agrisafe.org

AgriSafe Nurse Scholar

Enhancing **Rural Nursing** Practice through **Distance Learning**

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How we Protect:

1. Ongoing needs assessment of Ag producer needs (following Total Farmer Health)
2. Train rural health professionals across the nation
3. Establish partnerships with NIOSH Ag Centers, rural research centers, and other NPOs
4. Maintain a culture of readiness and organizational expectation to protect and respond

Agriculture – A Dangerous Occupation

- Farming is one of the deadliest jobs in America.
- The career is **twice** as deadly as law enforcement, **five times** deadlier than firefighting, and 73 times more deadly than Wall Street investment banking
  U.S. Bureau of Labor Statistics

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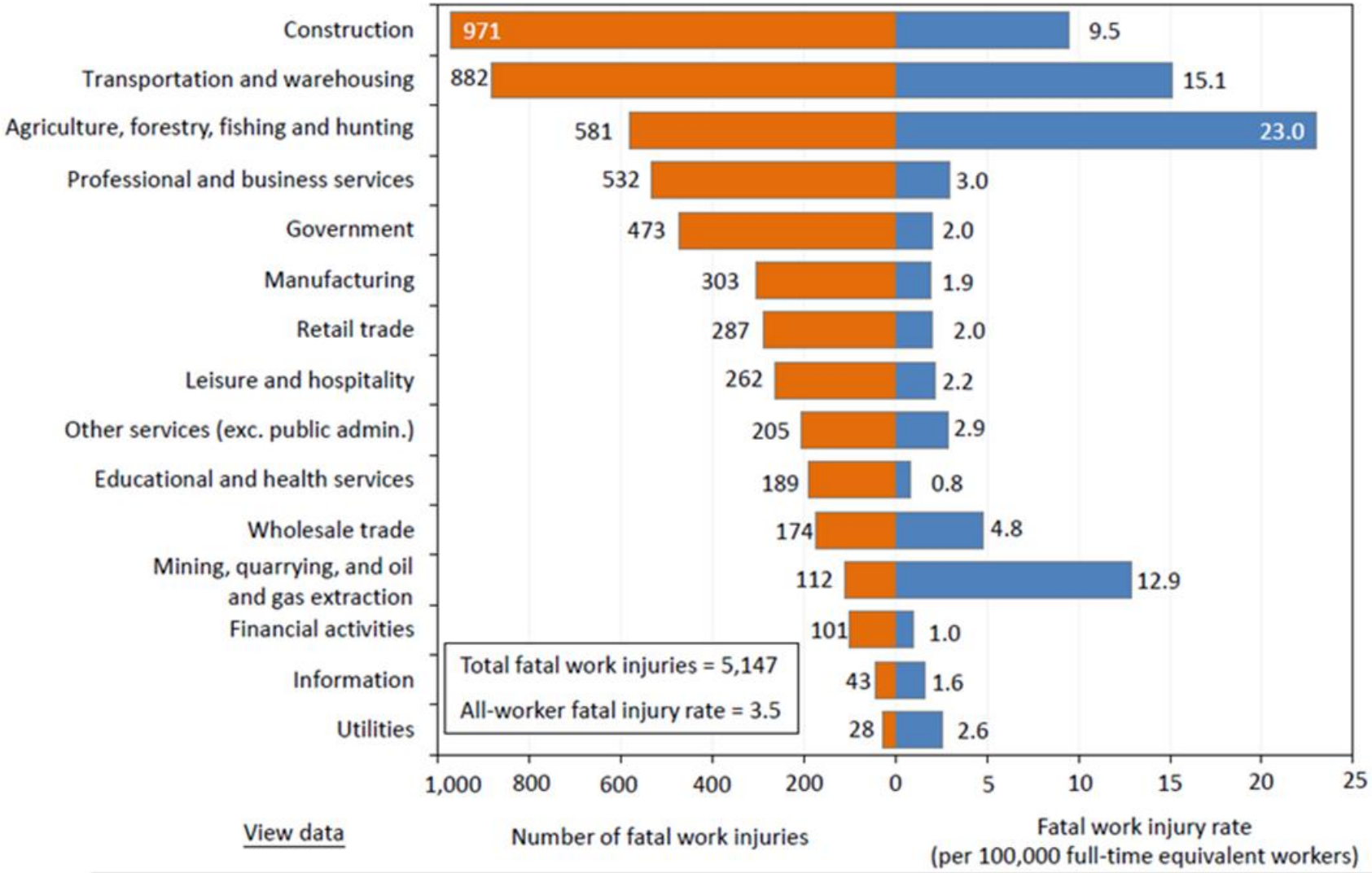
Number and rate of fatal work injuries by industry sector, 2017



View data

- Private construction had the highest count of fatal injuries in 2017, but the private agriculture, forestry, fishing and hunting sector had the highest fatal work injury rate.

Note: Fatal injury rates exclude workers under the age of 16 years, volunteers, and resident military. The number of fatal work injuries represents total published fatal injuries before the exclusions. For additional information on the fatal work injury rate methodology, please see www.bls.gov/iif/oshnotice10.htm.
Source: U.S. Bureau of Labor Statistics, Current Population Survey, Census of Fatal Occupational Injuries, 2018.

AgriSafe – what it is about

- AgriSafe was originally formed by rural nurses who believed that together they could improve the health and safety of farmers and ranchers
- AgriSafe builds the competency of health and safety professionals to deliver exceptional occupational agricultural health care.
- Agrisafe provides webinars, informational fact sheets, networking opportunities, and resources.
- AgriSafe focus is on health care professionals, farm and ranch families, and ag related businesses.
  - *The purpose of that focus is improving the health of patients in rural and agricultural communities.*

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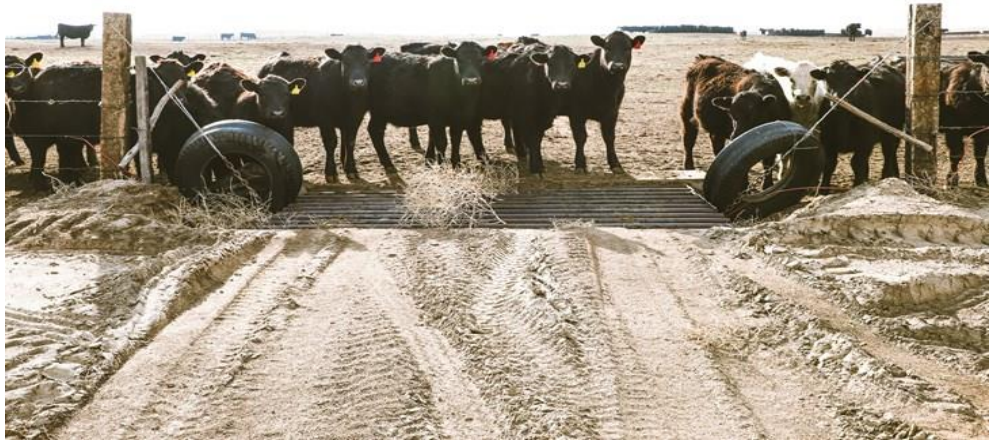
Any of this look familiar?



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Continuum of Life

Agricultural Health and Safety Impact

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Who is Working in Agriculture?

- Health care access/health status in rural areas
  - **Population is older average age of farmer/rancher is 58** *U.S. Dept. of Labor 2012 Census*
  - Lower education and income levels
  - More likely living in medically underserved areas compared to urban areas
- Youth safety
  - Children: About 893,000 youth lived on farms in 2014 and more than half (51%) worked on their farm. (Marshfield, Child Ag Injury Fact Sheet 2016)
- Women comprise about 1/3 of the agricultural workforce – from ownership/management to direct labor. *U.S. Dept. of Agriculture 2014*

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A NIOSH Total Worker Health Affiliate!

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We Also Know…

Nurses are the front-line resource to:

- disseminate health & safety information
- prevent illnesses found in rural agricultural populations
- wear multiple hats in any given work day

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Clinical Issues – the *many hats* of rural health care providers

- Staff retention/inadequate staff size
- Community ties
- HR director
- Finance/bookkeeping role
- Maintaining standards of excellence - State, OSHA, etc.

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Issues for rural people seeking healthcare

- Access to Care
  - Number of providers in rural areas is decreasing
  - Fewer Hospitals and Care Centers
  - Limited access to Maternity/Ob Gyn, Dental, and Mental health specialists
  - Distance/Geography

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Clinical Challenges

Musculoskeletal injuries - a CDC/TWH area of emphasis

- 120,000 agricultural workers suffered disabling injuries each year …a conservative estimate
  National Safety Council www.nsc.org
- Farmers with mobility issues are twice as likely to experience injury as farmers with no mobility issues
  K Heaton , U of AL
- Arthritis affects one-third of adult farmers in U.S.
  Agrability

Mental Health – a CDC area of emphasis

- 60 – 80 % of visits to healthcare providers in U.S. are related to stress -- almost 20% of people live in rural areas
  Substance Abuse and Mental Health Services Administration (SAMHSA)
- Nearly 74% of Americans who seek help for symptoms of depression will go to a primary care provider *Mental Health America*
- Suicide and opioid overuse are on the rise in rural America – rates higher than urban areas *CDC 2018*

Clinical Challenges

Respiratory Exposures

- Acute vs. chronic respiratory illnesses in agriculture: i.e.: Toxic Dust Organic Syndrome & Farmers Lung
- High risk areas of exposure
- When do OSHA standards apply to agriculture?
- What personal protection is appropriate?
- Vulnerable populations

Noise Exposure / Hearing Loss

- NIHL is one of 21 priority areas for NIOSH research http://www.cdc.gov/niosh/topics/noise/
- 1 in 10 Americans has a hearing loss that affects his/her ability to understand normal speech

  http://www.cdc.gov/niosh/topics/noise/

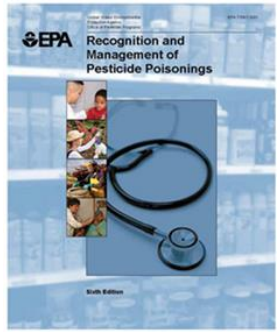
Clinical Challenges

Zoonotic Diseases

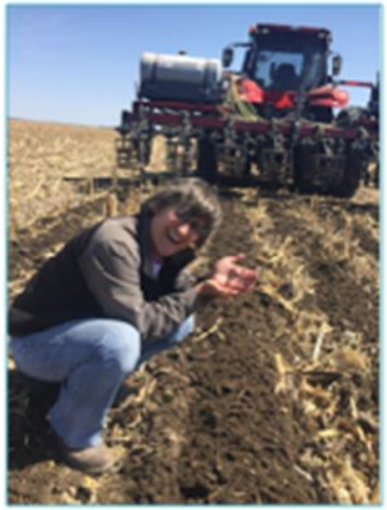
- Majority (over 75%) of emerging infectious diseases in U.S. are zoonotic *CDC & WHO*
- Caused by viruses, bacteria, fungi, and parasites.
- Incubation periods can be lengthy

Chemical /Pesticide Exposures

- When do we test for cholinesterase?
- Appropriate PPE
- Impact of changes in the EPA guidelines



AgriSafe Network Women's Health



Current OSHA focus area

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Why a Nurse Scholar program

- Due to the depth of coursework in nursing colleges, and advanced practice programs, there is limited opportunity for practitioners in rural communities to access agriculture specific healthcare training.

- Time and expense for travel to attend conferences and multi-day seminars are challenging for rural nurses in many communities –
  - often they are also heavily engaged in farming and ranching operations.

AgriSafe Nurse Scholar

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Nurse Scholar addresses deficit in knowledge

- The AgriSafe Nurse Scholar program is a distance learning opportunity available to rural nurses.
- Distance education (a total of 18 hours), provided by experienced health & safety educators will enable rural nurses to increase their knowledge base in prevention, identification, and assessment of diseases related to agricultural work exposures. All classes are offered via live webinar and recorded for access on demand.

AgriSafe Nurse Scholar

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Nurse Scholar Topics

- Emerging Issues -
- Zoonotic Diseases
- Heat Related Illnesses-
- Protective Equipment Selection
- Integration of Behavioral Health Practices
- Women's Health & Safety Issues
- Ergonomic Safety& Health Challenges

- Respiratory Health of Agricultural Workers
- Producers Safeguarding Children
- Chemical Exposures and Health Effects
- Use of Hearing Protection Among Farmers:
- Allergic and Non-Allergic Respiratory Disease
- Health &Well-Being of Immigrant &Migrant Farmworkers
- Health and Safety Issues of the Aging Farmer

AgriSafe Nurse Scholar

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Nurse Scholar Program Educators
(partial list)

- Marjorie McCullagh, PhD, RN, PHNA-BC,COHN-S, FAAOHN, FAAN Professor and Occupational Health Nursing, Program Director, University of Michigan School of Nursing
- Deborah B. Reed, MSPH, PhD, RN, FAAOHN,FAA Professor, College of Nursing and Department of Preventive Medicine and Environmental Health, University of Kentucky
- Sarah Hunt, MSN, APRN, FNP-BC
  Sanford Center for Digestive Health
- Rupali Das, MD, MPH, FACOEM Senior Vice President, California Medical Director, Zenith Insurance Company
  Associate Clinical Professor - Division of Occupational and Environmental Medicine, University of California San Francisco
- Knesha Rose-Davison, MPH
  Health Communications Director, AgriSafe Network
- KelleyJ.Donham DVM, DACVPM Consultant in Agricultural Medicine Co-founder of the Agricultural Medicine Core Courses, University of Iowa
- Barbara C. Lee, RN, MSN, PhD Director and Senior Research Scientist, National Farm Medicine Center, Marshfield Clinic Health Systems,
  Director, National Children's Center for Rural and Agricultural Health and Safety
- Athena Ramos, PhD, MBA, MS, CPM Community Health Program Manager
  Instructor, Center for Reducing Health Disparities/Department of Health Promotion, Social, and Behavioral Health, University of Nebraska Medical Center
- Linda Emanuel, RN Community Health Nurse
  AgriSafe Network

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Continuing Nursing Education

- Partner with Northeast Iowa Community College
- Iowa Board of Nursing Provider #7
- 18 hours of CNE
  - **Required**: complete all webinars, evaluations, and comprehensive exam before CNE can be awarded

AgriSafe Nurse Scholar

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Timeframe / costs

- The 2019 cohort will begin classes on September 4, 2019 and complete classes by Novemeber19, 2019.
- Final exam and evaluations will be completed by December18, 2019.
- Level 3 evaluations will be conducted in March, 2020.
- 20 stipend /scholarship seats will be offered on a competitive basis – thanks to funding support from CHS. Nurses employed by non-profit organizations will be assessed a $450 fee and nurses employed by for-profit organizations will be assessed a $900 fee – comparable to $50 per one hour class. The continuing education fee is included in that rate.

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Nurses are teachers – Never miss an opportunity to educate!

AgriSafe
Nurse Scholar

…An opportunity to learn

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Examples of Rural Clinical Resources

Avian Influenza

Personal Protective Equipment (PPE) Guidelines

Avian Influenza Outbreak

The USDA Animal and Plant Health Inspection Service (APHIS) reported that between December 2014 and June 2015 the avian influenza (HPAI) H5 outbreak affected over 47 million birds in the US. The virus is spread through contact with fecal droppings, saliva and nasal discharges of infected birds. More information on avian influenza can be found on the USDA website. The Centers for Disease Control and Prevention (CDC) has stated that "Although these viruses are not known to have caused disease in humans, their appearance might increase the likelihood of human infection in the United States." Anyone exposed to infected poultry should wear personal protective equipment (PPE). **Anyone anticipating contact with infected birds or affected operations should consult the USDA and CDC websites. Sick birds or unusual bird deaths should be reported to State/Federal officials either through the state veterinarian or through USDA's toll-free number at 1-866-536-7593.**

Information provided is intended as general guidelines for exposures.

Respiratory Exposures

Working in affected poultry facilities involves exposures to dust, toxic gases and disinfecting chemicals, in addition to avian influenza virus. It is important to select respiratory protection for all of these exposures.

Avian influenza and particulates (dusts) Appropriate protection for avian influenza and dusts is a NIOSH-approved particulate filtering respirator. Wear a particulate filtering respirator with an N95 or P100 filter or filter cartridge when working in poultry barns and when working with infected poultry and virus-contaminated materials or environments. Disposable 2-strap filtering face piece respirator masks (figure 1), half masks (figure 2) or full facepiece respirators with P100 filters.

Hazardous gases and vapors are commonly found in poultry buildings. **Ammonia** levels may be high during manure and litter removal, building clean-out, and composting of carcasses and litter. Respiratory protection should include ammonia or multi gas cartridges approved for ammonia (shown in figures 3 and 4).

Avian Influenza

PPE - Monitoring Bird Health

PPE should be worn when working in poultry facilities and while monitoring for avian influenza.

Gloves: disposable nitrile or neoprene gloves that can be disinfected
Respirators: minimum respiratory protection is a NIOSH-approved N95 disposable particulate respirator
Foot protection: disposable coverings or boots that can be disinfected
Protective clothing: disposable coveralls or coveralls that can be disinfected

N95 Respirator

PPE - Depopulation, Removal and Composting

These tasks may involve increased exposure to ammonia, resulting in the need for increased respiratory and eye protection.

Gloves: disposable nitrile or neoprene gloves that can be disinfected
Respirators: half mask or full facepiece respirator with P100 filters and ammonia or multi gas cartridges (see page 1 for information on hazardous gases)
Eye protection: unvented or indirect vent goggles, or full facepiece respirator
Foot protection: disposable coverings or boots that can be disinfected
Protective clothing: disposable coveralls or coveralls that can be disinfected

Full facepiece respirator with cartridges and filters

PPE - Cleaning and Disinfecting

These tasks involve exposure to chemicals. Check product label for recommendations.

Gloves: disposable nitrile or neoprene gloves that can be disinfected
Respirators: half mask or full facepiece respirator with P100 filters and multi gas cartridges are appropriate for many disinfectants, but check the label
Eye protection: unvented or indirect vent goggles, or full facepiece respirator
Foot protection: disposable coverings or boots that can be disinfected
Protective clothing: disposable coveralls or coveralls that can be disinfected

Half mask respirator with cartridges and filters
Indirect vent goggles

ATTENTION

Proper removal of PPE and good personal hygiene reduce the potential of exposure to the avian influenza virus.
http://www.cdc.gov/flu/avianflu/hl7_worker-protection-ppe.html#1

Use of full body PPE can increase risk for heat related illness. Understand the signs, symptoms and prevention strategies.
http://www.cdc.gov/niosh/topics/heatstress/

Instructional Videos

Respirator fit testing instruction:
http://www.cdc.gov/niosh/topics/respirators/
Choosing a Respirator:
https://www.youtube.com/watch?v=C0sYcGCKpeko
Caring for your Respirator:
https://www.youtube.com/watch?v=yfBoHHqe4Si

Avian Influenza Informational Resources

USDA: www.usda.gov/
CDC: www.cdc.gov/flu/avianflu/index.htm
APHIS: www.aphis.usda.gov/wps/portal/aphis/home/
NIOSH: www.cdc.gov/niosh/topics/avianflu/
NASD: http://nasdonline.org/documents/1957-d00014k/respiratory-health-on-the-poultry-farm.html

AgriSafe Network www.agrisafe.org
Central States Center for Agricultural Safety and Health
Great Plains Center for Agricultural Health
Upper Midwest Agricultural Safety and Health Center

Updated July 30, 2015

Bacterial Zoonotic Diseases

Disease	Host/ Carrier	Characteristics & Primary Transmission	Incubation	Human Symptoms	Precautions/ Care/ Treatment
Tularemia	sheep rabbits	• sheep • ticks	1 - 10 days	• fever • chills	• ppe • food prep
Q Fever					
Salmone					
Psittaco (Parrot (Ornith					

Viral Zoonoses

Disease	Host/ Carrier	Characteristics & Primary Transmission	Incubation	Human Symptoms	Precautions/ Care / Treatment
Rabies	mammals bats wild animals pets	· animal bites · contact with infected tissue	2 - 21 days (usually 5 - 12) may be up to 3 months	· headache - malaise · fever · salivation · difficult swallowing · seizures	· PPE · immune globulin · vaccine
Hanta Virus	infected rodents	· inhalation of rodent feces or urine	7 - 39 days	· fever · dizziness · nausea - vomiting	· PPE · intense medical treatment and
Encephalitis					
Hepatitis E					
New Castle Disease					
Poxvirus					
Animal Influenza					

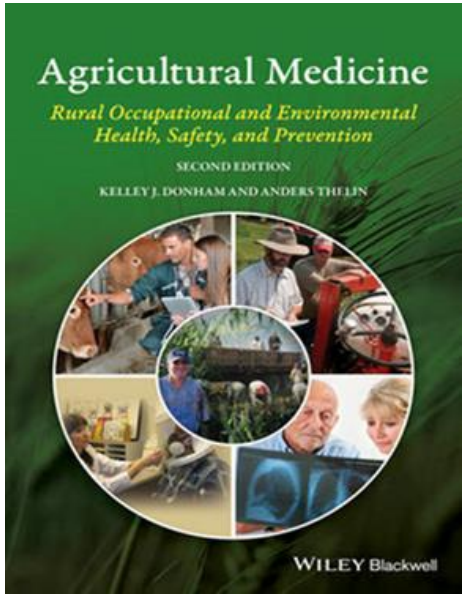
Fungal Zoonoses

Disease	Host/ Carrier	Characteristics & Primary Transmission	Incubation	Human Symptoms	Precaution/ Care / Treatment
Ring Worm	infected farm animals pets	· contact with animals · contact with feed or secretion	10 -14 days	· itchy, red, raised patches on skin · may have pustules · may be ring shaped · hair loss	· keep skin dry · antifungals · protective clothing **scratching may cause a secondary bacterial infection
Histoplasmosis	bats birds	· inhalation of fungal spores from droppings	3 - 17 days	· fever · chills · fatigue · muscle aches · headache · chest pain	· PPE · rest · fluids · pain relievers · anti fungal **treatment may last 3 months to one year

Parasitic and Protein Particle Zoonoses

Disease	Host/ Carrier	Characteristics & Primary Transmission	Incubation	Human Symptoms	Precaution/ Care / Treatment
Tape Worm & Trichinosis - Parasites	pigs cattle	· ingestion of infected, undercooked meats	· 1-2 days for acute phase · 2-8 weeks for chronic phase	· abdominal discomfort · fever & flu symptoms with trichinosis	· PPE · antiparasitic drugs for tape worm · usually no meds for trichinosis *may require antiparasitics
Amoebic Dysentery - a Protozoa Parasite	dogs	· ingesting contaminated food, water	2 days - several months	· vomiting · acute or diarrhea	· PPE · antiamoebic drugs · antibiotics if bacterial infection develops

Donham & Thelin Textbook



Mental Health and the Impact on Wellness

For Farm Families

AgriSafe

Many of the factors that affect agricultural production are largely beyond the control of the producer. Good health, including mental health, is a key factor that contributes to one's ability to keep farming.

Twenty percent of any population has mental health complications, including farmers and ranchers. Stigma and privacy concerns associated with mental health issues may mean that many people do not seek out available behavioral health services.

Symptoms of Poor Mental Health

- Persistent worry and fear
- Apprehension and uneasiness
- Avoidance of others
- Feeling sad
- Lack of interest or pleasure in activities
- Significant weight change or changes in appetite
- Problems sleeping
- Slow or fidgety body movements
- Low energy
- Difficulty concentrating
- Frequent thoughts of death or suicide
- Substance misuse
- Unexplained changes in physical appearance or behavior

Experiencing Any of These Symptoms?

Take the Two Question Self Assessment Tool:

1. During the past two weeks, have you often been bothered by feeling down, depressed, or hopeless?
   ☐ Yes ☐ No
2. During the past two weeks, have you often been bothered by little interest or pleasure in doing things?
   ☐ Yes ☐ No

*If you have a positive response to either of these questions, consider talking to your health care provider about further assessment. You can also access self-screening tools by visiting

http://www.mentalhealthamerica.net/mental-health-screening-tools

When You Talk to Your Health Care Provider

- Be pro-active; ask about potential signs of stress, anxiety, or depression.
- Speak openly about stressful issues in your work and home life
- Be familiar with your family medical history related to depression or other contributing behavioral issues
- List any prescribed and over the counter medications you take
- Be aware of smoking habits and alcohol intake
- Inquire about a referral to a mental health specialist
- Know what your insurance coverage may (or may not) be for evaluation of mental health care

Take Charge of Your Health

Women Working in Agriculture

AgriSafe

Across the centuries, women have worked in agriculture providing food for their families and communities. The number of women working as principle farmer has tripled over the past thirty years and their work tasks have also changed. Women contribute to our strong farm economy and will continue to live, work and raise families on farms.

This fact sheet is designed to highlight the unique risk factors for women working in agriculture. Practical solutions are offered to assist farm women in maintaining a healthy and productive farming future.

Gender Differences and Work-Related Injury Risk

Gender Differences	Description	Exposures/Risks	Possible Health and Safety Issues for Women
Size and Shape	On average, women are shorter than men with different body proportions (ie: wider hips, shorter arms and legs)	Use of equipment or tools not designed for women	Increased risk for disorders of the knee and hip (Carpal tunnel in the wrists)
		Personal protective equipment that doesn't fit well	Exposure to respiratory, chemical, or other hazards
		Caring for animals	Increased risk for injury • Animal bites, kicks • Pinned by animal against siding, wall
Strength	Upper body strength is 40-75% less and lower body strength is 5-33% less than for males	• Use of equipment or tools not designed for women • Moving heavy objects	• Increased risk for lower back disorders • Potential injury to wrists and hands
		Caring for animals • Aggression from females animals protecting their young	Increased risk for injury • Animal bites, kicks • Pinned by animal against siding, wall
Reproduction Factors	Pregnancy and fertility often not assigned or considered when women assume farm tasks	• Pesticides • Needle sticks • Livestock Hormones	Potential for fertility complications Potential impact on the fetus
		Caring for animals	• Contracting zoonotic diseases • Potential impact on fetus
Stress Factors	• Work on the farm and off creating competing demands • Responsible for management of household • Handling caring for children and aging parents/ grandparents	Lack of sleep Lack of support	Increased risk for injury Anxiety, depression, alcohol or drug use, diminished coping skills, other behavioral health issues Increase risk of these due to lower immune system function

Notes for Talking to Your Health Care Provider

- Discuss your farm related risks
- Ask questions relative to pesticide exposure and appropriate PPE
- Review sleep/rest patterns
- Discuss stress issues
- Seek routine screenings for early signs of heart disease, breast, uterine, and ovarian cancer and diabetes

www.agrisafe.org · 1.866.917.2392 · info@agrisafe.org

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Your Derived Health Risk Assessment

Protecting the People who Feed America

Thank you for taking the time to complete this health risk assessment. Please continue to the next screen to see the recommendations based on your anonymous answers to the Health Risk Assessment.

Connect with AgriSafe Network, Inc.: For information and resources on many of the important health & safety issues related to agriculture, access the AgriSafe website, www.agrisafe.org. Look for the AgriSafe in Action pages and archived webinar presentations. Webinars are free and available to anyone for one year following presentation. Older webinars are available to AgriSafe members. *Please… consider becoming a member today for as little as $50/year.*

Continue to see Suggestions for my health! (nobody will be able to identify you or contact you)*

☐ Continue

Progress

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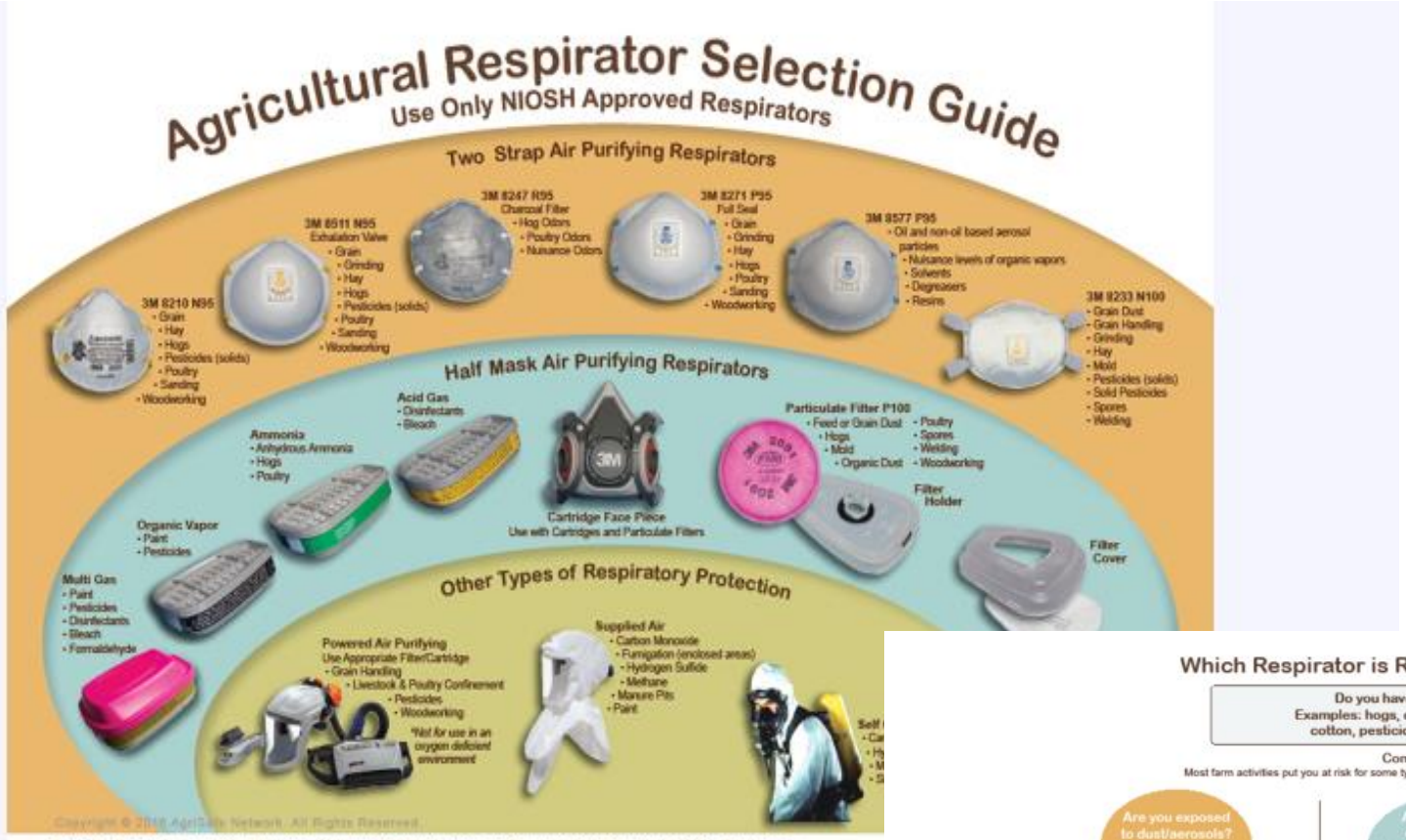
AgriSafe Network Respirator Guide



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Airborne (or Respiratory) Hazards may result from either an oxygen deficient atmosphere or breathing air contaminated with toxic particles, vapors, gases, fumes or mists. The proper selection and use of a respirator depend upon an initial determination of the concentration of the hazard or hazards present in the workplace, or the presence of an oxygen deficient atmosphere.

AgriSafe Nurse Scholar

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Thank You !

from the AgriSafe team

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