HICAHS has been conducting health and safety projects since it began in 1991, first under the leadership of Roy Buchan (1991-2001) and next under the leadership of Stephen Reynolds (2001 - current). This index is provided to provide an overview of the basic topics that HICAHS has researched, with corresponding links to learn more about the project. In addition to the major research projects listed here, HICAHS has an Outreach Program, Pilot Grants Program, Community-Initiated Grants Program, and Evaluation Program.
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Research on Lung Disease and Bioaerosols

- **Prospective Study of Occupational Lung Disease and Endotoxin Exposure in New Dairy Workers**
  Principal Investigator: [Stephen Reynolds](mailto:stephen.reynolds@colostate.edu)
  For more information view the [2007-2012 Closeout Report, p. 41](http://www.hicahs.colostate.edu).

- **Reduction of Exposures from Dairies and Cattle Feedlots**
  Principal Investigator: [Stephen Reynolds](mailto:stephen.reynolds@colostate.edu)
  For more information, view the [2003-2007 Closeout Report, 2005 Fiscal Year Report, or 2004 Fiscal Year Report](http://www.hicahs.colostate.edu).

- **Endotoxin Exposure and Genetic Factors in Organic Lung Disease**
  Principal Investigator: [Stephen Reynolds](mailto:stephen.reynolds@colostate.edu)
  For more information, view the [2003-2007 Closeout Report, 2005 Fiscal Year Report, or 2004 Fiscal Year Report](http://www.hicahs.colostate.edu).

- **New Methods for Evaluation of Organic Dust Aerosols**
  Principal Investigator: [Stephen Reynolds](mailto:stephen.reynolds@colostate.edu)
  For more information, view the [2002 Fiscal Year Report](http://www.hicahs.colostate.edu).

- **A Characterization of the Potentially Pulmonary Toxic Components of Winter Wheat Grain Dust on Farms and Elevators During Harvest**
  For more information, view the [1992 Annual Report, p. 3, 1993 Annual Report, p. 3](http://www.hicahs.colostate.edu).

- **Molecular biomarkers of grain dust exposures**
  Principal Investigators: [Greg Cosma](mailto:greg.cosma@colostate.edu)

- **Acute Respiratory Effects and Endotoxin Exposures During Wheat Harvest**
  Principal Investigators: Roy Buchan, Susan Marie Vet
  For more information, view the [2000 FY Report, p. 52, 2000 FY Report, p. 52](http://www.hicahs.colostate.edu).

- **Exposure to Pulmonary Reactive Components of Winter Wheat Grain Dust**
  For more information, view the [1994 Annual Report, p. 4](http://www.hicahs.colostate.edu).

- **Respirable Dust and Crystalline Silica (Quartz) Exposure**
  For more information, view the [1997 Annual Report, p. 3](http://www.hicahs.colostate.edu).

- **Biomarkers of Grain Dust Exposures**
  Principal Investigators: Greg Cosma and Anthony Martinez
  For more information, view the [1997 Annual Report, p. 5](http://www.hicahs.colostate.edu).

- **Component Analysis of Grain Dusts that Contribute to Occupational Lung Injury**
  Principal Investigators: Greg Cosma and Anthony Martinez
  For more information, view the [1998 Annual Report, p. 4](http://www.hicahs.colostate.edu).

- **Summary of HICAHS Agricultural Dust Research**
  Principal Investigators: Don Bear, Susan Viet, Greg Cosma, Tony Martinez, Lori Berberet, Michelle Adams, Brit Todd, Roy Buchan
  For more information, view the [1999 Annual Report, p. 4](http://www.hicahs.colostate.edu).

- **Evaluation of Dust and Endotoxin in the Total Dust and Thoracic Mass Obtained from the Corn Storage and Processing Facilities in Colorado**
Principal Investigators: Roy Buchan and Pabitra Rijal
For more information, view the 2000 FY Report, p. 39.

- **Evaluation of Dust Exposure to Horse Trainers in Indoor Riding Arenas**
  Principal Investigators: Del Sandfort, Angela (Roberson) Barton

- **Wind Tunnel Characterization of Agricultural Dusts**
  Principal Investigators: Roy Buchan, Marv Tillery, Colby Adams
  For more information, view the 2000 FY Report, p. 44.

- **Wind Tunnel Characterization of Agricultural Dusts Using Baggasse Dust from Florida**
  Principal Investigators: Roy Buchan, Marcos De Silva
  For more information, view the 2000 FY Report, p. 56.

- **Non-Averaged Orientation Effects of IOM Inhalable Mass Fraction Air Samplers.**
  Principal Investigators: Colby Adams and Marvin Tillery
  For more information, view the 2001 FY Report, p. 39.

### Research on Carbon Monoxide Poisoning

- **Altitude and Carbon Monoxide Exposure**
  For more information, view the 1992 Annual Report, p. 4.

- **Carbon Monoxide Exposures during Potato Harvesting Processing**
  Principal Investigators: Seth Calkins, Del Sandfort
  For more information, view the 2000 FY Report, p. 49.

### Research on Chemicals and Pesticides

- **Development of Novel Biomarkers for Pesticides in EPA Region VIII**
  Principal Investigator: John Tessari
  For more information, view the 2003-2007 Closeout Report, 2005 Fiscal Year Report, or 2004 Fiscal Year Report.

- **Congenital anomalies and agricultural chemicals**
  Principal Investigators: Deborah Merchant, Lorann Stallones
  For more information, view the 1994 Annual Report, p. 3.

- **Evaluation of a Risk Reduction Program for Pesticide Usage among Migrant and Seasonal Workers in Colorado**
  Principal Investigators: Martha Vela, Roy Buchan, Phil Bigelow
  For more information, view the 1999 Annual Report, p. 5.

- **Improving Measures of Chemical Exposures**
  Principal Investigators: Jill Ruble, John Tessari, Mel Andersen
  For more information, view the 2000 Annual Report, p. 6.

- **Hemoglobin Adducts of Atrazine: Specific Biomarkers of Exposure**
  Principal Investigators: Melvin Andersen, John Tessari, Jill Ruble
  For more information, view the 2000 FY Report, p. 45, 2001 FY Report, p. 35.
• **Pour-On-Insecticide use in Western Livestock Production: Usage patterns, Risk Perceptions, and Health and Safety Information Sources**
  Principal Investigators: Vicky Buchan and Pandi Highland
  For more information, view the [2001 FY Report, p. 36](#).

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## Research on Fatalities

- **Colorado Agricultural Fatalities, 1989-1995**
  For more information, view the [1996 Annual Report, p. 4](#).
- **Economic and social impacts of agricultural occupational fatalities**
  For more information, view the [1996 Annual Report, p. 5](#).
- **Agricultural Fatalities – High Plains/Rocky Mountain Region**
  For more information, view the [1997 Annual Report, p. 3](#).

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## Research on Migrant Workers

- **Improving Injury Information from Migrant Farmworkers**
  Principal Investigator: [Lorann Stallones](#)
  For more information, view the [2003-2007 Closeout Report, 2005 Fiscal Year Report](#), or [2002 FY Report](#).
- **Tuberculosis Among Migrant Farm Workers In Northeastern Colorado**
  Principal Investigators: Junaita Synder
  For more information, view the [1994 Annual Report, p. 3, 1995 Annual Report, p. 3](#).
- **Health Status of Migrant and Seasonal Farm Workers Receiving Healthcare in Region VIII Community/Migrant Health Centers (CHAMPS)**
  Principal Investigators: Julie Hulstein, Ed Hendrickson, Saul Ramos
  For more information, view the [2000 FY Report, p. 50](#).

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## Research on Noise

- **Effects of Noise on Hearing Thresholds During Extended Shifts**
  Principal Investigators: Del Sandfort and Brian Oberbeck
  For more information, view the [2001 FY Report, p. 38](#).

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## Research on Tractor Roll-Overs

- **National Tractor Safety Initiative (NTSI)**
  For more information view the [2005 Fiscal Year Report](#) or [2004 Fiscal Year Report](#).
- **ROPS Design and Testing for Agricultural Vehicles**
  Principal Investigator: [Paul Ayers](#)

- **ROPS Design, Construction and Testing for Pre-ROPS Tractors**
  Principal Investigators: Paul Ayers

- **Development Of Stability Index For Tractors**
  For more information, view the 1995 Annual Report, p. 4.

- **Engineering Control Strategies Based on Tractor Stability**

- **Tractor Safety and Engineering Control Strategies for Tractors Equipped with Roll-Over Protective Structures (ROPS)**
  Principal Investigators: Paul Ayers and Juhua Liu
  For more information, view the 2000 Annual Report, p. 6.

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### Educating Youth on Farms

- **Developing and Testing Interactive CD Health and Safety Curricula for 4-H Youth**
  Principal Investigator: Victoria Buchan
  For more information view the 2007-2012 Closeout Report.

- **Agricultural Health and Safety Curriculum Evaluation**
  Principal Investigator: Robert Seiz

- **Children's Agricultural Health (Supplemental Funding)**
  For more information, view the 2005 Fiscal Year Report.

- **Interactive Agricultural Health and Safety CD: 4-H Youth**
  Principal Investigator: Victoria Buchan
  For more information, view the 2003-2007 Closeout Report, 2005 Fiscal Year Report, or 2004 Fiscal Year Report.

- **Colorado Assessment of Youth Agricultural Health and Safety Education**
  Principal Investigators: Glen Rask, Lester Dumm
  For more information, view the 2000 FY Report, p. 47.
Additional Research

- **Injury Risk Analysis in Large-Herd Dairy Parlors**
  Principal Investigator: [David Douphrate](mailto:douphrate@colostate.edu)
  For more information view the [2007-2012 Closeout Report](mailto:).

- **Perceptions of Rural Veterinarians Regarding Their Role in Occupational Health and Safety**
  Principal Investigators: Vicky Buchan
  For more information, view the [2000 FY Report, p. 42](mailto:).

- **Evaluation of Body Heat Sensor by Tympanic Membrane**
  Principal Investigators: Kenneth Blehm, Cindy Ellwood
  For more information, view the [2000 FY Report, p. 54](mailto:).

- **Research: Risks to Agricultural Workers**
  Principal Investigators: Seth Calkins, Del Sandfort
  For more information, view the [2000 Annual Report, p. 5](mailto:).

- **Farmers’ and Ranchers’ Perceptions and Practices Regarding Farm Health and Safety**
  Principal Investigators: Bob Seiz and Eleanor Downey
  For more information, view the [1998 Annual Report, p. 3](mailto:).

- **“The Carsons’ Difficult Decisions”: A Narrative Simulation Ranch/Farm Safety Exercise**
  Principal Investigators: Sue Hewitt
  For more information, view the [1998 Annual Report, p. 5](mailto:), [1998 Annual Report, p. 5](mailto:).

- **Designing Safety Warnings and Instructions**
  For more information, view the [1996 Annual Report, p. 5](mailto:).

- **Evaluation of a personal heat stress monitor under dynamic conditions**
  Principal Investigators: Cynthia Elwood, Kenneth Blehm
  For more information, view the [1994 Annual Report, p. 3](mailto:).

- **Needs assessment**
  For more information, view the [1993 Annual Report, p. 5](mailto:), [1994 Annual Report, p. 6](mailto:).