

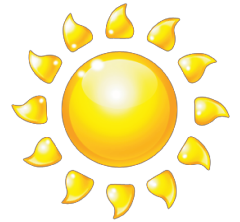
Farmers Should Make a Skin Check a Priority

Farming has plenty of challenges, but probably one of the hazards that farmers worry about the least are the dangers from working in the sun year-round. As winter sets in, farmers should pay attention to the condition of their skin.

"More than 11,000 Americans die each year from skin cancer," says Dr. David M. Pariser, a dermatologist and president of the American Academy of Dermatology (AAD). "But when detected early, skin cancer has a cure rate of 99 percent. Since research shows farmers are among the least likely workers to receive a skin examination by a physician, it's important that farmers perform regular skin self-examinations, which could mean the difference between life and death."

It's as easy as "ABC" to remember how you can identify a mole or lesion that needs the attention of a dermatologist:

- Asymmetry** (one half is unlike the other)
- Border** (irregular, scalloped or poorly defined)
- Color** (varies from one area to another)
- Diameter** (the size of a pencil eraser or larger)
- Evolving** (changing in size, shape or color)



To help farmers minimize their risk of skin cancer, the AAD recommends that everyone Be Sun Smart:

- Use water-resistant sunscreen with a sun protection factor (SPF) of at least 30 on all exposed skin, before heading out to the field or pasture. Re-apply approximately every two hours, even on cloudy days.
- Wear long-sleeved shirts, pants, a wide-brimmed hat and sunglasses.
- Stay in the shade when possible, and make sure your tractor has a sun umbrella. The sun's rays are strongest between 10 a.m. and 4 p.m.
- If working near water, snow or sand, seek extra shade because these surfaces reflect the sun's rays and increase your chance of sunburn.
- Look at your skin after each harvest. Ask a partner to help. If you notice any moles or spots changing, growing or bleeding, make an appointment to see a dermatologist.

The AAD offers a downloadable Body Mole Map with information on how to perform a skin exam and images of the ABCDEs of melanoma. The mole map is available at www.aad.org/checkspot. The site also has information on how to find a free cancer screening from a dermatologist in your area.

Performing a skin self-exam requires regularly looking over the entire body, including the back, scalp, soles of the feet and between the toes, and on the palms. It is important to use both a full-length mirror and a hand-held mirror to see the scalp, back and buttocks.

For more information about skin cancer, visit the SkinCancerNet section of www.SkinCarePhysicians.com.

Source: American Academy of Dermatology

Nitrogen Efficiency

When applying nitrogen (N) fertilizer to corn or wheat it is not just the amount of N that you apply, the use efficiency or amount that actually makes it into the plant and becomes part of yield that is much more important. If you plant a crop and do not add fertilizer, it will still yield. That N comes from the soil. If you add fertilizer and measure the difference in uptake from the two practices, that measures the amount of fertilizer that is utilized from what is added.

Nitrogen use efficiency (NUE) in most crops is not as high as most people think. Worldwide N use efficiency for cereal crops is about 33 percent which means only 33 percent of the total fertilizer N applied worldwide actually makes it into the crop. In the United States we are doing better, but we are still at 50 to 60 percent N use efficiency when we are at maximum economic yield. That is good news and bad news in that still half of what you apply has not made it into the crop.

The first thing to do is to soil test. Soil tests can indicate which nutrients would be the more limiting production factor. Investing in the nutrients that will provide the best yield response will provide a better return on fertilizer dollars. The proper pH and balance of phosphorous (P) and potassium (K) will enable plants to take-up and utilize N more efficiently.



The first decision in N management is to decide what rate to use. Historically rates have been decided by the crop yield goal. Researchers have concluded that there is a poor relationship between yield and the best N rate. There are several factors to consider. The primary consideration is to evaluate your

needs on a field to field basis. Different soil types and cropping histories will result in different yield potentials. Give the proper N credit for past crops such as soybeans or a legume. Don't forget soil organic matter will also provide N to the crop. A soil test will indicate the amount of organic matter in the soil. Past fertilizer applications and past production history will influence the amount of residual N available. If a producer wants to fine-tune their N rates, they can sample for residual N in each production field to a depth of 12 to 36 inches. Finally, set realistic and economic yield goals. Research has shown that the most profitable N rate in most crops is at 90 to 98% of the maximum yield.

Manage the fertilizer to reduce possible losses that might occur from denitrification, leaching or volatilization. Another option to manage losses would be a split application of your N. The maximum uptake of N by the plant occurs at or near flowering. The longer the N fertilizer sets there, the longer it is exposed to factors that

may cause it to be lost. There is some data from Kentucky showing that by delaying the application of N to corn, that the rate may be reduced by as much as 35 pounds per acre and still produce maximum yields.

Source: Wayne Crook, Agronomy Specialist

Cold Stress and Newborn Calves

Spring calving in Missouri's beef herds will soon be underway. Weather conditions are unpredictable, but we can usually count on at least some cold and wet weather during calving season. Below are a couple of topics to serve as reminders for beef producers to help prepare for inclement calving weather.



Cow Nutrition Pre-calving

Energy is probably the most important nutrient to be concerned about prior to calving. Energy status of the cow affects calving difficulty. Reducing energy supplementation in an attempt to decrease calf birth weight doesn't work. Research has shown that thin cows have more calving difficulties than well conditioned cows. Also, providing the cow with adequate energy prior to calving helps ensure that a large quantity of high quality colostrum will be available to the calf. This is critical for calf survival during cold stress and for disease resistance as the calf ages.

Remember that during the last month or so of gestation, rumen capacity of the cow decreases due to increased fetal growth. You may need to increase the energy density of the diet by feeding a few pounds of grain or grain by-products to overcome the potential decrease in hay intake.

Adequate protein is also necessary, but protein is generally not as much of a concern in Missouri compared to western states that graze dormant range pastures during the winter. Protein supplementation may or may not be necessary, depending primarily upon hay quality.

Fat supplementation for the cow has been shown to improve the newborn calf's response to cold stress by increasing glucose concentration in its blood. It is believed that this increased substrate is available for heat generation. There is also some indication that serum immunoglobulins in calves of fat-supplemented cows are higher than non-supplemented cows. This helps the calf with disease resistance. Distiller's dried grains (DDG) are an excellent source of supplemental fat, protein and energy.

Newborn Calf Care

South Dakota State University has published a guide sheet (<http://agbiopubs.sdstate.edu/articles/ExEx2050.pdf>) which summarizes management strategies producers can use to warm newborn calves, should the need arise. The items below are taken from this publication.

Wet and cold conditions are the main environmental

stressors causing hypothermia in newborn calves. Rectal temperature is the most accurate method of determining if a calf is experiencing hypothermia. Mild hypothermia is when core body temperature drops below 100 degrees F. Severe hypothermia is when core body temperature drops below 94 degrees F.



There are a variety of methods for warming calves, including warm water baths, blankets and hot boxes with warm air or heat lamps. Which ever method is chosen for warming the calf, it should not be so hot to cause skin burns. Hot boxes should be set for 105 to 108 degrees.

Warm water baths should be gradually increased to 100 degrees and maintained at that temperature. It is important not to let the calf cool off after being warmed.

Hot boxes need to provide both warmth and ventilation. Venting is needed to prevent the buildup of moisture and carbon dioxide. Air movement in the box helps ensure thorough warming of the calf and prevents hot spots in the warming box. Thermostatic controls are useful to help maintain a consistent temperature in the box.

Sanitation of warming equipment is essential to prevent the spread of disease between calves. Warming boxes are a potential reservoir of calf diarrhea organisms and may make the spread of scours within a herd easier if attention is not paid to thorough cleaning and disinfection between calves.

Insuring newborn calves receive adequate colostrum in a timely manner has a dramatic and positive impact on calf health. Colostrum is the first line of defense against pathogenic challenges to the calf.

Source: Gene Schmitz, Livestock Specialist

Topdressing Wheat

Timing is everything and that applies to topdressing the winter wheat crop. A lot of wheat was planted late and some of the stands appear a little thin now. The first thing to do would be to determine if there is enough of a stand to keep the crop. As a general guide, when lawns begin to show green color, winter wheat should be breaking dormancy and starting to grow. A stand of 25 to 30 plants per square foot is generally considered optimum. Fifteen to 20 plants per square foot is the minimum population. Increased tiller number can compensate to a certain degree for a low plant count. About 60 productive (head-bearing) tillers per square foot are needed for an adequate stand. When taking stand counts, check the condition of the crown of the plant. The crown needs to be $\frac{3}{4}$ - 1-inch below the soil surface. If the crown is firm and white and new roots are developing, the plant is probably in good condition. As long as the crown is alive, the plant can produce new leaves. To get a head start on assessing the health condition of wheat, dig shovelful “plugs” of soil and wheat. Put them in a sunny, cool area

such as an unheated enclosed porch and check the crowns for new growth in about a week.

Next, is the timing of the nitrogen (N) application. If the tiller density is below 60 tillers per square foot then those fields should receive top priority for early spring applications. Nitrogen applications at green-up will stimulate the formation of additional tillers and increase yield potential. In fields that have adequate tiller densities (70 tillers per square foot), early spring nitrogen is needed but a large N application may lead to tiller densities that are too high. Excessively lush growth in early spring can lead to lodging and can make the crop more vulnerable to disease. When wheat is well tillered at the beginning of the spring growth period, growers should wait until near jointing to apply spring fertilizer. This would have the N available closer to the time of maximum N uptake by the plant. It is also advantageous to wait until later in the season for N application on sandy soils and on frozen, poorly drained and/or shallow clay pan soils. On the sandy soils, there is a greater chance that N applied early could leach out of the root zone if precipitation is unusually high. On the poorly drained and/or shallow clay pan soils there is a significant risk of denitrification loss.

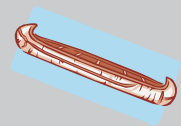


The University of Missouri conducted six N rate and timing experiments. In these studies, the optimum rate of spring N was about 90 lb N/acre in four of the experiments, 120 lb N/acre in one and 40 lb N/acre in the other. Average yield for the experiments was 72 bu/acre. They concluded that a rate of 90 – 100 lb N/acre in the spring is probably a good average. These conclusions were based on yield response. With today’s fertilizer prices and grain prices, cost should also be a consideration. The amount of N needed is more variable for wheat following corn than for wheat following soybeans. One new alternative for selecting optimum N rate is to use an active sensor such as Green Seeker. The ideal way to use this tool would be to establish a series of reference strips, or high N areas in the field, before the crop breaks dormancy, and then use the sensor to determine overall N rate for the field at jointing.

Source: Wayne Crook, Agronomy Specialist

Fun Missouri Tidbit

Missouri was named after a tribe called Missouri Indians; meaning “town of the large canoes”



Missouri Day is the third Wednesday in October (1969).

MU to Premiere New Wheat Variety



Farmers will soon have a new variety of wheat that promises high yields and excellent qualities in milling. University of Missouri researchers spent the past 12 years refining and testing a new soft red winter wheat line released this summer and expected to be widely available as certified seed in the fall.

Wheat breeder Anne McKendry noted that this variety - dubbed the Milton line - has performed extremely well in statewide testing and in regional tests that vetted it against the best new varieties around the country.

In university testing, Milton boasted an average yield of 64 bushels per acre in the past six years at four testing sites throughout Missouri, besting all previous varieties developed by the

The Milton line, named after longtime MU wheat breeder J. Milton Poehlman, should be available through certified seed dealers in the fall. The Milton line has moved on to large-scale production through Foundation Seeds and testing oversight through the Missouri Crop Improvement Association (MCIA). Richard Arnett, MCIA executive director, agreed that Milton seems impressive, but noted that it's farmers who make or break a new variety.

More information about how Milton measures up to other varieties in 2009 wheat testing is at <http://agebb.missouri.edu/cropperf/wheat/soft/> or contact your local MU Extension Agronomy Specialist.

Source: *Anne McKendry, MU Associate Professor Agronomy*

In This Issue:

- Farmers Should Make a Skin Check a Priority
- Nitrogen Efficiency
- Cold Stress and New Born Calves
- Topdressing Wheat
- Missouri Tidbit
- MU to Premier New Wheat Variety