Let’s Help Keep Farmers, their Families and Workers Alive and Well in Agriculture
2019 North Carolina Agricultural Health and Safety Symposium

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- What am I doing here?
- History and Background
- Definition & Principles of Agricultural Medicine
- Agricultural Medicine – the Profession
- Occupational Health of the Agricultural Population
- The Great Urban – Rural Divide
- Stress Mental Health
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The Iowa Connection
History of the Institute of Agricultural Medicine

The University of Iowa
Iowa City

The State of Iowa

College of Public Health
Institute for Rural Environmental Health
What is Agricultural Medicine?

**Agricultural Medicine**
A multidiscipline field of study focused on occupational and environmental health and safety of agricultural populations.

**Rural Health**
Development of accessible and appropriate health care services for all rural residents.

**Agromedicine**
A delivery process combining Extension and Family medicine.

**Agricultural Safety and Health (ASH)**
- A more generic term
  Combining the above.

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**Agricultural Medicine:** definition
History of Agricultural Medicine

- 1713 – Bernardo Ramzinni – Italy “Diseases of Workers”
- 1940’s – Agricultural Safety in Extension, Safety Council, Farm Bureau
- 1945 – National Inst. Farm Safety – (Now ISASH)
- 1955: The Beginnings of Agricultural Medicine at the University of Iowa (Medical and Public Health approach).
- 1974: Beginning of Agricultural Medicine Education
- 1985: Marshfield Farm Med. Center, & Agromedicine Consortium
- 1987: Founding of the AgriSafe Network
- 1990: Iowa’s Center for Agricultural Health and Safety (I-CASH)
- 1990: NIOSH Ag Centers (10 centers today)
- 1989: Founding of NC Agromedicine Institute
- 2006: MS. PhD Ag medicine – U.IA.
- 2007: ASHCA
Iowa’s Center for Ag Safety and Health (ICASH)

AgriSafe Network

Select a State...

AgriSafe Network Clinic
Potential Network Clinic

= Members Present
= Members Needed
1987 – 1990 Agriculture at Risk Policy Process

• Strategic Process
  • The education
  • The Conference
  • The Consensus Process
  • Formation of the National Coalition for Agricultural Safety and Health

• Surgeon General’s Conference
  • Antonia Novello
The NIOSH Ag Centers (2018)

NIOSH Centers for Agricultural Safety and Health

1. Bassett Healthcare
2. Colorado State University
3. National Farm Medicine Center
4. University of California, Davis
5. University of Florida
6. University of Iowa
7. University of Kentucky
8. University of Minnesota
9. University of Nebraska Medical Center
10. University of Texas Health Science Center, Tyler
11. University of Washington
Education in Agricultural Medicine

• 1974 – U.I. medical Students

• 1983 – Medical Practice in Rural Communities

• 1983 – Nurse training

• 2006 – Certificate, MS, and PhD in Agricultural Health and Safety (U. IA.)

• Building Capacity in other states
(The Core Course, The BOOK)
Building Capacity in Agricultural Medicine
2007 -- 2018

1. States receiving training (includes Vermont and North Carolina)
   New State-Based AgriSafe Networks resulting from the Program
3. Number of health and safety professionals trained = 850
4. Number of new AgriSafe Providers = 26
5. New BC sites (Texas, Alabama, Kentucky)
6. Australia, Turkey, Sweden
Connecting the environment to the patient

• The agricultural medicine professional must “see through” the patient to his/her environment that brought him/her to you

• Scott was misdiagnosed 3 times before a provider connected his illness to his environment

• Hands on Experience
Agricultural Medicine is Multidisciplinary
“One Health”
Agricultural medicine teaches cultural sensitivity and competency

- Attachment to the land and the work
  “To farmers, the land is everything.”
  (Mike Rosmann Agriwellness)

- Work is first, their purpose in life
  “Farmers live to work, not work to live”
  (Sydney, AU cab driver)

- Feeling of a Special Calling – Produce Food and Fiber for the rest of us

- Proud, Independent, Leave us alone, let us do our work

- Acceptance by them is by being humble, and having knowledge of farm work
THE IMPORTANCE OF AGRICULTURE TO CIVILIZATION

Hierarchy of Peoples’ Needs
(A modification of Maslow 1968)

- Future
- Immediate family needs:
  - Health insurance, child and school expenses
- Economic security
- Food, water, clothing, shelter, physical security
- No civilization has thrived without a productive Agriculture

We must strive for balance between the Ag economy, its people, and the environment.
The Importance of and Sustainability of Agriculture

- Food security
- 2018 - 7.3 billion
- 2030 – 8.5 billion
- 2050 – 9.7 billion
But -- The 900 lb gorilla in farmers’ health is their occupational health

- 400 fatalities
- 21/100,000
- 6x all workers
- 70,000 disabling injuries
- 2-3 x that of EU and Canada
- $3 Billion/year
- 7X suicide rate

SUCCESSFUL FARMING...

Farmlife can be hazardous to your health...
Occupational Health Hazards

Topics in the core course

- Special Risk Populations (women, children, elderly, immigrant farm workers)
- Respiratory diseases (13%)
- Ag Chemicals & Pesticides
- Zoonotic infections,
- Veterinary Pharmaceuticals,
- Mental Health
- General Environmental hazards
- Acute and Chronic Trauma
- Musculoskeletal diseases (14%)
- Noise, vibration, heat, cold injuries
- Ag Skin diseases (56%)
- Cancer in ag populations
- Prevention
Agricultural Medicine Part II

- Structure of Agriculture & Demographics
- Vulnerable Populations
- Megatrends in Agriculture
- The Great Cultural Divide/Stress/Mental Health
- What to do to make it better
What kinds of farms do we have today?

- Niche/specialty/organic farms (Alternative Agriculture)
- Family farms
  Farms in the middle
- Large (Commodity) farms
Family Farms
(The farms in the middle)

- Farm/principal operators – 2,000,000
- Farm family members – 4.5 million
- 30% - 40% work off farm
- Farm employees (workers):
  - 1,000,000 (local)
  - 1,000,000 seasonal and migrant
Large Commodity Farm- Agriculture

- 5% of farms
- 50% of product
- Farm workers/managers – 500,000 [(documented) < 10% of total exposed persons]
Specialty-Niche-Organic Farms

- Increase farms in 2017 census
- Niche farms = growing sector
- Agrotourism
- 8,000 organic farms in US
Vulnerable Populations in Agriculture

- Women
- Children
- Elderly
- Anabaptist religious groups
- Farm workers
With Respect to Barb Lee
The Ying and Yang of Kids on the Farm

• Risks?

• Benefits?
Children Living on the Farm

- 100 kids die annually from farm work in US, 10 in IA
- Farm kids - 1.03 million, > 519,000 work
- 213,000 hired on other farms
- 100 fatalities/year, 16,000 injured
- Home, workplace, and playground all in one
- Male children are operating machinery by age 10
- Hazards include drownings, runovers, animals, ATV’s
Child Development Opportunities: Growing up on a Farm

- Responsibility
- How to work
- Independence
- Skills
- Understanding life/food cycles
- Initiative
- Problem solving
- Parental connections
- Neighboring
- Protection from atopic asthma (hygiene hypothesis)
Keeping kids safe and healthy on the farm

- The National Children’s Center, Marshfield, WI
- The North American Guidelines
- Farm Safety for Just Kids
- Day Camps
  - Progressive Farmer Safety Days
- Day care for farm kids?
Income From Off-Farm Work

What is a big reason for off-farm work (besides income)?

Off-farm household income has risen steadily

2003 dollars (thousands)

Real farm income
Real off-farm income

Sources: USDA, Economic Research Service. Deflator used to calculate real income is the Consumer Price Index (CPI-U) from the Bureau of Labor Statistics.
Percent of GDP Spent on Nondurables/Food

Source: Economic Research Service, USDA
Farm Share of the Food Dollar

Top 8 Stressful Mega Trends in U.S. Agriculture

1. **New players as producers & consumers** (Brazil, Argentina, China, India)
2. **Changing trading policies** (e.g. Tariffs)
3. Foreign borne workers – immigration policy
4. Food security issues / agro-terrorism
5. Food safety issues – public health
   a) Swine Flu, b) MRSA, c) E coli O 157, d) Salmonella
6. **Global climate change** (Droughts, floods and wind)
7. **Land availability** (>60% of land farmed is rented)
8. **Separation of people from the land**
   1. Farm vs. non-farm
   2. Large vs small
   3. Not in my back yard
   4. **STRESS**
Farm vs Urban/non-farm

The non-farmer
- Not in control of my environment
- Stress
- Lower property values
- Not in my back yard
- Nuisance
- Health problems
- We are 98% of the population, you are 2%

The Farmer
- We are producing food for the world
- We were here first
- Let us do our job
- Who feeds you – so that you can have your easy office job?
- $84 billion industry in NC
What do we know?

- **Health problems?**
  - Hog farmers/workers
    - yes there are health risks
    - Good Management reduces risks
  - Neighbors ???
    - Exposures of toxic gases and dusts very low off the farm
    - Off Odors and stress can have physical symptoms.
    - Environmental Stress Syndrome
    - Property values lowered
    - Possible Nuisance

- **Water Quality?**
  - Not if good management
  - Not just confinement production
What Can We Do?

• Strive for Mutual Understanding and Respect

• Good Neighbor Practices

• Evidence-based policies

• The Certified Safe Farm Program
  • (a incentive-based total worker health)
  • Gold Star Producer Program

• Customer – market forces

• Urban must pay more for food

• Sell it on Economic and Sustainability
CHALLENGES TO IMPROVING FARM (in general) OCCUPATIONAL SAFETY AND HEALTH

• The Culture

• The Lack of farmers leading/promoting the issue

• The lack of OSHA enforcement

• Lack of trained and motivated and trained health and safety providers

• Lack of a national comprehensive incentive – based program
General Summary

- History and Background
- Definitions
- Education in Agricultural Medicine
- Wellness and Occupational health status
- Ag structure and demographics
- Megatrends in Ag
- Special Populations
- Challenges
- Making it better. Inform, Energize, and Activate
- Multidisciplinary / Interdisciplinary / Comprehensive
What are we here for again?
Sustainable Farm Families = Sustainable Agriculture
“Helping to Keep Farm Families and workers Alive and Well”
References


References

