



DOMETA BROWN ILLUSTRATIONS

Can Farming be **HAZARDOUS** to Your Health?

BY JANET MAYER

With the National Safety Council reporting agricultural statistics of 700 work deaths and 120,000 nonfatal disabling injuries in a single year, it comes as no surprise that farming has one of the highest rates of injury and death of any occupation in the country.

While these statistics are higher profile, health care professionals caution farm workers to take precautions against other dangers such as skin cancer, airborne hazards and hearing damage. Because farm-related diseases are often misdiagnosed, statistics are not available, making it impossible to calculate the true magnitude of the problem.

Both safety and health concerns should be an important part of any farm or ranch program, especially when the families of workers live at the farm or ranch. Safety experts say sharing the environment and participating in farm work place families in jeopardy of facing the same safety and health hazards that other farm workers encounter.

SKIN CANCER

Aside from farm accidents, skin cancer is the most serious long-term problem farm workers face. Since chronic exposure to the sun directly affects a person's risk of skin cancer, farm workers are a prime target.

According to the American Cancer Society (ACS), there are about 700,000 cases of skin cancer each year, making it the most common type of human cancer. About 90% of all skin cancers occur on parts of the body that are not covered by clothing: the hands, forearms, neck and the tips of ears. In recent years the ACS has logged a significant increase in cases involving the shoulders, back and chest areas of men and the lower legs of women.

There are three types of skin cancer:

1. Squamous cell;
2. Basal cell; and
3. Melanoma.

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Squamous cell cancer has a crusty appearance; basal cell cancer has a shiny appearance. Neither type is life-threatening if diagnosed and treated early, with a cure rate of between 90 and 95%.

Melanoma cancer, which has a dark mole-like appearance, is by far the most serious type. If not diagnosed early, it may spread throughout the body and cause death.

Early detection is critical, warns the ACS. It's important to examine your skin at least once a month to detect any changes. If any are found, see a physician immediately.

For farm workers, who spend a lot of time in the sun, prevention should become an essential part of everyday life. If possible, try to stay out of the sun from 10 a.m. to 2 p.m., when rays are the strongest. Beware of cloudy days; the sun's rays still come through. Sunburn is also possible in winter, when the snow reflects sunlight.

For protection, always wear tightly woven long-sleeved shirts, long pants and a wide-brimmed hat that shades the

ears and neck area. In addition to the standard 10-gallon-type hats, many companies have added a new style sun-protective hat that features a 2-inch brim to cover the ears and the back of the neck. If the standard baseball-cap style is

more to your liking, the ACS suggests adding a handkerchief to cover the neck area.

For areas of exposed skin, always apply a sunscreen with a sun protection factor (SPF) of at least 15 or higher to block the sun's rays. Be sure to repeat applications every two hours, especially when sweating.

HOW CAN YOU TELL IF YOU HAVE SKIN CANCER?

■ A mole changes size, shape or color.

■ An unusual growth is on your skin.

■ Your skin changes color or texture in certain spots.

■ A sore won't heal.

■ Red scaly patches appear.

AIRBORNE HAZARDS

Airborne hazards such as dust, pollen, mold, exhaust fumes, fertilizers, pesticides and silo gas should be a major concern of all farm workers. Extra caution should be taken for farm children who may spend a lot of time in barns doing chores or who accompany adults in areas of animal confinement, crop storage or manure pits. Without proper knowledge of the many airborne hazards that occur on farms and ranches, workers are in jeopardy of injury or death.

According to Mac Legault, department of agricultural and biological engineering at Pennsylvania State University,

and Paul Ayers, chemical and bioresource engineering department at Colorado State University, these airborne hazards can be absorbed into the body by ingestion, inhalation and absorption. Most can be avoided by providing proper ventilation.

Molds

■ **Fungi** — mold spores in grains and silage attached to dusts. Found in hay, bedding, spoiled silage and grain. Absorbs through inhalation. Can cause organic dust toxic syndrome, farmer's lung disease (FLD), labored breathing and coughing. For prevention, wear dust/mist respirator when handling moldy grain, hay and silage.

Dusts

■ **Grain, feed, animal hair, skin and wastes** can produce small dust particles and mites. Absorbs through inhalation. No direct symptoms or effects, but may aggravate existing lung conditions and cause lung problems after long exposure. For prevention, provide adequate ventilation and use approved dust/mist respirator.

Hazardous gases

■ **Ammonia** — occurs in high concentration in animal confinement buildings due to improper ventilation. Sharp, pungent odor. Absorbs through inhalation. Causes eye and respiratory tract irritation and suffocation in high concentrations. For prevention, provide adequate ventilation.

■ **Carbon dioxide** — occurs at dangerous concentrations in animal confinement buildings and grain bins and from combustion engine exhaust in closed spaces. Odorless. Absorbs through inhalation. Causes facial flushing, drowsiness and unconsciousness. For

prevention, provide adequate ventilation.

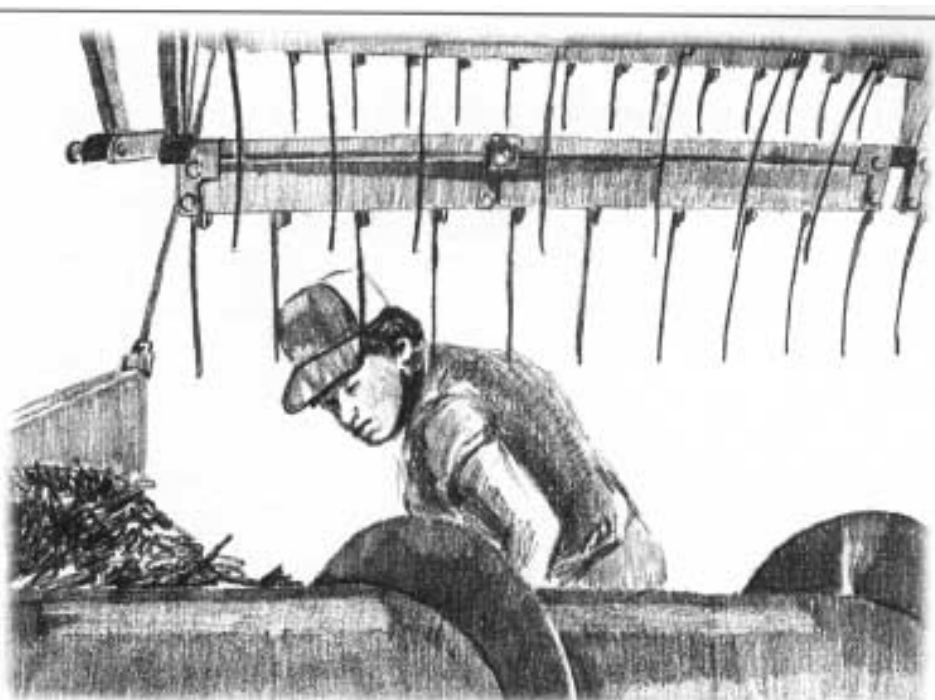
- **Hydrogen sulfide** — occurs in animal confinement buildings. Rotten egg smell (after initial breaths, paralyzes olfactory nerves, so odor can't be detected). Absorbs through inhalation. Causes eye and nose irritation, headaches, dizziness, nausea, unconsciousness and death. For prevention, provide adequate ventilation.
- **Methane** — occurs in manure pits. Odorless and flammable. Absorbs through inhalation. Causes an asphyxiation and explosion hazard. For prevention, provide adequate ventilation and ban smoking and other ignition sources.

Loading and application of fertilizers

- **Ammonia** — occurs when gaseous fertilizer is applied to fields. Colorless, pungent odor, flammable and corrosive. Absorbs through inhalation. Causes skin, eye and mouth burns and death by suffocation. For prevention, provide adequate ventilation, wear respirator mask with appropriate cartridge and protect eyes with no-vent goggles. Wear rubber gloves, apron and boots when connecting product hoses.

Filling and storage of silage

- **Nitrogen oxides** -greatest danger occurs in silos 48 hours after tilling and can exist up to 10 days. Yellowish-brown color with bleach-like smell. Absorbs through inhalation. Causes initial irritation of eyes and mucous membranes, shortness of breath, fever, development of "silo fillers' disease" and death. For prevention, stay away from silo for first 48 hours after filling. After that time period, run blower for 20 minutes prior to entry. Open



REAL-LIFE STORIES

Rudy, a healthy, robust-appearing 78-year-old farmer, has learned the hard way about one of the hazards of farm work.

"I was born on this farm, right there in the back bedroom of that house," he says, pointing at the big white farmhouse with fancy gingerbread trim around the porch. "I have lived here and farmed all of my life because I never wanted an indoor job. I always especially liked working behind the horses, and later on a tractor, out in the fields in the open air and sun. All my life I thought living and working on a farm was a healthy way to live. I guess you could say it was a real shock when I found out I had skin cancer a few years ago."

Rudy had noticed some shiny patches of skin on his forearms, but said he didn't think too much about it. At his next appointment with the doctor, he mentioned the patches. The patches turned out to be basal cell skin cancer, a highly curable cancer when diagnosed in early stages. Luckily for Rudy, it was caught early and treatment took care of the condition.

Today he stays out of the sun as much as possible from 10 a.m. to 2 p.m., wears a broad-brim straw hat, a long-sleeved shirt and uses SPF 45 sunscreen lotion on exposed parts of his body.

Ted, Rudy's brother, was born in the same house, the same bedroom, two years prior to Rudy's birth. The brothers lived in the same house all of their lives, and both worked on the farm. Two years before the discovery of Rudy's skin cancer, Ted was diagnosed with farmer's lung disease (FLD).

Ted had never heard of the disease, which is an allergic reaction to inhaled molds that grow in baled hay and silage. FLD generally develops following a particularly dusty exposure. Although Ted experienced no problems at the time of the initial exposure, about six hours later he had an abrupt onset of fever, chills, shortness of breath, chest discomfort, headache and muscle aches and pains. After a visit to a local clinic and an abnormal-appearing chest X-ray, the condition was misdiagnosed as walking pneumonia.

Once FLD is established, relatively small exposures can cause the same reaction as the one that had occurred after the initial exposure. Repeated episodes of exposure to the dust caused permanent scarring in Ted's lungs. By the time the correct diagnosis was made, he faced the added complications of a heart condition. He died of a heart attack one morning after taking his dairy cows to pasture.

Raue, a 60-year-old farmer, sat down beside a fellow cattle breeder at a recent heifer auction. He asked the woman if she had any cattle in the sale. She answered him, but he didn't hear her reply clearly. He asked her to repeat her answer, as he hadn't heard. She did, and he still did not hear.

"I'm sorry," he said finally in frustration and embarrassment, "but I don't hear too good anymore. I guess it is from too many years of listening to the tractor, hammer mill and chain saw. My right ear is the worst; I think this might be from operating a tractor and turning to look over that shoulder to watch the equipment I am pulling. Now I wear hearing protectors, but I guess it is too late. If I had only known to take care," he sadly concluded with a shake of his head.

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Pesticides

- Pesticides are all potentially dangerous and may contain nerve poisons, heavy metals or metabolic poisons. Absorbs through inhalation, ingestion or by skin contact. Wind-borne exposure is also a possibility and can enter through the ear and any of the mucous membranes. May cause lung damage and

systemic poisoning. Use respirator with appropriate pesticides cartridge, chemical goggles and protective clothing. Always read labels for other personal protective requirements.

HEARING DAMAGE

According to hearing specialist Susan Brown Good, many adults and young people involved in the operation of farm machinery, or those exposed to other loud noises,

over a long period of time show some degree of permanent hearing loss. For many farmers, the loss involves the ability to hear high-pitched sounds. For children continually exposed to the loud noises on the farm throughout childhood, hearing loss can often be noticeable by the late teens.

“Once a person suffers hearing loss, even normal conversation becomes difficult, and the small everyday pleasures of hearing music or a child’s

laughter clearly can be just a memory,” Good advises. “To prevent loss of hearing for both children and adults, I suggest using good ear protectors such as earplugs or protective muffs. Either type is adequate as long as it fits snugly and is comfortable. But what is most important of all is to be consistent in their use. They must be worn anytime you are exposed to loud noise, not just once in a while. Once hearing is gone, it cannot be replaced.”

Make safety part of your life

In an attempt to educate farmers and farm families about the risks involved, Extension groups, farm bureaus and other farm-related agencies offer safety seminars. Contact your local or state agency for meetings to be held near you. Although many of the seminars focus on the major physical trauma and fatalities associated with farming, health experts are trying to include education on potentially serious health

hazards in several areas of farming.

Compared to the safety practices in other industries, enforcement of worker safety standards in farming is sporadic and minimal. For this reason, health and safety experts advise that the burden of safety usually falls squarely on the shoulders of the farm operator.

They conclude that safety protection for farm workers should be an ongoing procedure and one that can easily be

adopted into any daily routine.

With proper education about safe equipment operation, good sanitation and a knowledge of prevention of cumulative occupational health hazards, farm workers and farm families can expect a way of life that is gratifying, productive and healthy.

For more information on farm safety and farm safety programs contact:

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