

Let Me Introduce You to Our Farm Safety Newsletter

By Raymond J. Samulis, Burlington County
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The Burlington County Farmland Preservation Program has been very successful in preserving the land base needed for a healthy agricultural community. It is the intent of this newsletter to focus on issues that are important to the physical, mental, and general well being of the farmers themselves.

Most people not connected to agriculture envision life on the farm as full of peace, quiet, harmony, and comfort. The stark reality is something quite different.

Agriculture, along with mining and fishing, remains one of the most dangerous occupations in the United States.

We sometimes think of the hazards on the farm in terms of large equipment, and injuries such as broken bones, and loss of limbs. While these injuries certainly do occur, there are many less obvious hazards such as sun exposure, hearing injury or loss, Lyme's Disease, and the general stress of a hectic life on the farm. I have talked to far too many farmers who are missing fingers or parts of

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fingers, that have considerable hearing loss, and who have had cancerous skin lesions removed.

I have been fortunate enough to receive financial support to help me produce this newsletter and other, future Farm Safety Programs, I am hoping this first newsletter is only



the beginning of an effort to help farmers protect themselves from the hazards on the farm both seen and unseen.

FARM NOISE A SERIOUS HEALTH CONCERN

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Farms are noisy places, from the sound of tractors to the cackling of chickens, and farm workers experience one of the highest rates of hearing loss caused by these and other loud noises. Studies have shown that **farmers and other agricultural workers may actually experience substantial loss of hearing by age 30!** Approximately 50% of older farmers have significant loss.

Studies have shown that noise has also been clearly identified as a cause of physical and psychological stress, and stress has been directly linked with some of our most common health problems. Besides causing hearing loss, **noise can therefore be associated with such conditions as heart disease high blood pressure, fatigue, irritability and headaches.**

The greatest risk to farmers is spending extended periods of time

(more than 8 hours a day) being exposed to normal farm noise that is slightly to moderately higher than the acceptable levels. According to Dennis Murphy, Professor of Agricultural Engineering at Penn State's College of Agricultural Sciences, farm noise ranges between 90 and 140 decibels, which is well above the 85 decibel limit at which industrial employers must provide hearing protection for workers. Continuous sounds of more than 85 decibels are considered hazardous. When pigs squeal, the noise level can reach 130 decibels! Typical farm noises that can damage hearing include:

- Tractor (95-100 dB)
- Header (88-90 dB)
- Orchard sprayer (85-100 dB)
- Angle grinder (95-105 dB)
- Bench grinder (90-95 dB)
- Chainsaw (105-120 dB)
- Pig shed at feeding time (95-105 dB)
- Shotgun (over 140 dB)

It is important to point out that every 6 decibel increase doubles the sound (100 dB is twice as loud as 92 dB), and noise above 130 dB causes pain.

Murphy says there's a quick way to tell if noise is at a dangerous level – if you have to shout to be heard at a distance of about three feet the noise is too loud. Warning signs of hearing loss are:

- **Ringling, buzzing, whirring** in the ears
- **Difficulty in understanding** a normal conversation
- **Turning up the volume** on a radio or television when others appear to hear adequately
- **Failing to hear background noises**, such as a ringing telephone or doorbell

Preventing excessive noise is the best approach to protect hearing. Here are some suggestions to help reduce the risk of hearing loss on farms:

- **Use tractors that have cabs**, which decrease the noise level to the safe range.
- **Keep all farm equipment well lubricated, properly adjusted and maintained.** This simple machinery maintenance can also increase the life span of equipment, reduce down time and create safer working conditions.
- **Limit the time workers spend in noisy areas.**
- **Put as much distance between the worker and noisy equipment** (air compressors, shop equipment). Doubling the distance from the noise source reduces the sound level by one-fourth. Acoustic barriers also reduce noise levels.
- Consider the noise output level of a machine prior to purchasing it by **checking the manufacturer's literature on the equipment's sound level.** The additional cost of buying a tractor with a cab may

be outweighed by the benefits of reduced noise to the operator.

- If practical, **run machinery at lower revs.**
- **Schedule noisy work when fewer workers are around.**
- **Use job rotation** to alternate noisy jobs with quiet ones.

Farmers should protect their hearing before it's too late. Hearing can be damaged before the farmer even notices any change. The farmer may think he's getting used to the noise, but he may already have experienced a mild hearing loss. Safety surveys have shown that farmers are aware of excessive noise hazards, but many opt not to do anything about it. **The key is to keep noisy items as far away as possible.** When that's not possible, it's very important to **wear hearing protection devices** to get the noise within the acceptable 85-decibel range.

Ear protection comes in two basic forms: **muffs** (\$5 to \$80) that fit over the ears, and disposable and reusable **plugs** (\$1 and up) that are worn inside the ear canal. Muffs are usually more comfortable to wear for long periods of time than plugs, but should not be worn with eyeglasses or any other obstruction that will reduce their effectiveness. Hearing plugs can either be disposable or reusable. Disposable plugs are best used for short wearing periods or infrequent use. They are inexpensive and can be thrown away when they become dirty

or the job is done. Disposable plugs can become expensive if hearing protection is needed on a regular basis. Non-disposable plugs would probably be a better choice if needed frequently. Most muffs and plugs can reduce noise by about 25 decibels, but not all materials can block the same amount of sound. Check the manufacturer's noise reduction rating (NRR) for the device, and for general use, look for an NRR of 25 or greater. It is very important to follow the manufacturer's directions for use, since the NRR is based on testing after the wearer had been fitted carefully in a controlled environment. Realistically, the farmer should expect the actual NRR to be about half of the manufacturer's NRR (30 NRR would reduce noise by about 15 dB).

Both the muffs and plugs can be found in health and safety catalogs, drug and sporting goods stores, and through licensed audiologists.

Prolonged exposure to agricultural noises could result in premature, permanent hearing loss, and possibly physical and psychological problems, unless noise control measures are taken. Preserving your hearing may mean agricultural workers have to change their routines slightly, but according to one expert, **"Better to wear protection today than hearing aids tomorrow."**

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SKIN CANCER AND THE FARMER

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Probably more than any other group of workers, farmers know and respect the importance of the sun. But because they are outdoors and are exposed to the sun on a daily basis, they are also high on a list of candidates for sunburn, premature aging and skin cancer. At a 1991 farm event in Wisconsin, a health screening showed that **nearly 25 percent of the 780 people checked had some sort of pre-cancerous skin disorder.**

When exposed to the sun, skin can go through a series of **short-term changes:**

- **Suntan:** as a defense mechanism to the sun, the body produces a pigment called melanin, which turns the skin brown. **Tanning does not prevent skin cancer.**

- **Sunburn:** sunburn occurs when the body receives excessive amounts of radiation, of which the full effect is not realized until 14 to 24 hours later. The skin may also blister, which indicates a second-degree burn.

Exposure to the sun can also have some **long-term effects**:

- **Skin changes:** the sun can cause the skin to age, wrinkle, thicken, dry out, freckle and blemish, and develop a rough texture.
- **Skin cancers:** skin cancers are caused by excessive exposure to the sun's ultra-violet rays. Sunburns are not the only conditions that can lead to the development of skin cancer.

Contrary to some beliefs, skin cancer is not associated with any single event, such as a severe sunburn, but rather with progressive changes in the skin's makeup over years of sun exposure. Research has shown that cumulative sun exposure is a major factor in the development of skin cancer. Small changes occur in the skin each time it is exposed to sunlight. People who freckle, burn

easily, rarely tan, have a fair complexion, have blond or red hair, and have blue or gray eyes, experience greater skin changes. Other risk factors are a history of skin cancer in the family and

geographic location (ultra-violet light is stronger as elevation increases, and where there is less cloud cover.)

Types of skin cancer

There are three main types of skin cancer. **Basal-cell carcinoma** and **Squamous-cell carcinoma** are very common and easily curable. **Melanoma**, if not detected early, can be very dangerous and even deadly. **Every year, approximately 32,000 new cases of Melanoma develop, causing about 6,700 deaths.** Melanoma is different from other skin cancers because it has a tendency to spread to other parts of the body. Once it reaches vital organs, Melanoma is very difficult to treat, and can be lethal.

People who work outdoors, such as agricultural workers, are exposed to the sun on a daily basis. It is extremely important that they be keenly aware of **skin cancer's warning signals**, and get into the habit of doing regular examinations of their skin. The best way to find early skin cancer is to look for changes in skin growths or the appearance of new growths. Some changes are:

- Change in size or color of a mole, pigmented growth or spot
- Oozing, bleeding or change in the appearance of a bump or nodule
- Spread of pigmentation beyond its border

- Change in sensation, such as itchiness, tenderness or pain

If any of these warning signs exist, it is imperative that the physician be contacted as soon as possible. Early detection is critical. Nearly 100 percent of those patients diagnosed with basal and squamous cell cancers will survive five years or more if treated promptly. Melanoma patients, **if treated promptly**, have a 90 percent chance of a five-year survival rate.

Prevention of Skin Cancer

The easiest way to reduce exposure to ultra-violet radiation is to avoid the sun. Critical times are midday hours between 10:00 a.m. and 3:00 p.m. This may be impossible for some workers, but scheduling tasks around this period could reduce exposure when sun is the most dangerous. If at all possible, make use of shaded areas during the high-risk hours, and use a tractor fitted with shade protection. The ears, face, eyes and back of the neck are extremely sensitive to sun exposure. Luckily, these and other body parts can easily be protected from the sun by wearing proper clothing, sunglasses and sunscreen.

Protection for the face and other parts of the head is easy: **wear a hat**. Although the baseball cap has been the trademark of many farmers, it does not protect the ears, temples and neck. Hats that have full, wide brims will do a better job on those

areas. The hat must also be practical for other conditions, such as heat, humidity, wind and rain. A Wisconsin study found that farmers want a hat that is attractive, inexpensive and washable. But, the key is to wear the hat; the most well-designed hat is ineffective if it's seldom worn. Even the most effective hats can block only 50 percent of the ultra-violet rays that reach the eyes. A **good shade hat, combined with the use of sunglasses**, is a better way to protect eyes from sun exposure. Proper clothing can also protect against the sun and minimize heat stress. **Lightweight long-sleeved shirts with collars, and long pants, preferably 100 percent cotton**, provide both comfort and protection. Parts of the body that cannot be covered can be protected with **sunscreen**. Sunscreens recommended for outdoor workers should have a sun protection factor **(SPF) rating of at least 15**. Read the label to know when to re-apply and whether it is waterproof.

Remember: people who spend a lot of time outdoors working can suffer from more than just exhaustion or heat stress. They are at risk for skin cancer and other diseases that result from years of exposure to the sun.

Be aware of the risks and make it a habit to protect yourself.

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Farm Safety Twilight Meeting

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Farming continues to be one of, if not the most dangerous occupation in the United States. As part of my continuing effort to enhance farmers' safety and well being, I am organizing what I believe will be an informative meeting for those interested in their health and safety. This program will be held on Wednesday, September 18, 2002, at a farm in Vincentown, NJ. I am designing the session to be practical, educational, and containing many hands-on demonstrations.

We will be covering many potentially hazardous farm situations, including equipment dangers, hearing loss, grain storage hazards, pesticides, skin cancer, and coping with other farm medical emergencies. One of the hands-on talks will be by a local physician, who will demonstrate first aid treatments, and the proper use of first aid kits. The best part of this session is 50 attendees will be able to keep the first aid kits (valued at \$30 each) for future use on their own farms! Pesticide credits will be issued.

Additionally, there will be an outstanding pig roast, which will feature local pork.

This program will be able to help farmers address some of these safety issues, enjoy good food, go home with a free first aid kit, obtain pesticide credits, and hopefully, help to bring about a change in the danger level of farming.

More details will be forthcoming in subsequent issues of this newsletter.

I hope to see you all there!

