

SKIN HEALTH FOR FARMERS

The Problem

Every day farmers are in contact with agents that may damage skin. Farmers are often exposed to ultraviolet (UV) light, chemicals, or diseases passed from animals. It is important to recognize the dangers and to know how to prevent skin damage or disease.

The skin is the largest organ of the human body. It serves many important functions, including:

- Protecting the body from organisms and foreign substances
- Maintaining body temperature
- Sensing (touch, temperature)

What is Healthy Skin?

There is a range of healthy skin. Birthmarks, freckles or moles are usually normal. Thickened, scaling or inflamed skin is not normal. Infections caused by bacteria, viruses or fungi may cause pimples, boils, blisters or swollen, red patches of skin. Certain types of moles are not normal.

Contact Dermatitis - Inflammation of the Skin

Inflammation of the skin is a common problem. There are two types of contact dermatitis, which can be difficult to tell apart.

“Irritant dermatitis” is caused by soaps, fertilizers, pesticides, fuels, solvents, plants, grains, or other agents. Persons with previous or current skin disease are more likely to develop this reaction. Symptoms usually occur on the hands or face and might include redness of skin, blisters, scales, crusts or changes in pigmentation. Usually irritant reactions develop within a few hours after exposure and are at their worst after about 24 hours.

“Allergic dermatitis” is caused by direct contact with allergenic substances. Allergies can develop suddenly, even after many years without a skin reaction. An allergy

may last for life. Common agricultural skin allergens include pesticides, veterinary products, oats, barley, or other plants and insect parts. The skin may be itchy, painful, red, swollen or covered in small blisters. Symptoms usually occur at the site of contact, but in severe cases, may spread to cover large areas of the body. An allergic reaction usually starts within 12 hours of exposure, and is at its worst after three to four days, slowly improving in about seven days.

Preventing Contact Dermatitis

- Substitute less irritating or non-allergenic agents if contact dermatitis develops.
- Store substances properly.
- Clean up spills promptly.
- Hand washing is vitally important. Use the mildest soap or detergent that will do the job. Use waterless hand cleaners and abrasive soaps only when necessary.
- Use protective clothing (such as gloves or aprons) recommended by the manufacturer.
- Use barrier creams (Invisible Glove®, “pr”® creams) when gloves or sleeves cannot be safely used. Barrier creams are creams applied to reduce certain chemicals being absorbed through the skin. These are different than moisturizing lotions, which offer no protection. Products which protect against organic solvents, oils and grease are available.
- Do not use gasoline or other solvents to wash off grease or oil. In addition to irritating the skin, such solvents may be absorbed, causing other adverse effects.



See your doctor if you are concerned about a possible work-related skin condition

Traumatic Skin Problems

High-pressure Injection Injuries

When checking hydraulic lines for leaks, farmers can suffer accidental injection of hydraulic fluid into a finger, hand or arm. Hydraulic pressure is around 3,000 psi and the fluid temperature is above boiling. Hydraulic fluid can cause severe tissue damage if injected.

Time is of the essence. Seek medical treatment. DO NOT apply a tourniquet to the affected limb to try to stop extension of the fluid. Amputation may be necessary due to severe tissue damage if not treated urgently.

Be aware that most patients report a stinging sensation or no pain at all, and as a result, may delay seeking treatment. Within one or two hours, tissue swelling occurs, followed by discoloration and numbness, with or without pain. After 4-6 hours, intense throbbing pain may develop.

Prevention is the key when checking hydraulic lines in operation. Wear shirts with long sleeves, gloves and eye protection.



Safety when using anhydrous ammonia:

- Never attempt field adjustments or repairs without noting wind direction. **Stay upwind.**
- Follow instructions from the equipment manufacturer and dealer.
- Wear safety glasses or goggles and rubber gloves when handling.
- DO NOT wear contact lenses.
- Wear a NIOSH (National Institute for Occupational Safety and Health) approved respirator with cartridges suitable for ammonia. A full-face mask is recommended.
- Wear a shirt with long sleeves.
- Clean, fresh water must be available for first aid. A container of at least 4 gallons must be on the applicator with another smaller one in the tractor. Carry a bottle of water in your shirt pocket. Check to ensure ease of operation.



Use cardboard (not your hand) to check for potential hydraulic leaks

Anhydrous Ammonia

This common fertilizer is stored in a pressurized liquid format at -33°C . A caustic liquid, anhydrous ammonia will burn and “freeze dry” tissue. Injuries - often to hands, face and eyes - can be severe if not treated quickly.

Remove all contaminated clothing. Flush all affected tissues with water for up to 20 minutes. Eyes need to be flushed within the first 10 seconds to prevent permanent damage. After flushing, seek immediate medical treatment.



Remember: To prevent eye injury, the first 10 seconds are the most important.

Warning Signs of Skin Cancer

- Any unusual skin condition which does not heal in four weeks
- Sore, oozing or scaly patches on the skin
- A persistent white patch on the lip
- A mole or freckle that grows quickly, changes shape or colour, bleeds or itches

Reducing UV Exposure

- The highest UV light exposure is between 11:00 a.m. and 4:00 p.m.
- Pay attention to the UV index and act accordingly.
- Wear a hat: a wide brim or legionnaire style (with

back flap) provides more protection than a ball cap. A hat will also protect your eyes from UV exposure.

- Wear sunglasses that absorb most UV light.
- Wear tight-weave clothing that covers as much of the body as possible. If cloth blocks out visible light, it will protect from UV rays.
- Wear sunscreen with a Sun Protection Factor (SPF) of 15 or higher. Apply to all exposed skin, including ears, hands and neck, 15 to 20 minutes before going out. Wear lip balm with SPF 15 or higher. Reapply every two hours.
- Examine your skin front and back every eight weeks. Note any changes in skin or moles, and see your doctor about any mole that changes size, shape or colour.

What Does the UV Index Mean?

UV index	Category	Sunburn time
Over 9	extreme	less than 15 minutes
7-9	high	about 20 minutes
4-7	moderate	about 30 minutes
0-4	low	more than one hour



DID YOU KNOW?

Up to 85% of UV light is reflected by snow!

Effects of Sun on Skin

Sunlight is made up of visible, infrared and ultraviolet (UV) rays. UV rays can cause:

- Skin damage such as sunburn and premature aging
- Skin cancer
- Eye disorders
- Immune system damage

The most common form of cancer, skin cancer, is largely preventable and can be successfully treated if recognized early. The Canadian Dermatology Association (CDA) estimated that more than 60,000 Canadians would be diagnosed with skin cancer in 2003.

There is no such thing as a “healthy” tan. Too much sun increases the risk of skin cancer; however there is a lag time of between 10 and 30 years for skin cancer to develop, which may lead to a false sense of security. Several blistering sunburns as a child doubles the risk of skin cancer (especially melanoma) later in life.

Eye Damage

Ultraviolet (UV) light causes cataracts (clouding of the eye lens) and macular degeneration (damage to the retina), the two most common causes of vision problems and blindness. Arc welding is also a source of UV exposure.

Why Are Farmers Over-exposed to UV Light?

- Most of their jobs are outdoors
- The greatest exposure to UV light occurs in late spring and early summer, when much field-work is done
- UV light is reflected off surfaces like metal, concrete and snow

Who is at Risk for Skin Cancer?

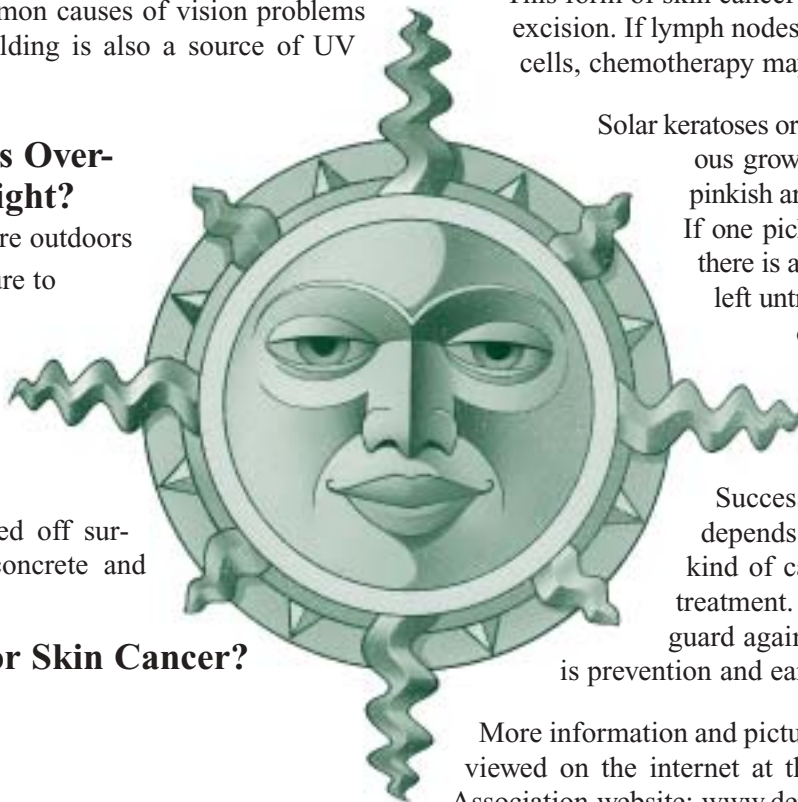
You are, if you have:

- Fair skin
- Blonde or red hair

- Freckles or moles
- A family history of skin cancer
- A tendency to burn rather than tan
- A history of severe childhood sunburns

Types of Skin Cancer

1. *Basal cell carcinoma* is the most common form of skin cancer. It often appears as small raised bump that has a smooth pearly appearance. It is highly curable, treated by curettage and electrodesiccation (scraping and then burning with an instrument like an arc welder) or by surgical excision.
2. *Squamous cell carcinoma* is more serious, but small lesions are generally treatable. This type often appears on the nose, forehead, hands, ears and lower lip. It may appear as a firm red bump and may feel scaly, develop a crust, or bleed. It is treated by surgical excision and sometimes by radiation.
3. *Melanoma* is the least common, but most serious type, of skin cancer. Melanoma usually grows from an existing mole that may get bigger, change colour, become lumpy, bleed, or turn into a scab and itch. This form of skin cancer is treated by wide surgical excision. If lymph nodes are positive for melanoma cells, chemotherapy may be needed.



Solar keratoses or “sun spots” are pre-cancerous growths characterized by red or pinkish areas, with a thin white scale. If one picks at the scale, it feels like there is a needle piercing the skin. If left untreated by anti-cancer cream or liquid nitrogen, “sun spots” may develop into squamous cell carcinoma.

Success in treating skin cancer depends on the extent, stage and kind of cancer, and the response to treatment. However, the best safeguard against all types of skin cancer is prevention and early detection.

More information and pictures of these cancers can be viewed on the internet at the Canadian Dermatology Association website: www.dermatology.ca



DID YOU KNOW?

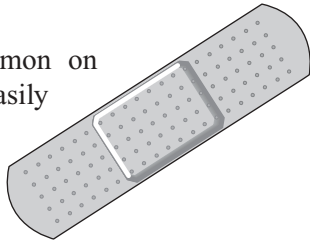
A typical summer UV index in Saskatchewan at midday is 7?

First Aid For Cuts

- Apply pressure if bleeding profusely.
- Cleanse the wound gently with clean water. Diluted hydrogen peroxide (1:10) can be used initially, but not for subsequent wound cleaning. Try to clean out as much debris as possible. If the cut is especially dirty or deep, seek medical treatment.
- Topical antibiotic ointments may prevent infection and speed healing.
- Dressings (gauze) can be applied if the wound is oozing or to protect the wound.
- Watch for signs of infection: redness, warmth, tenderness and swelling.

Cuts

Skin wounds are common on any farm. Cuts can easily become contaminated with bacteria, oils, grease or dirt.



Cellulitis: A Possible Complication

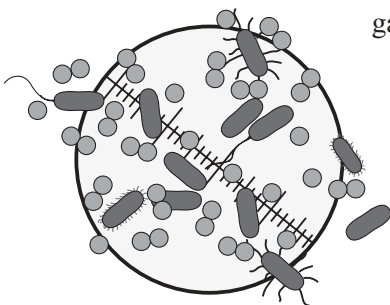
This is an infection of the deep skin layers and underlying tissues. It can occur as a result of a cut, scratch or burn, and may lead to blood poisoning. People with poor circulation or diabetes are more at risk.

The skin is usually red, warm and painful. The inflamed area has ill-defined borders and may spread in size over a period of hours. The person may also have fever, chills and a headache. An abscess (collection of pus) may form.

Seek medical treatment promptly: antibiotics are essential in stopping this infection.

Skin Diseases Caused by Bacteria and Other Organisms

Ringworm is a type of fungal infection, most commonly passed to humans from infected cattle, puppies and kittens. Diagnosis can be difficult. Lesions are often

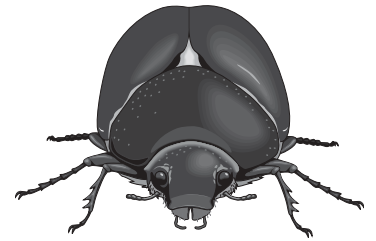


present on parts of the skin in contact with sores on an animal. Ringworm is treated with oral antifungal drugs and antifungal creams.

Scabies is an organism living on cattle, pigs and in grain dust. Common symptoms include an itchy rash on the hands, wrists, chest and abdomen, which often worsens at night. Treatment consists of topical application of medications. Everyone in the household should be treated at the same time and clothing and bedding should be washed in soap and hot water.

Ticks

Present on farms in many parts of Saskatchewan, ticks live primarily in grassy or wooded areas and can pass on two diseases which require medical treatment.



Rocky Mountain Spotted Fever can be fatal without treatment. Symptoms include a high fever, lack of energy and a headache behind the eyes. A reddish rash usually develops on the palms of hands and soles of feet.

Lyme Disease is passed to humans by ticks, usually from white-tailed deer. A small raised bump begins at the site of the tick bite. The area around the bite slowly expands and reddens, accompanied by fever, tiredness and headache. Arthritis may develop in knees or other large joints. Symptoms tend to flare up every one to three weeks, and slowly decrease in severity over 2 or 3 years.

To remove a tick ...

1. Use blunt tweezers.
2. Grasp the tick at the head without squeezing and gently pull the tick out of the skin.
3. If the tick is imbedded, or its body breaks off leaving the head under the skin, seek medical attention.

In areas known to contain ticks:

- Wear protective clothing: long pants and long-sleeved shirts.
- Use insect repellent containing DEET.
- Closely inspect skin and remove ticks promptly.

Use of Insect Repellents Containing DEET

Retail sales of products containing concentrations of DEET greater than 30% are being phased out but can continue until December 31, 2004. This will allow existing products to be used up. You may continue to use products containing concentrations of DEET greater than 30% occasionally according to the label directions.

Health Canada recommends:

- **Children younger than 6 months** - Do not use insect repellents containing DEET.
- **Children 6 months to 2 years** - Use the least concentrated product (10% DEET or less) only when frequent insect bites are likely. Do not apply to the face or hands. Apply only once per day.
- **Children 2 to 12 years** - Use the least concentrated product (10% DEET or less), applying no more than three times per day.
- **Persons 12 years and older** - Use products with DEET concentrations less than 30%, following the manufacturer's recommendations.



Anthrax

Although rare, several Anthrax cases have occurred in Western Canada over the past decade. Humans usually acquire the skin form of this disease through a break in the skin while handling infected animals (cattle, horses, pigs, sheep) or their hides.

In animals, symptoms include listlessness and reduced milk flow, usually followed by rapid death. Carcasses bloat and should be burned or buried.

In humans, the skin infection begins with a reddish brown lesion that becomes an ulcer and scabs over. Fever, tiredness and swollen lymph nodes are usually present. Immediate medical treatment is required. This type of anthrax is not usually fatal, unlike the lung form. Prevention may include vaccination of animals or humans, and careful handling of sick livestock.

Erysipeloid

This is an infection of the skin caused by exposure to infected pigs or turkeys. It begins as a small red raised bump on the hands and spreads into a large red, swollen, inflamed area. Fever is not usually present. It is treated with antibiotics.

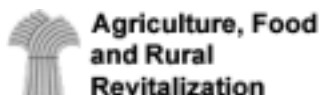
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