

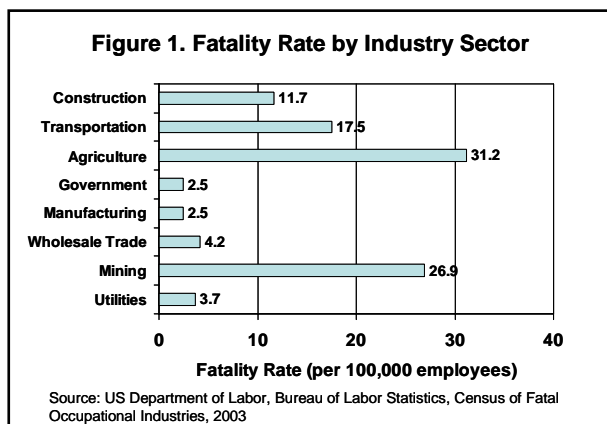
## SAFETY FOR SENIOR FARMERS

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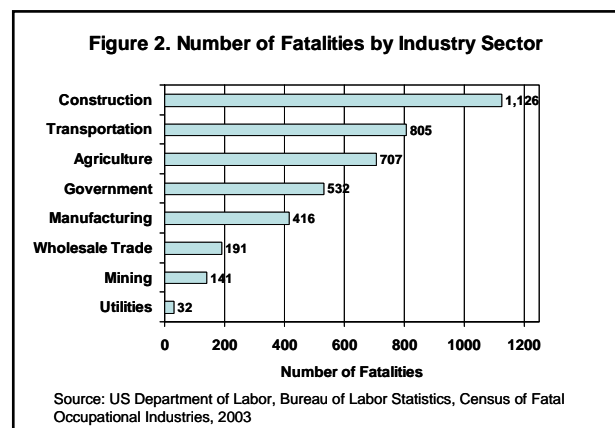
At a time when many seniors are cashing in on Social Security or retirement accounts, senior farmers are looking forward to 10 to 20 more years of productivity. The average age of an American farmer is 57 years, significantly higher than in any other occupation. Farming and ranching is a not only an occupation, but a way of life which offers financial, physical, emotional and spiritual rewards. This helps to explain why many farmers continue farming well into their 70's and 80's until they are either physically unable to perform essential tasks or it becomes too much of a risk to continue.

Agriculture is consistently among the most dangerous employment industries. Data from the 2003 Census of Fatal Occupational Injuries (CFOI) released by the Bureau of Labor Statistics (BLS), the agriculture industry has the highest fatality rate among industry sectors (31.2 per 100,000 employees) and ranks third behind construction and transportation industries in total number of fatalities in 2003 (707 fatalities).

Considering the physical and cognitive limitations that develop with aging, and the inherently dangerous farming environment, it is not surprising that senior farmers are at particular risk of injury. Physical strength, eyesight, hearing, balance, and reaction time is significantly reduced in the aging process, yet the dangers of farm equipment, tractors, and livestock typically remain the same.



Thus, it is important that senior farmers understand the physical challenges and increased risks of aging, and make the appropriate changes in work tasks and activities to ensure the safety of themselves, co-workers, and family members.



### AGE-RELATED RISK FACTORS

Failure to recognize diminishing physical and sensory abilities and to take corrective actions to accommodate these losses puts senior farmers at considerable risk. On farms, where the worksite is also the homestead, these risks also extend to co-workers and family members who may be working with or around farmers operating machinery and equipment. Following is a discussion of some of the most common age-related factors that affect senior farmers.

#### Hearing



Age-related hearing loss is called presbycusis (presby = elder, cusic = hearing). Everyone who lives long enough will develop some degree of age-related hearing loss. Those who damage their ears through noise develop it sooner and people who live and work in noisy environments have more presbycusis than those who live and work in quiet environments. Farmers exposed to continuous or

frequent loud noises from farm machinery, tractors, or confined livestock operations will typically experience some level of short-term and long-term hearing loss.

Presbycusis is the most common form of hearing loss and is thought to be due to the combined effects of aging of the peripheral or central auditory systems, and the accumulated effects of wear-and-tear. Most cases of presbycusis include high-frequency sensitivity loss, which disrupts speech comprehension in proportion to the sensitivity loss. The condition worsens with age.

The ability to hear is an important part of farm safety. Farmers who lose their ability to hear may be unaware of machinery malfunctions, approaching vehicles or animals, warning calls of co-workers, or nearby children or co-workers in the vicinity of tractors or other loud, moving equipment.

### Vision



Vision impairments can develop gradually over a period of years, affecting our ability to recognize objects at different distances, distinguish colors and patterns, adapt to changing light levels, and focus clearly on an object. For example, many 45-year-olds need four times as much light to see objects as clearly as they did when they were 20. By age 60, the light needed to see clearly is double that required by 45-year-old's.

Vision difficulties are also responsible for many accidents and injuries on the farm. Farmers often work early-mornings or late into the evening when light is already limited. Vision impairments only compound the problem.

Farm work also involves careful manipulation of controls, levers, and gears on tractors and machinery. Farmers must quickly recognize and negotiate potential hazards to avoid injury. Falls, the most common cause of injury among seniors, is often attributed to poor vision due to the inability to see obstacles and the loss of balance.

### Balance



Balance (or equilibrium) is controlled in a portion of the inner ear. Fluid and small hairs in the

semicircular canal (labyrinth) stimulate the nerve that helps the brain maintain balance.

As you age, your ear structures deteriorate. The eardrum often thickens and the inner ear bones and other structures are affected. It often becomes increasingly difficult to maintain balance. This is a major cause of falls in seniors, especially senior farmers.

**July 4, 1995.** A 77-year-old farmer died after falling from a hay wagon. Although he had discontinued dairy farming about two months before the incident, he continued to help his family with other farm chores. His mobility was limited by joint pain and stiffness, but he did not use assistive devices to walk. On the day of the incident, the victim and his adult grandson were picking up rectangular hay bales from the field. The grandson drove a tractor, pulling a bale loader in front of a hay wagon, while the farmer stood on the wagon, which was not equipped with siderails. The farmer was positioned near the front of the wagon, prepared to receive and stack bales as they were discharged from the top of the bale loader. The victim lost his balance and fell from the wagon, striking the back of his neck on the bale loader as he fell. The victim was hospitalized and died two days later from complications of fractured cervical vertebrae. *Source: FACE 95WI06301.*

Proper body balance is essential to perform many farm and ranch activities, such as mounting and riding a horse, mounting and operating a tractor, climbing fences, loading and stacking hay, and carrying sacks of feed. Loss of one's sense of balance can mean falling from a high vertical distance, or finding oneself in a dangerous environment. For example, falling from a tractor is especially serious, since one may land in the path of tractor tires or towed implements.

### Strength and Flexibility



As we age, our physical strength and flexibility limits us from doing the same tasks we have always done in the same manner. Flexibility in the spine and joints is also reduced, leading to pain and discomfort when the muscles are exerted. This results when collagen, the main supportive protein

in the skin, tendons, joint cartilage, and connective tissues become irregular in shape.

Over time, a farmer's ability to manipulate machine and tractor controls, pick up bales of hay or sacks of feed, and climb ladders and steps becomes more difficult, making somewhat ordinary tasks relatively more difficult and hazardous. Senior farmers who regularly operate tractors may find it difficult to peer behind them to check towed implements or turn their bodies around to check for oncoming traffic before entering a roadway.

### Combined Impairments

Decreased hearing, vision, balance, strength, and flexibility abilities that are a part of aging often combine to significantly reduce a person's reaction time in hazardous situations. Senior farmers often find that they can still do the same farm tasks as they did when they were younger; however the tasks often take longer, sometimes increasing risk of injury to themselves, co-workers, and family members. In these situations, experience in recognizing and limiting hazards is essential to offset the increased risks due to limited physical abilities.

## **SAFETY TIPS FOR SENIOR FARMERS**

Reducing farm hazards and risk of injury and death is generally no different for senior farmers than for any other age group of farmers. The most effective way to minimize farm hazards is to re-design the work environment, machinery, or methods to perform work tasks to lessen the exposure to injury and make safety a priority. It is much more difficult to change attitudes and behaviors, especially in senior farmers who have many years of experience where risky behavior has become acceptable and has had positive results.

In light of the limited physical abilities that may be encountered, the following suggestions are especially important to the safety and health of senior farmers.

- ✓ Increase light levels in barns and other work environments
- ✓ Equip stairs and steps with handrails and non-slip surfaces
- ✓ Make sure all paths in barns and building remain clean and free from obstacles

- ✓ Ensure all corrals and animal confinement areas are structurally secure and equipped with escape routes
- ✓ Equip gates with easily accessible and workable latches and locks
- ✓ Use hearing protection while operating loud equipment and in noisy animal confinement areas
- ✓ Limit particularly hazardous tasks to daylight hours where light is brightest
- ✓ Use powered lifts and mobile material carts to transport hay bales, feed, etc. around the farmstead
- ✓ Equip all tractors with rollover protection structures (ROPS) and seatbelts
- ✓ Limit tractor operation to daylight hours
- ✓ Refrain from operating machinery and tractors while under the influence of prescription drugs which have side effects that limit your reaction time, sense of balance, and that interfere with your ability to perform work safely.

## **ASSISTIVE DEVICES**

Farmers are unique in that they often remain productive much later in years compared to men and women in other occupations. One reason for this is their innate ability to modify their worksites or restructure their work tasks to accommodate their diminished physical abilities. Contributions from farm family members also play an important part in helping older farmers continue to be a major part of the farm enterprise.

Farmers are typically good problem solvers, adept at modifying equipment, tools, and machinery to make farm tasks easier. This ability to adapt prolongs a farmer's productivity. Recognizing the need for assistive devices and the large market potential, numerous existing and start-up companies now offer a range of products that make historically difficult and labor-intensive tasks much easier to perform. Not only do these products allow senior farmers and farmers with disabilities to continue being productive on the farm, they can benefit farm workers of all ages.

The National AgrAbility Project administered by University of Wisconsin and Easter Seals maintains a database of farm and ranch related assistive technology products and manufacturers on their web site: <http://www.agrabilityproject.org>. Assistive technology products are grouped into the following categories:

- Agriculture-related enterprises
- Fencing
- Home modifications
- Independent living
- Livestock handling and housing
- Materials handling
- Outdoor mobility
- Outdoor recreation
- Secondary injury/illness prevention
- Shop and shop tools
- Tractors and self-propelled equipment
- Truck modifications

Following is a brief discussion of the types of products you will find in selected categories.

Agriculture-related Enterprises – includes tools and aids to assist in general lawn care, gardening and small nursery and orchard operations. Products include:

- Ergonomic garden tools
- Pneumatic shears and pruners
- Remote control lawnmower
- Powered material carts

Fencing – includes a variety of automated gate and latch options and tools for constructing and repairing fences. Products include:

- Solar-powered and electrified gates
- Gate latches and accessories
- Gate winches
- Fence bracing systems
- Powered post drivers and pullers

Livestock Handling and Housing – includes products to assist farmers feed, water, medicate, and transport livestock on beef cattle, dairy, swine and poultry operations. Products include:

- Calf tables and calf carts
- Powered feed carts
- Heated waterers
- Equestrian lifts
- Automatic milkers

Materials Handling – includes equipment for harvesting and transporting grain, forage, and other bulk materials. Products include:

- Feed wagons and carts
- Material level indicators and controls
- Hay cradles, dollies, and accumulators
- Seed and grain fill augers
- Lift and dump trailers

Outdoor Mobility – includes numerous options for getting around the farm. Products are designed to meet the environmental challenges and rough terrain found on the farm. Products include:

- All-terrain vehicles, implements and accessories
- Outdoor wheelchairs
- Utility vehicles and accessories
- Specialty vehicles

Tractors and Self-propelled Equipment – includes a variety of equipment and options for mounting and operating farm tractors and hitching equipment. Products include:

- Chair and platform lifts
- Steps and hand holds
- Steering, braking, and shifting control devices
- Automatic hitches
- Guidance systems

History shows that although aging does pose certain limitations, farmers can continue to be productive well into their later years by adapting the work environment, restructuring or reassigning difficult and hazardous tasks, and making use of assistive tools and devices. The key to safety is to acknowledge these limitations and take the appropriate actions to minimize the risk of injury to oneself, one's co-workers and one's family.



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