



# Agricultural Safety and Health News

Department of Agricultural and Biological Engineering Volume 20, Number 3 May/June 2009

## Dramatic Increase in Farm Fatalities for 2008

Fatal farm injury incidents jumped nearly 52% in Pennsylvania during 2008 from 2007. While data analyses are not yet complete, we are looking at this and other data to try and understand this huge jump in fatalities. Specifically, in 2008 there were 44 fatal incidents, while in 2007 and 2006, there were 29 and 23 fatal incidents, respectively. In 2002, there were only 21 farm fatalities. A look at Pennsylvania agricultural census data offers some clues.

We know from research that as exposure to farm work increases, injuries go up. Increased exposure can come from more hours worked, more land farmed, and/or more

farms in production. The census data show an 8.7% increase in the number of farms in Pennsylvania between 2002 and 2007 and a 1% increase in farm land over the same time period. We also know that smaller and lifestyle farms often use smaller and older equipment. This equipment may not feature modern safety devices, and they may not be as well-maintained as larger and newer equipment. Studies have shown that Pennsylvania is among a handful of states with the highest rates of tractor overturn fatalities in the nation.

The 2007 census data suggest that approximately 70% of farms in Pennsylvania fall under the

categories of small, limited income, retirement, or residential/lifestyle farms. While we do not have data that helps us assign fatalities into these categories, we do know that approximately 75% of the 2008 fatalities were to victims not actively engaged in farm work at the time of the fatal incident. The majority of these victims were nonworking children exposed to work hazards, as well as persons age 65 and older. These older farmers may be engaged in a nonfarm work activity, such as cutting firewood for their home.

We will continue analyzing the 2008 fatality data and will have a more complete report in our next issue.

### In This Issue...

- \* Increase in Farm Fatalities
- \* Irony of Budget Cuts
- \* Farmers at Increased Risk
- \* Build a Safe Play Area
- \* Resources for You
- \* Large Bales Create Big Hazards

Agricultural Safety and Health News is produced bi-monthly. We welcome your comments.

Dennis Murphy, Editor  
 Laura Coyne Steel, Writer  
 Marsha Hull, Design & Layout

### The Irony of Budget Cuts

As this issue of *Agricultural Safety & Health News* goes to press, the news is that the farm safety program within the Health and Safety Division of the Pennsylvania Department of Agriculture is slated to be dropped as of July 1. The reason, of course, is the state of the economy and the need to significantly reduce the state budget. The irony is that this cutback is coming at a time when fatal farm and agricultural injury incidents are higher than at any time since 1996. Additional details appear above, and there will be more discussion about this in the next issue of this newsletter.

At the first annual meeting of the Agricultural Safety and Health Council of America (ASHCA) this past January, several critical issues facing the agricultural safety and health industry were identified. One of those critical issues was the lack of support for agricultural injury prevention by state governments all across the U.S, even as states tout the importance of agriculture to their state's economy and workforce. Pennsylvania used to be one of the exceptions. Sadly, if this budget cut goes through, we will no longer be an exception.

*Dennis J Murphy*

# Farmers at Increased Risk of Skin Cancer

## Do you know the warning signs of MELANOMA?



As the growing season approaches, Pennsylvania farmers will be hard at work outdoors. Farmers face many potential hazards in their line of work from machinery injuries to chemical exposures from fertilizers and pesticides. One danger that may not be as visible comes from the sun's ultraviolet rays. While farmers rely on the sun for crops to flourish, they often don't realize too many of these invisible rays may damage their skin, leading to skin cancer, premature aging of the skin, and suppression of the immune system.

### Early Detection Needed

This year more than 1 million new cases of skin cancer will be diagnosed in the United States. Pennsylvania ranks fourth in the nation for the number of melanoma cases. Recent studies prove a link between sunburn and increased risk for melanoma, the deadliest form of skin cancer. One person every hour dies from melanoma in the United States. The good news is that melanoma is highly curable if detected on the skin at an early stage. The risk of melanoma can be reduced by protecting the skin from the sun and its harmful ultraviolet rays.

Sunlight consists of two types of harmful rays--ultraviolet A (UVA) rays and ultraviolet B (UVB) rays. UVA rays (which pass through window glass) penetrate deeper into the dermis, the thickest layer of the skin. UVA rays can cause suppression of the immune system, which interferes with the immune system's ability to protect you against the development and spread of skin cancer. UVA exposure also is known to lead to signs of premature aging of the skin, such as wrinkling and age spots. The UVB rays are the sun's burning rays (which are blocked by window glass) and are the primary cause of sunburn. A good way to remember it is that UVA rays are the aging rays and UVB rays are the burning rays. Excessive exposure to both forms of UV rays can lead to the development of skin cancer.

The U.S. Department of Health & Human Services has declared ultraviolet (UV) radiation from the sun and artificial sources, such as tanning beds and sun lamps, as a known carcinogen (cancer-causing substance).

### Men are more at risk

Men are more likely to die from melanoma most likely due to late detection. Common locations where melanoma

can develop include the back, arms, neck and shoulders. Women get more melanomas on their legs. Farmers with years of outdoor sun exposure are more likely to develop a form of melanoma that occurs more commonly on the head and neck region. This type of melanoma can resemble a large, dark freckle with irregular borders. The Melanoma International Foundation urges everyone to examine their skin regularly—and their loved ones, too. This means looking over your entire body including your back, your scalp, the soles of your feet, between your toes and the palms of your hands. **If there are any changes in the size, color, shape or texture of a mole, the development of a new mole, or any other unusual changes in the skin, see your primary care physician or a dermatologist as soon as possible.**

### Wear light-colored clothing

Since farmers spend a great deal of time working outdoors, it's important for them to understand the many ways to protect their skin so that they can reduce their chances of developing skin cancer. Clothing protection is most important in protecting the skin.

Hats can protect the most vulnerable head and neck areas from the sun's rays. While baseball-type caps will protect the top of the head, they don't protect other important areas including the ears, nose and neck. Farmers should wear wide-brimmed hats. The recommendation is to wear a hat that has at least a 4-inch brim. Long-sleeved shirts and long pants will help protect the arms and legs. Wearing tightly woven lightweight and light-colored

fabric can actually keep the body cooler in the sun and will protect against cancer-causing rays. There are many companies that manufacture high-quality sun-protective clothing. And there is a sun-protective solution by Rit Dye that you can wash into everyday clothing to make it protective.

### Choose waterproof sunscreen—even on cloudy days

You should apply sunscreen every day to exposed skin—and not just if you are going to be in the sun. While UVB rays cannot penetrate glass windows, UVA rays can, leaving you prone to these damaging effects if unprotected. For days when you are going to be indoors, apply sunscreen on the areas not covered by clothing, such as the face and hands. Sunscreens can be applied under makeup, or alternatively, there are many cosmetic products available that contain sunscreens for daily use.

Don't reserve the use of sunscreen only for sunny days. Even on a cloudy day, up to 80 percent of the sun's ultraviolet rays can pass through the clouds. Sunscreen should be applied to dry skin 15-30 minutes BEFORE going outdoors. When using sunscreen, be sure to apply it to all exposed areas, and pay particular attention to the face, ears, hands and arms. Coat the skin liberally and rub it in thoroughly--most people apply only 25-50 percent of the recommended amount of sunscreen. One ounce, enough to fill the

Ingredients to look for on the sunscreen label to ensure broad-spectrum UV coverage include:

oxybenzone	menthyl anthranilate
octyl methoxycinnamate	titanium dioxide
cinoxate	zinc oxide
sulisobenzene	avobenzone (Parsol 1789)
octyl salicylate	ecamsule (Mexoryl SX)

palm of your hand, is considered the amount needed to cover the exposed areas of the body properly. Don't forget that lips get sunburned, too. Apply a lip balm that contains sunscreen with an SPF of 15 or higher. Be sure to toss outdated sunscreen, as it will have lost its effectiveness. Reapply sunscreen frequently during the day.

There are so many types of sunscreen that selecting the right one can be confusing. Sunscreens are available in many forms, including ointments, creams, gels, lotions, sprays and wax sticks. The type of sunscreen you choose is a matter of personal choice. Creams are best for individuals with dry skin, but gels are preferable in hairy areas, such as the scalp or male chest. Sticks are good around the eyes. Creams typically yield a thicker application than lotions and are best for the face.

Ideally, sunscreens should be water-resistant, so they cannot be easily removed by sweating or swimming, and should

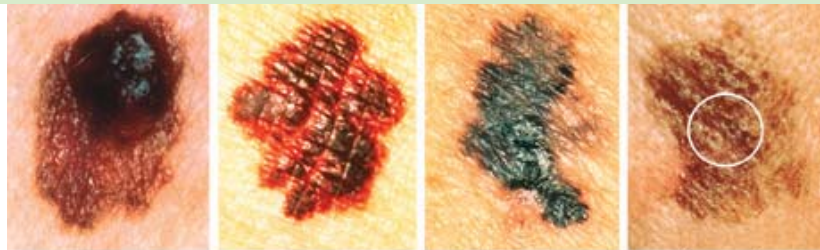
have an SPF of 15 or higher that provides broad-spectrum coverage against both UVA and UVB light.

Although working outdoors when the sun is less intense, before 10 a.m. or after 4 p.m., may not be feasible, sometimes rescheduling chores where exposure is lessened can be achieved. Seeking shade may have obstacles, but creating shade where you work with an umbrella or an awning is a great idea. You certainly now see more tractors with a canopy to protect the operator from exposure to the elements.

It's never too late to protect yourself from the sun and minimize your future risk of skin cancer. Understanding how to best protect your skin from the sun can help prevent melanoma, the deadliest form of skin cancer.

If you notice a mole on your skin, you should follow the simple ABCDE rule, which outlines the warning signs of melanoma:

- **Asymmetry** – One half does not match the other half.
- **Border irregularity** – The edges are ragged, notched or blurred.
- **Color** – The pigmentation is not uniform. Different shades of tan, brown or black are often present. Dashes of red, white and blue can add to the mottled appearance.
- **Diameter** – While melanomas are usually greater than 6 mm in diameter when diagnosed, they can be smaller. If you notice a mole that is different than others, or if you notice a mole that **changes**, itches or bleeds, even if it is smaller than 6 mm, you should see a dermatologist.
- **Evolving** - You should always be suspicious of a new or changing mole on your skin.



Asymmetry

Border  
irregularity

Color

Diameter:  
1/4 inch or  
6mm

#### For More Information

Melanoma International Foundation [www.melanomaintl.org](http://www.melanomaintl.org)

American Academy of Dermatology [www.aad.org](http://www.aad.org)

Pennsylvania Academy of Dermatology and Dermatologic Surgery [www.padermatology.com](http://www.padermatology.com)

This article was developed by:

Bruce A. Brod, M.D.  
Dermatologist, Lancaster, PA  
Clinical Associate Professor of Dermatology  
University of Pennsylvania School of Medicine

Catherine Poole  
President and Founder  
Melanoma International Foundation  
*Survivor of melanoma and author of Melanoma:  
Prevention, Detection and Treatment, Yale University Press, 2005*

# Build a Safe Play Area Now!

It won't be long before summer is here, and kids will be home during the warm, sunny days. While some are old enough to help around the farm, many are not. This would be a good time to sit down and sketch out a simple plan for a safe play area. Once the summer break begins, it may be too late.

It has been shown over and over again that summer is the most dangerous time of year for kids on farms. Many suffer serious injuries from being too close to farm machinery, dealing with unpredictable livestock, and when climbing or exploring around silos and grain bins. Kids love to climb and can suffer traumatic injuries when falling from the ladders or high elevations associated with bins, silos, barns and other large equipment.

## Designate an area, and create a safe playing surface

Putting together ideas and materials to construct a safe play area should be a priority for families and can even be set aside as a family event over a weekend. The kids know what types of things will keep them interested, and parents know what resources are available to put together a play area.

Start by sketching out some ideas on what a play area should include. Most lumberyards have employees who can accurately calculate the wood needed for construction. You can also use items that are already on your farm to save money.

Do you have a grassy area where this play area can be? Grass is a forgiving surface. You could also use mulch or sand as alternate play surfaces. Consider using recycled materials for your surface and/or play area as well.

Here are some safe play area guidelines from of the National Children's Center for Rural and Agricultural Health and Safety.

## The play area location on a farm should be:

- \* Designated by boundaries or physical barriers such as fences, gates or shrubs
- \* Away from production areas where crops and livestock are being raised and stored
- \* Away from car/truck/other vehicle traffic
- \* Away from hazards such as machinery or unstable structures (tractor tire leaning against building)
- \* Away from loud noises
- \* Free from open water--remember, children can drown in as little as 2 inches of water
- \* Adequately shaded from sun
- \* Adequately sheltered from wind, dust or hazardous airborne particles
- \* Protected with a strong barrier separating children from farm animals
- \* Within sight and sound of a responsible adult
- \* Close to first aid, hand washing and toilet facilities
- \* Small or large enough to match the amount of space needed to play safely
- \* Easily and regularly maintained with grass mowed

- \* Where there is minimal risk of snakes, ticks or other "critters" (e.g. ticks, mice, mosquitoes) that interrupt play or pose a health hazard

## The play area equipment on a farm should be:

- \* Appropriate for the ages of children who are using it
- \* Spaced with other pieces of play equipment to allow for minimum risk of injury such as falling from one structure and striking another structure or a swing hitting a person or a structure/piece of equipment
- \* Free from entrapment hazards, spaces greater than 3 1/2 inches but less than 9 inches that can prevent withdrawal of a child's body or head
- \* Without bolt ends, edges, or other protrusions that extend beyond 1/8 inch, which can catch strings or clothing worn around a child's neck, or cause skin injury
- \* Absent of lead-based paint, creosote and chromated copper arsenate (wood treatment)
- \* Devoid of pinch, crush, shearing and sharp edge hazards that could cut skin or crush a body part
- \* Surfaced with appropriate ground material that is maintained at an appropriate depth to cushion a fall
- \* Surrounded by a use zone that includes appropriate ground surfacing extending beyond the area just beneath the piece of play equipment
- \* Smooth to avoid wood splinters or metal slivers
- \* Constructed of a material that does not absorb excessive heat from sun exposure
- \* Securely anchored to prevent overturns that can crush a child
- \* Played with as the designer/manufacturer intended
- \* Offer only safe and age-appropriate toys
- \* Well-maintained by an adult



Keep them safe

Creating this safe and fun play area will make your children's summer more enjoyable. In addition, it will give you peace of mind as well.

For more information about safe play areas, visit the National Children's Center for Rural and Agricultural Health and Safety at [www.marshfieldclinic.org/NCCRAHS](http://www.marshfieldclinic.org/NCCRAHS) or call (800) 662-6900.



Sam Steel  
Senior Research Associate  
Penn State

Agricultural  
safety videos  
for YOU

### Livestock Safety for Kids DVD, VHS

This safety resource is offered by The Southwest Center for Agricultural Health, Injury Prevention and Education and is available in English or Spanish. The DVD or VHS is FREE for a limited time. It was produced in 1998 and is 11 minutes long. This video is aimed at injury prevention by demonstrating:

- animal behavior
- hygiene
- children's appropriate behavior around animals
- safe practices



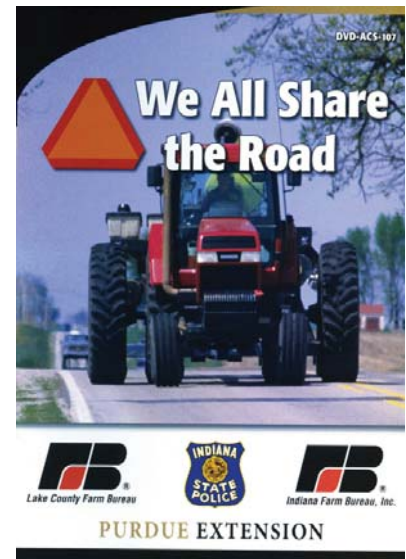
To order your copy, send an email to [agcenter@uthct.edu](mailto:agcenter@uthct.edu). You will also receive the video "Cattle Handling Safety" as a companion piece. It is 13 minutes in length.

The center is located at the University of Texas at Tyler. For more information, visit [www.swagcenter.org](http://www.swagcenter.org).

### Anhydrous Ammonia Safety Video

The Illinois Fertilizer and Chemical Association and the Illinois Department of Agriculture used a grant from the Fertilizer Research and Education Council to produce an Ammonia Fertilizer safety video for farmers. They aren't duplicating copies of the program but are posting it on the [www.ifca.com](http://www.ifca.com) site and the [www.agr.state.il.us](http://www.agr.state.il.us) site. Anyone who will be applying anhydrous ammonia is encouraged to watch the posted video just before heading out to the fields this spring.

*We All Share the Road* is a 9-minute educational video for drivers of all ages. This 2006 video stresses the importance of patience behind the wheel and maintaining a safe speed while sharing rural roads with farm equipment. This video is appropriate for driver's training classes, trucking and delivery companies, community service groups, and anyone who wants to be a better driver on rural roads.



A copy has been placed in the Agricultural Safety & Health Visual Resources library. Visit [www.agsafety.psu.edu](http://www.agsafety.psu.edu) and click on Videos, Brochures & Posters.

### Meet Isabel



We are pleased to welcome Isabel C. Hanson, Extension Associate to the agricultural safety and health team. Isabel is Director of the Latino Agricultural Resource Center (LARC) and has program responsibilities involving translation of extension safety materials into cultur-

ally appropriate Spanish. Ms. Hanson is bilingual and also serves as a liaison for the department and college with Latin America and Caribbean countries interested in cooperative extension and student exchanges. Isabel is located in 226 Agricultural Engineering Building. Her phone is 814-865-9966, Fax 814-863-1031, and email is [ich2@psu.edu](mailto:ich2@psu.edu).

## Don't Let Large Bales Create Big Hazards for You!

Farmers are always looking for more efficient crop production methods. The harvesting and preparation of hay crops using large bale technology is an example of a more efficient system. Hay fields used to be covered by several 40-pound, twine-wrapped "throw" bales. Now large bales weighing 1,000 pounds or more are often the norm. Of course, it takes specialized machinery to make and move these bales, but the cost savings do make economic sense for many farmers.

What doesn't make sense is using hazardous techniques to handle these larger bales. This is especially true in Pennsylvania where large round bales may be laying on some pretty steep slopes. If the round baler operator is not careful where he places the bales, they can become an avalanche of hay moving quickly down an incline. The momentum of these rolling bales can easily topple a tractor so attempting to cut them off with the tractor and baler is an unwise decision.

Another unsafe maneuver is attempting to carry large bales in the bucket of a tractor or a skid-steer. Most front-mounted buckets are too small to handle the bales. The bales have a tendency to bounce out of elevated buckets and make their way quickly down the support arms and onto the lap of the machine operator. The potential for traumatic injury is real when a large bale pins the unsuspecting operator in his seat.

Large square bales storage is also problematic. Stacking bales must be done carefully so that the resulting pile of large bales is stable and not prone to collapsing or falling.

When using large bale technology, respect the weight and size of the bales and do not attempt short cuts that could put you, your family, or your workers at risk.



*Sam Steel*  
*Senior Research Associate*

*Check out*

[www.agsafety.psu.edu](http://www.agsafety.psu.edu)

for more ag safety and health information

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 328 Boucke Building, University Park, PA 16802-5901, Tel 814-865-4700/V, 814-863-1150/TTY.