Street Des Moines, IA 50309 Contact : Charles A. Jennissen, MD Ph : 515-241-5926 E-mail : jennissen@home.com

Center for Health Effects of Environmental Contamination

The University of Iowa 100 Oakdale Campus N202 OH Iowa City, IA 52242-5000 Contact: Peter Weyer Ph: 319-335-4550 FAX: 319-335-4077 E-mail: cheec@uiowa.edu

Ecumenical Ministries of Iowa

3816 36th Street, Suite 202 Des Moines, IA 50310-4722 Contact: Sarai Schnucker Beck Ph: 515-255-5905 FAX: 515-255-1421 E-mail: emofiowa@aol.com

FaRM Program

The Easter Seal Society of Iowa, Inc. P.O. Box 4002 Des Moines, IA 50333-4002 Contact: Tracy Keninger Ph: 515-289-1933 FAX: 515-289-1281 E-mail: tkeninger@eastersealsia.org

Farm Bureau Insurance

5400 University Ave. West Des Moines, IA 50265 Contact: Allen Weller Ph: 515-225-5474 FAX: 515-226-6470 E-mail: aweller@fbfs.com

Farm Safety 4 Just Kids

P.O. Box 458 Earlham, IA 50072 Contact: Marilyn Adams Ph: 515-758-2827 FAX: 515-758-2517 E-mail: fs4jk@netins net

Governor's Traffic Safety Bureau

629 East 2nd Street Des Moines, IA 50319 Contact: Jan Goldsmith Ph: 515-281-6583 FAX: 515-281-6190 E-mail: goldsmit@dps.state.ia.us

Great Plains Center for

Agricultural Health 100 Oakdale Campus 124 IREH The University of Iowa Iowa City, IA 52242-5000 Contact: Risto Rautiainen Ph: 877-611-4971 FAX: 319-335-4225 E-mail: gpcah@mail.public-health.uiowa.edu

Injury Prevention Research Center

100 Oakdale Campus:158 IREH The University of Iowa Iowa City, IA 52242-5000 Contact: John Lundell Ph: 319-335-4458 FAX: 319-335-4631 E-mail: john-lundell@uiowa.edu

Institute for Social and Behavioral Research

Iowa State University 2625 N Loop Dr, Ste 500 Ames, IA 50010 Contact: Katherine Jewsbury Conger Ph: 515-294-4518 FAX: 515-294-3613 E-mail: kconger@iastate.edu

Iowa AgrAbility Project

62 LeBaron Hall Iowa State University Ames, IA 50011 Contact: Mary Yearns Ph: 515-294-8520 FAX: 515-294-1908 E-mail: agrability@exnet.iastate.edu

Iowa Cattlemen's Association

P.O. Box 1490 2055 Ironwood Court Ames, IA 50014 Contact: Joel Brinkmeyer Ph: 515-296-2266 Fax: 515-296-2261

Iowa Cattlemen's Association Farmer Representative

22414 Hedge Avenue Merrill, IA 51038 Contact: Sandra Atkinson Ph: 712-938-2293 E-mail: SKAtknsn@aol.com

Iowa Concern Hotline

10861 Douglas Urbandale, IA 50021 Contact: Margaret Van Ginkel Ph: 515-727-0656 FAX: 515-727-0657 E-mail: vangin@iastate.edu

Iowa Corn Growers Association

424 288th St. Hartford, IA 5011 Contact: Jim Richards Ph: 515-989-0080

Iowa Dairy Products Association

8525 Douglas Ave Ste 37 Urbandale, IA 50322-2929 Contact: Norm Moklestad Ph: 515-331-8989 FAX: 515-331-8972

Iowa Department of Agriculture and Land Stewardship

Henry A. Wallace Building Des Moines, IA 50319 Contact: Brent Halling Ph. 515-281-5323 FAX: 515-281-6236 E-mail: joan.kiernan@idals.state.ia.us

Iowa Department of Public Health

Lucas State Office Building Des Moines, IA 50319 Contact: Roger Chapman Ph. 515-281-6646 FAX: 515-281-4535 E-mail: rchapman@idph.state.ia.us

Iowa FACE Program

100 Oakdale Campus #105 IREH The University of Iowa Iowa City, IA 52242-5000 Ph: 800-513-0998 FAX: 319-335-4225 E-mail: wayne-johnson@uiowa.edu

Iowa Farm Bureau Women

5108 160th Street Sibley, IA 51249 Contact: Marilyn Poppen Ph: 712-754-3083

Iowa Farm Safety Council

207 Davidson Hall Iowa State University Ames, IA 50011-3080 Contact: Steve Freeman Ph: 515-294-9541 FAX: 515-294-1123 E-mail: sfreeman@iastate.edu

Iowa Farmers Union

3190 NW 142nd Ave Polk City, IA 50226 Contact: Aaron Lehman Ph: 800-775-5227 FAX: 515-292-6888 E-mail: alehman@isunet.net

Iowa Pork Producers Association

638 Taylor St. Rudd, IA 50471 Contact: Norman Schmitt Ph: 641-395-2971 FAX: 515-375-2915

Iowa State University Extension

321 Beardshear Hall Iowa State University Ames, IA 50011 Contact: Stanley Johnson Ph: 515-294-6192 FAX: 515-294-4715 E-mail: vpforext@iastate.edu

Iowa-Nebraska Equipment

Dealers Assn. Inc. 1311 50th St. PO Box 65840 West Des Moines, IA 50265-0840 Contact: Andrew Goodman Ph: 515-223-5119 FAX: 515-223-7832 E-mail: andyg@ineda.com

Leopold Center for Sustainable Agriculture

209 Curtiss Hall Iowa State University Ames, IA 50011-1050 Contact: Fred Kirschenmann Ph: 515-294-3711 FAX: 515-294-9696 E-mail: leocenter@iastate.edu

Mutual Insurance Association of Iowa

301 C. Street Apt.2A Toledo, Iowa 52342 Contact: Ken Kolpin Ph: 641-484-2787 E-mail: miai-kdk@pcpartner.net

National Education Center for Agricultural Safety

Northeast Iowa Community College 10250 Sundown Road Peosta, IA 52068 Contact: Charlotte Halverson Ph: 319-556-5110 ext. 374 FAX: 319-557-0353 E-mail: halversc@trinity-health.org

National Safety Council

1121 Spring Lake Drive Itasca, IL 60143 Contact: Sam Steel Ph: 800-621-7615 x 2023 FAX: 630-285-1613 E-mail: steels@nicc.cc.ia.us

Pioneer Hi-Bred International, Inc.

400 Locust Street, Suite 800 Des Moines, IA 50309-2340 Contact: Eric Fogg Ph: 800-247-6803 ext. 6813 FAX: 515-248-4999 E-mail: fogge@phibred.com

Proteus Migrant Health Care Project

P.O. Box 10385 Des Moines, IA 50306-0385 Contact: Terry Meek Ph: 515-244-5694 FAX: 515-244-4166 E-mail: terry_meek@proteusinc.net

Sharing Help Awareness United Network

2672 Mulberry Ave. Corning, IA 50841-8042 Contact: Jeris Petersen Ph: 641-322-4555 FAX: 641-322-3967 E-mail: jpetersen@shaunnetwork.org

The Wellmark Foundation

636 Grand Avenue, Station 150 Des Moines, IA 50309 Contact: Jane Schadle Ph: 515-245-5133 FAX: 515-248-5382 E-mail: schadlejl@wellmark.com