



## Agriculture, Forestry, Fishing, Safety & Health



**NIOSH Agricultural Center Initiative**  
Evaluation Project  
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# **The NIOSH Agricultural Center Initiative**

## **Evaluation Project**

### **Fiscal Year 2008 Report**



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# EXECUTIVE SUMMARY

## NIOSH Agricultural Center Initiative Evaluation Report - FY 2008

### Introduction

The Agricultural Health and Safety Center Initiative began with the development of two Centers in 1990 funded by the National Institute for Occupational Safety and Health (NIOSH). Due to the vast regional differences in agricultural products and practices across the United States, NIOSH chose to add additional Centers roughly corresponding to Public Health Service Regions. In FY 2008, the Initiative consisted of eight Agricultural Centers mandated to undertake research, develop prevention and education programs and provide consultation to constituents across the United States.

The mission of the Initiative is to reduce injury and disease in one of the most hazardous occupations in the United States, agricultural production. This mission is to be accomplished by addressing the following objectives:

1. Conduct research related to the prevention of occupational disease and injury among agricultural producers, workers and their families.
2. Develop, implement and evaluate educational and outreach programs for promoting health and safety for production agriculture/forestry/fishing including farmers, workers and their families. This would include providing consultation and/or training to researchers, health and safety professionals, graduate/professional students, agricultural extension agents and others in a position to improve the health and safety of agricultural workers.
3. Develop, implement and evaluate model programs for the prevention of illness and injury among agricultural producers, workers and their families.
4. Develop linkages and communication with other governmental and non-governmental bodies involved in agricultural health and safety with special emphasis on communications with other agricultural health and safety programs (PAR-06-057).

### Sections of FY 2008 report

The report for fiscal year 2008 is made up of four sections; two are new to this report and were added based upon feedback from the ACE team members:

- A report on Center Initiative accomplishments for FY 2008.
- An aggregate report on Initiative accomplishments from 2005-2008.
- A look at some identifiable trends over the last four years, in particular the differences reflected between the years 2005-2006 and 2007-2008, each of which represents work based upon a different Agricultural Center funding cycle.
- A four year cumulative indexed list of products.

### Background

An external review of the Center Initiative (Kennedy, 1995) recommended that the Centers work together to evaluate their progress. In 1997 the High Plains Intermountain

Center for Agricultural Health and Safety (HICAHS) submitted for funding to begin the Initiative evaluation effort. Representatives from existing Centers attended biannual workshops, hosted by HICAHS, and collaboratively developed an Initiative database and defined indicators of progress on objectives. Reports were produced by the evaluation group for fiscal years 1999, 2000 and 2001.

In the fall of 2004, a new contract, entitled “The NIOSH Agricultural Disease and Injury Research, Education and Prevention Centers Evaluation Project” (#212-2004-09852) was awarded to HICAHS to renew the Agricultural Center collaborative evaluation effort. There were two key evaluation requirements stipulated by the contract. The first was to review and modify the monitoring model developed earlier utilizing the ACCESS™ database. Each Center designated a representative to the Agricultural Center Evaluation (ACE) project and a five month pilot of the revised database was completed and reported on for fiscal year 2005. Reports for fiscal years 2006 and 2007 were published each containing a full year’s worth of Initiative activities, products and projects. The second requirement of the contract was to develop and pilot a cross-site evaluation model to assess the impact of multiple agricultural initiative projects, with similar aims, on the safety and health of agricultural workers and their families. This second requirement was completed and reported on in the FY 2007 report.

In the fall of 2007 NIOSH awarded a fourth year of funding to continue the program monitoring and to explore the feasibility of producing both progress and year-end reports from the ACE database utilized by each Center. In February, 2008 a small subgroup, consisting of NIOSH, the Southwest Center team members and HICAHS met to explore the feasibility of developing forms in ACCESS that would allow Centers to pull up reports by project. Both progress and year-end reports were developed with the required components to respond to NIOSH, including space for the PI to provide an update on specific aims or changes.

### **Initiative accomplishments FY 2008 – Program monitoring**

Eight Centers collected and entered data on 103 projects into a copy of the ACCESS™ database which was forwarded to HICAHS for aggregation and reporting. The number of Centers and projects funded in the fall of 2006 for the 2006-2011 grant cycle was less than in previous years. The FY 2008 Initiative data combines the productivity of all Centers to provide the necessary data to address eleven evaluation questions; three examples of these are presented here and the reader is encouraged to review the full report for responses and discussion related to each of these outcome measures.

- 1. What research projects did the Center Initiative undertake in FY 2008?** Sixty-one research projects were reported that identified a NORA I priority: the top two categories were Special Populations at Risk and Traumatic Injuries.
- 2. What products has the Center Initiative produced in FY 2008?** Center personnel reported producing 280 products including articles, newsletters, DVDs, CDs and informational presentations.
- 3. In which states was the Center Initiative active during FY 2008?** Approximately one half of the 835,427 contacts were nationwide, and the remaining contacts were related to 29 states specifically.

## **Cumulative four year report 2005-2008**

The second section of the report provides a cumulative overview of the work of the Center Initiative for the four fiscal years of 2005 through 2008. The information provides responses to the same evaluation questions and illustrates the accomplishments of Center personnel related to research, outreach, products, and additions to the knowledge base related to agricultural health and safety. For example:

**1. What were the target populations or audience contacts by specific activities of the Center Initiative during FY 2005-2008?**

Over the four year reporting period, over 6,000,000 contacts were made with constituents of the Initiative; of these 605,388 were direct contacts through outreach education, trainings, conferences, workshops, data collection etc.

**2. What special sector activities has the Center initiative undertaken during FYs 2005-2008?**

Over the four year period the largest number of special sector activities targeted migrant workers; the second largest category was ethnic minority workers including Hispanic, African American, Asian, and Native Americans involved in agricultural production.

**3. What was the reported monetary value leveraged by the Center Initiative during FYs 2005-2008?**

Over the four year period the Centers reported leveraging \$3,373,072 dollars. Eleven percent of these were reported as "in-kind" donations, and the remainder reported in actual dollars received to enhance Initiative productivity.

## **Trends observed 2005-2008**

The final reporting section of the 2008 ACE report identifies trends that can be observed over the last four years of funding. It appears clear that some of the observations are related to the stage of the grant cycle, as 2005-2006 represents the end of one funding cycle and 2007-2008 is the beginning of a new five year grant period. For example:

**1. What were the target populations or audience contacts by specific activities of the Center Initiative during FYs 2005 through 2008?**

The response to this question appears to reflect the stage in the grant cycle the Centers were in, as well as perhaps differences between ending a cycle and beginning a new one. At the end of the 2001-2006 cycle, (reported for 2005-2006) the Initiative reported a greater concentration of conference activities and material development, and over 400,000 direct contacts. Perhaps reflecting the new cycle which began in FY 2007 (reported for 2007-2008), there were 152,000 direct contacts reported, with a precipitous drop in outreach education efforts.

**2. For what professional degrees did the Center Initiative provide education in FYs 2005 through 2008?**

There appears to be a clear trend downward in the number of professional degrees awarded from 2005-2006 to 2007-2008. The Center Initiative reported 62 professional degrees in the early period and 25 in the most recent 2 years. The number of internships remained very consistent over the two time frames.

Again, the reader is encouraged to see the full report for information on additional trends observed.

## **Discussion**

The 2008 fiscal year report represents the work and accomplishments of the staff, collaborators, and partners of the eight reporting Agricultural Centers undertaking research, prevention and education on behalf of those working in agricultural occupations across the United States. The report, for the first time, also includes a cumulative summary report and a look at some interesting trends over the last four fiscal years during which the ACE project was consistently funded.

Of particular note in fiscal year 2008 is that NIOSH provided financial support to each of the seven fully funded participating Centers to acknowledge the time and effort that individual team members put into the ACE data collection process. This support had been recommended by the ACE team for several years, and the Centers are most appreciative of the funding provided.

The Centers which make up the Agricultural Initiative provided data in the ACCESS™ database to HICAHS for aggregation. A number of limitations to this monitoring process are presented in the report and represent some of the methodological limitations of all multisite evaluation efforts. It is also important to note that the Centers are cognizant of and have participated in the nationwide effort related to developing NORA II and a sector approach to occupational disease and injury. Current projects were funded under NORA I, but the transition to NORA II can be made relatively easily; the process has already been piloted by several Centers.

## **Recommendations and conclusions**

The ACE team has now completed one 5 month pilot and three full years of program monitoring under the current funding cycle. The results presented in the report describe a range of activities across diverse AgFF regions of the country by fiscal year, cumulatively over the last four years and begins to identify trends perhaps linked to the stages in the funding cycles during which the data was collected.

The primary recommendation to NIOSH is to continue to support a collaborative approach to evaluation of the Agricultural Centers effort. External evaluation reviews of the Center Initiative were conducted in 1995 (Kennedy) and 2007 (NAS); both of these external evaluations have encouraged the Centers to work together with NIOSH to approach the evaluation need collaboratively.

A second is based upon experience with cross-center outcome assessment efforts. Once projects are funded it is difficult to backup and collect meaningful outcome data, as the design and measures are often quite different. If NIOSH seeks to support multiple Center opportunities, the planning for evaluation must be part of the proposal process.

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# **Evaluation Report NIOSH Agricultural Center Initiative Fiscal Year (FY) 2008**

## **Introduction**

The Agricultural Health and Safety Center Initiative in FY 2008 consisted of eight Centers funded by the National Institute of Occupational Safety and Health (NIOSH) to undertake research, develop and evaluate prevention programs and develop and evaluate education programs as well as provide consultation and outreach across the ten Public Health Service regions of the United States. The mission of these Centers is to reduce injury and disease in one of the most hazardous industries in the United States, agricultural production. More recently NORA has defined the sector to include Agriculture, Forestry, and Fishing (AgFF). The most recent statistics for this industry sector are for 2007 and reflect a fatality rate of 27.3 per 100,000 employed. The nonfatal injuries and illnesses for AgFF were reported at a rate of 5.4 cases per 100 full time workers (CFOI and BLS). These statistics are both significantly higher than the national average for all workers, with a fatality rate of 3.7 (per 100,000 employed) and nonfatal injury and illness of 4.2 per 100 full time workers. It is important to note that the latter statistic does not reflect farm operations with fewer than 11 employees, yet small family farms account for approximately 90 percent of the farms in the U.S (USDA:ERS, 2005). The locations, full Center titles, and primary contacts of each of these Centers are identified on the map presented on the inside front cover of this report.

In the fall of 2004 NIOSH funded an evaluation contract to undertake both an accountability (program monitoring) and outcomes assessment evaluation on the Center Initiative. In January 2006, the first evaluation report was published including both a pilot accountability evaluation, representing five months of accomplishments during fiscal year 2005, and the plan proposed to evaluate outcomes on cross Center projects. Reports for fiscal year 2006 and 2007 both included a full fiscal year of program monitoring data and a summary of the cross-Center projects selected for outcomes assessment. Additional funding, provided by NIOSH, has allowed this evaluation effort to continue for fiscal year 2008.

## **Outline of the fiscal year 2008 report**

The report for fiscal year 2008 consists of four sections. Two sections are new this year and have been added based upon feedback from ACE team members. The report contains the following sections:

- A report of Center Initiative accomplishments for FY 2008.
- An aggregate report on Initiative accomplishments from 2005-2008.
- A look at identifiable trends over the last four years, highlighting differences between the years 2005-06 and 2007-08, each of which represents work based upon different Agricultural Center funding cycles.
- A four year cumulative indexed list of products.

## Background

In 1990 the National Institute of Occupational Safety and Health (NIOSH) began an Initiative to address one of the most hazardous and long ignored occupations in the nation, that of agricultural production. Due to the vast regional differences in products and practices across the country, NIOSH chose to fund the development of multiple Centers roughly corresponding to Public Health Service regions. As a cooperative agreement, the Centers and NIOSH address the objectives of the Agricultural Center Health and Safety Initiative which are to:

1. Conduct research related to the prevention of occupational disease and injury among agricultural producers, workers and their families.
2. Develop, implement and evaluate educational and outreach programs for promoting health and safety for production agriculture including farmers, workers and their families. This would include providing consultation and/or training to researchers, health and safety professionals, graduate/professional students, and agricultural extension agents and others in a position to improve the health and safety of agricultural workers.
3. Develop, implement and evaluate model programs for the prevention of illness and injury among agricultural producers, workers and their families.
4. Develop linkages and communication with other governmental and non-governmental bodies involved in agricultural health and safety with special emphasis on communications with other agricultural health and safety programs. (PAR-06-057)

Two external evaluations of the Center Initiative, the 1995 Kennedy Report and 2007 National Academy of Sciences report, have encouraged the Centers to work together to develop a cross-site evaluation of the Center Initiative. In response to these recommendations, a collaborative multisite evaluation design of the Center Initiative was proposed by the High Plains Intermountain Center for Agricultural Health and Safety (HICAHS) and NIOSH agreed to fund workshops to develop the evaluation approach in 1997. Over the next three years, a team of representatives from each Center and NIOSH developed a program monitoring approach to Initiative accountability. A six month pilot of the evaluation was completed for fiscal year 1999, with a report issued in early 2000. Centers continued to gather data based upon the indicators and variables selected and defined by the evaluation team for two full years, with reports issued for fiscal years 2000 and 2001. There was a funding hiatus for Initiative evaluation after completion of the FY 2001 report.

In the fall of 2004, a new evaluation contract was awarded to the High Plains Intermountain Center for Agricultural Health and Safety (HICAHS: V. Buchan & H. Holmquist-Johnson, #212-2004-09852) renewing the Agricultural Center Initiative evaluation effort. Each Center designated a representative to become a member of the collaborative Agricultural Center Evaluation Team (ACE), and workshops were held in January and June of 2005. Annual workshops have been held each year since.

There were two key requirements to be addressed; the first was to ensure continuation of Ag Center Initiative evaluation process. The monitoring model that had been developed for 2000 and 2001 reports was reviewed, and modifications as well as additions were made to the variables to be included and to the definitions of those variables. The second requirement was to develop and pilot a model for evaluating the impact of some of the currently funded Agricultural Initiative projects on the safety and health of agricultural workers and their families.

## **Methodology**

### ***Program monitoring***

The aim of this evaluation project is to document Initiative progress on the NIOSH objectives for the Agricultural Centers. The contract objectives related to this model and addressed by the Center evaluators during the 2005 and 2006 workshops included:

- Review current/existing program monitoring strategies
- Recommend modification as necessary for the database used by each Center to collect data and forward to HICAHS

The model, program monitoring, provides a picture of the scope, reach, and intensity of Initiative work across the nation. A monitoring approach to evaluation of the Initiative provides “administrative intelligence,” that is, access to the information improves Initiative and Center planning, enhances collaboration opportunities, addresses accountability and helps set the stage for targeted outcome assessment (Rossi, Freeman & Lipsey, 2004).

After the first workshop (January, 2005) and based upon the recommendations of the ACE team, the lead Center revised both the Access<sup>TM</sup> database and the definitions of the key variables or indicators. A copy of the new database was then forwarded to each team member to enable data collection at their Center during May 1, 2005 through September 30, 2005. After this pilot period eight of the ten Centers collected data, and revisions were made to the database which has since been used for FY 2006, 2007 and this current report on FY 2008. Centers, utilizing various methods of data collection on projects, enter and forward that data to HICAHS for collation into an Initiative database; HICAHS then provides data analysis and reports on the work of the Initiative for the most recent fiscal year.

<b>IDENTIFYING INFORMATION</b>					
<b>Center Name</b>	<b>Project Title and Description</b>	<b>Center/Project Objective</b>	<b>PI or Project Contact Person</b>	<b>Project Dates</b>	
<b>KEY INDICATORS</b>					
<b>Type of Agriculture</b>	<b>Contact Numbers</b>	<b>Activities</b>	<b>Academic Degrees</b>	<b>Products</b>	<b>Audience Demographics</b>
<b>Collaboration</b>	<b>Leveraging</b>	<b>Regionalization</b>	<b>Special Sector</b>		
<b>NIOSH SPECIFIC INDICATORS</b>					
<b>Core</b>	<b>NORA</b>		<b>Research to Practice</b>		
<b>Administrative and Planning</b>	<b>Priority Research Area (for Research)</b>		<b>Research to:</b>		
<b>Education and Outreach</b>	<b>Disease and Injury</b>		<b>Intervention and Education</b>		
<b>Multi-Disciplinary Research</b>	<b>Work Environment and Workforce</b>		<b>Research</b>		
<b>Prevention-Intervention</b>	<b>Research Tools and Approaches</b>		<b>Field Use</b>		
			<b>Policy</b>		
			<b>Academia</b>		
			<b>Evaluation</b>		
			<b>Technical Assistance</b>		
			<b>Surveillance</b>		

**Figure 1. Database Overview**

***The ACE database and National Academy of Sciences (NAS) review of NIOSH***

In April of 2006, a number of ACE team members and Center Directors had the opportunity to meet in Washington, D.C. during the first NORA II conference. At that time, we met with Dr. Roy Fleming to discuss the Agricultural Center Initiative’s response to the data requirements of the National Academy of Sciences (NAS) Evaluation review of NIOSH. As the Centers already had a defined database, we were able to provide Dr. Fleming with a model of evaluation data collection for the review period (1996-2006).

***Challenges***

The success of any evaluation is greatly increased if it is “built in” from the beginning of program planning (Rossi, Freeman & Lipsey, 2004). The original NIOSH Center Initiative objectives included the need to evaluate individual projects within each Center, but lacked a clear agenda to address the Initiative as whole until the resurrection of the Evaluation Project contract in 2004. Another challenge is caused by the great variance between the Centers’ approaches to fulfilling NIOSH objectives due to differences in auspices, resources, expertise and regional agriculture.

An additional challenge to both program monitoring and the cross site impact assessment efforts are Center personnel changes. The lead Center has incorporated updates and abbreviated training on the ACCESS database into each workshop, but it is clear that personnel changes, while unavoidable in a large Initiative, impact data collection and reporting. Initiative evaluation efforts are enhanced when there is stability in the personnel identified at each Center responsible for both data collection and ACE team membership.

A final challenge has been the lack of stable funding to support Initiative wide evaluation. Funding has been somewhat sporadic beginning with the first Workshop in 1997, with a hiatus between 1998 and 1999, and then again between January, 2002 and September 2004, when a three-year contract was announced and awarded. The ACE team has made remarkable progress in spite of these challenges in their efforts to present a national vision of the accomplishments of the Agricultural Center Initiative.

### ***Limitations of program monitoring***

Multisite evaluation efforts present methodological limitations for a number of reasons: the most difficult of these limitations is that they are usually begun “after the fact.” The Center Initiative had been in existence for seven years prior to working collaboratively, and each Center had developed its own methods of project evaluation and reporting format. The only logical approach therefore was to involve all the Centers, and form a collaborative team approach to developing the evaluation model and implementations procedures.

Both the reliability and validity of the data collected and forwarded to HICAHS are impacted by a number of limitations, key among these are personnel changes, and with those changes alterations in data collection procedures. It takes time to train ACE team members on both how to collect data on Center projects and how to enter it into the ACCESS database. They in turn need to work with their own Center principal investigators to provide the necessary data per project funded. Our experience indicates that each time there are personnel changes either on Center projects or with ACE team participation, the potential exists for the Center to lose both data and reliability related to that data. Personnel changes are clearly unavoidable, but it is important to acknowledge the limitations that accompany such events.

Part of the responsibility of the lead Center is to increase reliability by data editing as each team member forwards their Center data, a step which provides the opportunity to check back with team members to verify or correct information collected. Several additional limitations were operant during fiscal year 2008 and may help explain the overall reduction in activities, products and other indicators reported.

1. During fiscal year 2008 seven Centers were fully funded, the eighth participated without support from NIOSH.
2. The National Children’s Center for rural and Agricultural Health and Safety that had participated previously, responds to different requirements and a different funding cycle, and chose not to submit data to the ACE project for this fiscal year.

## ***Acknowledgements***

### NIOSH as a collaborative partner

The importance of the NIOSH role as a federal collaborative partner in this process cannot be overemphasized. First, NIOSH has provided administrative personnel to assist the Center evaluators; these contacts have been supportive and very helpful in assisting the evaluators and HICAHS with suggestions, definitions and updates from NIOSH. NIOSH has also provided three important concepts that continue to assist the evaluation effort. The first framework is provided by the Initiative objectives to which the Centers are to respond based upon each Center's region and expertise. The second is the National Occupational Research Agenda (NORA I) which provides a categorization scheme for all Initiative research projects. NORA has since been under major review and reformulation in the development of NORA II, to which the evaluation project will adjust. The third and most recent indicator has been the "r2p" (Research to Practice) concept; which the team has defined with the assistance of NIOSH.

### Center representatives

The staff at the lead Center would like to express our deep appreciation to each current and past member of the ACE team (current members are listed on the inside back cover) for their time, travel, ideas and efforts related to the Agricultural Health and Safety Center Initiative evaluation project. Members of the team have volunteered for assignments related to helping with the database, editing the reports and numerous other additional duties that have enhanced the team's accomplishments. This report is only possible because of a truly dedicated and collaborative team.

## Program Monitoring Questions

### 1. What were the target populations or audience contacts by specific activities by the Center Initiative during FY 2008?

The mission of the Agricultural Center Initiative is met in a number of ways. The activities of the Initiative are presented below and divided into two types of contact:

- Direct (active) contact with constituents (Table 1); and
- Product distribution (passive) contact with constituents (Table 2).

Both tables present approximate numbers, as Center personnel vary in specificity of reporting data; however, they are presented as an indicator of the work of the Centers with multiple target groups.

**Table 1. Initiative activities directly involving constituents**

ACTIVITY TYPE	CONTACTS
Material Distribution	89,686
Outreach Education	5,177
Data Collection	4,099
Training	3,214
Exhibit	1,673
Conference – Arrange or Sponsor	1,256
Conference – Present	1,108
Professional Presentation	965
Project Development/Planning	553
Stakeholder Meeting	311
Workshop – Arrange	268
Professional Development	169
Resource Cultivation	165
Testing/Screening	120
Academic Lecture/Education	112
Workshop – Present	94
Conference – Attend	92
Material Development	56
Consultations	55
Workshop – Attend	21
Response to Stakeholder	20
Curriculum Development	1
<b>TOTAL</b>	<b>109,215</b>

Table 2 presents indirect stakeholder contacts via material distribution, such as publications or newspaper articles (reported by circulation) and newsletters (reported by distribution lists). A primary objective of the Center Initiative is to translate information gained from research, intervention and evaluation projects to persons working and living in agricultural settings. According to previously conducted needs assessments, these



methods of communication have been the most requested by persons employed in agriculture, due to ease of access.

**Table 2. Initiative product distribution frequency**

<b>PRODUCT TYPE</b>	<b>FREQUENCY</b>
Article Published, feature (trade publication)	383,400
Media Interview	300,000
Website hits or Webpage Established	18,765
Newsletter	8,426
Article Published, professional (juried publication)	7,000
CD-ROM	6,000
Brochure	3,900
Booklet	3,125
Questionnaire or Survey Instrument	3,031
Book	2,200
Poster	1,550
PowerPoint Presentation (for distribution)	1,045
Manuscript	400
Course Manual	155
Abstract	150
Report (unpublished)	145
Fact Sheet	110
Annual Report to NIOSH	77
Database	32
Evaluation Instrument / Tool	20
Thesis or Dissertation	20
<b>TOTAL</b>	<b>739,551</b>

**2. What were the target groups of the Center Initiative work during FY 2008?**

The Agricultural Center Initiative had a broad range of target groups for projects and products during fiscal year 2008. As illustrated in Table 3 below, the vast majority of efforts were targeting either agriculture in general or more than one group within the agricultural community. The large numbers in Table 3 represent dissemination of information and corroborate the contact numbers. The groups include a number of key constituent groups that assist with dissemination of Center work, such as health professionals, manufacturers, Cooperative Extension agents and educators.

**Table 3. Agricultural Center Target Groups by frequency**

<b>TARGET GROUP</b>	<b>CONTACTS</b>
Agricultural – Farm/Ranch/Horticulture	366,476
General Public	300,431
Migrant Seasonal Farmworker	86,254
Academic Faculty	31,229
Multiple/Various Target	22,586
Agricultural Owner/operator	9,410
Agriculture (General)	7,315
Agricultural Employees	4,494
Researchers	2,634
Health Professionals	2,518
Agricultural Producer	1,906
Farm Families	1,375
Children/Students secondary school	1,216
Agricultural Services	850
Teachers/Educators	689
NIOSH/Ag Centers	658
Students – College/University	472
Children/Students primary school	421
Community Based Organizations	243
Farmworker Health Advocate	235
Agricultural – Fishing/Hunting	205
Federal Agencies	202
Advisory Committee	193
Agricultural Business	179
Agricultural – Forestry	170
Cooperative Extension	158
State Agencies	140
High School Principals	52
Media/Marketing Agents	20
Teachers	15
Advocacy Groups	10
Parents	8
Public Health Agencies	3
<b>TOTAL</b>	<b>842,767</b>

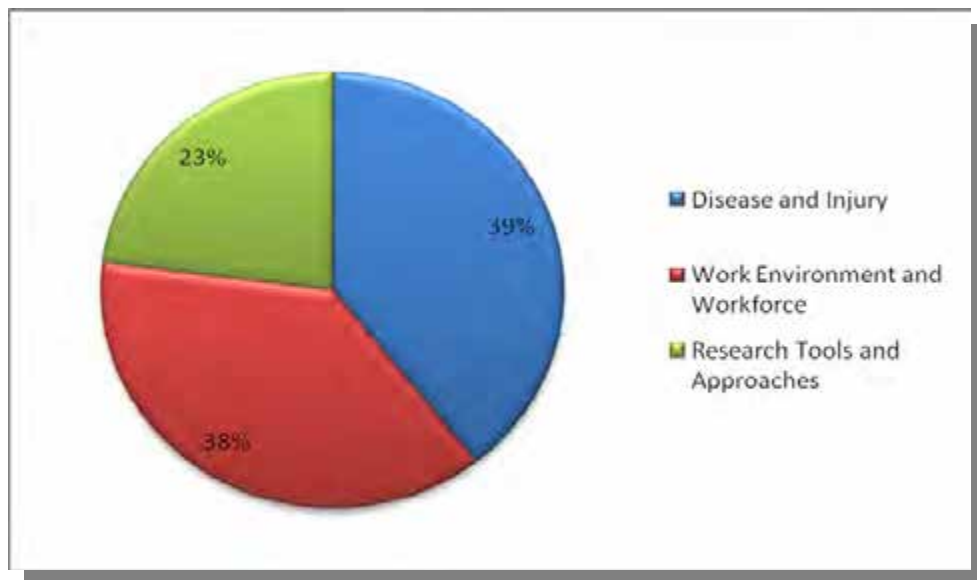
**3. What research projects did the Center Initiative undertake in FY 2008? By NORA research priority?**

Of the 103 reported Center projects, 61 projects are reported according to the priority research areas under NORA I. It is recognized that NORA is in the process of changing to the sector-based research agendas. The subcategory with the most projects was Special Populations at Risk; similar to FY 2007 and FY 2006.

Table 4 presents an overview of the projects by NORA priority; specific project titles are listed in the appendix under the Research Core heading.

**Table 4. Center Initiative Research Projects by NORA priority**

Category	Priority Research Areas	Projects
Disease and Injury	Allergic and Irritant Dermatitis	4
	Asthma and Chronic Obstructive Pulmonary Disease	
	Fertility and Pregnancy Abnormalities	
	Hearing Loss	
	Infectious Diseases	2
	Low Back Disorders	1
	Musculoskeletal Disorders of the Upper Extremities	1
	Traumatic Injuries	16
Work Environment and Workforce	Emerging Technologies	1
	Indoor Environment	22
	Mixed Exposures	
	Organization of Work	
	Special Populations at Risk	
Research Tools and Approaches	Cancer Research Methods	1
	Control Technology and Personal Protective Equipment	
	Exposure Assessments Methods	2
	Health Services Research	1
	Intervention Effectiveness Research	5
	Risk Assessment Methods	2
	Social and Economic Consequences of Workplace Illness and Injury	3
	Surveillance Research Methods	



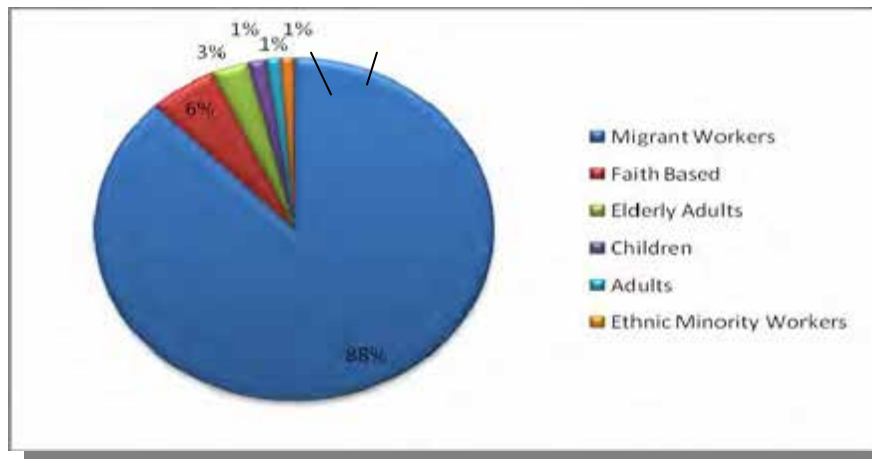
**Figure 2. Research Projects by NORA Category**

**4. What special sector activities has the Center Initiative undertaken during FY 2008?**

The Center Initiative continues to focus on activities related to special sector populations as illustrated in Table 5. It is clear that the collective Centers made a concerted effort to undertake research and provide information, education and services for a variety of ethnic groups working in agricultural production. The vast majority of reported special sector activities targeted Hispanic migrant workers. Where it is possible to break down the Center work into more specific subgroups, we have done so. Where no specific ethnicity or age group is noted, the demographic information is not provided.

**Table 5. Initiative Projects reporting Special Sector target groups by frequency**

SPECIAL SECTOR	FREQUENCY
Migrant Workers	
Hispanic	88,280
Faith Based	5,606
Elderly Adults	
Hispanic	3,000
Children	
White/Non-Hispanic	290
Hispanic	1,094
African American	1
Adults	
Hispanic	274
Native American	984
African American	8
Ethnic Minority Workers	
Hispanic	609
Asian	75
Jamaican	33
No Ethnicity Noted	321
<b>TOTAL</b>	<b>100,575</b>



**Figure 3. Special Sector target groups by percent**

## 5. What products has the Center Initiative produced in FY 2008?

A total of 280 products were reported as having been developed during the 2008 monitoring period. In reviewing the list of products it is clear that the majority of products reflect efforts to disseminate information or educational materials to a variety of audiences. Table 6 lists the product categories, frequencies and percents of each type. Products with specific titles are listed in the appendix by type of product. If a product is available in a language other than English the language is indicated in the appendix.

**Table 6. Center Initiative products by category, frequency and percent**

PRODUCT COUNT	FREQUENCY	%
Article, Professional	59	21
PowerPoint Presentation (for distribution)	31	11
Posters	27	10
Manuscript	22	8
Article, Feature	16	6
Newsletters	15	5
Questionnaire or survey instrument	14	5
Report to NIOSH	13	5
Abstracts	12	4
Report (unpublished)	12	4
Video/DVD	9	3
Website	7	3
Databases	6	2
Booklets	6	2
Theses/Dissertations	6	2
Fact Sheets	5	2
CD-ROMs	3	1
Brochures	2	<1
PowerPoint Presentation	1	<1
Evaluation instrument/tool	1	<1
Book	1	<1
Exhibit Materials	1	<1
Curriculum (short course)	1	<1
Course Manual	1	<1
Annual Report	1	<1

## 6. What collaborative efforts have occurred during FY 2008?

A total of 366 collaborative efforts were reported by the Initiative this past year. These efforts are related to activities and/or products as well as Center projects. Table 7 presents the types of collaborators, illustrating the remarkable range of partnerships that the Center Initiative fosters and maintains to address the Center mission. While both NIOSH and other Agricultural Centers are identified as partners, it is important to point out the number of collaborators outside of the Initiative.

**Table 7. Center Collaborations by organizational type and frequency**

ORGANIZATIONAL TYPE	FREQUENCY
University, academic department	53
Health Care Provider/Organization	47
Agricultural Centers (other than own)	42
Cooperative Extension	33
University, academic research center	26
Agricultural Organizations	22
Governmental Agency (other)	20
School(s)	19
University, institute or internal organization	19
Community Organization	18
NIOSH	13
Multiple types – non-specific	10
Producer/Grower	9
Equipment Dealer	5
Labor / Employee Organization	5
Research organization	5
Agribusiness	5
Health Department	4
Media	4
Technical, Trade or Professional Association	3
Agricultural Organizations (focus on children)	2
Trade Association	1
Insurance Company	1

**7. For what degrees and professional disciplines did the Center Initiative provide education during FY 2008?**

There were 14 professional degrees which included an agricultural health and safety component granted during fiscal year 2008. Five doctoral degrees were awarded in Agricultural Safety and Health. There were five master’s degrees awarded, three in Public Health, one in Environmental Health, and one in Industrial Hygiene. Finally, there was one medical residency awarded in Environmental Health. Three bachelor’s degrees were awarded in: Health Education, Nursing, and Agricultural Science. In addition the Center Initiative helped provide internships for 15 students in these same disciplines.

**8. What was the reported monetary value leveraged by the Center Initiative (in dollars and in-kind support) during FY 2008?**

The amount of dollars reported as leveraged by the various Initiative projects increased slightly compared to FY 2007. The total dollar value reported this year was \$490,147, and the in-kind dollar equivalent was equal to \$139,300 for a total of \$629,447.

**9. In which states was Center Initiative active during FY2008?**

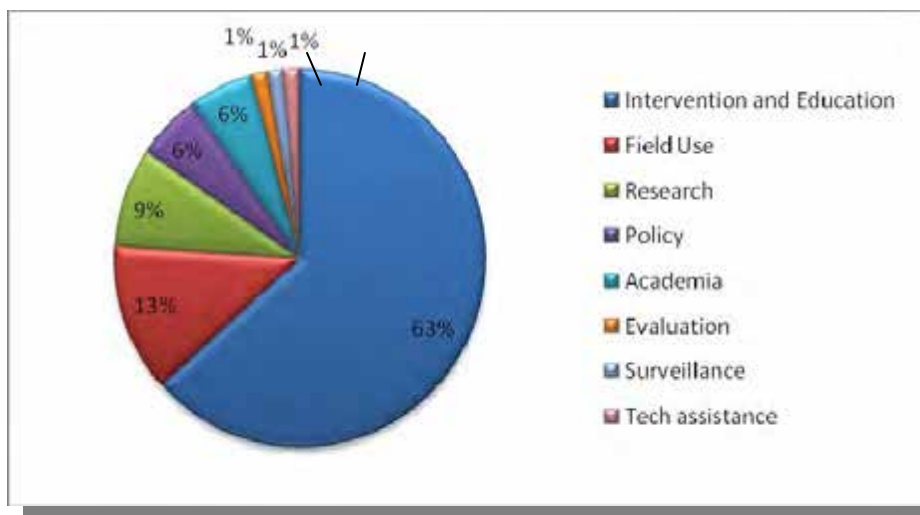
The Agricultural Initiative reported over 835,427 contacts in 29 states, across the U.S. and internationally in 2008. Over half of the contacts (482,681) were reported as impacting the nation as a whole rather than a specific state. These national contacts involve educational efforts such as articles and newsletters, which explains the broader nationwide impact. The reported contacts are further defined by the type of contact activity in Tables 1 and 2 above. The intensity of contacts in states varies considerably, with the highest levels of state reported activity correlated with proximity to the location of each Center.

**10. What types of agriculture were addressed nationwide by Center projects?**

Of the 103 projects reported during 2008, 54 projects (52%) were identified as being related to a particular type of agriculture. Of those projects reporting a type of agriculture, 17 indicated that they covered all agriculture or various types. For example, educational efforts with children could cover multiple types of agriculture. Also of interest, there were 7 projects addressing dairy cattle and milk production.

**11. What research to practice (r2p) accomplishments were undertaken during FY2008?**

Research to practice (r2p) is defined as research findings or products that are accepted and used by Center target audiences. With the assistance of NIOSH, the ACE team defined eight categories of this concept that illustrate various methods of moving Initiative projects into use by others. Out of 103 total Agricultural Center projects 71 projects, or 69% of all projects, were designated as having r2p impact. Figure 4 below illustrates the percent of each of the r2p categories reported by the Centers. It is clear that the concept developed by NIOSH to emphasize the importance of translating study results into practice has been incorporated by the personnel of the Agricultural Initiative.



**Figure 4. Research to Practice categories of Center projects by percent**

## Summary Data for Fiscal Years 2005, 2006, 2007 & 2008

### Introduction

Prior to presenting the cumulative data based upon the Agricultural Center Initiative's work over the past four years it is important to note three issues which have affected the evaluation effort. First, not all Centers consistently reported data to HICAHS during these years. There are a variety of reasons that a few Centers did not participate in ACE each of the four years, key among them is a lack of clear expectation from NIOSH and in the case of the National Children's Center a difference between the legislation and objectives that they respond to and the objectives of the other Centers.

A second reason is that only six Centers were refunded in the fall of 2006 for the full five year cycle, thus the number of projects and associated work reported was impacted. An additional Center was refunded in the fall of 2007 bringing the total to seven (plus the National Children's Center which has a different funding mandate and source) and two Centers received bridge funding that year. No new Centers were added in 2008 and bridge funding was not available.

**Table 8. Centers funded and providing data 2004-2008**

Fiscal Year	Funding Cycle 1				Funding Cycle 2			
	2005		2006		2007		2008	
	Funded	Data	Funded	Data	Funded	Data	Funded	Data
Great Lakes Center	√	√	B	√	B	√	⊘	⊘
Great Plains Center	√	√	√	√	√	⊘	√	√
HICAHS	√	√	B	√	√	√	√	√
Northeast Center	√	√	√	√	√	√	√	√
PNASH Center	√	√	√	√	√	√	√	√
Southeast Center	√	√	√	√	√	√	√	√
Southern Coastal Center	√	√	B	√	B	√	⊘	√
Southwest Center	√	√	√	√	√	√	√	√
Western Center	√	√	√	√	√	√	√	√
*Children's Center	√	√	√	√	√	⊘	√	⊘

Notes: \* The National Children's Center for Rural and Agricultural Health and Safety responds to different legislation and objectives and has chosen not to submit data the last two years.

√ = Yes ⊘ = No B = Bridge funding to assist Center to reapply for full Center status



Table 8 above illustrates the Centers funding status and data base reporting to ACE by fiscal year over the last four years. The table illustrates the end of one five year funding cycle (2001-2006) and the beginning of a second (2007-2011). It is also important to reiterate, that the evaluation project itself was refunded by contract in the fall of 2004 for a three year period, covering two years, 2005-2006, at the end of an Agricultural Center funding cycle (2001-2006). The project was then renewed for two additional years (2007-2008) which allowed the team to gather data for the first two years of a new funding cycle 2007-2011.

### Four Year Summaries by Evaluation Questions

The responses to each of the key evaluation questions listed below are based upon four year overall frequencies or percents of the data reported yearly. The same limitations that apply to each individual year’s Center Initiative report are applicable to this overview. It is difficult to assess the additional impact of the changes in each Center’s status, but we continue to believe that the measurement errors related to these limitations reflect “under” rather than “over” reporting of Center work.

#### 1. What were the primary target populations or audience contacts by specific activities of the Center Initiative during fiscal years 2005 through 2008?

As indicated earlier in this report, there are two ways of responding to this question, direct constituent contact and indirect through product distribution. Over the four year period, a total of 6.1 million contacts were reported by the Agricultural Center initiative, slightly more than 600,000 of these were by direct contact. Figure 6 below, presents the primary methods of direct contacts made with constituents.

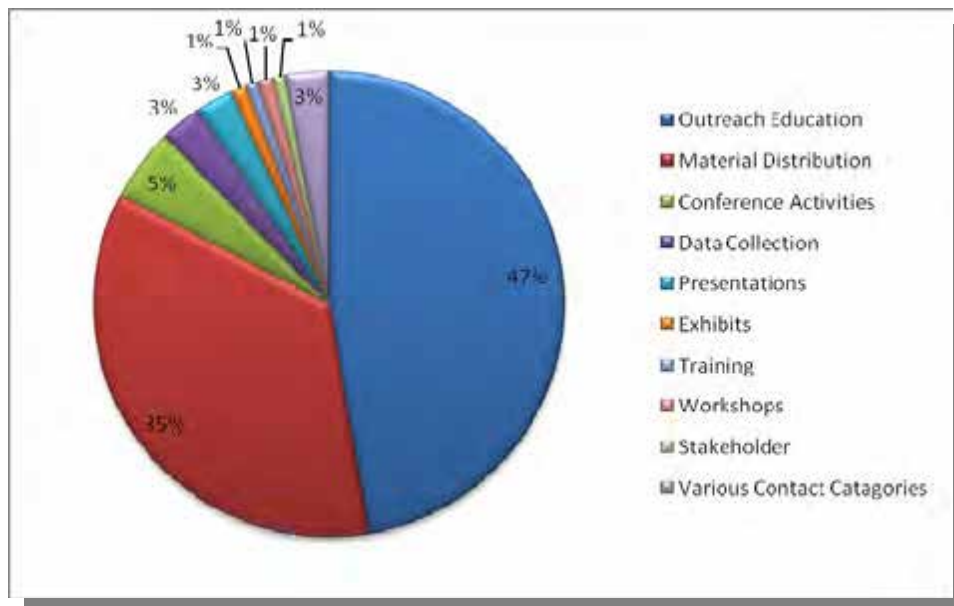
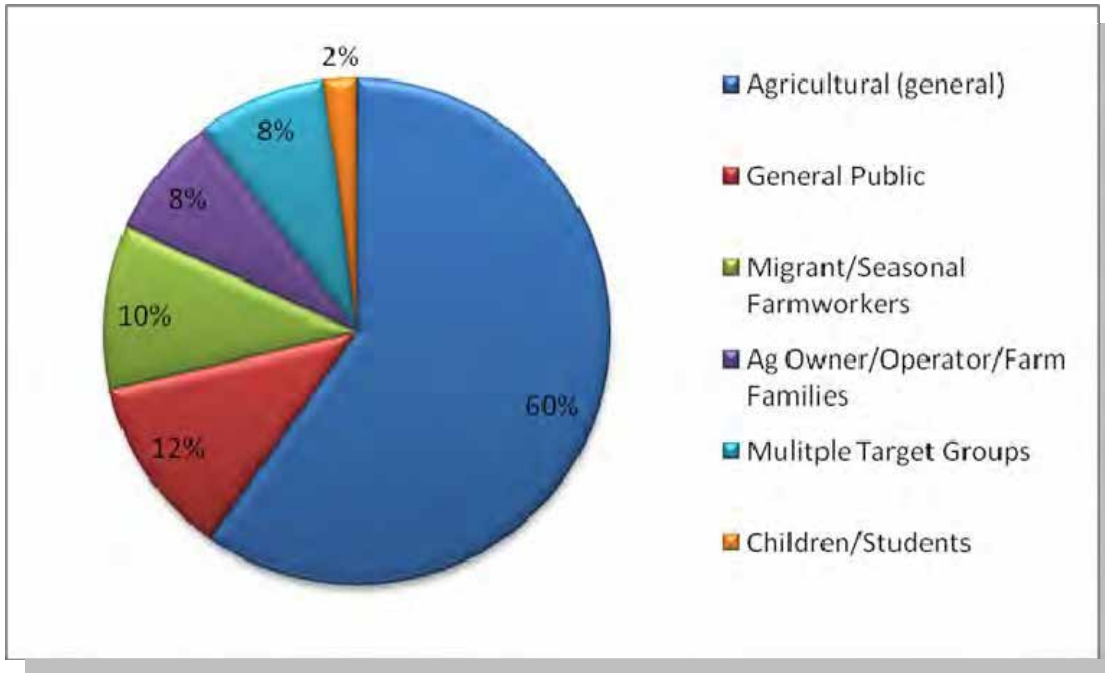


Figure 5. Cumulative direct contacts

**2. What were the primary target groups of Center Initiative work between fiscal years 2005 through 2008?**

The primary target group of Initiative work was very logically general agriculture, followed by the general public (via media and public service announcements). These largest groups indicate that much of the Initiative’s work was appropriate for more than one specific type of agriculture, and secondly that the Centers sought to raise awareness of agricultural health and safety issues both within and outside of direct producers. The next two largest contact groups were migrant-seasonal farm workers and agricultural producers (a category including owners, operators and farm families).



**Figure 6. Cumulative primary target groups of center project activities**

**3. How many research projects by NORA category did the Center Initiative undertake in fiscal years 2005 through 2008?**

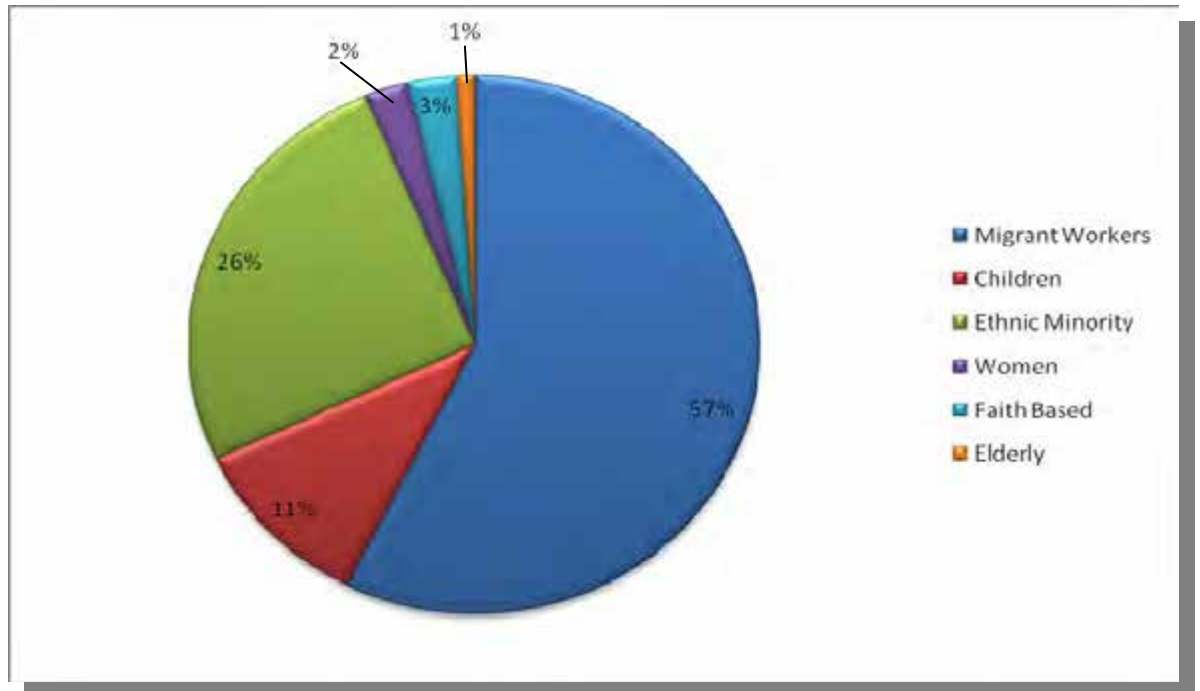
There were a total of 214 research projects over the four year period undertaken by Initiative personnel; the majority of these projects were identified with the Work Environment and Workforce NORA category. The second largest category was Disease and Injury, followed by Research Tools and Approaches. Table 9 illustrates the research topics by major and subcategories of NORA.

**Table 9. Center initiative research projects by NORA priority by fiscal year**

Category	Priority Research Areas	2005	2006	2007	2008
Disease and Injury	Allergic and Irritant Dermatitis				
	Asthma and COPD	8	4	4	4
	Fertility and Pregnancy Abnormalities				
	Hearing Loss	1	2	1	2
	Infectious Diseases				1
	Low Back Disorders			1	
	Musculoskeletal Disorders/Upper		2	1	1
	Traumatic Injuries	9	12	3	16
Work Environment and Workforce	Emerging Technologies	2	3	1	1
	Indoor Environment				
	Mixed Exposures			1	
	Organization of Work				
	Special Populations at Risk	18	18	12	22
Research Tools and Approaches	Cancer Research Methods		1		
	Control Technology and PPE	1	1	1	1
	Exposure Assessments Methods	5	4	3	2
	Health Services Research		2		1
	Intervention Effectiveness Research	13	8	1	5
	Risk Assessment Methods	3	1		2
	Social and Economic Consequences of Workplace Illness and Injury				
	Surveillance Research Methods	2	2	2	3

**4. What special sector activities has the Center Initiative accomplished between fiscal years 2005 and 2008?**

Figure 8 below presents a cumulative overview of the special sector groups targeted by initiative activity. Out of over one million contacts with those groups identified as special sector (note: revised NORA is now defining as “vulnerable populations”) 57% were related to migrant labor.



**Figure 7. Cumulative special sector groups targeted by initiative activity**

**5. What products has the Center Initiative produced during the four years between 2005 and 2008?**

One thousand-eighty six products were developed by Initiative personnel over the four year period. Table 10 illustrates the major categories of products by type; the largest of these categories was articles in professional journals 17.6 %, followed by manuscripts and reports, both of which help disseminate the research accomplished by Center personnel to colleagues and help add to the knowledge base related to occupational injury and disease in the AgFF sector.

A list of all products developed over the four years can be found in the appendices of this report under the cumulative products index tab. The products are indexed by type of product, such as training materials, information booklets etc. Those products which are available in English and more than one language are identified and the Center where it was developed is also listed.

**Table 10. Cumulative center initiative products**

<b>Products</b>	<b>Frequency</b>	<b>Product Percentage</b>
Articles, Professional	193	17.6
Manuscripts/Reports	149	13.6
Power Point Presentations	98	9.0
Research Instruments	93	8.5
Articles, Feature	86	8.0
Posters	86	8.0
Newsletters/Articles	69	6.3
Booklets/Factsheets		
Brochures	63	5.7
Abstracts	55	5.0
Exhibit Material	44	4.0
Websites	36	3.3
Video/DVD/CD	34	3.1
Curricular Materials	32	3.0
Databases	27	2.4
Books/Thesis/Dissertations	21	1.9

**6. What collaborative efforts have Center personnel undertaken over the four years between fiscal years 2005 through 2008?**

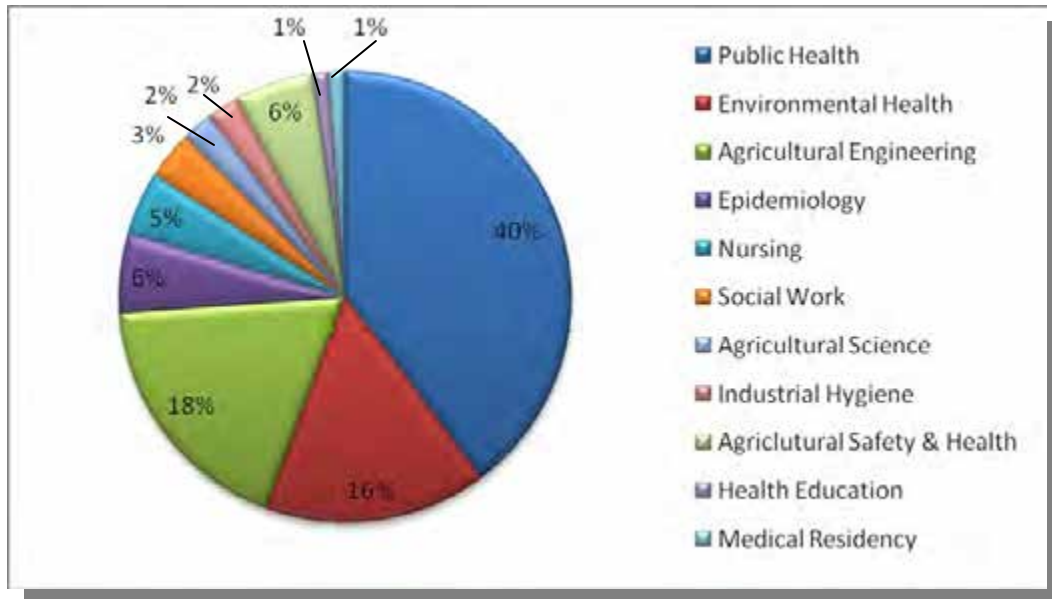
Collaboration is a key component of enabling Initiative work to be accomplished; collaborators range from other academic personnel and institutes to assist with various aspects of the research process, to agricultural organizations, workers, health care providers, schools and agricultural service industry. The top five collaborator groups over the four year period were academic departments or institutes, health care providers or organizations, government agencies (local, state or federal), other Center personnel, schools and cooperative extension.

**Table 11. Cumulative frequency and percent of collaborations by type**

<b>Organizational Type</b>	<b>Frequency</b>	<b>Percentage</b>
Academic disciplines/departments	415	16
University centers/institutes	317	12.2
Health care provider/organization	302	11.7
Governmental Agency	271	10.4
Agricultural Centers (other than own)	195	7.5
Cooperative Extension	192	7.4
Schools	191	7.4
Agricultural Organizations	159	6.1
Community Organizations	133	5.1
NIOSH	70	2.7
Media	69	2.6
Producer/grower	60	2.3
Labor/Employee Organization	54	2.1
Health Department	44	1.7
Multiple/non-specific	36	1.4
Agribusiness	22	.8
Research Organization	20	.8
Trade Association	19	.7
Equipment Dealers	11	.4
Insurance Companies	9	.3

**7. For what degrees and professional disciplines did the Center Initiative provide education in the years 2005 through 2008?**

Over the four year period 87 professional degrees (doctoral, masters, and associates) were awarded and 29 internships were accomplished. The degrees were in diverse fields including nursing, industrial hygiene, engineering, agricultural sciences, public health and each student's discipline was addressing some aspect of AgFF disease and/or injury.



**Figure 8. Cumulative degrees awarded by disciplinary fields**

**8. What was the reported monetary value leveraged by the Center Initiative (in dollars and in-kind support) between 2005 and 2008?**

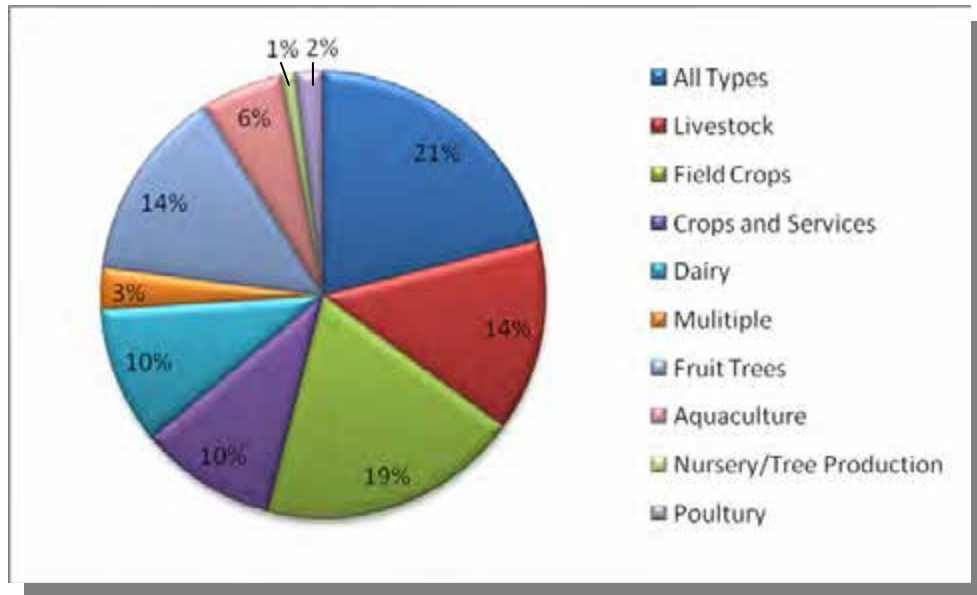
A total of \$3,373,072 dollars was leveraged by the Initiative over the four year period. Almost 3 million of these were in actual dollars (\$2,996,408 or 88.8%) the remaining 11.1% or \$376,664, was received as in-kind support.

**9. In which states was the Center Initiative active during fiscal years 2005 through 2008?**

The Center Initiative was active in all 50 states and a number of foreign countries over the last four years. The location and states identified as the responsibility of each Center helps make sure that the diversity of agricultural production across the U.S. is addressed. While there are some commodity commonalities, the topography, climate and soil varies tremendously across the states, and impact the selection of the most appropriate products by region. The contacts with researchers in other countries assists the Centers in developing new approaches to health and safety, or to research possibilities based upon experiences of others. An example of that sharing is the experience of several Nordic countries related to the use of policy to require ROPS and the resulting drastic reduction in tractor roll-over fatalities.

**10. What types of agriculture were addressed nationwide by Center projects during fiscal years 2005 through 2008?**

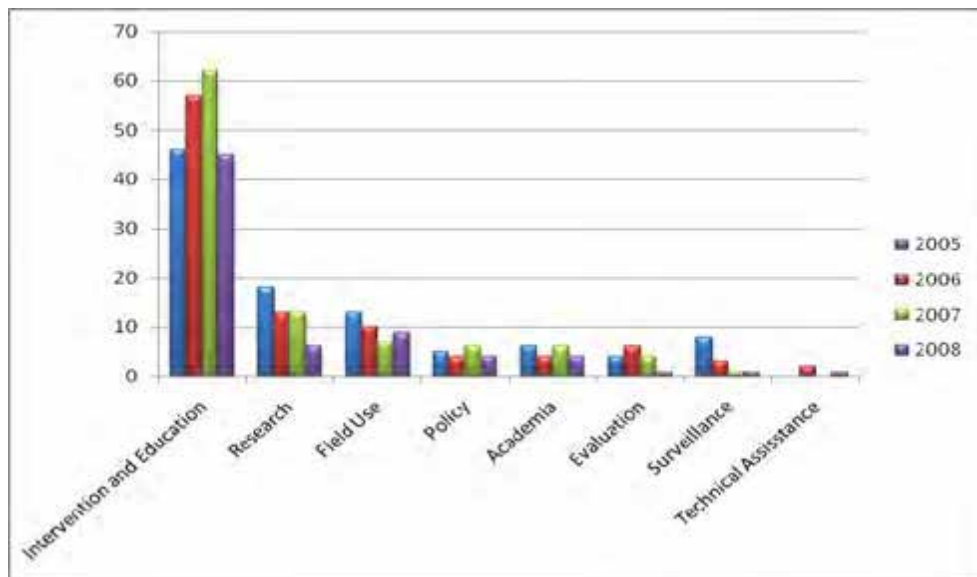
A number of Initiative projects addressed multiple types of agriculture, such as those addressing tractor or ROPS safety issues, or ergonomics related to the use of farm machinery. The other large categories relate to field crops, crop services and livestock.



**Figure 9. Cumulative types of agriculture**

**11. What types of research-to-practice (r2p) activities were accomplished by Center personnel between fiscal years 2005 and 2008?**

There are some clear patterns illustrated in Figure 10 related to the categories of r2p that Initiative work has addressed over the four year period. By far the greatest number of funded projects provide intervention or educational applications; this identification indicates that projects have outcomes related to agricultural occupational health that are directly applicable to target groups. In response to NIOSH's delineation of the goal of r2p, moving Initiative research and development into the worksite to reduce occupational disease and injury, the personnel of the Center Initiative have responded enthusiastically.



**Figure 10. Research to practice activities by type**



## Trends Observed Over Four Year Period 2005-2008

The ACE team has now collected data over a four year period: 2005 was a pilot year with only 5 months of data collection; 2006, 2007 and 2008 each included a full 12 months of data collection. The important trends that can begin to be addressed appear to relate to stages in the Agricultural Center Initiative funding cycle; 2005-2006 were at the end of a five year funding cycle, 2007 and 2008 are at the beginning of the next five year cycle which ends in 2011. Again, it is important to reiterate the limitations of cross-cycle observations, as illustrated in Table 7, the number and location of Centers funded changed both within and between funding cycles, as did the Centers providing data to the ACE process.

Data and discussion will be presented by the same outcome monitoring evaluation questions utilized for FY 2008 and for the cumulative report presented earlier.

### 1. Are there observations related to the target populations or audience contacts by specific activities from 2005-2008?

Reporting first on direct (active) contacts with constituents, several patterns emerge. At the end of the 2001-2006 cycle Centers recorded a greater concentration of conference arranging and attendance and outreach education efforts.

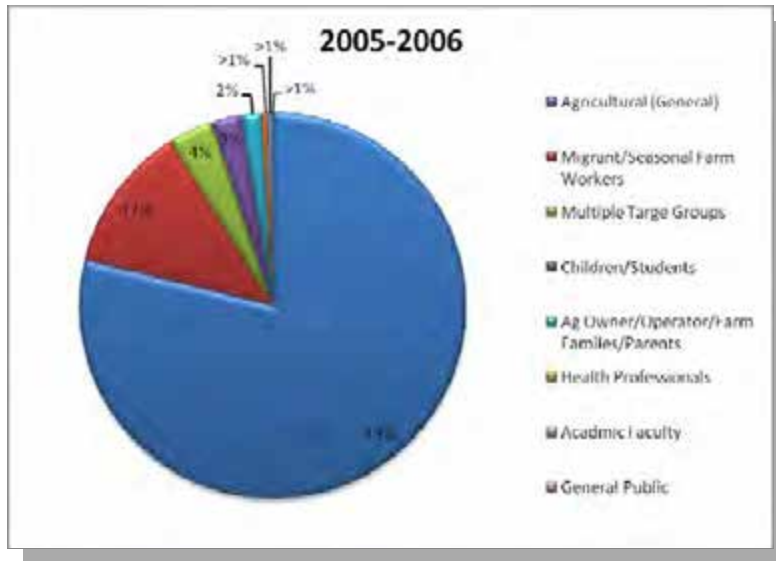
**Table 12. Frequency of direct and indirect constituency contacts by cycle with examples**

	2005 - 2006	2007 - 2008
<b>Direct Contacts</b>	452,667	152,721
<b>Subcategories</b>		
Outreach Education	278,184	8,268
Conferences	25,082	5,521
<b>Indirect Contacts</b>	4,144,177	1,388,751
<b>Subcategories</b>		
Trade Articles	2,966,850	893,020
Newsletters	359,639	10,676

Overall direct contacts dropped from a total of 452,667 at the end of the 2006 cycle to 152,721 at the beginning of the 2011 cycle. Outreach education efforts in the new cycle illustrates a precipitous drop. Indirect contacts accomplished through product distribution also dropped by a 4:1 ratio. At the end of a cycle it is clear that a lot of effort is expended to disseminate results of completed projects. How much more of this drop in activity is related to the reduced number of Centers funded and how much is due to the normal activities of getting new projects up and running is unclear without following a full cycle.

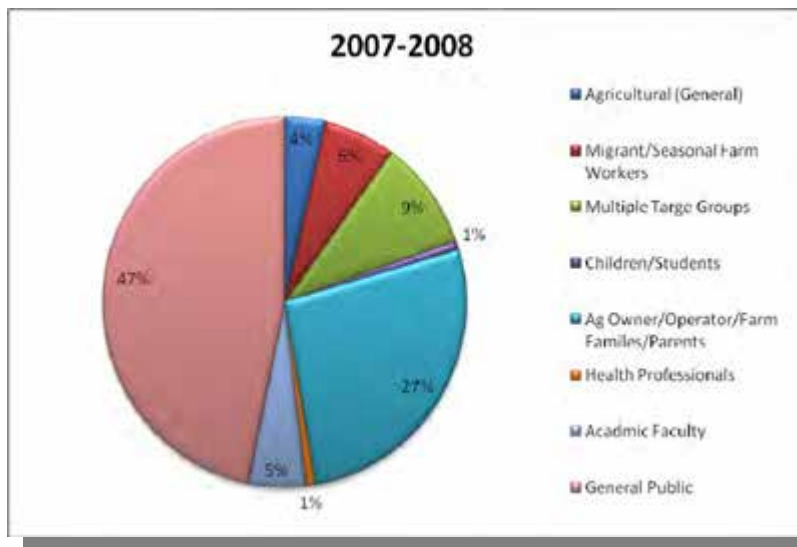
### 2. Are there observed trends in the target groups of the Center Initiative work from 2005 through 2008?

The Initiative reports more work in the new cycle with the fishing industry and less work with forestry, although the percents in each category are too small to graph.



**Figure 11. Target groups of initiative activity 2005-2006**

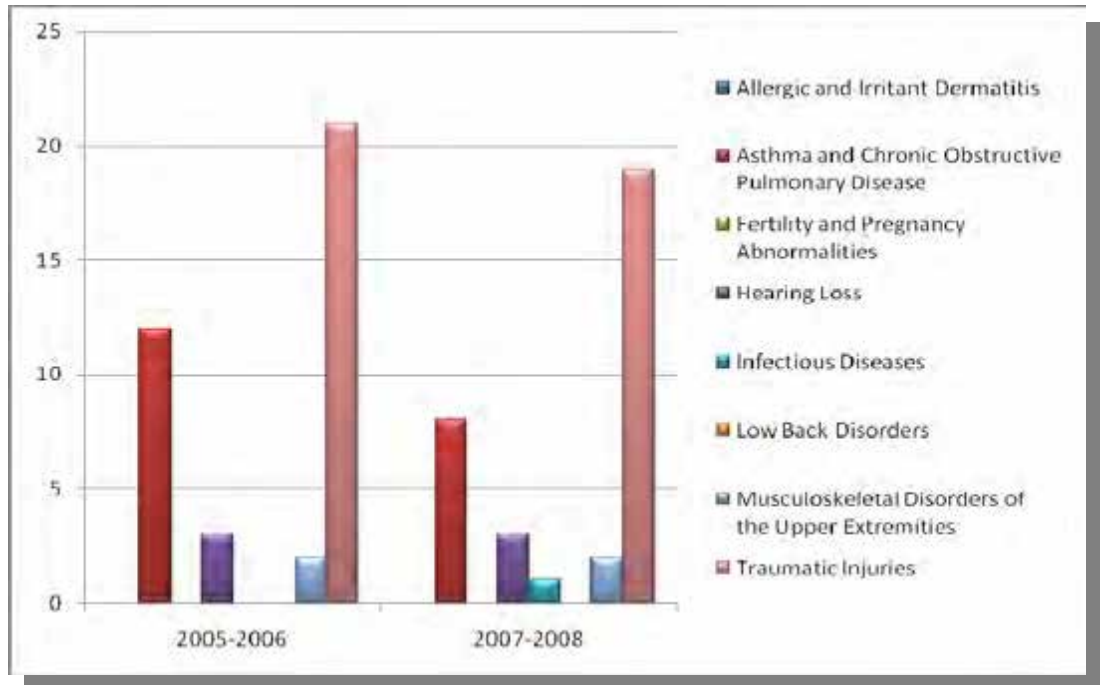
There appears to be a large increase in work with owner/operators/families involved in agricultural production and in the general public category (2% to 27% and .04% to 47% respectively) and a decrease in work under general agriculture. Initiative work on behalf of target groups within the special population (vulnerable) categories continues in the new cycle to focus on migrant workers (12% to 6%), although the percent has dropped.



**Figure 12. Target groups of initiative activity 2007-2008**

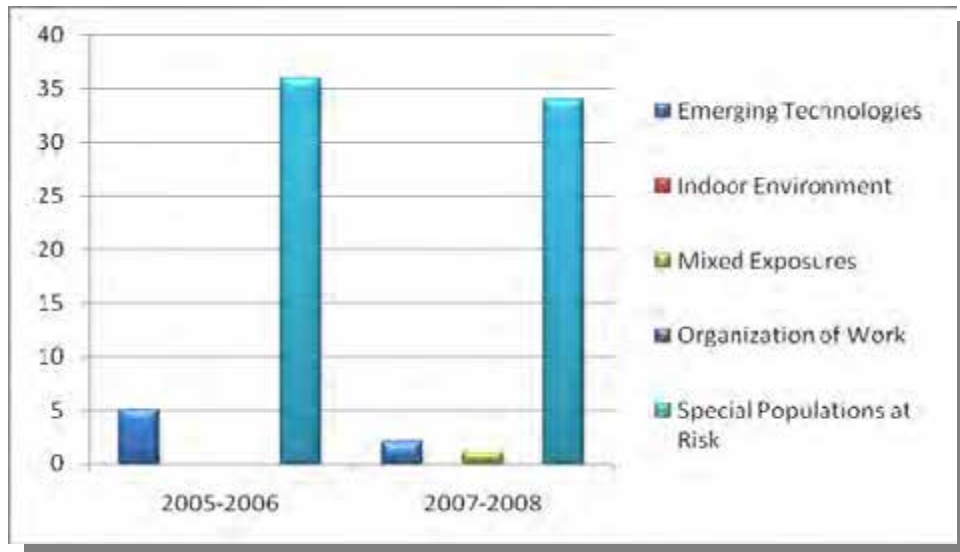
**3. Are there differences in research projects funded during 2005-2006 versus 2007-2008 by NORA I category?**

Figures 13, 14 and 15 below provide an overview of research projects by major NORA I category undertaken in both cycles.



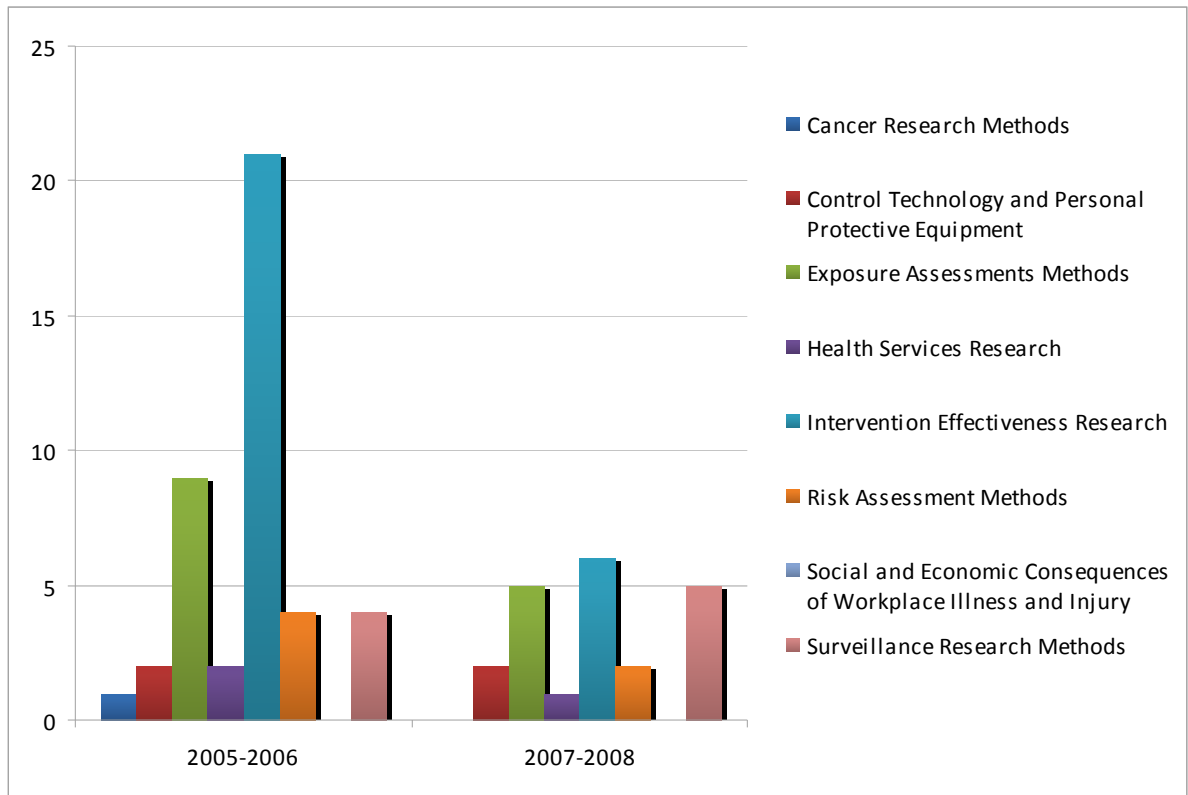
**Figure 13. Research projects in disease and injury by NORA I subcategories across cycles**

The most notable trend is a drop in the number of funded research projects from the last to the current cycle; an average of 61 per year to 46 per year including pilot projects. In the Disease and Injury category, projects on asthma and COPD and traumatic injury have remained consistently the highest in number.



**Figure 14. Research projects in work environment & workforce by NORA I subcategories across cycles**

In the Work Environment and Workforce category, the focus in both cycles has remained on special/vulnerable populations.

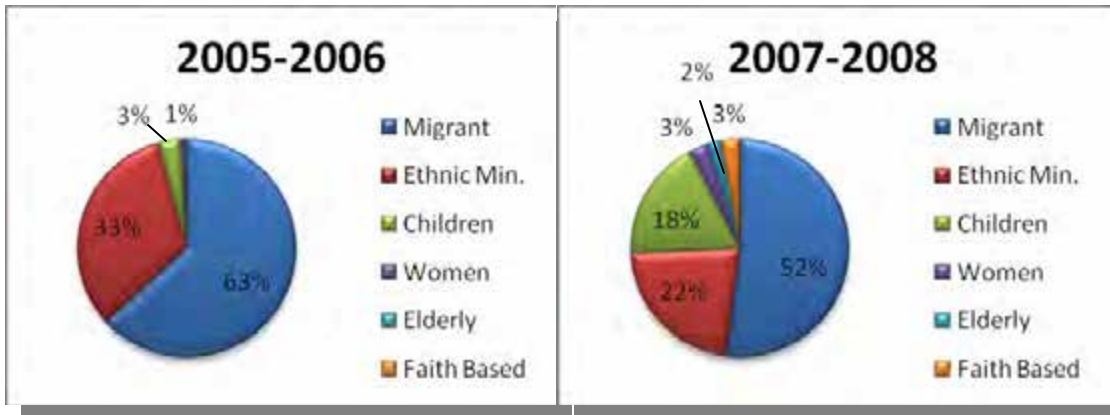


**Figure 15. Research projects in research tools & approaches by NORA subcategories across cycles**

In Research Tools and Approaches, exposure assessment and intervention effectiveness have fewer projects, control technology remains low and no cancer research method projects were reported in the new funding cycle. The only NORA I subcategory with an increase in the new cycle is surveillance.

**4. Are there observable trends in special sector activities identifiable between the end of 2006 cycle and the first two years of the 2007-2011 cycle?**

The most notable change between cycles is the drop in activities with all constituents; this drop is reflected with special/vulnerable populations also. In the last two years of the 2006 cycle special sector activities equaled almost 1 million contacts (992,024); in the new cycle this number dropped to 106,960.

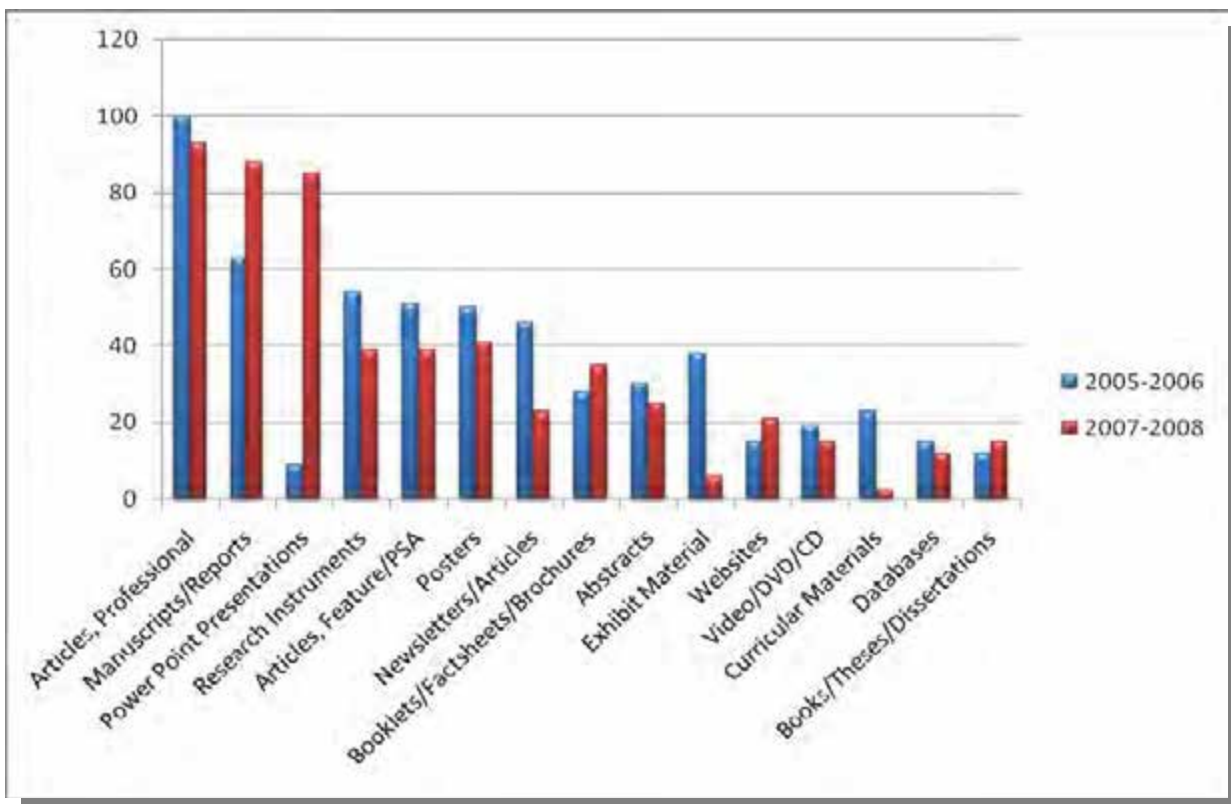


**Figure16. Special sector activities by funding cycle**

In the piechart for 2005-2006 two categories (Faith Based & Elderly) represent less than 1% and are not illustrated.

**5. Are there changes in the types of products reported over a funding cycle change?**

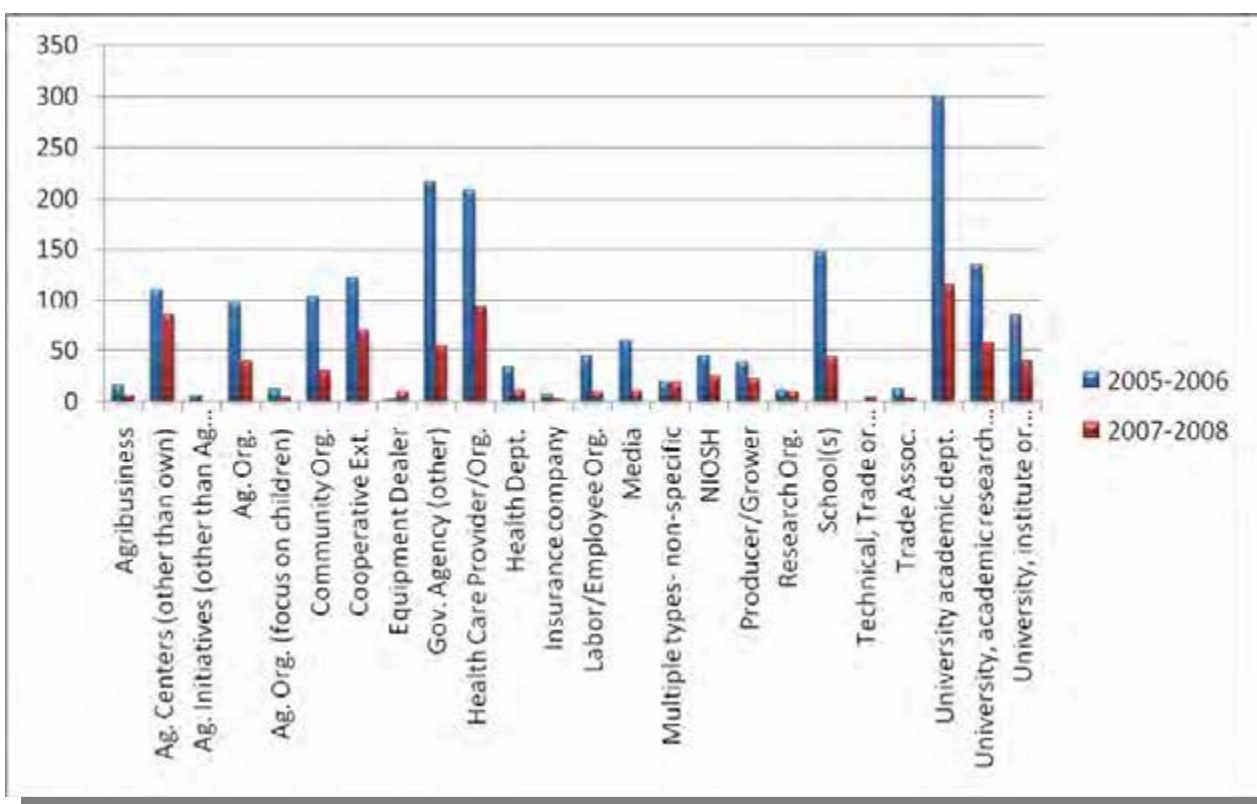
The change in products reported in Figure 17 appears to fit with the earlier activities reported at the end of the 2006 cycle more exhibit materials, curricular materials and newsletters were tallied. In the beginning of the current cycle reports, power points and websites seem to be the preferred method of information exchange.



**Figure 17. Types of products by funding cycle**

**6. Have there been changes in patterns of collaboration between 2006 cycle and 2011 cycle?**

An interesting pattern seems to emerge from a review of reported collaborations over the last four years. First, it is clear that collaborative efforts overall were much higher in 2005 and 2006. It appears that collaborative efforts were at their highest in the year before the end of the 2006 funding cycle. Even though this year was reporting on only 5 months as a pilot of the new ACE database, reported collaborations were the highest of all four years. It is quite feasible that part of these reported efforts were related to developing relationships as Centers prepared to submit applications for the next five year cycle. This potential explanation can only be tested by reviewing the data of the current cycle in year four. In the new cycle there are fewer reported collaborations in every category, with the most dramatic drops related to agricultural organizations, other government agencies, health care providers, schools and other academic disciplines.

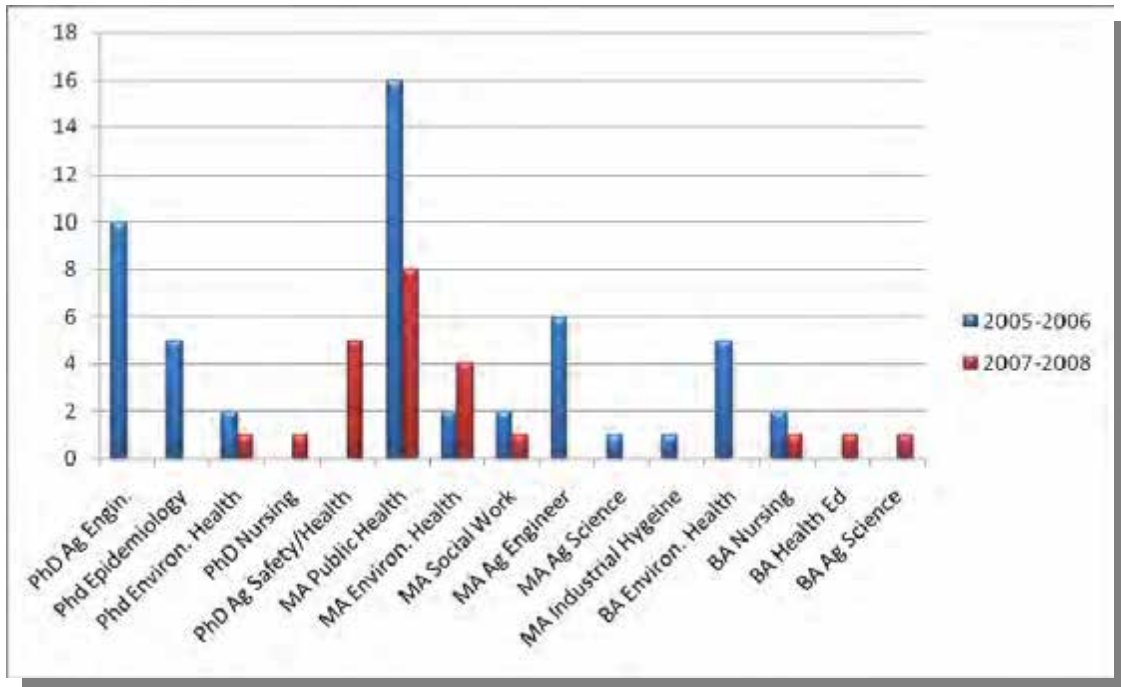


**Figure 18. Patterns of collaboration by cycle**

**7. Are there changes in the degrees or professional disciplines that the Center Initiative supported between the end of one cycle and the beginning of the next?**

In fiscal years 2005 and 2006, sixty-two professional degrees were awarded by the Center Initiative; since the beginning of the next funding cycle, twenty-five degrees have been awarded.

Figure 19 below illustrates the degrees and fields offered in each of the two year periods reported.



**Figure 19. Degrees and fields awarded by cycle**

Degrees in agricultural engineering and epidemiology were not reported by any Center in the new funding cycle, and fewer PhD's have been awarded in the past two years with the exception of PhDs in Agricultural Health and Safety. If the number of Centers and projects have dropped, it is possible the number of degrees awarded may also drop in the current funding cycle.

**8. Are there differences in the reported monetary value leveraged by the Center Initiative from the end of one cycle to the beginning of the next?**

Table 13 illustrates that the Center initiative reported leveraging a little over 2 ½ times the dollars at the end of 2006 cycle, versus the beginning of the 2011 cycle. However, the in-kind dollars reported in the new cycle was almost twice the old cycle. Overall leveraging dropped by more than one-half from the end of the old cycle to the beginning of the current cycle.

**Table 13. Dollars and In-Kind donations reported by funding cycle**

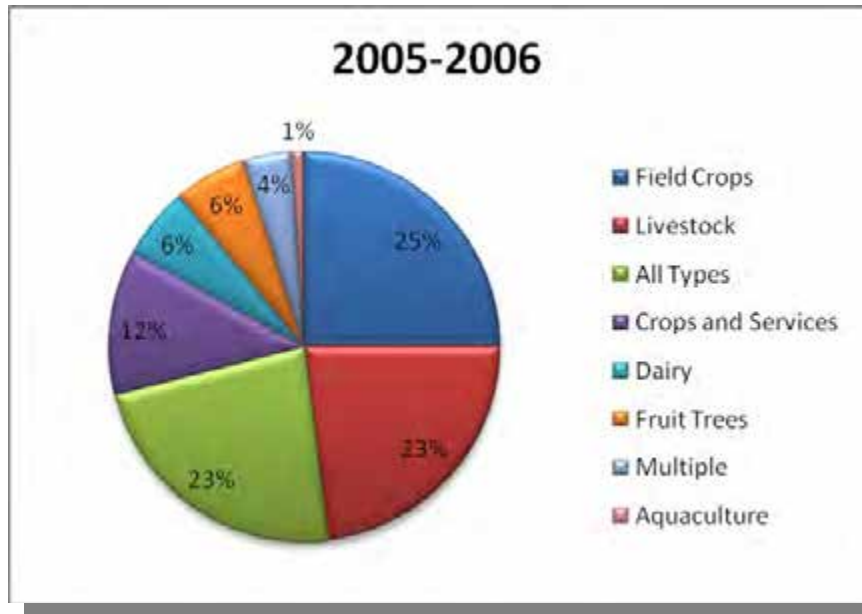
Funding Cycle	2005-2006	Percentage of Total	2007-2008	Percentage of Total
Dollars	\$2,185,661	82	\$810,747	76
In-kind	\$ 127,264	18	\$249,400	24
<b>Total</b>	<b>\$2,312,925</b>		<b>\$1,060,147</b>	

**9. Are there trends observed in the states served over the four year reporting period?**

The Center Initiative continues to provide services, research and outreach to all fifty states over both funding cycles. The changes that occur relate more to which states gain the majority of Initiative activities which is highly dependent upon the currently funded Centers. The Centers are placed roughly based upon Federal Public Health Service Regions across the nation, and when a Center ceases to be funded, the states in the region they were serving lose contacts and activities. Primarily because of budget and travel constraints, those states contiguous to an existing Center are logically reported to receive more research, outreach and educational services. However, over the two cycles a number of projects report activities applicable to nationwide audiences; for example educational materials developed related to tractor training, or first responder training for agricultural incidents. Please refer to the inside front cover for current Center locations.

**10. What trends are observed in the types of agriculture addressed by Center Projects over 2005-2008?**

Figures 20 & 21 below presents the types of agriculture by percent targeted by the Center Initiative at the end of 2001-2006 cycle and at the beginning of the 2007-2011 cycle. While projects targeting multiple types of agriculture remain fairly consistent over the two periods (23% to 20%), projects addressing both livestock (23% to 5%) and field crops (25% to 11%) have decreased and projects addressing fruit trees (6% to 22%), dairy (6% to 15%) and aquaculture (1% to 11%) have increased.



**Figure 20. Types of agriculture addressed by initiative projects 2005-2006**



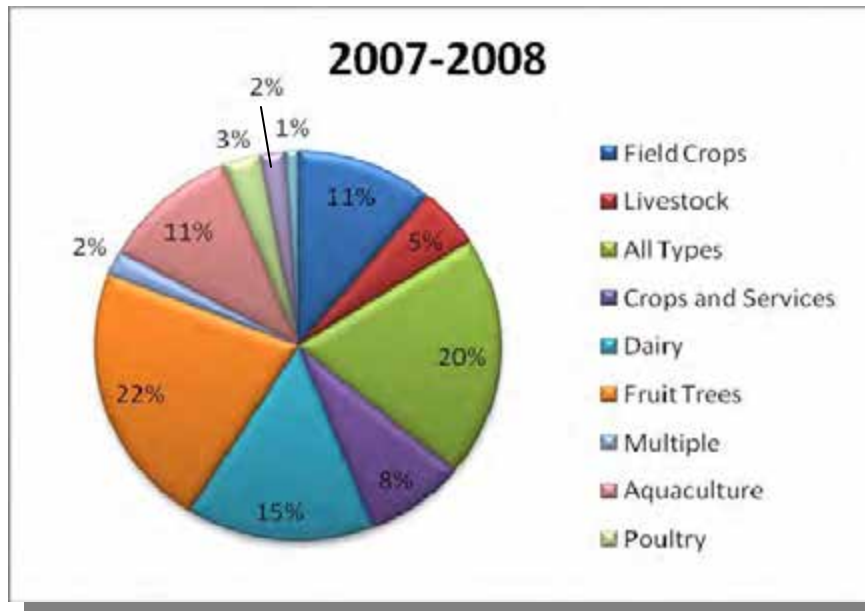


Figure 21. Types of agriculture addressed by initiative projects 2007-2008

**11. Are there identifiable trends in the categories of r2p related to Initiative work over the four years?**

As illustrated in Figure 22, there appears to be consistency in the research to practice activities across the four year period. As anticipated, the greatest number of r2p activities (56.9%) over all four years relate to the Intervention and Education category and the fewest are reported as falling within the Technical Assistance category with 2 reported in 2006 and 1 in 2008. Research to practice is reduced in both the Research and the Field Use categories in the current funding cycle which may reflect both reductions in numbers of projects and the time frame within the life of the projects.

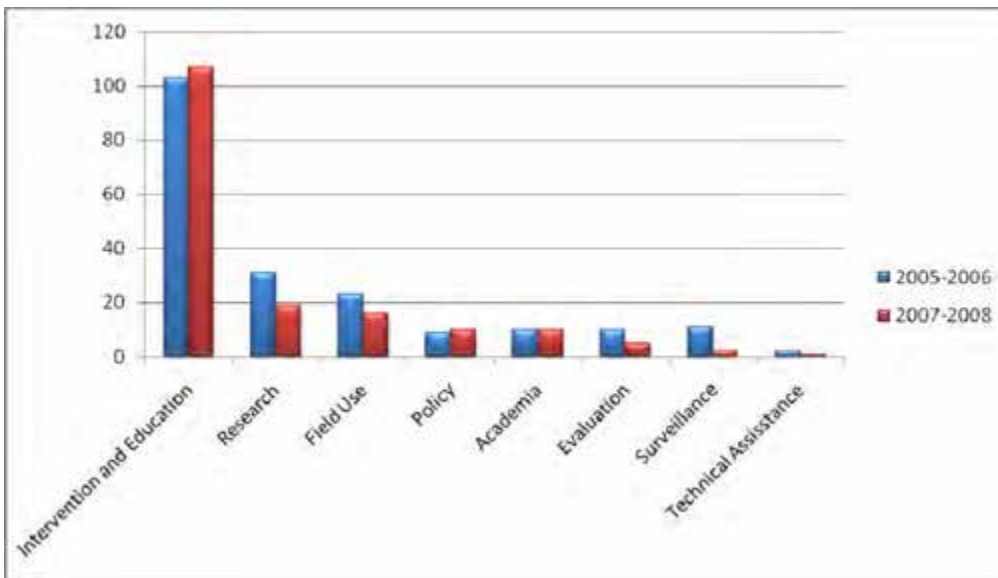


Figure 22. Categories of r2p related to initiative projects by funding cycle

## **Limitations to Trend Analysis**

As suggested above a number of limitations make trend analysis with the ACE evaluation process difficult. The first limitation relates to a measurement issue and reflects the growing ability of the ACE team to better define and tighten the indicator definitions of the variables included in the ACCESS database. This strengthening of the data reporting and collection process by the ACE representatives, while important for better reflecting the work of the initiative, does impact the ability to address trends.

A second limitation to trend analysis is attributed to the changing number and location of the Agricultural Centers reporting. While some Centers have been consistently funded throughout the data collection period, others have been dropped or received bridge funding, and the Children's Center stopped participating in the current cycle as illustrated in Table 8 at the beginning of the summary section. These changes lead to start up or ending of data collection procedures at the Centers impacted which impacts the fidelity of data collection.

## Summary and Recommendations

The Agricultural Center Evaluation (ACE) team has now completed four years of data collection, the last two years of the 2001-2006 funding cycle and the first two years of the 2007-2011 funding cycle. The results presented in this report describe a great variety of Agriculture/Forestry/Fishing (AgFF) activities across different regions of the country seeking to prevent or reduce injuries and illness on behalf of those employed in these occupations. The ACE team has documented the activities, products, outreach, and translation efforts of Center personnel as they seek to respond to regional AgFF occupational differences across the country.

This report includes the first attempt to provide a summary of Center Initiative activities over a four year period. The report also includes a first glimpse at trends across two funding cycles. The data allows observations but repetition is necessary to begin to address explanation for the observations. What does appear clear is the impact of fewer Centers, and therefore fewer projects and personnel targeting health and safety in agriculture. Centers have been very productive targeting a breadth of agricultural production, connecting with vast numbers of constituents and producing research projects and products for a variety of agricultural sector production processes.

Another first for this year's report is a cumulative index of all initiative products for the last four years. It takes time and the collaboration from each participating Center to accomplish an evaluation design from a multisite perspective after the fact. Despite some funding hiatus the Centers with the assistance and support of NIOSH have:

- Responded to recommendations from two external evaluations of NIOSH
- Developed a program monitoring database utilizing ACCESS™
- Selected, defined and refined key variables and indicators
- Added key indicators, such as r2p as NIOSH developed them
- Provided a template for external evaluation data requirements of NAS
- Explored the potential for cross center evaluation on similar projects
- Facilitated Center reporting requirements to NIOSH by developing both progress and year-end report formats in ACCESS™
- Provided the opportunity for Center personnel beyond Center Directors to meet, interact and share information and potential collaborative opportunities

A number of recommendations made in previous reports have been accomplished as illustrated below:

- ✓ 1. Each participating Center representative should receive funding to support their participation in evaluation of the Initiative.
- ✓ 2. Each Center should be encouraged by NIOSH to continue to participate in whatever form Initiative evaluation takes.
- ✓ 3. Progress and year-end report data should be able to be pulled directly from the ACE ACCESS database.

The primary remaining recommendation is for NIOSH to continue to support a collaborative approach to evaluation of the Initiative. If NIOSH pursues the “comprehensive program evaluation mechanism” suggested in the National Academy of Science review it should involve collaboration with the Centers in order to take advantage of the experiences gained since the ACE project’s inception in 1997.

### **Center Abbreviations**

Great Lakes Center for Agricultural Safety and Health Education & Prevention	GLC
Great Plains Center	GPC
High Plains Intermountain Center for Agricultural Health & Safety	HIC
National Children's Center	NCC
Northeast Center for Agricultural Safety & Health	NEC
Pacific Northwest Agricultural Safety & Health Center	PNC
Southeast Center for Agricultural Health & Injury Prevention	SEC
Southern Coastal Agromedicine Center	SCC
Southwest Center for Agricultural Health, Injury Prevention, & Education	SWC
Western Center for Agricultural Health & Safety	WC

## Center Projects by Core

Core	Project Title	Center	Contact Person
<b>Administrative and Planning</b>	ACE Project	HIC	Vicky Buchan
	ACE Team Collaboration and Data Collection	SWC	Sara Shepherd
	Administration - Core	WC	Sandra Freeland
	Administrative Core	SEC	Robert McKnight
	Administrative Core - SW Center for Agricultural Health, Injury Prevention, and Education	SWC	Jeffrey Levin
	Administrative Planning and Outreach Core	GPC	Wayne Sanderson
	Administrative, Planning and Outreach Core	PNC	Marcy Harrington
	Agricultural Center Outreach and Education Projects	SWC	Amanda Wickman
	Bio-Cultural Assessment of Perceptions of Pesticide Exposure Among Mexican Immigrant Farmworkers	SWC	Shedra Amy Snipes
	Center Administration - General	HIC	Stephen Reynolds
	Characteristics of All-Terrain Vehicles and their Operators on Kentucky Farms (2007-2009 feasibility study)	SEC	Jessica Wilson
	Characterizing the Health Risks Associated with Domestic Well Water Use in Rural Western Kentucky (2008-2009 feasibility study)	SEC	Karen Arrowood
	Developing and Testing Interactive Agricultural Health and Safety Curricula for 4-H Youth	SEC	Teresa Donovan
	Do Farm Crisis Services Affect Farmer Suicide: A Comprehensive Evaluation	GPC	Michael Rosmann
	Evaluating Noise Exposures of Rural Youth	GPC	Michael Humann
	Expansion of the Rural Health Initiative: Incorporating Occupational Health Interventions in a Community Based Participatory Preventative Health Program for Farm Families	GPC	Lisa Schiller
Farmer's & Rancher's Perception on Disability	SWC	Nicholas Bingham	

<b>Administrative and Planning</b>	Linkage of Atrazine Exposure and Birth Data in Kentucky: Assessment of Data Sources and Needs (2008-2009 feasibility study)	SEC	Claudia Hopenhayn
	Maintain Associations	HIC	Stephen Reynolds
	National Tractor Safety Initiative	SCC	Kristen Borre
	NIOSH Agricultural Disease and Injury Research, Education and Prevention Centers: Agricultural Centers Evaluators (ACE) Multi-Site Evaluation Project	SEC	Teresa Donovan
	Potential for Public Partnerships to Develop Certified Youth Tractor and Machinery Operators	SWC	Robert Williams
	Professional Education	HIC	Stephen Reynolds
	Project Development	HIC	Stephen Reynolds
	Rural Roadway Safety Optional Drivers Educational Module	GPC	Dan Neenan
	TSI - Ag Center Tractor Initiative	HIC	Stephen Reynolds
<b>Education and Outreach</b>	A Bilingual Skid Steer Loader Safety Training Tool for Vermont Dairy Producers	NEC	Louise Waterman
	AgHealth Monthly Seminar Series	WC	Sandra Freeland
	Agricultural Safety & Health Training for Public Health Graduate Students (HAP-TPG)	SEC	Robert McKnight
	Assessing the Noise-Induce Hearing Loss of Maine Potato Farmers	NEC	Steven Johnson
	Bringing Diversity to the Alabama Agromedicine Farm Family Study	SCC	John Wheat
	Building Capacity of Health and Safety Professionals	GPC	Kelley Donham
	Communicating Effectively with Migrant Head Start Families: Indigenous Language Project	SCC	Robin Tutor
	Developing and Testing Interactive CD Health and Safety Curricula for 4-H Youth	HIC	Vicky Buchan

<b>Education and Outreach</b>	Developing and Testing Interactive CD Health and Safety Curricula for 4-H Youth	SWC	Karen Gilmore
	Education and Outreach	WC	Stephen McCurdy
	Engaging High School Students in Activities to Prevent Tractor-Related Injuries (Stakeholder's Project Supplemental)	SEC	Henry Cole
	Enhancing Translation and Dissemination through Agricultural Partnership	HIC	Darla Borges
	Fluorescent Tracer Component for Hands-on Pesticide Handler Training	PNC	Kit Galvin
	Food Security and the Diets of Young Latino Children from Migrant Worker Families	SCC	Kristen Borre
	Health and Safety Awareness for Working Teens - Agricultural Curriculum Evaluation Project	PNC	Darren Linker
	Health of Agricultural Populations	SEC	Robert McKnight
	Increasing the Use of Personal Protective Equipment for Reducing Occupational Eye Injuries and Preventing Noise-Induced Hearing Loss among Workers in the U.S. Landscaping Services Sector (NAICS 561730)	NEC	Sam Steel
	Introducing a Cholinesterase Test Kit into Clinical Practice	PNC	Matthew Keifer
	Model Farmers Dissemination Project	SWC	Deborah Helitzer
	Nurse Agricultural Education Project	SEC	Deborah Reed
	Pesticide Record Keeping Education for Restricted-Use Pesticide Applicators	NEC	Kay Moyer
	Previous Publications	HIC	Angi Buchanan
	Reality Tales: Storytelling to Translate Agricultural Health and Safety Research	PNC	Helen Murphy
	Refinement and Enhancement of Agricultural Safety Curricula for Children (REACCH)	SEC	Deborah Reed
Teaching Public Health Students about Agricultural Safety and Health	SEC	Robert McKnight	



<b>Education and Outreach</b>	Theses/Dissertations	HIC	Stephen Reynolds
	Tractor Safety Initiative Project - Designing Community Based Social Marketing Programs for Tractor Safety	WC	Stephen McCurdy
	Vermont Farm Safety Program	NEC	George Cook
	Worker Occupational Safety & Health Training & Education Project	WC	Teresa Andrews
	Workplace Safety for Agricultural Workers	SCC	Kristen Borre
<b>Multi-Disciplinary Research</b> <b><u>NORA</u></b> <b><u>Category:</u></b> <b><u>Disease and Injury</u></b>	Assessing Hearing Hazards in Farm Youth	NEC	Melissa Perry
	Assessment of Occupational Respiratory Exposure to Human Pathogens in Airborne Dust Among Workers of a Large Commercial Cattle Farm on the Eastern Shore of Maryland	NEC	Thaddeus Graczyk
	Characterization of Bioaerosols in Washington Dairy Barns	PNC	John Scott Meschke
	Health Effects of Airborne Ag Particles from the Sacramento/San Joaquin Valley	WC	Kent Pinkerton
	Occupational Risk of Infection among Poultry Workers	NEC	Peter Rabinowitz
	Pilot Testing Direct Postural Measurement Instrumentation in a Nursery Population	NEC	Nick Warren
	Prospective Study of Occupational Lung Disease and Endotoxin Exposure in Naïve (New) Dairy Workers	HIC	Stephen Reynolds
	Sustained Work Indicators of Older Farmers	SEC	Deborah Reed
	TSI: National Agricultural Tractor Safety Initiative	SEC	Henry Cole
<b><u>Research Tools and Approaches</u></b>	Inhibition of Cholinesterase by Pharmacological and Dietary Agents	PNC	Chris Simpson
	Keokuk County Rural Health Study: The Epidemiology of Agricultural Disease & Injury	GPC	James Merchant
	Poison Center Surveillance of Agricultural Poisonings	SEC	Robert McKnight

<u>Research Tools and Approaches</u>	Rapid assays for Human and Environmental Exposure Assessment	WC	Bruce Hammock
	Statewide Surveillance of New York State Farm Injuries	NEC	Melissa Brower
<u>Work Environment and Workforce</u>	Assessment of Minority Health and Safety in Selected Counties in NC	SCC	Alton Thompson
	Community Collaboration for Farmworker Health and Safety Project: Assessing the Capacity and Needs Within Maine's Broccoli Harvest	NEC	Mike Rowland
	Community Health Intervention with Yakima Agricultural Workers	PNC	Matthew Keifer
	Developing a Smart ROPS Decision-Making Guide	SEC	Mark Purschwitz
	Enhancements to Cholinesterase Monitoring: Oxime Reactivation & OP-ChE Adducts	PNC	Chris Simpson
	Farm Worker Health Research Program (MICASA)	WC	Marc Schenker
	Horticulture Ergonomics and Safety Training Program	NEC	Andris Freivalds
	Migrant Adolescent Health Research Study	SWC	Sharon Cooper
	Migrant Farmworker Health Care Utilization Survey	NEC	Melissa Brower
	Neurobehavioral Assessment of Pesticide Exposure in Children	PNC	Diane Rohlman
	Reducing Occupational Injuries and Illnesses in Migrant and Seasonal Tobacco Farmworkers through Coalition of a Community Health Program and a Research Team	NEC	Lynae Hawkes
	Research to Practice for Safe Entry into Confined-Space Manure Storages	NEC	Harvey Manbeck
	Risk Factors for Cholinesterase Depression among Pesticide Handlers	PNC	Matthew Keifer
Risk Factors for Musculoskeletal Symptoms Among Louisiana Crawfisher Farmers	SWC	Matt Nonnenmann	

<u>Work Environment and Workforce</u>	Safety and Health of Immigrant Forest Workers on the Olympic Peninsula	PNC	Matthew Keifer
	Worker Health Protection Among Shrimp Fishermen of the Gulf Coast	SWC	Jeffrey Levin
<b>Prevention- Intervention</b>	Aquaculture Safety and Health	SEC	Mel Myers
	Assessment of Job-Related Exposures for Diarrheal Illness in Farmworker Families	PNC	John Scott Meschke
	Community Collaboration for Farmworker Health	NEC	Lynae Hawkes
	Economics of Preventing Agricultural Injuries to Adolescent and Adult Farmers	SEC	Joan Mazur
	Evaluation of an Ergonomically Improved Apple Bag	NEC	Suzanne Stack
	Injury Risk Analysis in Large-Herd Dairy Parlors	HIC	John Rosecrance
	Interventions to Minimize Worker and Family Pesticide Exposures	PNC	Richard Fenske
	New Methods for Evaluation of Organic Dust Aerosols	GPC	Patrick O'Shaughnessy
	Partnering with Stakeholders for Prevention	SEC	Henry Cole
	Partnerships for Preventing Farm Injuries to Rural Youth (PFIRY)	SEC	Henry Cole
	Point-of-view Video Analysis of the Impact of a Faller Safety Training Program	PNC	Gary Rischitelli
	Promoviendo Farmworker Safety	SWC	Sylvia Partida
	Respiratory Health and Exposures on Large Californian Dairies	WC	Frank Mitloehner
Skills Retention in Fishing Safety Training	PNC	Jerry Duzgan	
The Social Marketing of Tractor Rollover Protective Structures in New York	NEC	Julie Sorensen	
TSI: Tractor Safety Initiative: Costs of Tractor Operator Injuries from Overturns and Highway Collisions	SEC	Henry Cole	

**Prevention-  
Intervention**

TSI: Tractor Safety Initiative: Designing  
Community-based Social Marketing Programs for  
Tractor Safety (1R25-04-008542-01)

SEC

Chike Anyaegbunam

### **Center Abbreviations**

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Southern Coastal Agromedicine Center	SCC
Southwest Center for Agricultural Health, Injury Prevention, & Education	SWC
Western Center for Agricultural Health & Safety	WC

## Center Products 2008

Product Type	Product Title	Center	Language (if other than English)
<b>Abstract</b>	Aquaculture safety in Kentucky.  (Poster and paper abstract; submitted 2008 Aug)	SEC	
	Cost-effectiveness of wearing head protection on ATVs	SEC	
	Do poison control centers meet the language needs of LEP Spanish speakers? A national survey.	SEC	
	Epidemiology, surveillance, and prevention of farm tractor overturn injuries	SEC	
	Fine-tuning efforts to identify agricultural pesticide exposures reported to poison control centers: Process and early results	SEC	
	Hazard assessment of aquaculture operations	SEC	
	Injury severity related to overturn characteristics of tractors	SEC	
	Injury surveillance properties of interactive narrative simulation exercises	SEC	
	Presentation: The analysis of agricultural injuries using workers' compensation data	HIC	
	Simple solutions for reduced fish farm hazards	SEC	
	The Migrant Adolescent WorkLife Study	SWC	
<b>Annual Report</b>	Pacific Northwest Agricultural Safety and Health Center Year End Report (FY06/07)	PNC	
<b>Article published, feature (trade publication)</b>	Accept Sound Advice	PNC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Article published, feature (trade publication)</b>	Ag Study Offers Data on Pesticides, Cancer	PNC	
	Avoiding Ladder Injuries	PNC	Spanish
	Complications with Farmer Installation of Roll Over Protective Structures: Results from a Random Inspection of New York ROPS Rebate Self-Installers	NEC	
	Farmers Run a Greater Risk of Skin Cancer	PNC	Spanish
	Focus on Farm Safety When Inviting Public	PNC	
	Free Hearing Screening	NEC	
	Handling Language Barriers Correctly	PNC	
	Respiratory Ailments Nothing to Sneeze At	PNC	
	Statistics Mirror Hazards of Farmwork	PNC	
	Tractor Safety Advice Saves Lives	PNC	
	Use Animal Sense to Prevent Injuries	PNC	
	UW Researcher Seeks Methods to Track Path of Dairy Microbes	PNC	
	Washington Program Monitors Enzyme in Pesticide Handler	PNC	
	Workers Tell of Ladder Injuries	PNC	
<b>Article published, professional (juried publication)</b>	A Spanish language narrative simulation to prevent horseback riding head injury among rural youth	SEC	
	Air pollutant effects on fetal and early postnatal development	WSC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Article published, professional (juried publication)</b>	Airborne antibiotic concentrations in a swine feeding operation	GPC	
	America's aging farmers: tenacious, productive, and underresearched (Editorial)	SEC	
	Asthma/Allergic airways disease: does postnatal exposure to environmental toxicants promote airway pathobiology?	WSC	
	Characteristics of crashes with farm equipment that increase potential for injury	GPC	
	Computational fluid dynamics simulation and validation of hydrogen sulfide removal from fan ventilated confined-space manure storages	NEC	
	Concordance between in vitro and in vivo dosimetry in the proinflammatory effects of low-toxicity, low-solubility particles: the key role of the proximal alveolar region	WSC	
	Creatinine Measurements in 24 h Urine by Liquid Chromatography-tandem Mass Spectrometry	WSC	
	Designing Convincing Tractor Safety Messages: A Concept Development Project	NEC	
	Does parental physical violence reduce children's standardized test score performance?	GPC	
	Early childhood lower respiratory illness and air pollution	WSC	
	Economics and safety: understanding the cost of injuries and their prevention	SEC	
	Encouraging the Installation of ROPS in NY State: The Design of a Social Marketing Intervention	NEC	
Estimating the Occupational Morbidity Migrant and Seasonal Farmworkers	NEC		



<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Article published, professional (juried publication)</b>	Morbidity for Migrant and Seasonal Farmworkers in New York State: a Comparison of Two Methods		
	Evaluation of a clinic-based cholinesterase test kit for the Washington State Cholinesterase Monitoring Program	PNC	
	Evaluation of a community-based effort to reduce blueberry harvesting injury	NEC	
	Farm safety and family practice: an uncommon partnership for a common goal	SEC	
	Farm safety through the camera's eye	SEC	
	Farm Youth Exposure to Noise	NEC	
	Geocoding accuracy and the recovery of relationships between environmental exposures and health	GPC	
	Health care delay of farmers 50 years and older in Kentucky and South Carolina	SEC	
	High-throughput automated luminescent magnetic particle-based immunoassay to monitor human exposure to pyrethroid insecticides	WSC	
	Hydrogen sulfide emission rates and inter-contamination measurements in fan ventilated confined-space manure storages	NEC	
	Influence of pirfenidone on airway hyperresponsiveness and inflammation in a Brown-Norway rat model of asthma	WSC	
	Injury and illness costs in the Certified Safe Farm study	GPC	
Intervening to improve health Indicators among Australian farm families	SEC		

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Article published, professional (juried publication)</b>	Introduction to the Special Issue: Research to Practice in the Agricultural Workplace	WSC	
	Keokuk County Rural Health Study: Self-reported Use of Agricultural Chemicals and Protective Equipment	HIC	
	Low Back disorders in Agriculture & the Role of Stoop Work: Scoop, Potential Interventions, & Research Needs	WSC	
	Media	HIC	
	Meeting report: hazard assessment for nanoparticles - report from an interdisciplinary workshop	WSC	
	Meetings and magazines top ag. info	PNC	
	Musculoskeletal symptoms of the neck and upper extremities among Iowa dairy farmers	GPC	
	Next steps to reduce agricultural tractor overturn fatal and non-fatal injuries	SEC	
	Occupational Paraquat Exposure of Agricultural Workers in Large Costa Rica Farms	WSC	
	Older farmers' prevalence, capital, health, age-related limitations, and adaptations	SEC	
	Pesticide dose estimates for children of Iowa farmers and non-farmers	HIC	
	Pesticide dose estimates for children of Iowa farmers and non-farmers	GPC	
Pesticide/Environmental Exposures and Parkinson's Disease in East Texas	SWC		

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Article published, professional (juried publication)</b>	Phage-borne Peptidomimetics Accelerate the Development of Polyclonal antibody-based heterologous immunoassays for the detection of pesticide metabolites	WSC	
	Polyclonal Antibody-based Noncompetitive Immunoassay for Small Analytes Developed with Short Peptide Loops isolated from Phage Libraries	WSC	
	Prevalence of ROPS-equipped tractors in U.S. aquaculture	SEC	
	Projected incidence and cost of tractor overturn-related injuries in the United States	SEC	
	Protection Against Breathing Dust: Behavior Over Time in California Farmers	WSC	
	Reaching Teen Farm Workers with Health & Safety Information: An Evaluation of a High School ESL Curriculum	WSC	
	Risk factors for insomnia in a rural population	GPC	
	Screening ventilation strategies for a confined-space manure storage	NEC	
	Slip, trip and fall injuries in potato, sugar beet and open field vegetable production in Finland	GPC	
	Striving to provide opportunities for farm worker community participation in research	PNC	
Striving to Provide Opportunities for Farm Worker Community Participation in research	WSC		

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Article published, professional (juried publication)</b>	Suicides among farmers in three Southeastern states, 1990-1998	SEC	
	The California Agricultural Workers Health Survey	WSC	
	Urinary Biomarker, Dermal, and Air Measurement Results for 2,4-D and Chlorpyrifos Farm Applicators in the Agricultural Health Study	HIC	
	Worker Health & Safety in concentrated Animal Feeding operations	WSC	
	Workshop summary: phosgene-induced pulmonary toxicity revisited: appraisal of early and late markers of pulmonary injury from animal models with emphasis on human significance	WSC	
<b>Award</b>	Intervention Evaluation contest-won first place for the evaluation listed in the previous product	NEC	
<b>Bibliography or reference List</b>	Reference list pertaining to adolescents and chronic disease indicators, specifically high blood pressure	SWC	
<b>Book</b>	Pesticide Record Keeping Log Book	NEC	
<b>Booklet</b>	2008 ACE Users' Guide	SWC	
	4-H CD Evaluation Project Leader Binder	SWC	
	Access 2007 Enable Macros	SWC	
	Bites, Stings and Venomous Things	SWC	
	Safety Tip Cards and MayDay Instruction Card	SWC	Vietnamese
	What happened to Ramon?	WSC	Spanish

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Brochure</b>	Eye Care for farmworkers	NEC	Spanish
	Got ROPS	SCC	
<b>CD-ROM</b>	30 minute radio interview/talk radio show on heat related illnesses	PNC	
	Radio Talk Show CD on Ladder Injuries	PNC	
	The Top 4 Farm Hazards: How to Avoid Them	SCC	Spanish
<b>Course manual</b>	Fluorescent Tracer Manual: An Educational Tool for Pesticide Safety Educators	PNC	Spanish
<b>Curriculum (short course)</b>	Health Farmworker Practices to Prevent Skin and Eye Irritation: Before, During and After Work	NEC	Spanish
<b>Database</b>	ACE Database - Major revision	HIC	
	PNASH Center 06/07 Ag Center Evaluation (ACE) Data	PNC	
	SWC Regional Profile Database	SWC	
<b>Evaluation Instrument /Tool</b>	Consultation on publication evaluation for Arapaho & Roosevelt National Forests & Pawnee National Grassland, USFS	HIC	
<b>Exhibit material</b>	Simple solutions for safety	SEC	
<b>Fact Sheet</b>	Grower letter	NEC	
	Project Summary and Recommendations: Presented to NIOSH Social Marketing Offices	NEC	
	Proper Selection and Storage of Personal Protective Equipment on the Farm	GPC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Fact Sheet</b>	Proyecto MICASA	WSC	Spanish
<b>Manuscript</b>	Approaching health concerns of small scale limited resource farmers: a perspective from Alabama's black belt	SCC	
	Chronic back pain and associated Work and non-work variables among farmworkers from Starr County, Texas	SWC	
	Closing the Communication Gap: Indigenous Languages Spoken by Migrant Head Start Families in Eastern North Carolina	SCC	
	Comparative Performance of the BioSampler Aerosol Collection device for Collection and Retention of E. coli and Variable Sized Microspheres	PNC	
	Cost-effectiveness of wearing head protection on ATVs	SEC	
	Exposure risks and tetanus immunization status in farmers ages 50 and over	SEC	
	Factors Influencing Safety among a Group of Shrimp Fishermen along the Texas Gulf Coast	SWC	
	FFA Students' Inspection of Farm Tractor Safety Status	SEC	
	Frequency of farm building construction-related diseases and injuries (collaborative endeavor with Great Plains Center, Iowa)	SEC	
	Hand problems in migrant Farmworkers	SWC	
	Injury severity related to overturn characteristics of tractors	SEC	
	Intervening to improve health indicators among Australian farm families	SEC	
	Prevalence of ROPS-equipped tractors on minority farms in the U.S.	SEC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Manuscript</b>	Prevalence of ROPS-equipped tractors on minority operated farms in the U.S.	SEC	
	Psychometric evaluation of John Henry self-efficacy scale in a sample of older farmers	SEC	
	Retired. . . Not! A Profile of the "Retired" Kentucky/South Carolina Farmer	SEC	
	Simple solutions for reduced fish farm hazards	SEC	
	Suicides among farmers in three southeastern states	SEC	
	Surveillance Study Update	NEC	
	Symptoms of Neurotoxicity and Injury among Adolescent Farmworkers in Starr County, Texas	SWC	
	The Construction of Hunger among Migrant Farmworker Families: Dietary Adaptations in Response to Working and Living Conditions in Eastern North Carolina	SCC	
<b>Newsletter</b>	Aghealth News	WSC	
	Back Pain	SWC	
	Cultivation Newsletter	SWC	
	El Melon Rondero	WSC	Spanish
	Iowa Farmer Today Monthly column	GPC	
	Northwest Forest Worker Safety Review	PNC	
	PNASH bimonthly-news	PNC	
	Surveillance Study Update	NEC	
	Tobacco barn project benefits health and bottom line	SCC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Newsletter article</b>	Farm injury prevention a top concern for Joan Mazur	SEC	
<b>Poster</b>	Accessibility of Poison Control Center Hotlines to Spanish Speaking Callers (First Place student poster presentation)	SEC	
	Accessibility of Poison Control Center Hotlines to Spanish-speaking Callers (Student poster, 2007 Annual Meeting of the North American Congress of Clinical Toxicology)	SEC	
	Closing the Communication Gap: Indigenous Languages Spoken by Migrant Head Start Families in Eastern North Carolina	SCC	
	Designing community-based social marketing programs for tractor safety	SEC	
	Development of a farm safety survey for aquaculture production	SEC	
	EI Terror Invisible: Preventing Exposure to Agricultural Chemicals for Promotores	SWC	
	Fluorescent Tracer Manual: An Educational Tool for Pesticide Safety Educators	PNC	
	Heat Illness	PNC	
	Ingestion of spittoon contents: an overlooked source of potentially toxic nicotine exposures	SEC	
	Ingestion of spittoon contents: an overlooked source of potentially toxic nicotine exposures. (Work funded during earlier study)	SEC	
	Migrant Outreach Project: Kentucky Children's Health Insurance Program (KCHIP)	SEC	



<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Poster</b>	NIOSH Agricultural Centers: National Agricultural Tractor Safety Initiative (NORA Symposium Poster #023)	SEC	
	Occupational Health and Safety of Cedar Block Cutters on the Olympic Peninsula	PNC	
	Operator injury outcomes for overturns of ROPS and non-ROPS tractors	SEC	
	Organophosphorous Pesticides and Kids CME Course	PNC	
	Poster Presentation: Sprain and strain musculoskeletal disorders among Colorado agriculture workers: an analysis of workers compensation claims data	HIC	
	Poster Presentation: The use of workers' compensation data to investigate livestock-handling injuries in agriculture	HIC	
	Poster: The use of workers' compensation data to investigate tractor-related injuries in agriculture	HIC	
	Simple Solutions for Safety	SEC	
	Simple Solutions for Safety [poster]	SEC	
	The Construction of Hunger among Migrant Farm Worker Families: Dietary Adaptations in Response to working and Living Conditions in Eastern North Carolina	SCC	
	The use of workers' compensation data to investigate tractor-related injuries in agriculture	HIC	
	Toward more effective water resources information/education programs: lessons learned from health communication	HIC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Poster</b>	Translating research to practice: Implications for natural resources management	HIC	
<b>PowerPoint Presentation</b>	Platform Presentation: Ergonomics and large herd dairy operations	HIC	
<b>PowerPoint Presentation (for distribution)</b>	Adolescent pesticide exposures	SEC	
	Analyses and exposure assessment of bacterial endotoxin in agricultural environments	HIC	
	Analysis of Engineer Inspections on a Random Sample of Farmer Installed ROPS in NY State	NEC	
	Assessing the Noise Induced Hearing Loss of Maine Potato Farmers	NEC	
	Biomarkers of sensitivity and exposure in Washington State pesticide handlers	PNC	
	Comparison of Limulus amebocyte lysate (LAL) and recombinant Factor C (rFC) bioassays for endotoxin measurement in livestock dusts	HIC	
	Designing Community-Based Social Marketing Programs for Tractor Safety: A Rollover Protective Structure Initiative	SCC	
	Determinants of Exposure to Dust and Endotoxins in Four Agricultural Environments	HIC	
	Determinants of exposure to dust and endotoxins in four agricultural environments	HIC	
	Economics of preventing agricultural injuries to adolescent and adult farm workers (EOP)	SEC	
	Endotoxin Exposure and Respiratory	HIC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>PowerPoint Presentation (for distribution)</b>	Outcomes among Dairy, Cattle Feedlot, and Grain Elevator Workers in Colorado and Nebraska		
	Greasing the Gears: Social Marketing Research into ROPS Obtainment and Use in North Carolina	SCC	
	Healthy Farmworker Practices to Prevent Skin and Eye Irritation: Before, During and After Work	NEC	Spanish
	Information campaigns and public perceptions of natural resources issues	HIC	
	Life events calendar	PNC	
	Lost Time from Injuries and Occupational Diseases in Agriculture in Finland	HIC	
	NIOSH Agricultural Centers – National Agricultural Tractor Safety Initiative	HIC	
	Occupational Health of Salvage Cedar Block Cutters	PNC	
	Orchard Injuries: What Research Tells Us	PNC	
	Pilot Project: Characterizing health risks in privately supplied drinking water due to agricultural practices in rural Western Kentucky, leading to an intervention study	SEC	
	Pilot Project: Linkage of atrazine exposure and birth data in Kentucky: assessment of data sources and needs	SEC	
	Providing health services to aging farmers: a practitioner’s perspective	SEC	
	Risk factors for occupational pesticide exposure	PNC	
Serum cholinesterase inhibition in relation to paraoxonase status among agricultural pesticide handlers	PNC		

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>PowerPoint Presentation (for distribution)</b>	Struggles and Successes in El Proyecto Bienestar, a community based participatory research project for environmental and occupational health	PNC	
	The Community Collaboration for Farmworker Health and Safety, a Comparison of Two Northeast Projects	NEC	
	The Construction of Hunger among Migrant Farm Worker Families: Dietary Adaptations in Response to Working and Living Conditions in Eastern North Carolina	SCC	
	Variability of Endotoxin in Agricultural Environments	HIC	
	Webinar: Agricultural Dusts and Respiratory Disease - University of Texas Health Sciences Center at Tyler, Innovative Training Experiences for Occupational Medicine Residents in Non-Urban and Agricultural Settings	HIC	
	Webinar: Endotoxin Exposure and Genetic Factors in Organic Dust Lung Disease - University of Texas Health Sciences Center at Tyler, Innovative Training Experiences for Occupational Medicine Residents in Non-Urban and Agricultural Settings	HIC	
<b>Questionnaire or survey instrument</b>	Agriscience Teachers' Attitudes and Perceptions of Agricultural Safety Certification	SWC	
	Barriers to Implementation of Tractor Certification Training	SWC	
	Extension Agents' Attitudes and Perceptions Toward Agricultural Safety Certifications	SWC	
	Farm Bio-Safety Survey	NEC	
	Farmers and Ranchers Perception on Disability	SWC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Questionnaire or survey instrument</b>	Perception of Work Exposure Risk Among Vietnamese Commercial Shrimpers	SWC	Vietnamese
	Personal particulate sampling set-up for simultaneous collection of total suspended solids, PM 2.5 fractions, and continuous ammonia monitoring	WSC	Spanish
	Pesticide exposure history questionnaire	PNC	
	Questionnaire to assess conditions and work practices in poultry farming	NEC	
	Safety Audit Form for Eye Protection	NEC	
	Safety Audit Form for Hearing Conservation	NEC	
	Survey for Pesticide Application and Worker Protection Standard Recordkeeping Manual	NEC	
	Year 2 Data Collection Instruments	SWC	Spanish
<b>Radio script</b>	Radio Novelas on Heat Related Illnesses	PNC	
<b>Report (unpublished)</b>	ConneX College Summer Program	PNC	
	Consultation report and recommendations: Consultation and sampling regarding exhaust in tractor cab	HIC	
	Farm worker Summit Outcome Summary		
	Meet ConneX Summer Class	PNC	
	Mexican Immigration to California: Agricultural safety and acculturation (MICASA) Report to the California Endowment	WSC	
	National Agricultural Tractor Safety Initiative: Final Progress Report and Recommendations, December 31, 2007	HIC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Report (unpublished)</b>			
	Project update and review of project activities to date	NEC	
	Short summary and resources	SCC	
	Tools and methods relevant to contract workers' occupational injury risk identification, perception, communication, and prevention	SEC	
	Year 2 Manual of Procedures	SWC	
<b>Report to NIOSH (year end or continuation)</b>			
	2008 Non-competitive renewal: Southeast Center for Agricultural Health and Injury Prevention (2008 Apr 22 Progress Reports)	SEC	
	Cost-effectiveness of promoting roll-over protective structures (ROPS) and seat belts on family farm tractors. Final Report, NIOSH Cooperative Agreement 5 U50 OH007547-05. 2007 Dec 28	SEC	
	Engaging high school students in activities to prevent tractor-related injuries. Final Report, NIOSH Cooperative Agreement 3 U50 OH007547-05S2. 2007 Dec 28	SEC	
	FFA students' inspection of farm tractor safety status. Final Report, NIOSH Cooperative Agreement 3 U50 OH007547-05S2	SEC	
	Final Report of the Southeast Center for Agricultural Health and Injury Prevention; September 30, 2001 – September 29, 2007; Award # U50 OH007547	SEC	
	Grant Progress Report to NIOSH	SWC	
	Model Farmers Dissemination Project	SWC	
	National Tractor Safety Initiative:	SEC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Report to NIOSH (year end or continuation)</b>	Costs of tractor operator injuries from overturns and highway collisions. Final Report, NIOSH Cooperative Agreement U50 OH007547-05. 2007 Dec 28		
	Pacific Northwest Agricultural Center Renewal and Progress Report	PNC	
	Partnerships for preventing farm-related injuries to rural youth. Final Report, NIOSH Cooperative Agreement 5 U50 OH007547-05. 2007 Dec 28	SEC	
	Progress Report: SW Center for Agricultural Health, Injury Prevention, And Education	SWC	
	Progress Report: Worker Health Protection Among Shrimp Fishermen of the Gulf Coast	SWC	
	Promoviendo Farmworker Safety	SWC	
<b>Simulation Exercise</b>	Brad's Last Ride	SEC	
<b>Thesis or dissertation</b>	Analyses and exposure assessment of bacterial endotoxin in agricultural environments	HIC	
	Assessment of Chlorpyrifos Exposure in Agricultural Workers During Airblast Applications	PNC	
	Designing Community-Based Social Marketing Programs for Tractor Safety: A Rollover Protective Structure Initiative	SCC	
	Greasing the Gears: Social Marketing Research into ROPS Obtainment and Use in North Carolina	SCC	

<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Thesis or dissertation</b>			
	The Work Process and Health Risks from the Perspective of Farmworkers in the Rio Grande Valley, Texas, and Immokalee, Florida: A Qualitative Analysis	SWC	Spanish
	Usability: An important Consideration for Public Health Education on the Web	PNC	
<b>U.S. Patent Application</b>			
	For the belt and hook system for apple Picking	NEC	
<b>Video / DVD</b>			
	Agricultural Ergonomics Research at UC Davis: Past, Present & Future	WSC	
	Bridging the Gap: Understanding and Addressing the Culture/Language Divide Between Agricultural Workers and the American Workplace	WSC	
	CAFF and its Impact on the Health of Farmers and Farmworkers	WSC	
	Extending the Worker Occupational Safety, Health Training & Education Program into Agriculture	WSC	
	Immunoassay Methods for Pesticide Exposure Monitoring	WSC	
	Infectious Diseases in Agriculture: Concerns Grow, Numbers of Veterinarians Shrink	WSC	
	Pesticide exposure among North Carolina Farmworkers	WSC	
	Regulatory Impacts on Southeast Asian Small Farms in Fresno: pesticide, labor, OSHA, and water	WSC	
	The Regulation of Pesticides in California	WSC	



<b>Product Type</b>	<b>Product Title</b>	<b>Center</b>	<b>Language</b>
<b>Website or webpage Established</b>	2007-2008 Web pages of the Southeast Center for Agricultural Health and Injury Prevention (renovated and moved in 2008 Aug to <a href="http://www.mc.uky.edu/scahip">http://www.mc.uky.edu/scahip</a> )	SEC	
	Agriculture & Air Quality—Issues and Solutions—A Stakeholders Conference	WSC	
	National Tractor Safety Initiative	PNC	
	Pacific Northwest Agricultural Safety and Health	PNC	
	Web pages of the Southeast Center for Agricultural Health and Injury Prevention: <a href="http://www.mc.uky.edu/scahip/">http://www.mc.uky.edu/scahip/</a> (2008 renovation)	SEC	
	<a href="http://www.ropsr4u.com">www.ropsr4u.com</a>	NEC	

### **Center Abbreviations**

Great Lakes Center for Agricultural Safety and Health Education & Prevention	GLC
Great Plains Center	GPC
High Plains Intermountain Center for Agricultural Health & Safety	HIC
National Children's Center	NCC
Northeast Center for Agricultural Safety & Health	NEC
Pacific Northwest Agricultural Safety & Health Center	PNC
Southeast Center for Agricultural Health & Injury Prevention	SEC
Southern Coastal Agromedicine Center	SCC
Southwest Center for Agricultural Health, Injury Prevention, & Education	SWC
Western Center for Agricultural Health & Safety	WC

## 2005-2008 Cumulative Product List

Product Type	Product Title	Year	Center
Abstract	A computer-based survey instrument for exposure assessment among agricultural pesticide handlers	2007	PNC
	A Study of Injuries in Farmworker Adolescents	2005	SWC
	Adolescent pesticide exposures [Abstract submitted 2007 Jul; accepted for presentation at 2007 Nov 3-7 conference]	2007	SEC
	Advances in immunodiagnostics for environmental contaminants and human monitoring	2007	WC
	Aquaculture safety in Kentucky. [Poster and paper abstract; submitted 2008 Aug]	2008	SEC
	Best Practices: Agritourism	2006	NCC
	Characterizing California Farm Children and Their Risk Factors	2006	WC
	Chronic back pain in adolescent farmers	2007	SWC
	Comparison of Risk Factors for Prevalent and Respiratory Symptoms in a cohort of Californian Farmers 1993-1994	2006	WC
	Cost-effectiveness of wearing head protection on ATVs	2008	SEC
	Do poison control centers meet the language needs of LEP Spanish speakers? A national survey	2008	SEC
	Does Environmental Exposure Explain the 36% Asthma Rate in Scottish Children?	2006	SWC
	Effects of working with livestock on farm women	2005	SEC
	Endocrine Disruptive Characteristics of Specific Pesticides	2006	SWC
	Epidemiology, surveillance, and prevention of farm tractor overturn injuries	2008	SEC
Abstract	Evaluation of two interventions to prevent pediatric farm injuries*	2006	NCC

### Language Legend

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	Fine-tuning efforts to identify agricultural pesticide exposures reported to Poison Control Centers: process and early results	2008	SEC
	Hazard assessment of aquaculture operations	2008	SEC
	Incident respiratory symptoms in older California farmers	2006	WC
	Injury severity related to overturn characteristics of tractors	2008	SEC
	Injury surveillance properties of interactive narrative simulation exercises	2008	SEC
	Interactive Demonstrations of Safe Play Areas at Rural and Agricultural Events	2006	SEC
	Longitudinal studies on the health of a cohort of Californian Farmers 1993-2004	2006	WC
	Migration to the United States and Labor Characteristics of Migrant Farm Workers Upon Their Return*	2006	SCC
	NAGCAT: Five year Assessment and Implications for the Future	2005	NCC
	NASD Upgrade Progress	2006	NCC
	Occupational health in commercial fishing along the Gulf Coast	2007	SWC
	Outcomes of a Five Year Project to Connect Disabled Farm Workers to Vocational Rehabilitation Services in the US	2005	SEC
	Pesticide Safety for Children	2006	SWC
	Presentation: The analysis of agriculture injuries using workers' compensation data	2008	HIC
	Prevalence of obstructive lung disease in older Kentucky farmers, part I: objective and subjective indicators	2007	SWC
Abstract	Prevalence of obstructive lung disease in older Kentucky farmers, part II: reliability of respiratory questions	2007	SEC
	Prevalence of Obstructive Lung Disease in Older Kentucky Farmers, Part I: Objective and Subjective Indicators (submitted abstract)	2006	SEC

## Language Legend

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	Prevalence of Obstructive Lung Disease in Older Kentucky Farmers, Part II: Reliability of Respiratory Questions (submitted abstract)	2006	SEC
	Ratio of Non-Fatal to Fatal Operator Injuries for Overturns of Farm Tractors without Rollover Protective Structures	2006	SEC
	Respiratory health of Kentucky farm children	2007	SEC
	Risk of Depression in a Cohort of Older Working Californian Farmers 2004	2006	WC
	Simple solutions for reduced fish farm hazards	2008	SEC
	Slip, trip and fall injuries related to floor structures in animal confinements	2006	GPC
	Stakeholder input & worker health protection in commercial shrimp fishermen of the Gulf Coast	2007	SWC
	State Laws Regulating Youth Operating Farm Tractors on Highways.T-05-11	2005	NCC
	The economic benefits in health care costs for the farmer in the Certified Safe Farm program: Further analysis	2006	GPC
	The Migrant Adolescent WorkLife Study	2008	SWC
	Women in Denim-Before & After	2006	SWC
	Work Safely -Trabaje con Cuidado for Hispanic workers in south Texas-Abstract	2005	SWC
Annual Report	2006 GLCASH Annual Report	2007	GLC
	GLCASH Annual Report	2006	GLC
	Incident Disease and Injury among a Cohort of California Farmers and Farm Operators	2005	WC
Annual Report	Pacific Northwest Agricultural Safety and Health Center Year End Report (FY06/07)	2008	PNC
	Partners for Preventing Farm-related Injury to Rural Youth 2005 Annual Report	2006	SEC
	Preventing Agricultural Work Injuries On the Navajo Nation	2006	SWC

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	Year 4 Multisite Evaluation Data	2006	PNC
Article published, feature (trade publication)	Accept Sound Advice	2008	PNC
	Ag Study Offers Data on Pesticides, Cancer	2008	PNC
	Aggressive dogs can be liability	2006	GPC
	Avoiding Ladder Injuries*	2008	PNC
	Beat heat before illnesses hit*	2007	PNC
	Breathing problems? MSU asks for help	2005	GLC
	Center for Rural and Agricultural Health and Safety seeks play structure ideas	2006	NCC
	Chemical safety applies to urban cowboys	2006	GPC
	Children face a variety of dangers on farms*	2007	SEC
	Children's Health in the Rural Environment	2006	SWC
	Complications with Farmer Installation of Roll Over Protective Structures: Results from a Random Inspection of New York ROPS Rebate Self-Installers	2008	NEC
	Costs of Occupational Injuries in Agriculture	2005	WC
Article published, feature (trade publication)	Costs of occupational injury and illness across states	2006	WC
	Create kid-safe play areas	2006	GPC

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	Depressive symptoms as a risk factor for unintentional injury: A cohort study in a rural county	2006	GPC
	Don't let safety slip when using tools	2006	GPC
	Don't wait until later to take care of clutter	2006	GPC
	Down on the farm: agriculture risks same for kids, adults*	2007	SEC
	Down on the farm: family focuses on avoiding injuries*	2007	SEC
	Drowning: second leading cause of youth fatalities on farms	2006	GPC
	Equipment designed for efficiency, safety	2006	GPC
	Eye Injuries can be easy to prevent	2006	GPC
	Farm safety needed in any language	2006	GPC
	Farmers Run a Greater Risk of Skin Cancer*	2008	PNC
	Farming increasingly dangerous	2006	GPC
	Farmworker housing	2007	PNC
Article published, feature (trade publication)	Fires cause biggest losses on farms	2006	GPC
	Fishing vessel safety project	2007	SWC

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	FMD potential terrorist threat	2006	GPC
	Focus on Farm Safety When Inviting Public	2008	PNC
	Free Hearing Screening	2008	NEC
	Fully lit, marked farm equipment key to safety	2006	GPC
	H2S Emission Rates and CFD Modeling of H2S decay during forced ventilation	2006	NEC
	Handling Language Barriers Correctly	2008	PNC
	Healthy workplaces and healthy communities are central to sustainable agriculture	2007	PNC
	Health, work, and safety of farmers ages 50 and older	2006	SEC
	Hip Belt Reduces Use of Low Back Muscles in Orchard Workers	2006	NEC
	Hip belt reduces use of low back muscles in orchard workers	2007	NEC
	Horses and Kids on the Farm	2006	SEC
	Improving the Health and Safety of Northwest Orchard Workers and Their Families	2006	PNC
Article published, feature (trade publication)	Iowa farmer death toll grows in '05	2006	GPC
	Journalist workshop. Children and agriculture: telling the story*	2007	PNC
	Kids say the darndest things	2006	GPC

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	Ladders raise orchard injuries*	2007	PNC
	Life on the farm has a brighter side	2006	GPC
	Make ATV safety a priority this holiday season	2006	SEC
	Meeting Requirements of the California Cholinesterase Monitoring Program	2005	WC
	Migrant Farmworker Healthcare Survey Project	2006	NEC
	Misuse of science serves no one	2007	PNC
	Mower safety has many components	2006	GPC
	National Children's Center for Rural and Agricultural Health and Safety seeks play structure ideas	2006	NCC
	NIOSH Agricultural Centers: Pacific Northwest Agricultural Safety and Health Center	2007	PNC
	Occupational Choice and Vulnerability in Late Life: An Example of Women in the USA	2006	SEC
	Outreach and Education in the Northwest	2005	PNC
Article published, feature (trade publication)	Outreach and Education in the Northwest	2006	PNC
	Parents send ATV warning	2007	SEC
	Protecting skin from sun's rays today prevents cancerous growths in future	2007	PNC

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	Recognizing and Preventing Heat Stress	2006	PNC
	Research addresses special populations	2007	SWC
	Respiratory Ailments Nothing to Sneeze At	2008	PNC
	Rural driving not time to forget safety	2006	GPC
	Safe chemical handling	2006	GPC
	Safe Play Areas-play structures sought	2006	NCC
	Safe Play Ideas Sought	2006	NCC
	Safeguarding Children's Summer Activities	2006	SEC
	Safety a topic at conference	2007	SEC
	Safety and health initiatives for east Texas farmers and ranchers	2007	SWC
	Safety features included on farm show equipment	2006	GPC
Article published, feature (trade publication)	Shovel and be safe	2006	GPC
	Simulation and validation of hydrogen sulfide removal from fan ventilated confined-space manure storages	2007	NEC
	Skin Disorders among Commercial Fishermen	2006	SCC

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	Statistics Mirror Hazards of Farmwork	2008	PNC
	Stress, Depression on the farm	2006	GPC
	Sun safety	2006	GPC
	Survey sets off ATV alarm	2006	GPC
	Take heed in contact with OP pesticides	2007	PNC
	Taking Care of Your Most Valuable Asset-- You!	2006	SEC
	Tracking the Occupational Health of Migrant Farmworkers	2006	NEC
	Tractor rollover deaths way down	2007	SEC
	Tractor Safety Advice Saves Lives	2008	PNC
	Use Animal Sense to Prevent Injuries	2008	PNC
	UW Researcher Seeks Methods to Track Path of Dairy Microbes	2008	PNC
Article published, feature (trade publication)	Vietnamese shrimp boat captain training – Abbeville, LA	2007	SWC
	Washington Program Monitors Enzyme in Pesticide Handler	2008	PNC
	Watching out for eye injuries	2006	GPC
	Workers Tell of Ladder Injuries	2008	PNC
Article published, professional (juried publication)	A Collaborative and Participatory Approach to Identifying the Occupational Health Needs of Migrant Workers: A preliminary Project Report	2005	NEC

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	A descriptive study of workers' compensation claims in Washington state orchards*	2007	PNC
	A feasibility study of the use of dust wipe samples to assess pesticide exposures in migrant farmworker families working in the United States	2007	SWC
	A Spanish language narrative simulation to prevent horseback riding head injury among rural youth*	2007	SEC
	Absorption, Distribution, and Excretion of C--Chloro-4-methylaniline Hydrochloride in Two Species of Birds Following a Single Oral Dose	2005	HIC
	Agricultural Hazard Abatement and Training	2005	NEC
	Air pollutant effects on fetal and early postnatal development	2008	WC
	Airborne antibiotic concentrations in a swine feeding operation.	2008	GPC
	Airborne Particles of the California Central Valley Alter the Lungs of Health Adult Rats	2005	WC
Article published, professional (juried publication)	Alteration in gene expression in MCF-7 cells after treatment with the fungicide Enable	2005	SWC
	Alteration in gene expression in MCF-7 cells after treatment with the pesticide diazinon: Correlation with decreased DNA excision repair	2005	SWC
	America's aging farmers: tenacious, productive, and underresearched [Editorial]	2008	SEC
	An Audiotape Mental Health Evaluation Tool for Hispanic Immigrants with a Range of Literacy Levels	2005	PNC
	An Ergonomic Intervention to Reduce Back Strain Among Apple Harvest Workers in New York State	2005	NEC

## Language Legend

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	An immunoassay for a urinary metabolite as a biomarker of human exposure to the pyrethroid insecticide permethrin	2007	WC
	Asthma/Allergic airways disease: does postnatal exposure to environmental toxicants promote airway pathobiology?	2008	WC
	Building community capacity for agricultural injury prevention in a Native American community	2007	SWC
	Characteristics of crashes with farm equipment that increase potential for injury	2008	GPC
	Child Health Needs of rural Alabama Latino Families*	2007	SCC
	Comparison of glutathione, glutathione peroxidase, glutathione reductase, and catalase in a transformed renal epithelial cell line (DKN1): comparison with levels in a continuous artiodactyl renal cell line (LLC-PK1)	2005	SWC
	Computational fluid dynamics simulation and validation of hydrogen sulfide removal from fan ventilated confined-space manure storages	2008	NEC
Article published, professional (juried publication)	Concordance between in vitro and in vivo dosimetry in the proinflammatory effects of low-toxicity, low-solubility particles: the key role of the proximal alveolar region	2008	WC
	Creatinine Measurements in 24 h Urine by Liquid Chromatography-tandem Mass Spectrometry	2008	WC
	Designing Convincing Tractor Safety Messages: A Concept Development Project	2008	NEC
	Development and initial assessment of objective fatigue measures for apple harvest work	2007	NEC
	Development and Initial Assessment of Objective Fatigue Measures for Apple Harvest Work	2005	NEC

## Language Legend

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	Development of a sensitive enzyme-linked immunosorbent assay for the detection of the glucuronide conjugate of 3-phenoxybenzyl alcohol, a putative human urinary biomarker for pyrethroid exposure	2007	WC
	Development of an In vitro model of intracellular reactive oxygen species	2005	SWC
	Disruption of estrogen-regulated gene expression by dioxin: Down-regulation of a gene associated with the onset of non-insulin-dependent-diabetes mellitus, type 2 diabetes	2005	SWC
	Does parental physical violence reduce children's standardized test score performance?	2008	GPC
	Early childhood lower respiratory illness and air pollution	2008	WC
	Economics and safety: understanding the cost of injuries and their prevention	2008	SEC
	Effect of belt/bucket interface in apple harvesting	2007	NEC
	Effects of premium discount on worker's compensation claims in agriculture in Finland	2005	HIC
Article published, professional (juried publication)	Electromyographic assessment of apple bucket intervention designed to reduce back strain: a preliminary project report	2007	NEC
	Emerging technologies and the safety and health of farming people	2007	SEC
	Encouraging the installation of rollover protective structures in NY state: the design of a social marketing intervention	2007	NEC
	Encouraging the Installation of Rollover Protective Structures in New York State: The Design of a Social Marketing Intervention	2008	NEC
	Environmental exposure and health effects in concentrated animal feeding operations	2007	WC

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	Ergonomic Analysis of New York Apple Harvest Work Using a Posture-Activities-Tools-Handling (PATH) Work Sampling Approach	2005	NEC
	Estimating the occupational morbidity for migrant and seasonal farmworkers in New York State: a comparison of two methods	2007	NEC
	Estimating the Occupational Morbidity for Migrant and Seasonal Farmworkers in New York State: a Comparison of Two Methods	2008	NEC
	Evaluation of a clinic-based cholinesterase test kit for the Washington State Cholinesterase Monitoring Program	2008	PNC
	Evaluation of a community-based effort to reduce blueberry harvesting injury	2008	NEC
	Farm safety and family practice: an uncommon partnership for a common goal	2008	SEC
	Farm safety through the camera's eye	2008	SEC
	Farm Youth Exposure to Noise	2008	NEC
Article published, professional (juried publication)	Generation and Partial characterization of a transformed cetacean cell line	2005	SWC
	Geocoding accuracy and the recovery of relationships between environmental exposures and health	2008	GPC
	Health care delay of farmers 50 years and older in Kentucky and South Carolina	2008	SEC
	Health, work and safety of farmers over age 50	2005	SEC
	High-throughput automated luminescent magnetic particle-based immunoassay to monitor human exposure to pyrethroid insecticides	2008	WC
	Human Metabolic interactions of environmental chemicals	2007	SCC

## Language Legend

\*Spanish ~Hmong ×Multi +Haitian/Creole •French ▲Vietnamese ◆Finnish

	Hydrogen sulfide emission rates and inter-contamination measurements in fan ventilated confined-space manure storage	2008	NEC
	Hydrogen sulfide emission rates and inter-contamination strengths in a fan ventilated confined-space manure storage	2007	NEC
	Influence of pirfenidone on airway hyperresponsiveness and inflammation in a Brown-Norway rat model of asthma	2008	WC
	Injury and illness costs in the Certified Safe Farm study	2008	GPC
	Intervening to improve health indicators among Australian farm families	2008	SEC
	Introduction to the Special Issue: Research to Practice in the Agricultural Workplace	2008	WC
	Keokuk County Rural Health Study: Self-reported Use of Agricultural Chemicals and Protective Equipment	2008	HIC
	Lessons Learned for the Assessment of Children's Pesticide Exposure: Critical Sampling and Analytical Issues for Future Studies	2005	PNC
Article published, professional (juried publication)	Low Back disorders in Agriculture & the Role of Stoop Work: Scoop, Potential Interventions, & Research Needs	2008	WC
	Media	2008	HIC
	Meeting report: hazard assessment for nanoparticles - report from an interdisciplinary workshop	2008	WC
	Meetings and magazines top Ag info	2008	PNC
	Muscle recruitment changes in association with apple bucket hip belt use: laboratory and orchard testing	2007	NEC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish



	Musculoskeletal symptoms of the neck and upper extremities among Iowa dairy farmers	2008	GPC
	Next steps to reduce agricultural tractor overturn fatal and non-fatal injuries	2007	NEC
	Next steps to reduce agricultural tractor overturn fatal and non-fatal injuries	2008	SEC
	Occupational Paraquat Exposure of Agricultural Workers in Large Costa Rica Farms	2008	WC
	Occupational Risk among Orchard Workers: A Descriptive Study	2005	PNC
	Older farmers' prevalence, capital, health, age-related limitations, and adaptations	2008	SEC
	Orchard evaluation of ergonomically modified apple bucket	2007	NEC
	Orchard Evaluation of ergonomically modified apple bucket	2005	NEC
	Personal protective equipment use and safety behavior among farm adolescents: gender differences and predictors of work practices	2007	SEC
Article published, professional (juried publication)	Pesticide contamination inside farm and non-farm homes	2005	HIC
	Pesticide dose estimates for children of Iowa farmers and non-farmers	2008	HIC
	Pesticide dose estimates for children of Iowa farmers and non-farmers	2008	GPC
	Pesticide safety training among farmworker adolescents from Starr County, Texas	2007	SWC
	Pesticide/Environmental Exposures and Parkinson's Disease in East Texas	2008	SWC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish

	Phage-borne Peptidomimetics Accelerate the Development of Polyclonal antibody-based heterologous immunoassays for the detection of pesticide metabolites	2008	WC
	Polyclonal Antibody-based Noncompetitive Immunoassay for Small Analytes Developed with Short Peptide Loops isolated from Phage Libraries	2008	WC
	Prevalence of ROPS-equipped tractors in U.S. aquaculture	2008	SEC
	Projected incidence and cost of tractor overturn-related injuries in the United States	2008	SEC
	Protecting young workers in agriculture: participating in tractor certification programs	2007	GLC
	Protection Against Breathing Dust: Behavior Over Time in California Farmers	2008	WC
	Psychometric evaluation of the John Henry self-efficacy scale in a sample of older farmers	2007	SEC
	Reaching Teen Farm Workers with Health & Safety Information: An Evaluation of a High School ESL Curriculum	2008	WC
Article published, professional (juried publication)	Replicative enzymes, DNA polymerase alpha, and in vitro ageing	2005	SWC
	Risk factors for insomnia in a rural population	2008	GPC
	Risk Perceptions, Barriers and Motivators to Tractor Retrofitting in New York State Farmers	2005	NEC
	Risk perceptions, barriers and motivators to tractor ROPS retrofitting in NYS farmers	2007	NEC
	Rollover protection on New York tractors and farmers' Readiness for Change	2005	NEC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish

	Rollover protection on New York tractors and farmers' readiness for change	2007	NEC
	SAMMIE – using technology for a one-stop program evaluation resource	2007	GLC
	Screening ventilation strategies for a confined-space manure storage	2008	NEC
	Seatbelt use during tractor overturns	2007	SEC
	Severe back pain among farmworker high school students from Starr County, Texas: baseline results	2007	SWC
	Slip, trip and fall injuries in potato, sugar beet and open field vegetable production in Finland	2008	GPC
	Striving to provide opportunities for farm worker community participation in research	2008	PNC
Article published, professional (juried publication)	Striving to Provide Opportunities for Farm Worker Community Participation in Research	2008	WC
	Suicides among farmers in three Southeastern states, 1990-1998	2008	SEC
	Texas panhandle coalitions for agricultural safety and health (PCASH)	2007	SWC
	The California Agricultural Workers Health Survey	2008	WC
	The impact of hearing impairment, perceptions and attitudes about hearing loss, and noise exposure risk patterns on hearing handicap among farm family members	2007	SWC
	Theoretical Approaches to Motivating Change: A Farm Family Case Example	2005	SWC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish

	Urinary Biomarker, Dermal, and Air Measurement Results for 2,4-D and Chlorpyrifos Farm Applicators in the Agricultural Health Study	2008	HIC
	Worker health & safety in concentrated animal feeding operations	2008	WC
	Worker health and safety in concentrated animal feeding operations	2007	WC
	Workshop summary: phosgene-induced pulmonary toxicity revisited: appraisal of early and late markers of pulmonary injury from animal models with emphasis on human significance	2008	WC
Article published, professional	A cohort study of injuries in migrant farm worker professional families in South Texas	2006	SWC
Article published, professional	A descriptive study of workers compensation claims in Washington State orchards	2006	PNC
	A summary of state laws regulating youth operating tractors on highways	2006	NCC
	Agricultural Dust Exposure and Respiratory Symptoms Among California Farm Operators	2006	WC
	Agricultural health in the Gambia II: A systematic survey of safety and injuries in production agriculture	2006	GPC
	Agricultural practices and developments in the Gambia	2006	GPC
	Airborne Particles of the California Central Valley Alter the Lungs of Healthy Adult Rats	2006	WC
	Alteration in gene expression in MCF-7 cells after treatment with the fungicide Enable	2006	SWC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish

	Alteration in gene expression in MCF-7 cells after treatment with the pesticide diazinon: correlation with inhibition of DNA excision repair	2006	SWC
	Alteration in gene expression in MCF-7 cells after treatment with the pesticide diazinon: Correlation with potential decreased CNS development	2006	SWC
	Alteration in gene expression in MCF-7 cells after treatment with the pesticide diazinon: possible interaction in abnormal fetal development	2006	SWC
	Are swine workers in the United States at increased risk of infection with zoonotic influenza virus?	2006	GPC
	Biological monitoring to characterize organophosphate pesticide exposure among children and workers: an analysis of recent studies in Washington State	2006	PNC
Article published, professional	Childhood Agricultural Injuries	2006	NCC
	Cholinesterase Inhibition	2006	WC
	Comparative description of migrant farmworkers versus other students attending rural south Texas schools: substance use, work, and injuries	2006	SWC
	Comparison of glutathione, glutathione peroxidase, glutathione reductase, and catalase in a transformed renal epithelial cell line (DKN1); comparison with levels in a continuous artiodactyl renal epithelial cell line, (LLC0PK1)	2006	SWC
	Correspondence: OP Pesticides. Organic Diets and Children's Health: Lu et al. respond	2006	PNC
	Cost differences among demographic groups and types of occupational injuries and illnesses	2006	SEC
	Costs of occupational injuries in agriculture	2006	WC
	Danger in the (farm) dust ×	2006	WC

## Language Legend

\*Spanish ~Hmong ×Multi +Haitian/Creole •French ▲Vietnamese ◆Finnish

	DEHP, Bis(2)-ethylhexyl phthalate, alters gene expression in human cells: possible correlation with initiation of fetal developmental abnormalities	2006	SWC
	Development and Initial Assessment of Objective Fatigue Measures for Apple Harvesting Workers	2006	NEC
	Development of an In Vitro model of excess intracellular reactive oxygen species	2006	SWC
	Disruption of estrogen-regulated gene expression by dioxin: Down-regulation of a gene associated with the onset of non-insulin dependent diabetes mellitus, type 2 diabetes	2006	SWC
	Evaluation of a policy to reduce youth tractor crashes on public roads	2006	NCC
Article published, professional	Frequency and severity of injuries to operators during overturns of farm tractors	2006	SEC
	Generation and partial characterization of a transformed cetacean cell line	2006	SWC
	Green tobacco sickness in children and adolescents	2006	SEC
	Hearing loss as a risk factor for agricultural injuries	2006	GPC
	House Dust Collection Efficiency of the High Volume Small Surface Sampler on Worn Carpets	2006	HIC
	Identification of Agricultural Tasks Important to Cumulative Exposures to Inhalable and Respirable Dust in California	2006	WC

## Language Legend

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	Laboratory Evaluation of Belt Usage with Apple Buckets	2006	NEC
	Lessons learned for the assessment of children's pesticide exposure: critical sampling and analytical issues for future studies	2006	PNC
	Long-term exposure to agricultural dusts in the California: association with pulmonary function and high resolution CT	2006	WC
	Methodological aspects of a computer-assisted telephone interview (CATI) survey of health and safety risks of farm women and children	2006	SWC
	Mixed-effect models for evaluation of multiple measures of atrazine exposure among custom applicators	2006	PNC
Article published, professional	Nonfatal occupational injury among California farm operators	2006	WC
	Nontraditional work factors in farmworker adolescent populations: implications for health research and interventions	2006	SWC
	Occupational Risk among Orchard Workers: A Descriptive Study	2006	PNC
	Orchard Evaluation of Ergonomically Modified Apple Bucket	2006	NEC
	Organic Diets significantly lower children's dietary exposure to organophosphate pesticides	2006	PNC
	Pacific Northwest Health Professionals Survey on Pesticides and Children	2006	PNC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish

	Perceived risk of home fire and escape plans in rural households	2006	GPC
	Personal Exposures to Inorganic and Organic Dust in Manual Harvest of California Citrus and Table Grapes	2006	WC
	Region-related risk factors for respiratory symptoms in European and Californian farmers	2006	WC
	Replicative enzymes, DNA polymerase alpha (pol a), and in vitro aging	2006	SWC
	Response Accuracy of Hazard Identification in Migrant Farmworkers	2006	SWC
Article published, professional	Safety as criteria for animal housing floor surface design♦	2006	GPC
	Seatbelt Use during Tractor Overturns	2006	SEC
	Self-reported dermatitis and skin cancer in California farm operators	2006	WC
	Severe back pain among farmworker high school students from Starr County, Texas: Baseline results	2006	SWC
	Sleep duration and body mass index in a rural population	2006	GPC
	Sleep quantity and quality as a predictor of injuries in a rural population	2006	GPC

## Language Legend

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	State-of-the-art measurement of agricultural pesticide exposures	2006	PNC
	Studying health outcomes in farmworker populations exposed to pesticides	2006	PNC
	The Impact of Farm Lifestyle and Health Characteristics: Cervical Cancer Screening among Southern Farmwomen	2006	SWC
	The Washington aerial spray drift study: Children's exposure to methamidophos in an agricultural community following fixed wing aircraft applications	2006	PNC
	Theoretical Approaches to Motivating Change: A Farm Family Case Example	2006	SWC
Article published, professional	Tractor overturn concerns in Iowa: Perspectives from the Keokuk County Rural Health Study	2006	GPC
	Urinary pesticide concentrations among children, mothers, and fathers living in farm and non-farm households in Iowa	2006	GPC
	Use of Protective Equipment among California Farmers	2006	WC
	Using Community-based Participatory Research to Assess Health Needs among Migrant and Seasonal Farmworkers	2006	SWC
	We don't need a randomized controlled trial: Youth should have a driver's license to operate tractors on public roads	2006	NCC
	Web data management for epidemiologic studies- a dynamic approach	2006	SWC

## Language Legend

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	When one is not enough: prevalence and characteristics of homes not adequately protected by smoke alarms	2006	GPC
Bibliography or Reference list	Reference list pertaining to adolescents and chronic disease indicators, specifically high blood pressure	2008	SWC
Book	Bringing Work Home: Take-Home Pesticide Exposure Among Farm Families	2006	GPC
	Pesticide Record Keeping Log Book	2008	NEC
	Technology and economy in large-scale farming	2006	GPC
Book Chapter	2006 Women in Agriculture Conference	2006	SWC
	6 easy things you can do to help improve air quality*	2007	WC
Book Chapter	Advanced education and training in the health of agricultural populations	2007	SEC
	Agritourism: Health and Safety for Children	2006	NCC
	Children's health in the rural environment	2007	SWC
Booklet	2008 ACE Users' Guide	2008	SWC
	4-H CD Evaluation Project Leader Binder	2008	SWC
	Access 2007 Enable Macros	2008	SWC
	Benchmark Report	2005	NCC
	Bites, Stings and Venomous Things	2005	SWC
	Bites, Stings and Venomous Things	2008	SWC
	Fact sheet for eye safety*	2007	NEC
	Farmworker Health Study Update	2006	NEC
	Fluorescent Tracer Technique*	2006	PNC
	Got Rops	2007	SCC
	Interactive Safe Play Areas Demonstrations at Rural and Agricultural Events	2006	NCC
	Livestock Safety for Kids Teacher Guide K-3 – Spanish*	2006	SWC

## Language Legend

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	Livestock Safety for Kids Teacher's Guide - 4-5 <sup>th</sup> grade*	2005	SWC
	Livestock Safety for Kids Teacher's Guide and Classroom Activities*	2006	SWC
	Livestock Safety for Kids Teacher's Guide K-3- English	2006	SWC
	National Children's Center for Rural and Agricultural Health and Safety Year-end Review	2006	NCC
	Safety Tip Cards and MayDay Instruction Card ▲	2008	SWC
	Strategic planning workbook	2007	SWC
	SW Center for Agricultural Health, Injury Prevention and Education brochure*	2007	SWC
	Temprada de fresas*	2006	SCC
	Tip booklet ▲	2007	SWC
	What happened to Ramon?*	2008	WC
Brochure	4-H CD	2006	HIC
	Eye Care for farmworkers*	2008	NEC
	Got ROPS	2008	SCC
	Women in Denim	2005	SWC
	Work related musculoskeletal discomfort prevention and care brochure*	2006	SCC
CD-ROM	30 minute radio interview/talk radio show on heat related illnesses	2008	PNC
	Agroterrorism Workshop: Engaging Community Preparedness	2005	SWC
	First Aid Farm Quest	2005	SWC
	Keep Kids Away from Tractors-Press Release Kit	2006	NCC
	Partnerships for preventing farm injuries to rural youth: Excel-based cost analysis tools	2007	SEC

## Language Legend

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	Radio Talk Show CD on Ladder Injuries	2008	PNC
	The New York ROPS social marketing pilot project	2007	NEC
	The Top 4 Farm Hazards: How to Avoid Them*	2008	SCC
	Work Safely-Trabaje con Cuidado*	2005	SWC
Checklist	Childhood Agricultural Safety and Health Workshop Handbook October 20-21, 2006	2006	NCC
	Farm Tractor Visual Safety Inspection Checklist	2006	SEC
	Farm Tractor Visual Safety Inspection Checklist	2007	SEC
Course manual	A Migrant Farmworker Occupational Health Reference Manual*+	2005	NEC
	ATV Community Action Planner	2006	GPC
	First Aid for Rural Medical Emergencies (F.A.R.M.E.) Instructor's Guide	2005	SWC
	Fluorescent Tracer Manual: An Educational Tool for Pesticide Safety Educators*	2008	PNC
	Instructors Manual for 4-H CD	2006	HIC
	Workshop manual: children and agriculture: Telling the story	2007	SEC
Curriculum (short course)	Agriculture Exposure: Cases, Clinical Practice, and Community	2006	SEC
	Healthy Farmworker Practices to Prevent Skin and Eye Irritation: Before, During and After Work	2008	NEC
Curriculum (training)	Farmworker Health Care Survey Interviewer Training	2005	NEC
	Field Training Curriculums-Farmworker Occupational Safety*+	2005	NEC

## Language Legend

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	First aid for rural medical emergencies*	2007	SWC
	Fluorescent tracer manual: an educational tool for pesticide educators*	2007	PNC
	Health and safety awareness for working teens in agriculture	2007	PNC
	Health effects of airborne AG particles from the Sacramento/San Joaquin Valley	2007	WC
	Heat stress jeopardy	2007	PNC
	Introduction to Field Research and Environmental Public Health	2005	PNC
	Introduction to Field Research and Environmental Public Health	2006	PNC
Curriculum (training)	Occupational Stress among Farm Owners and Farmworkers	2006	SWC
	Pesticide risk communication education tool kit	2007	PNC
	Pesticide Safety~	2005	WC
	Safe Tractor and Machinery Operation -Community Lead Instructor Training	2006	SWC
	Work Safely-Trabaje con Cuidado Curriculum*	2005	SWC
Database	2005 Multicenter database for SWC	2005	SWC
	2006 NAS SW Center Evaluation database 1995-2006	2006	SWC
	ACE Database - Major revision	2008	HIC
	Environmental exposures and Parkinson's disease	2007	SWC
	Monthly FAIMS Press Clipping Summary	2006	GPC
	No name to date	2005	GLC

## Language Legend

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	PNASH Center 06/07 Ag Center Evaluation (ACE) Data	2008	PNC
	PNASH Center 2005/2006 evaluation database*	2007	PNC
	PNASH graphic resources <a href="http://www.flickr.com/photos/pnash">http://www.flickr.com/photos/pnash</a>	2007	PNC
	Pre-Post Test WSTCC	2005	SWC
Database	Presentation of Data at 2005 ISEA Conference at the Westin La Paloma Resort & Spa in Tucson, Arizona; October 30 – November 3, 2005	2006	PNC
	Review of heat stress and ladder injury educational materials	2007	PNC
	ROPS hotline database	2007	NEC
	SW Ag Center 2005 ACE database	2006	SWC
	SW AgAviators Access database containing Ag aviation incidents for 1999-2004	2005	SWC
	SWC Regional Profile Database	2008	SWC
	The adolescent worklife study – database*	2007	SWC
	The Effectiveness of a Texas Community Based Agricultural Health and Safety Coalition	2005	SWC
	Web Access Data Base	2006	GLC
Evaluation instrument / tool	Animal Behavior and Livestock Handling Safety	2006	SWC

## Language Legend

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	Consultation on publication evaluation for Arapaho & Roosevelt National Forests & Pawnee National Grassland, USFS	2008	HIC
	Global Criteria Recommendations	2005	NCC
	Height-adjustable tobacco sorting table wooden prototype	2006	SCC
	Indigenous Language Project survey*	2007	SCC
	Pepper harvesting work method/cart mechanism functional prototype	2006	SCC
Evaluation instrument / tool	Pre-tests and post-tests	2005	SWC
	Preventing Farm Injuries to Rural Youth (PFIRY) Teachers' Project Evaluation Questionnaire	2006	SEC
	Procedure for in vitro formation of cholinesterase adducts with clorpyrifos oxon and methyl paraoxon	2007	PNC
	Safe Play Areas on Farms Demonstration Evaluation Survey	2005	NCC
	Sharing the road with farm vehicles safety awareness quiz (and answer key)	2007	SEC
	Sweet Potato harvesting system laboratory prototype	2006	SCC
	Teacher project evaluation questionnaire (PFIRY)	2007	SEC
	Tobacco conveyance system both wet and cured tobacco system design	2006	SCC
	Tobacco harvesting hand tool laboratory prototype	2006	SCC
Exhibit material	Bridging the Literacy Divide	2005	PNC
	Bridging the Literacy Divide	2006	PNC
	Chemical and Pesticide Safety for Kids	2006	SWC
	Creating Safe Play Areas Table Top Display	2005	NCC
	Demonstration of an ergonomically designed apple picking bucket and belt	2007	NEC
	Environmental Safety	2006	SWC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish

	Evaluation - Washington DC Meeting	2005	HIC
	Impact of Tractor Safety Requirements on ROPS Standards and Technology	2006	HIC
	Migrant Farmworker Health Care Utilization Survey	2006	NEC
	Mower ROPS Design	2005	HIC
	Non-Server Web-Based User Interface Design of Interactive Ag Safety & Health CD for 4-H	2006	HIC
	Nurses Agriculture Education Project (exhibit/display)	2006	SEC
	PNASH Exhibit*	2005	PNC
	PNASH table top display*	2007	PNC
Exhibit material	Proyecto MICASA*	2007	WC
	ROPS Design and Mounting		HIC
	Safe Play Areas on Farms Exhibit Materials	2005	NCC
	Simple solutions for safety	2008	SEC
	Solicitation of Safe Play Structures	2006	NCC
	SPAF Posters and Demonstrations	2005	NCC
	Survey	2005	GLC
	Take Home Exposure Presentation*	2006	PNC
	The effect of Race, Ethnicity and Language on the Quality of Workers' Health and Safety in Texas	2005	SWC
Fact Sheet	2007 DEOHS calendar: agricultural safety and health	2007	PNC
	Assessment of job-related exposures for diarrheal illness in farmworker families	2007	PNC
	Bilingual Mayday cards in Vietnamese and English ▲	2007	SWC
	Cattle Handling Safety	2006	SWC
	Certified Safe Farm Fact Sheet	2006	GPC
	Characterization of bioaerosols in Washington dairy barns	2007	PNC
	Children's Exposure to Pesticides through their Diets*	2005	PNC
	Current Projects (6/05)	2005	PNC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish



	Evaluation of skills retention in fishing safety training	2007	PNC
	Fluorescent tracer manual: an educational tool for pesticide safety educators*	2007	PNC
	Grower letter	2008	NEC
	Interventions to minimize worker and family pesticide exposures	2007	PNC
	Introducing a cholinesterase test kit into clinical practice	2007	PNC
	Neurobehavior assessment of pesticide exposure in children	2007	PNC
Fact Sheet	PNASH Pesticide Take Home Studies*	2005	PNC
	Project Summary and Recommendations: Presented to NIOSH Social Marketing Offices	2008	NEC
	Proper Selection and Storage of Personal Protective Equipment on the Farm	2008	GPC
	Proyecto MICASA*	2008	WC
	Storytelling to translate agricultural health and safety research	2007	PNC
	Test results for paraoxonase status	2007	PNC
	The Plain Facts...About Tractor Safety	2005	SWC
	Workplace determinants pesticide exposure – results	2007	PNC
	Workplace Solutions to Improve the Health and Safety of Orchard Workers and Their Families	2005	PNC
	Youth tractor injury fact sheet	2007	SWC
Handout	A feasibility study of the use of dust wipe samples to assess pesticide exposures in migrant farmworker families	2006	SWC
	A summary of state laws regulating youth operating farm tractors on highways	2005	NCC
	Agricultural safety and health in the United States, 1900-1999	2007	SEC
	Characteristics of Crashes with Farm Vehicles that Increase Potential for Injury	2006	GPC

## Language Legend

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	Child Needs of Rural Alabama Latino Families	2006	SCC
	Health Studies of farmworkers in Starr County, TX.	2006	SWC
Manuscript	2006 edition of the Northwest Forest Worker Safety Review	2006	PNC
	A Food Safety Education Program for Farm Workers and their Families	2006	SWC
	A Look at Farmworkers in California	2006	SWC
Manuscript	A summary of findings	2007	NEC
	Ag Connections: agricultural safety and health spring 2007	2007	SWC
	Alive and Well Newsletter with Certified Safe Farm Insert	2006	GPC
	Approaching health concerns of small scale limited resource farmers: a perspective from Alabama's black belt	2008	SCC
	Chronic back pain and associated work and non-work variables among farmworkers from Starr County, Texas	2008	SWC
	Closing the Communication Gap: Indigenous Languages Spoken by Migrant Head Start Families in Eastern North Carolina	2008	SCC
	Comparative Description of Migrant Farmworkers vs. Other Students Attending South Texas Schools: Demographic, Employment, and Health Indicators	2005	SWC
	Comparative Performance of the BioSampler Aerosol Collection device for Collection and Retention of E. coli and Variable Sized Microspheres	2008	PNC
	Cost-effectiveness of wearing head protection on ATVs	2008	SEC
	Endosulfan induces CYP2B6 and CYP3A4 by activating the pregnane X receptor.	2006	SCC
	Endosulfan induces CYP2B6 and CYP3A4 by activating the pregnane X receptor	2007	SCC
	Evaluation of a policy to reduce tractor crashes on public roads	2005	NCC
	Exposure risks and tetanus immunization status in farmers ages 50 and over	2008	SEC

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	Factor structure of the Center for Epidemiologic Studies – depression scale; a study of women across the life span	2007	SEC
	Factors Influencing Safety Among a Group of Shrimp Fishermen Along the Texas Gulf Coast	2008	SWC
	FFA Students' Inspection of Farm Tractor Safety Status	2008	SEC
	Fipronil induces CYP isoforms in human hepatocytes	2006	SCC
Manuscript	Frequency of farm building construction-related diseases and injuries [collaborative endeavor with Great Plains Center, Iowa]	2008	SEC
	From research to practice: partnerships for preventing farming-related injuries to rural youth	2007	SEC
	Hand problems in migrant farmworkers	2008	SWC
	Healthy worker effect related to tractor overturn injuries	2007	SEC
	High-throughput automated luminescent magnetic particle-based immunoassay to monitor human exposure to pyrethroid insecticides	2007	WC
	Identifying the occupational health needs of migrant workers*	2007	NEC
	Identifying the occupational health needs of migrant workers: a preliminary project report	2007	NEC
	In vitro human phase I metabolism of xenobiotics I: Pesticides and related compounds used in agriculture and public health, July 2006, an update of a data base in preparation for J. Biochem. Mol. Toxicol	2006	SCC
	Injury severity related to overturn characteristics of tractors	2008	SEC
	Intervening to improve health indicators among Australian farm families	2008	SEC
	Metabolism of endosulfan-alpha by human liver microsomes and its utility as simultaneous in vitro probe for CYP2B6 and CYP3A4	2006	SCC
	NAGCAT: Five Year Assessment and priorities for the Future	2005	NCC

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	Overcoming barriers to safe operation of agricultural tractors: insights from participatory, community-based social marketing (NIFS)	2007	SEC
	Overcoming barriers to safe operation of agricultural tractors: insights from participatory, community-based social marketing*	2007	WC
	Pesticide dose estimates for children of Iowa farmers	2006	GPC
Manuscript	Phage-borne analyte peptidomimetics accelerate the development of polyclonal antibody-based heterologous immunoassays	2007	WC
	Prevalence of ROPS-equipped tractors on minority operated farms in the U.S.	2008	SEC
	Projected incidence and cost of tractor overturn-related injuries in the United States	2007	SEC
	Psychometric evaluation of John Henry self-efficacy scale in a sample of older farmers	2008	SEC
	Pyrethroid mediated cytotoxicity and modulation of CYP isofoms in human hepatocytes	2006	SCC
	Retired. . . Not! A Profile of the "Retired" Kentucky/South Carolina Farmer	2008	SEC
	Sensor-in-the-Loop Pose and Motion Simulation for Tractor Rollover Precaution	2005	GLC
	Severe back symptoms among farmworker adolescents from Starr County, Texas	2005	SWC
	Simple solutions for reduced fish farm hazards	2008	SEC
	Students' inspection of farm tractor roadway safety status	2007	SEC
	Suicides among farmers in three southeastern states	2008	SEC
	Surveillance Study Update	2008	NEC
	Symptoms of Neurotoxicity and Injury among Adolescent Farmworkers in Starr County, Texas	2008	SWC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ♦Finnish

	The Construction of Hunger among Migrant Farmworker Families: Dietary Adaptations in Response to Working and Living Conditions in Eastern North Carolina	2008	SCC
	The economics of public safety and health: a community relevant approach to integrating real-work experience and required standards-based economic content	2007	SEC
	The importance of P450 2B6 (CYP2B6) in the human metabolism of environmental chemicals	2006	SCC
Manuscript	Tractor Overturn Concerns in Iowa: Perspectives from the Keokuk County Rural Health Study	2006	GPC
	Web data management for epidemiologic studies - a dynamic approach	2005	SWC
	Youth All-Terrain Vehicle Safety Behavior	2006	GPC
Newsletter	"Consensus as a Decision Making Model in Proyecto Bienestar"	2006	PNC
	A community based participatory approach to understanding ergonomic affects of blueberry rake modifications	2007	NEC
	A program design for promoting farm health and safety through a family practice office	2007	SEC
	Accessibility of poison control center hotlines to Spanish-speaking callers (poster/Senior thesis)	2007	SEC
	Aghealth News	2008	WC
	Aghealth News	2008	WC
	Aghealth News	2008	WC
	Aghealth News	2008	WC
	Analysis of environmental and occupational health concerns in key informant interviews with Community Advisory Board (CAB) members of El Proyecto Bienestar	2006	PNC
	Back Pain	2008	SWC
	Beat the Heat: A Lesson in Dehydration*	2005	SWC
	Bury a Tradition•	2006	NCC

## Language Legend

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	Children and Environmental Exposures: Resources for the Health Professional	2006	SWC
	Collaborative study in Colorado and California to determine the respiratory health risks of dairy workers	2007	WC
	Cultivation	2006	SWC
Newsletter	Cultivation Newsletter	2008	SWC
	Development of a CE Program to Address Occupational Stress Among Farm Owners and Farm Workers	2006	SWC
	Disability in Rural America	2005	SWC
	Effects of Working with Livestock on Farm Women	2006	SEC
	El Melon Rondero*	2008	WC
	El Melón Rondero*	2007	WC
	Facts About Skin Cancer*	2005	SWC
	Farm and Agricultural Deaths - Calendar Year 2005	2006	GPC
	Farm injury prevention a top concern for Joan Mazur	2008	SEC
	Farmworker Gets Poisoned by Eating Contaminated Fruit*	2005	SWC
	Fourth Quarter Farm Injury Profile	2006	GPC
	GIS Mapping-Identifying Unmet Need	2006	SWC
	GLCASH News	2006	GLC
	Great Lakes Center for Agricultural Safety and Health News	2005	GLC
	Great Lakes Center for Agricultural Safety and Health News Issue 8	2005	GLC
	Great Lakes Center for Agricultural Safety and Health News, Issue 9	2005	GLC
	Health and Safety Concerns of Pregnant Farmworkers*	2006	SWC
	How Farmworkers Identify Themselves	2005	SWC
	Iowa Farmer Today Monthly column	2008	GPC

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	Learning the Facts About Avian Flu	2006	SWC
	Northwest Forest Worker Safety Review	2008	PNC
Newsletter	Northwest Forestland Worker Safety Review	2007	PNC
	Nurture	2005	NCC
	Nurture	2006	NCC
	NYCAMH apple bucket study update for 2007	2007	NEC
	Occupational Health Resources	2006	SWC
	Orchard Worker Suffers Scratch to the Eye*	2006	SWC
	Peach Picker Suffers from a Heart Attack While Working	2005	SWC
	Pesticides Exposure Study on Farmworkers in Oregon	2006	SWC
	PNASH bimonthly-news	2008	PNC
	PNASH Internal E-news	2005	PNC
	PNASH Internal E-news	2006	PNC
	Pterygium: Can it Happen to Me too?*	2006	SWC
	Recent Findings from the National Agricultural Workers Survey:2001-2002	2005	SWC
	Recommendations for Research and Intervention Strategies in Farmworker Adolescent Populations	2006	SWC
	Results of the Research Track Survey	2006	SWC
	Sick Farmworker Falls off Tractor and Breaks Arm*	2006	SWC
	Statewide surveillance in New York State	2007	NEC
	Surveillance Study Update	2008	NEC
	Third Quarter Farm Injury Profile	2006	GPC

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	Tobacco barn project benefits health and bottom line	2008	SCC
	What You Can About Summer Insects*	2005	SWC
Newsletter	Worker gets Teeth Knocked out by Crate of Apples*	2006	SWC
	Worker Has Severe Allergic Reaction to Fire Ants*	2005	SWC
	Worker Injured in Forklift Accident due to Alcohol*	2006	SWC
	Young Blueberry Raker Faints while Raking Blueberries in the Field*	2006	SWC
Poster	Accessibility of Poison Control Center Hotlines to Spanish Speaking Callers. [First Place student poster presentation]	2008	SEC
	Accessibility of Poison Control Center Hotlines to Spanish-speaking Callers. [Student poster, 2007 Annual Meeting of the North American Congress of Clinical Toxicology]	2008	SEC
	Agricultural health and safety	2007	HIC
	Agricultural impacts on your brain and respiratory system	2007	WC
	Agricultural infections A to Z	2007	SWC
	Agroterrorism: what it is and what role can clinicians play?	2007	SWC
	Air pollution, climate changes & health: what is science telling us?	2007	WC
	Ambient pesticide air concentrations in Parlier; environmental justice project	2007	WC
	Closing the Communication Gap: Indigenous Languages Spoken by Migrant Head Start Families in Eastern North Carolina	2008	SCC
	Costs of tractor operator injuries from overturns and highway collisions – progress report: year 2*	2007	SEC
	Designing community-based social marketing programs for tractor safety: formative research findings*	2007	SEC
	Designing community-based social marketing programs for tractor safety	2008	SEC
	Development of a farm safety survey for aquaculture production.	2008	SEC
	Effects of acculturation and food security on the child-parent feeding relationship among Latinos*	2007	WC

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	EI Terror Invisible: Preventing Exposure to Agricultural Chemicals for Promotores	2008	SWC
Poster	Elevating food safety capabilities using wireless and remote emerging technologies	2007	WC
	Environmental influences on early lung development	2007	WC
	Environmental solutions series: towards environmental health in the San Joaquin Valley	2007	WC
	Ergonomics vs. bionomics for injury prevention*	2007	WC
	Evaluating power and participating in community based participatory research: evaluation results from EI Proyecto Bienstar*	2007	PNC
	Evaluation of the NAGCAT Tractor Guidelines	2005	WC
	Evaluation of the NAGCAT Tractor Guidelines	2006	WC
	Feasibility and efficacy of use of ROPS for ATV in farm*	2007	HIC
	FFA students' inspection of farm tractor roadway safety status*	2007	SEC
	Field Testing of the Farm Grain Hazard Assessment Tool in Illinois	2005	GLC
	Fluorescent Tracer Manual: An Educational Tool for Pesticide Safety Educators	2008	PNC
	Go for catches not cancer	2006	SCC
	Heat Illness	2008	PNC
	Identifying risk factors for cholinesterase depression among pesticide handlers in Washington state	2007	PNC
	Images of Farm Safety in the Media	2006	SEC
	Immigration and acculturation factors related to perceptions about weight and BMI in California farm workers	2007	WC
	Ingestion of spittoon contents: an overlooked source of potentially toxic nicotine exposures	2008	SEC
	Ingestion of spittoon contents: an overlooked source of potentially toxic nicotine exposures. [Work funded during earlier study]	2008	SEC
	Injuries in Orchards	2006	PNC
	Injuries in South Texas farmworker adolescents	2006	SWC
	Inside Agromedicine Newsletter	2007	SCC
	Intervention Development for Community Collaboration	2006	NEC

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	Ladder Injuries Poster	2006	PNC
Poster	Migrant Farmworker Healthcare Utilization-Survey Findings from the Finger Lakes Region of New York	2006	NEC
	Migrant Outreach Project: Kentucky Children's Health Insurance Program (KCHIP)	2008	SEC
	NC Agromedicine Research Forum, June 2006	2006	SCC
	New Iron	2005	GLC
	NIOSH Agricultural Centers: National Agricultural Tractor Safety Initiative (NORA Symposium Poster #023)	2008	SEC
	Nurse agricultural education project	2007	SEC
	Occupational Health and Safety of Cedar Block Cutters on the Olympic Peninsula	2008	PNC
	Operator injury outcomes for overturns of ROPS and non-ROPS tractors	2008	SEC
	Operator injury outcomes for overturns of ROPS and non-ROPS tractors	2008	SEC
	Organophosphorous Pesticides and Kids CME Course	2008	PNC
	Poster Presentation: Sprain and strain musculoskeletal disorders among Colorado agriculture workers: an analysis of workers compensation claims data	2008	HIC
	Poster Presentation: The use of workers' compensation data to investigate livestock-handling injuries in agriculture	2008	HIC
	Poster: The use of workers' compensation data to investigate tractor-related injuries in agriculture	2008	HIC
	Preparing to Prevent Tractor Injuries and Fatalities with a National Tractor Safety Initiative	2005	PNC
	Ratio of non-fatal to fatal injuries of tractors without ROPS	2007	SEC
	Research to Practice: Feasibility Study of an Ergonomic Apple Harvest Bucket	2007	NEC
	Research to Practice: Feasibility Study of an Ergonomic Apple Harvest Bucket	2006	NEC
	Respiratory Health of Kentucky Farm Children	2005	SEC
	Safety as Criteria for Animal Housing Floor Surface Design♦	2006	GPC
	Severe back pain among farmworker adolescents from Starr County, Texas	2006	SWC
	Severe back pain among farmworker high school students from Starr County, Texas	2006	SWC
Poster	Shrimp boat captain training: scenario posters▲	2007	SWC

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	Simple Solutions for Safety	2008	SEC
	Simple Solutions for Safety [poster]	2008	SEC
	Smoking patterns in Hispanic farm worker families	2007	WC
	Stakeholder Input and Cultural Considerations in Addressing Behavioral Factors in a Unique Agricultural Work Population (Commercial Shrimpers)	2006	SWC
	Stakeholder input and worker health protection in commercial fishermen of the Gulf Coast	2007	SWC
	The Construction of Hunger among Migrant Farm Worker Families: Dietary Adaptations in Response to working and Living Conditions in Eastern North Carolina	2008	SCC
	The Development and Pilot Testing of "First Aid Farm Quest", an Interactive CD Focusing on First Aid and Injury Prevention For Farm Youth	2006	SWC
	The use of workers' compensation data to investigate livestock-handling injuries in agriculture	2008	HIC
	The use of workers' compensation data to investigate tractor-related injuries in agriculture	2008	HIC
	Toward more effective water resources information/education programs: lessons learned from health communication	2008	HIC
	Translating research to practice: Implications for natural resources management	2008	HIC
	Ventilation Criteria for Confined-Space Manure Storages	2006	NEC
	Web-based CME course: organophosphates and child health: a primer for health care providers, <a href="http://depts.washington.edu/pehsu/pesticide/index.html">http://depts.washington.edu/pehsu/pesticide/index.html</a>	2007	PNC
	Work Hard, Play Hard, Ride Smart	2006	GPC
PowerPoint Presentation	Gravimetric and Endotoxin Evaluation of Size-Selective Sampling Methods Using Swine Dust in a Wind Tunnel	2005	HIC
	Health & safety risk management	2007	HIC
	Housing conditions and the health of Mexican migrant farm laborers in California*	2007	WC
	Immigration reform and its implications for farmers and workers*	2007	WC
PowerPoint Presentation	Misconceptions about older farmers' roles and value: implications for rural community public health and safety*	2007	SEC

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	Nanoparticles & health	2007	WC
	New approaches for community-based participatory research among Central Valley Hispanic farm workers*	2007	WC
	New York State ROPS retrofit rebate hotline	2007	NEC
	Northeast community collaborations for farmworker health & safety*	2007	NEC
	Particle Bounce and Endotoxin Levels in a Marple Cascade Sampler with PVC Filters presented at AIHCE in Los Angeles, CA	2005	HIC
	Pesticide and chemical safety*	2007	SWC
	Pesticide poisoning in children	2007	SWC
	Pesticide record keeping education for restricted-use pesticide application	2007	NEC
	Platform Presentation: Ergonomics and large herd dairy operations	2008	HIC
	Providing health services to aging farmers: a practitioner's perspective*	2007	SEC
	Pulmonary collagen deposition in experimental models; a marker of acute injury or an early index of interstitial fibrosis? Phosgene-induced pulmonary toxicity revisited	2007	WC
	ROPS stand review in 2007	2007	HIC
	Safety and health education for aging farmers and scarce resources, what are the implications?	2007	SEC
	Safety and health in aquaculture	2007	SEC
	Southeast Center for Agricultural Health and Injury Prevention	2007	SEC
	Southeast Center for Agricultural Health and Injury Prevention; animated PowerPoint presentation	2007	SEC
	Stakeholder input in developing safety training for a unique agricultural work population	2007	SWC
	Struggles and successes in El Priesto Bienstar, a community based participatory research project for environmental and occupational health	2007	PNC
PowerPoint Presentation	Supporting a distributed research infrastructure: development and iterative testing of an online data collection system for a multi-state NIOSH grant	2007	SEC

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	The biology of asthma: using animal models to investigate lung development and the impact of environmental factors	2007	WC
	The body & air we breathe: impacts, challenges & solutions to valley air pollution	2007	WC
	The changing face of agriculture: older farmers	2007	SEC
	The narrative section of poison control center records: advantages and disadvantages to identifying agricultural poisonings*	2007	SEC
	The social marketing of ROPS in New York State	2007	NEC
	Understanding the effects of extended handles on worker productivity, pain, and berry quality	2007	NEC
	University – health department partnerships for public health: a recipe for success in addressing the needs of rural Hispanic populations	2007	SEC
	Using digital documentaries to advocate prevention: training public school teachers in the economics of preventing agricultural injuries	2007	SEC
	Web-based CME course: organophosphates and child health: a primer for health care providers, <a href="http://depts.washington.edu/pehsu/pesticide/index.html">http://depts.washington.edu/pehsu/pesticide/index.html</a>	2007	PNC
	Working with disabilities among farmers, farm workers and ranchers	2007	WC
PowerPoint Presentation (for distribution)	Adolescent pesticide exposures	2008	SEC
	Analyses and exposure assessment of bacterial endotoxin in agricultural environments	2008	HIC
	Analysis of Engineer Inspections on a Random Sample of Farmer Installed ROPS in NY State	2008	NEC
	Assessing the Noise Induced Hearing Loss of Maine Potato Farmers	2008	NEC
	Biomarkers of sensitivity and exposure in Washington State pesticide handlers	2008	PNC
PowerPoint Presentation (for distribution)	Comparison of Limulus ameocyte lysate (LAL) and recombinant Factor C (rFC) bioassays for endotoxin measurement in livestock dusts	2008	HIC
	Designing Community-Based Social Marketing Programs for Tractor Safety: A Rollover Protective Structure Initiative	2008	SCC

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	Determinants of exposure to dust and endotoxins in four agricultural environments	2008	HIC
	Economics of preventing agricultural injuries to adolescent and adult farm workers (EOP)	2008	SEC
	Endotoxin Exposure and Respiratory Outcomes among Dairy, Cattle Feedlot, and Grain Elevator Workers in Colorado and Nebraska	2008	HIC
	Greasing the Gears: Social Marketing Research into ROPS Obtainment and Use in North Carolina	2008	SCC
	Healthy Farmworker Practices to Prevent Skin and Eye Irritation: Before, During and After Work*	2008	NEC
	Information campaigns and public perceptions of natural resources issues	2008	HIC
	Life events calendar	2008	PNC
	Lost Time from Injuries and Occupational Diseases in Agriculture in Finland	2008	HIC
	NIOSH Agricultural Centers – National Agricultural Tractor Safety Initiative	2008	HIC
	Occupational Health of Salvage Cedar Block Cutters	2008	PNC
	Orchard Injuries: What Research Tells Us	2008	PNC
	Pilot Project: Characterizing health risks in privately supplied drinking water due to agricultural practices in rural Western Kentucky, leading to an intervention study	2008	SEC
	Pilot Project: Linkage of atrazine exposure and birth data in Kentucky: assessment of data sources and needs.	2008	SEC
	Providing health services to aging farmers: a practitioner's perspective.	2008	SEC
	Risk factors for occupational pesticide exposure	2008	PNC
PowerPoint Presentation (for distribution)	Serum cholinesterase inhibition in relation to paraoxonase status among agricultural pesticide handlers	2008	PNC
	Struggles and Successes in El Proyecto Bienestar, a community based participatory research project for environmental and occupational health	2008	PNC
	The Community Collaboration for Farmworker Health and Safety, a Comparison of Two Northeast Projects	2008	NEC
	The Construction of Hunger among Migrant Farm Worker Families: Dietary Adaptations in Response to Working and Living Conditions in Eastern North Carolina	2008	SCC
	Variability of Endotoxin in Agricultural Environments	2008	HIC

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	Webinar: Agricultural Dusts and Respiratory Disease - University of Texas Health Sciences Center at Tyler, Innovative Training Experiences for Occupational Medicine Residents in Non-Urban and Agricultural Settings	2008	HIC
	Webinar: Endotoxin Exposure and Genetic Factors in Organic Dust Lung Disease - University of Texas Health Sciences Center at Tyler, Innovative Training Experiences for Occupational Medicine Residents in Non-Urban and Agricultural Settings	2008	HIC
Presentation	4-H program priority survey	2007	SWC
	A computer-based survey instrument for exposure assessment among agricultural pesticide handlers*	2007	PNC
	Activity/product data entry forms (MS Word)	2007	SWC
	Developing Logic Models for Intervention and Evaluation	2005	SWC
	Enhancing Capacity of Navajo Farmers and Ranchers to Reduce Injury	2005	SWC
Questionnaire or survey instrument	Agricultural Health and Safety Survey*	2005	WC
	Agriscience Teachers' Attitudes and Perceptions of Agricultural Safety Certification	2008	SWC
	ATV Behavior and Attitude	2006	GPC
	Barriers to Implementation of Tractor Certification Training	2008	SWC
	Clinic Intake form	2006	SCC
Questionnaire or survey instrument	Computer-based exposure history questionnaire for cholinesterase depression among Hispanic pesticide handlers	2007	PNC
	Critical Thinking about the Cost of Injury (CTC1 and CTC2)	2006	SEC
	Expert interview questionnaire for interventions to minimize worker and family pesticide exposures	2007	PNC
	Exposure history questionnaires for job-related exposures for diarrheal illness in farmworker families	2007	PNC
	Extension Agents' Attitudes and Perceptions Toward Agricultural Safety Certifications	2008	SWC
	Eye Intervention Evaluation Survey Tool*	2005	NEC
	Farm Bio-Safety Survey	2008	NEC
	Farm Safety and Economics (FSE)	2006	SEC
	Farm worker health research program (MICASA)*	2007	WC

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	Farmers and Ranchers Perception on Disability	2008	SWC
	Feedback from participants Work Safely trabajo Con Cuidado Curriculum in South Texas*	2005	SWC
	Financial Incentives for Rollover Protective Structures Survey-Draft	2006	NCC
	Focus group guide*	2007	SWC
	Focus Group Guide-Migrant Farm Workers Regarding NAGCAT*	2006	NCC
	From the pilot study, we developed a large survey (and grant application - R-01) to NIH/NINR	2005	
	Me and My Farm Experience (MMFE)	2006	SEC
	Me and my farming experience (MMFE), e-part, 21-item instrument obtains baseline demographic data	2007	SEC
	Medical chart abstraction form	2005	NEC
	Migrant Occupational Health Survey*+	2005	NEC
	Migrant Occupational Health Survey-Maine	2006	NEC
	Perception of Work Exposure Risk Among Vietnamese Commercial Shrimpers ▲	2008	SWC
	Personal particulate sampling set-up for simultaneous collection of total suspended solids, PM 2.5 fractions, and continuous ammonia monitoring*	2008	WC
	Pesticide exposure history questionnaire	2008	PNC
Questionnaire or survey instrument	Questionnaire for pesticide exposure and neurobehavioral effects in children of farmworkers	2007	PNC
	Questionnaire for skills retention in fishing safety training	2007	PNC
	Questionnaire to assess conditions/ and work practices in poultry farming	2008	NEC
	Radio recruiting strategy for personal safety/hazard stories from farmworkers	2007	PNC
	Rake Intervention Survey Tools*	2005	NEC
	Safe Play on Farms Survey-WI Farm Technology Days 2005	2005	NCC
	Safety Audit Form for Eye Protection	2008	NEC
	Safety Audit Form for Hearing Conservation	2008	NEC
	Self-administered survey; interviewer-administered survey; clinical form*	2007	SWC
	Sharing the Road with Farm Vehicles Safety Awareness: Quiz	2006	SEC

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	Sharing the Road with Farm Vehicles Safety Awareness: Answer Key	2006	SEC
	Stage of change/theory of planned behavioral survey	2007	NEC
	Stages of Change Survey Questionnaire	2005	NEC
	STARRS Web-based Survey*	2005	SWC
	Survey for introducing a cholinesterase test kit into clinical practice	2007	PNC
	Survey for Pesticide Application and Worker Protection Standard Recordkeeping Manual	2008	NEC
	Survey of bioaerosol exposures in Washington dairy barns	2007	PNC
	The Effectiveness of a Texas Community Based Agricultural Health and Safety Coalition	2005	SWC
	Thinking and Talking about Farm Safety (TTS 1, TTS 2 pre and post tests)	2006	SEC
	Year 2 Data Collection Instruments*	2008	SWC
Radio script	Radio Novelas on Heat Related Illnesses	2008	PNC
Report	Aquaculture safety and health: year 1 progress report	2007	SEC
	Back pain, work, and health-related quality of life among south Texas adolescents*	2007	SWC
	Back Symptoms and Work among Farmworker Adolescents from Starr County, Texas	2005	SWC
Report	Board Book 2006-2011	2006	SWC
	Children and Agriculture: Telling the Story Evaluation Report	2006	NCC
	Cycle end report – SW Center for Agricultural Health, Injury Prevention, and Education*	2007	SWC
	Evaluation reliability and accuracy of cholinesterase test kit with various sample storage conditions	2007	PNC
	First Bilingual Occupational Health Curriculum for Farmworkers in Texas	2006	SWC
	Hands-On Pesticide Handler Training: Exit Interview	2006	PNC
	Identifying Occupational Health Concerns of Migrant Farmworkers	2006	NEC
	Is a "Work Safely Trabaja con Cuidado Curriculum" an approach for Mexican young workers?*	2005	SWC
	Mower ROPS Design	2005	HIC

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	NIOSH Agricultural Center Initiative evaluation project report*	2007	HIC
	Orchard Worker Surveillance	2006	PNC
	PNASH center research review notes	2007	PNC
	PNASH research to practice notes	2007	PNC
	Preliminary results of micro array analysis - endocrine disruption with agricultural chemical exposure	2006	SWC
	Progress report for the Southwest Center for Agricultural Health, Injury Prevention, and Education	2007	SWC
	Reaching young Workers	2005	SWC
	Research in Progress paper No. 15. An evaluation of a policy to reduce youth tractor crashes on public roads.	2005	NCC
	ROPS Design and Mounting	2005	HIC
	Safe Play Areas on Farms Demonstration Exhibit Evaluation Report	2005	NCC
	Self-study of the Southeast Center for Agricultural Health and Injury Prevention; 2007 Jan 11	2007	SEC
	Southwest Center for Agricultural Health, Injury Prevention, and Education - 10 Years in Review	2006	SWC
	The adolescent work life study – manual of procedures	2007	SWC
Report (Unpublished)	ConneX College Summer Program	2008	PNC
Report (Unpublished)	ConneX Summer College Course	2008	PNC
	Consultation report and recommendations: Consultation and sampling regarding exhaust in tractor cab	2008	HIC
	Farm worker Summit Outcome Summary	2008	SCC
	Meet ConneX Summer Class	2008	PNC
	Mexican Immigration to California: Agricultural safety and acculturation (MICASA) Report to The California Endowment	2008	WC
	National Agricultural Tractor Safety Initiative: Final Progress Report and Recommendations, December 31, 2007	2008	HIC
	Project update and review of project activities to date	2008	NEC
	Short summary and resources	2008	SCC
	Tools and methods relevant to contract workers' occupational injury risk identification, perception, communication, and prevention	2008	SEC
	Year 2 Manual of Procedures	2008	SWC

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Report to NIOSH (year end or continuation)	2008 Non-competitive renewal: Southeast Center for Agricultural Health and Injury Prevention [2008 Apr 22 Progress Reports]	2008	SEC
	A Simple Intervention to Aid in the Reduction of Organophosphate Pesticides from Take-Home Pathways	2006	PNC
	A Spanish Language Narrative Simulation to Prevent Horseback Riding Head Injury Among Rural Youth	2006	SEC
	A study of work injuries in farmworker children*	2007	SWC
	Analysis of Environmental and Occupational Health Concerns in Key Informant Interviews with Community Advisory Board (CAB) Members of Proyecto Bienestar"	2006	PNC
	Back pain in migrant farmworker families and farmworker adolescents from Starr County, TX	2006	SWC
	Changes in clinical health indicators in a cohort of Australian farm families	2007	SEC
	Community Health Intervention with Yakima Agricultural Workers Progress Report and Year 3 Renewal	2005	PNC
	Cost-effectiveness of promoting roll-over protective structures (ROPS) and seat belts on family farm tractors. Final Report, NIOSH Cooperative Agreement 5 U50 OH007547-05. 2007 Dec 28	2008	SEC
Report to NIOSH (year end or continuation)	Costs of tractor operator injuries from overturns and highway collisions: final report; 2007 Oct 25*	2007	SEC
	Developing a culturally sensitive safety program for Vietnamese shrimpers in U.S. Coast Guard District 8*	2007	SWC
	Economics of preventing agricultural injuries to adolescent and adult farmers: year 1 progress report	2007	SEC
	Engaging high school students in activities to prevent tractor-related injuries. Final Report, NIOSH Cooperative Agreement 3 U50 OH007547-05S2. 2007 Dec 28	2008	SEC
	Evaluating the Effectiveness of an Innovative Safety Education Program for Hmong Farm Families	2005	NCC
	FFA students' inspection of farm tractor safety status. Final Report, NIOSH Cooperative Agreement 3 U50 OH007547- 05S2	2008	SEC
	Final Report of the Southeast Center for Agricultural Health and Injury Prevention; September 30, 2001 -- September 29, 2007; Award # U50 OH007547	2008	SEC

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	Final report to NIOSH*	2007	PNC
	Grant Progress Report to NIOSH	2008	SWC
	Louisiana healthy farm families initiative*	2007	SWC
	Model Farmers Dissemination Project	2008	SWC
	National Tractor Safety Initiative: Costs of tractor operator injuries from overturns and highway collisions. Final Report, NIOSH Cooperative Agreement U50 OH007547-05. 2007 Dec 28.	2008	SEC
	Nurse agricultural education project (phase II): year 1 progress report	2007	SEC
	Pacific Northwest Agricultural Center Renewal and Progress Report	2008	PNC
	Panhandle coalitions for agricultural safety and health*	2007	SWC
	Partnerships for preventing farm-related injuries to rural youth. Final Report, NIOSH Cooperative Agreement 5 U50 OH007547-05. 2007 Dec 28.	2008	SEC
	PNASH Progress Report and Year 5 Renewal	2005	PNC
	Poison center surveillance of agricultural poisonings: year 1 progress report	2007	SEC
Report to NIOSH (year end or continuation)	Preventing agricultural work injuries on the Navajo Nation*	2007	SWC
	Progress Report: SW Center for Agricultural Health, Injury Prevention, and Education	2008	SWC
	Progress Report: Worker Health Protection Among Shrimp Fishermen of the Gulf Coast	2008	SWC
	Promoviendo Farmworker Safety	2008	SWC
	Revised apple picking belt and revised hook system	2008	NEC
	Southeast Center for Agricultural Health and Injury Prevention: progress report (2006 April)	2007	SEC
	Teaching public health students about agricultural safety and health: year 1 progress report	2007	SEC
	Year 4 Final Report	2006	PNC

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Simulation Exercise	Brad's Last Ride	2008	SEC
Thesis or dissertation	"Teen Workers: Real Jobs, Real Risks"	2006	PNC
	Analyses and exposure assessment of bacterial endotoxin in agricultural environments	2008	HIC
	Assessment of Chlorpyrifos Exposure in Agricultural Workers During Airblast Applications	2008	PNC
	Characterizing the Performance of the "Smart" Tripod Orchard Ladder	2005	PNC
	Designing Community-Based Social Marketing Programs for Tractor Safety: A Rollover Protective Structure Initiative	2008	SCC
	Evaluating Training Improvement and Assessment Tools in Hands-On Pesticide Handler Training	2006	PNC
	Greasing the Gears: Social Marketing Research into ROPS Obtainment and Use in North Carolina	2008	SCC
	Kentucky Livestock-related Injury/Handling Facility Survey	2006	SEC
	Key Informant Perception of Environmental and Occupational Risks for Agricultural Workers in Yakima Valley, Washington, as a part of El Proyecto Bienstar	2005	PNC
	Simulation and Validation of Hydrogen Sulfide Removal from Ventilated Confined Space Manure Storages	2006	NEC
Thesis or dissertation	The Work Process and Health Risks from the Perspective of Farmworkers in the Rio Grande Valley, Texas, and Immokalee, Florida: A Qualitative Analysis*	2008	SWC

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	Translation of the Fluorescent Tracer Technique from a Research Dermal Exposure Method to a Pesticide Safety Educational Tool	2006	PNC
	Usability: An important Consideration for Public Health Education on the Web	2008	PNC
U.S. Patent Application	For the belt and hook system for apple picking	2008	NEC
Video/DVD	"Smart" Tripod Orchard Ladder	2005	PNC
	"Smart" Tripod Orchard Ladder	2006	PNC
	7th Int'l Conf ICOH: OH Educational Training for Everyone Everywhere•	2005	SEC
	A Theory-driven, Evidence-based Intervention: Seven Years, Four Thousand Businesses, Three Safer Ways to Work	2006	GPC
	A Tractor Accident - It Can Happen to Anyone	2005	GLC
	Agricultural Ergonomics Research at UC Davis: Past, Present & Future	2008	WC
	Archive of Live Class Session	2006	GPC
	Beef calf lifting mechanism-lever system functional prototype	2006	SCC
	Beef calf lifting mechanism-modified handle system functional prototype	2006	SCC
	Bridging the Gap: Understanding and Addressing the Culture/Language Divide Between Agricultural Workers and the American Workplace	2008	WC
	CAFF and its Impact on the Health of Farmers and Farmworkers	2008	WC
	Cattle Handling Safety	2005	SWC
	Cattle Handling Safety	2006	SWC
	Cholinesterase assay for human and rat plasma	2007	PNC
	Extending the Worker Occupational Safety, Health Training & Education Program into Agriculture	2008	WC
	Hazardous Occupations Safety Training in Agriculture (HOSTA) - Task Sheet 4.2 - Tractor Hazards	2006	GPC
	Immunoassay Methods for Pesticide Exposure Monitoring	2008	WC
Video/DVD	Infectious Diseases in Agriculture: Concerns Grow, Numbers of Veterinarians Shrink	2008	WC
	Livestock Handling Equipment (Cattle Squeeze Chutes)	2006	GPC
	Livestock Safety for Kids	2005	SWC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish

	Livestock Safety for Kids - English	2006	SWC
	Livestock Safety for Kids – Spanish*	2006	SWC
	Lost Youth- Juventud Perdida*	2005	SWC
	Man, 29, Died when Tractor with Front-end Loader Full of Rocks Overturned (2005IA022)	2006	GPC
	Pesticide exposure among North Carolina Farmworkers	2008	WC
	Regulatory Impacts on Southeast Asian Small Farms in Fresno: pesticide, labor, OSHA, and water	2008	WC
	The Regulation of Pesticides in California	2008	WC
	2007-2008 Web pages of the Southeast Center for Agricultural Health and Injury Prevention [renovated and moved in 2008 Aug to <a href="http://www.mc.uky.edu/scahip/">http://www.mc.uky.edu/scahip/</a> ]	2008	SEC
	AgHERE list serve: nurses' roles in ag health and safety	2007	SEC
	AgHERE List Serve: Nurses' Roles in Ag Health and Safety	2006	SEC
	Agriculture & Air Quality—Issues and Solutions—A Stakeholders Conference	2008	WC
	Blood pressure categorization application on the web	2007	SWC
	California dairy environmental health research initiative (Cal-Dehri)*	2007	WC
	Categorization of blood pressure: research and clinical implications	2007	SWC
	Children's Corner	2006	HIC
	Community Collaboration for Farmworker Health and Safety*	2006	NEC
Website or webpage established	Developing Methods to Improve Migrant Farmworker Occupational Healthcare-The Migrant Farmworker Healthcare Utilization Survey Project	2006	NEC
	GLCASH Fellows Evaluating for Impact Online Course	2005	GLC
	GLCASH web site	2007	GLC
	<a href="http://itsharepoint.uchc.edu">http://itsharepoint.uchc.edu</a>	2007	NEC
Website or webpage established	National tractor safety initiative	2007	PNC
	National Tractor Safety Initiative	2008	PNC
	No way to meet a neighbor (web quest)	2007	SEC
	No Way to Meet a Neighbor Web Quest	2006	SEC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ♦Finnish

	Organophosphate Pesticides and Child Health: A Primer for Health Care Providers	2006	PNC
	Pacific Northwest Agricultural Safety and Health	2008	PNC
	Pacific Northwest Agricultural Safety and Health Center	2007	PNC
	PNASH Center	2005	PNC
	PNASH Center	2006	PNC
	Semi-Literate Educational Materials	2005	PNC
	SW Center for Agricultural Health, Injury Prevention, and Education	2007	SWC
	Texas Women in Denim	2006	SWC
	The orchard ergonomic study webpage	2007	NEC
	Tractor and motor vehicle web quest: whose responsibility is it to help prevent a tractor-motor vehicle collision?	2007	SEC
	Tractor and Motor Vehicle Web Quest: Whose Responsibility Is It to Help Prevent a Tractor-Motor Vehicle Collision?	2006	SEC
	Web link: All state's laws referring to youth tractor operation	2005	NCC
	Web pages of the Southeast Center for Agricultural Health and Injury Prevention: <a href="http://www.mc.uky.edu/scahip/">http://www.mc.uky.edu/scahip/</a> [2008 renovation]	2008	SEC
	Web-based CME course: organophosphates and child health: a primer for health care providers, <a href="http://depts.washington.edu/pehsu/pesticide/index.html">http://depts.washington.edu/pehsu/pesticide/index.html</a>	2007	PNC
	<a href="http://www.childagsafety.org">www.childagsafety.org</a>	2006	NCC
	<a href="http://www.ropsr4u.com">www.ropsr4u.com</a>	2008	NEC
	<a href="http://www.ukcph.org/scahip">www.ukcph.org/scahip</a> *	2007	SEC
Workshop	Work Safely – Trabaje con Cuidado First Occupational Health and Safety Bilingual Curriculum	2005	SWC

## Language Legend

\*Spanish ~Hmong xMulti +Haitian/Creole •French ▲Vietnamese ◆Finnish





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