

## What are our priorities?

The Central States Center for Agricultural Safety and Health (CS-CASH) is one of 11 agricultural education, research and prevention centers funded by the National Institute for Occupational Safety and Health. CS-CASH has just completed the first cooperative agreement period (2011-2016) and is entering the second (2016-2021) with new research projects. CS-CASH works with partners in industry, labor, trade associations, professional organizations, and academia, focusing on these areas:

- Protecting respiratory health of agricultural workers exposed to dust, gases, and mists.
- Preventing hearing loss among agricultural workers in noisy environments.
- Preventing traumatic injury among farmers and ranchers working in production agriculture.

## What do we do?

- Conduct research to:
  - Determine key agents that cause inflammation and damage in the lungs of farmers exposed to dust, leading to new therapies and recommendations.
  - Examine how to improve acceptance and use of hearing protection in farmers by reducing barriers and providing protection at the sources of noise on farms and ranches.
- Conduct surveillance to understand the incidence, risk factors and sources of agricultural injuries.
- Conduct outreach to ensure that preventive respiratory, hearing and injury interventions and education reach workers and their families.
- Support the National Ag Safety Database, and develop educational materials and trainings in both English and Spanish for agricultural workers and employers.

## What have we accomplished?

- Discovered relationships between agricultural dust exposure and lung inflammation, providing information that can lead to novel therapies for lung disease.
- Found that Vitamin D may reduce bone loss in farmers who breathe agricultural dust. The airway injury/inflammation that comes from breathing dust is linked to skeletal disease.
- Determined current attitudes, knowledge and beliefs held by farmers regarding the use of personal protective equipment. Used this information to create training videos that have been viewed over 6000 times.
- Trained over 3000 agricultural workers on the correct use of respiratory and hearing protection in one-on-one sessions.
- Assessed the burden of agricultural injury in the Central States through a yearly surveillance survey with data dissemination to stakeholders.
- Provided annual, week-long agricultural medicine training course to 95 rural health care providers, thereby improving health services in agricultural communities.

## What's next?

- Research agricultural dust exposures to identify biomarkers, genetic factors, and potential therapeutic targets that can be used to reduce the burden of respiratory disease.
- Work with tribal and nontribal bison herders to survey injury incidents and hazards, assist bison producers in implementing best practices and employing effective training to enhance bison worker safety.
- Explore innovative technologies that can enhance the safety and health of the agricultural workforce.
- Determine health and safety concerns of Latino immigrant cattle feedlot workers within the rural Midwest, and assess the use of personal protective equipment in this agricultural workforce.
- Enhance injury surveillance and extend it to include alternative, innovative surveillance methods using 'big data'.
- Develop safety and health "toolkits" for women and military veterans in agriculture, providing education and training through webinars, and face to face meetings.

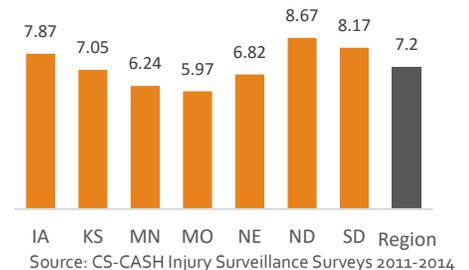
## At-A-Glance

The Central States Center for Agricultural Safety and Health serves the farming community by discovering causes of injury and illness, and communicating information about prevention in ways that reach as many farmers as possible. This snapshot shows recent accomplishments and upcoming work.

CS-CASH, located in Omaha, NE, serves seven central U.S. states



Average annual Injury rate by state among farmers and ranchers, 2011-2014 (per 100 people)



Top sources of injury among farmers and ranchers in CS-CASH states, 2011-2014

