Seniors Abilities

Seniors Represent 34% of Traumatic Ag Fatalities

Seniors Represent 13% of the population

The Average Age of Farmers in Canada is almost 60 years old

Senior farmers play a critical role in farm management

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CASP Project

Possible interventions for fatal and non-fatal injuries among senior farmers in Canada

Project Team

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Project Objectives

- Compile a profile of attributes of aging
- Develop a template for Job Hazard Analysis
- Create a self -administered resource
- Conduct focus group evaluations
- Modify and distribute

Age-Related Physiological Changes: Considerations for Older Farmers' Performance of Agricultural Tasks

http://www.gov.mb.ca/agriculture/farmsafety

Purpose of the Report

- To review the literature on physiological changes that adults experience with age
  - Possible influence on performance of agricultural tasks
- To review the agricultural literature for the effects of a farming occupation on health and functional status

Literature Collection Methods

- Literature search in key databases
  - e.g., Ageline, Agricola, PubMed
- Personal communication with key informants in the area of agricultural injury and safety
- Internet search

Limitations in the Literature

- Limited information on age-related changes and the functional consequences to farmers
- Challenge to apply the general literature to older farmers

Findings*

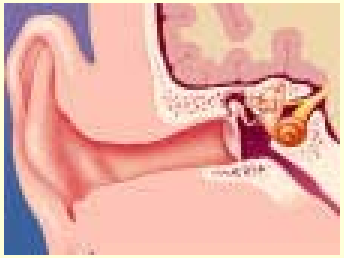
- Focus is on the following physiological systems:
  - Neurological
  - Sensory
  - Musculoskeletal
  - Cardiovascular
  - Respiratory

* ***There is not a normal single pattern of change with age***

Neurological System

- In most healthy older adults, little change is experienced and the consequences are minimal
- However, older farmers may be at increased risk of injury due to slowing of information processing
  - May affect quick decision-making and reaction time, which can intensify existing hazards

Sensory System



- Vision, hearing, smell, and touch are likely to decrease in sensitivity with age
- Vision and hearing deficits can increase the risk of injury for older farmers
- Farmers are also at a greater risk for noise-induced hearing loss

Musculoskeletal System

- Normal age-related changes can predispose to musculoskeletal problems, e.g., loss of strength, arthritis
- A farming occupation may also be an important factor in musculoskeletal changes
  - Physical demands can maintain strength but also increase risk of musculoskeletal disorders
  - Higher rate of arthritis and low back pain often found among farmers

Cardiovascular System

- Minimal change to this system with age
  - Changes are often evident during periods of physical stress, e.g., shortness of breath and fatigue
- Disease has more effect on cardiovascular function than age
- A farming lifestyle may reduce the risk of cardiovascular disease
  - Mechanical and technological advances could eliminate this advantage

Respiratory Function

- Age-related changes have minimal effect on respiratory function in healthy, non-smoking older adults
  - Tobacco smoking is the most important factor in impaired respiratory function
- Farming occupation poses numerous respiratory hazards, which can impair function
  - Organic dusts, gases & vapors, chemicals, infectious agents
  - Higher prevalence of respiratory conditions in farmers

Conclusions

- Age-related physiological changes have implications for risk of injury among older farmers
  - It is a combination of decreased capabilities that will more likely increase risk
- Physical demands and diseases associated with farming may further influence physiological changes and increase the risk of injury
- There is insufficient research to address the level of functioning in older farmers and the relation to risk of injury while performing agricultural tasks

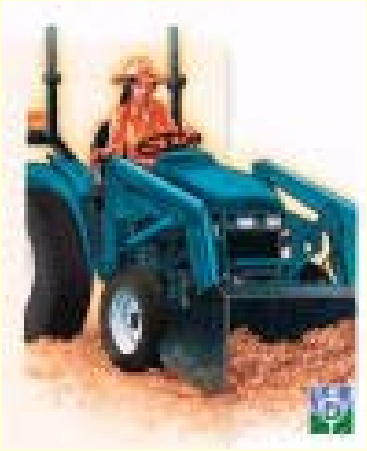
Factors to Consider

- Willingness to acknowledge change
- Hazard recognition / Risk evaluation
- Changes in Abilities
- Implementing Controls

Hazard Recognition

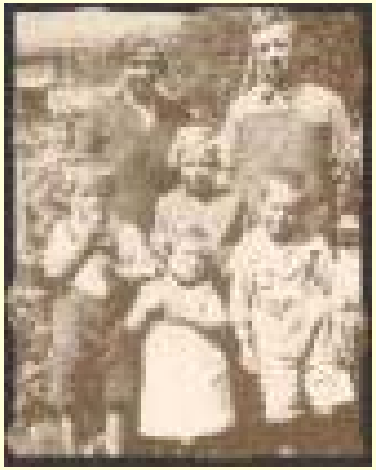
- Modified Job Hazard Analysis
  - Task
  - Minimum Required Skill Set
  - Hazards
  - Recognition of Risk Factors

Sample



Task	Min. Skill	Hazard	Risk Factor
Entering barn	Peripheral vision, spatial percep.,	Collision	Cataracts, glaucoma, etc.
Loading fork	Spatial perception, equilibrium	Collision, upset	Monocular vision, medications
Backing out	Range of motion, multi-tasking	Collision,	Arthritis,
Dumping into truck / spreader	Multi-tasking, spatial perception		

Personal Risk Factors



- Self identification / acknowledgment
- Family recognition / assumption of responsibility
- Family dynamics

Decision Making Process

- Based on recognition of personal attributes
- Acknowledgement of presences of risk
- Ability to influence / effect change

Next Steps

- Finalize templates for JHA
- Complete table of common changes
- Focus group testing
- Revisions
- Distribution