

Safety for Senior Farmers and Ranchers

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At a time when many senior citizens 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 are more than jobs. They are a way of life, offering financial, physical, emotional and spiritual rewards. This helps to explain why many farmers continue farming well into their 70s and 80s until they are either physically unable to perform essential tasks, or it becomes too risky to continue.

Agriculture is consistently among the most dangerous employment industries. Data from the Bureau of Labor Statistics in 2003 showed that the agriculture industry had the highest fatality rate among industry sectors (31.2 per 100,000 employees). It also ranked agriculture third behind construction and transportation industries in total number (700) of fatalities that year.

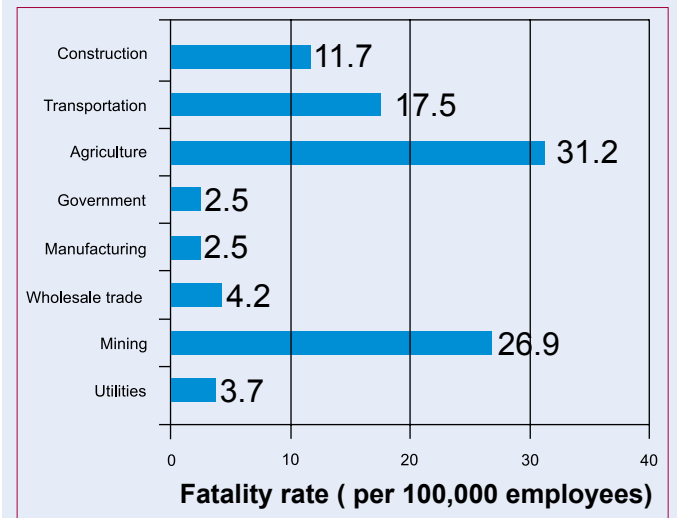
Considering the physical and cognitive limitations that develop with aging and the inherently dangerous farming environment, it is not surprising that senior farmers are greatly susceptible to injury. As we age, physical strength, eyesight, hearing, balance and reaction time diminish significantly. Yet 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 that they, their co-workers and their family are safe.

Age-related risk factors

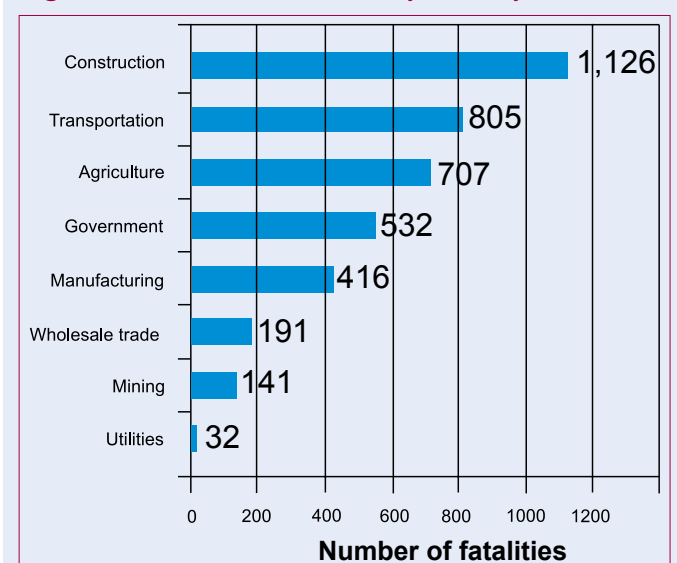
Failure to recognize and correct diminishing physical and sensory abilities puts senior farmers in great danger. Because the farm can also be the homestead, anyone who might be working with or around farmers operating machinery and equipment faces the same risks.

Figure 1. Fatality rate by industry sector.



Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Industries, 2003

Figure 2. Number of fatalities by industry sector.



The following are some of the most common age-related factors that affect senior farmers:

Hearing

Everyone who lives long enough will develop some degree of age-related hearing loss, or *presbycusis* (presby = elder, cusis = hearing). Individuals who damage their ears through noise develop it sooner, and those who live and work in noisy environments have more presbycusis than people in quiet environments. Farmers exposed to continuous or frequent loud noises from farm machinery, tractors, or confined livestock operations 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 caused by the combined effects of aging of the peripheral or central auditory systems, and the accumulated effects of wear and tear of the body. 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 with poor hearing might be unaware of approaching vehicles or animals, machinery malfunctions, warning calls of co-workers, or children near tractors or other loud, moving equipment.

Vision

Vision impairments can develop gradually over the 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, they will need twice the light to see clearly.

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

Farm work also involves careful manipulation of controls, levers, and gears on tractors and machinery. To avoid injury, farmers must quickly recognize and negotiate potential hazards. Falls are the most common cause of injury among seniors and are often attributed to poor vision because these farmers cannot see obstacles and lose balance.

Balance

Balance is controlled in a portion of the inner ear. Fluid and small hairs in the semicircular canal, or labyrinth, stimulate the nerve that helps the brain maintain balance.

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

Proper body balance is essential to performing many farm and ranch activities, such as mounting and riding a horse, climbing fences, loading and stacking hay, carrying

July 4, 1995. A 77-year-old farmer died after falling from a hay wagon. Although he had discontinued dairy farming about 2 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 the hay wagon, that did not have siderails. The farmer stood near the front of the wagon, to receive and stack bales as they were discharged from the top of the bale loader. He lost his balance and fell from the wagon, striking the back of his neck on the bale loader. The farmer was hospitalized and died 2 days later from complications of fractured cervical vertebrae.

Source: FACE 95WI06301.

sacks of feed and operating a tractor. For example, falling from a tractor is especially serious because you could land in the path of tractor tires or towed implements.

Strength and flexibility

As we age, our physical strength limits us from doing the same tasks as we have always done them. Flexibility in the spine and joints is also reduced, causing 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, becomes irregularly shaped.

A farmer eventually becomes less able to manipulate machine and tractor controls, pick up bales of hay or sacks of feed, and climb ladders and steps. Somewhat ordinary tasks become more difficult and hazardous. A senior farmer who regularly operates tractors might find it difficult to turn his body to check an implement he is towing or 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 reduce significantly a person's reaction time in hazardous situations. Senior farmers often find that they can still do the same farm tasks they did when they were younger. However, the tasks often take longer, sometimes increasing risk of injury to them, their co-workers and their family. In these situations, experience in recognizing and limiting hazards is essential to offset the increased risks from limited physical abilities.

Safety tips for senior farmers

Reducing farm hazards, risk of injury and death is generally no different for senior farmers than for any other farmers. The most effective way to minimize these hazards is to redesign the work environment, machinery, or methods to perform work tasks to lessen the exposure

to injury and make safety a priority. It is particularly difficult to change attitudes and behaviors in senior farmers, who have many years of experience and for whom risky behavior has become acceptable and has had positive results.

In light of the limited physical abilities that might 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 buildings remain clean and free from obstacles
- Ensure that all corrals and animal confinement areas are structurally secure and equipped with escape routes
- Equip gates with easily accessible, workable latches and locks
- Use hearing protection while operating loud equipment and while working in noisy animal confinement areas
- Limit particularly hazardous tasks to daylight hours
- Use powered lifts and mobile material carts to transport hay bales and feed, for example, around the farm
- Equip all tractors with rollover protection structures and seatbelts
- Operate tractors only in daylight
- Refrain from operating machinery and tractors while under the influence of prescription drugs; they might have side effects that limit your reaction time and sense of balance, interfering with your ability to perform work safely.

Assistive devices

Farmers often remain productive much later in years than people in other occupations. They can modify their worksites or restructure work tasks to accommodate diminishing physical abilities. Family also plays an important part in helping them continue to be a major part of the farm operation.

Their productivity lasts longer because farmers are typically good problem solvers and adept at modifying equipment, tools and machinery to make tasks easier. Recognizing the large market potential for assistive devices, many companies now offer a range of products that make historically difficult and labor intensive tasks much easier to perform. These products can benefit farm workers of all ages and physical shape.

The National AgrAbility Project, which is administered by the University of Wisconsin and by Easter Seals, maintains a database of farm and ranch related assistive technology products and manufacturers on its web site (<http://www.agrabilityproject.org>). You will find products are grouped by the following categories:

Agriculture-related enterprises, including tools and aids for general lawn care, gardening, and small nursery and orchard operations:

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

Fencing, including various automated gates and latches, and tools for building and repairing fences:

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

Livestock handling and housing, including products to assist farmers feed, water, medicate, and transport beef cattle, dairy, swine and poultry:

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

Materials handling, including equipment for harvesting and transporting grain, forage and other bulk materials:

- 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, including many products designed for the environmental challenges and rough terrain on the farm:

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

Tractors and self-propelled equipment, including various equipment and options for mounting and operating farm tractors and for hitching equipment:

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

History shows that, although aging poses certain limitations, farmers can continue being productive well into their later years by adapting to the work environment, restructuring or reassigning difficult and hazardous tasks, and using 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 you, your co-workers and your family.

Produced by Agricultural Communications, The Texas A&M University System
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Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Edward G. Smith, Director, Texas Cooperative Extension, The Texas A&M University System.

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