

Larry Crouse

Extension Horticulture Agent

GLYPHOSATE (ROUNDUP) SAFETY

A recent court case has brought glyphosate safety into the forefront. Glyphosate is found in numerous products but the most well-known is Roundup. I won't comment on the case itself, but look at some facts that can help us assess the risk.

-The EPA released a draft risk assessment in December of 2017. In that draft, the following statement was made:

"The draft human health risk assessment concludes that glyphosate is not likely to be carcinogenic to humans. The Agency's assessment found no other meaningful risks to human health when the product is used according to the pesticide label. The Agency's scientific findings are consistent with the conclusions of science reviews by a number of other countries as well as the 2017 National Institute of Health Agricultural Health Survey."

- Regulatory authorities in Canada, Europe, Japan, Korea and Australia have consistently reaffirmed that glyphosate is not carcinogenic when used **according to label instructions**.

Note that safety is tied to using the product according to the label. Using the product at higher than label rates not only increases risk but also may reduce effectiveness. Correct rates allow glyphosate to be translocated to the roots of the plant so that the entire plant is killed. Personal protective equipment required may vary depending on the formulation. **READ THE LABEL!**

Dividing Peonies

Peonies are a favorite perennial of gardeners because of their beauty and low maintenance. In Kansas, peonies provide a beautiful display of flowers each spring before Memorial Day. Though peonies can be left in place indefinitely, many gardeners wish to increase their plantings and use a process known as division to accomplish this. Keep in mind, however, that peonies often take about three years to return to full bloom and size after division. Fall is the traditional time to divide these plants. Peonies are essentially dormant by mid-August even though the foliage is still green. The first step in division is to remove the foliage. Then dig out the entire plant. Shake and wash off as much soil as possible so that the pink buds or "eyes" are visible. Peony roots are tough, and a sharp knife is needed to cut the roots into separate pieces. Make sure each division has three to four buds. Make sure the location chosen for planting receives at least a half-day of full sun. However, the more sun, the better. Space the plants so that there is at least 2 feet between dwarf types and 4 feet between the standard types. Follow the same rules for planting these divisions as you do for new plants. Make sure the pink buds are about 1 inch below the soil surface. If they are set more than 2 inches deep, flowering may be delayed or completely prevented. As you set the plants, firm soil often as it is added around the plant. If the soil is not firmed, it can settle and pull the plant down with it. Water in well after planting and

water as necessary through the fall and winter to keep the soil moist. It is often a good idea to add mulch to the new planting to protect it from heaving. The alternate freezing and thawing that commonly occurs during Kansas winters can "heave" weakly rooted plants out of the ground. Add a mulch of straw, leaves, compost or other material after the soil freezes. Remember, it is not the cold that harms these plants but the alternate freezing and thawing of the soil.

Recent Rains Trigger Mushroom Development

Recent rains in certain areas of Kansas have resulted in the appearance of mushrooms in home lawns and landscape beds. Although mushrooms are often spectacular in size and color, most are relatively harmless to plant life. Some of these mushrooms are associated with arc-like or circular patterns in turfgrass called fairy rings. The ring pattern is caused by the outward growth of fungal mycelium. The mycelium forms a dense, mat-like structure in the soil that decomposes organic matter. This decomposition releases nitrate into the soil, which in turn stimulates the growth of the grass at the outer portion of the ring. This results in a dark green appearance of the grass at the margin of the ring. Unfortunately, the thick fungal mat formed by the fungus interferes with water infiltration. The fungus also may release certain byproducts that are toxic to the turf. This may lead to dieback of the turf close to the ring. Therefore, in some cases the ring is evidenced by a darker green color and in others, by a brown ring with the outside edge being darker green than the rest of the turf. Fairy rings are difficult to control. You can sometimes eliminate the ring by digging to a depth of 6 to 12 inches and 12 inches wide on both sides of the ring, refilling the hole with non-infested soil. Or you can try to mask the symptoms by fertilizing the rest of the lawn so that it is as dark green as the ring. This often isn't a good idea because it tends to promote other turf problems. Commercial people can use certain fungicides to control fairy rings but these products are not available to homeowners.

See <http://www.ksre.ksu.edu/bookstore/pubs/EP155.pdf> for more info on these fungicides.

Some mushrooms in lawns are not associated with fairy rings. These may be mycorrhizal (symbiotic association with tree roots) or saprophytic (live on dead organic matter such as wood, etc.) in the soil. Because some of these mushrooms are beneficial, you don't really want to kill them. Besides, a fungicide spray to the mushroom itself does little good. Remember the mushroom is simply the fruiting structure of the organism. Most of the fungus is below ground and inaccessible to the chemical. If mushrooms are a nuisance, pick them and dispose of them as soon as they appear. If there are too many for that to be practical, mow them off. Removing sources of organic debris from the soil can help if such is possible. Also, mushrooms tend to go away as soil dries. Patience may be the best control. Some of the mushrooms in the lawn are edible, but others are poisonous. Never eat mushrooms unless you are sure of their identity.

Power Raking and Core-Aeration

September is the optimum time to power rake or core-aerate tall fescue and Kentucky bluegrass lawns. These grasses should be coming out of their summer doldrums and beginning to grow more vigorously. This is a good time to consider what we are trying to accomplish with these practices. Power raking is primarily a thatch control operation. It can be excessively damaging to

the turf if not done carefully. For lawns with one-half inch of thatch or less, I don't recommend power raking but rather core aeration. For those who are unsure what thatch is, it is a springy layer of light-brown organic matter that resembles peat moss and is located above the soil but below the grass foliage. Power raking pulls up an incredible amount of material that then must be dealt with by composting or discarding. Core-aeration is a much better practice for most lawns. By removing cores of soil, core-aeration relieves compaction, hastens thatch decomposition, and improves water, nutrient, and oxygen movement into the soil profile. This operation should be performed when the soil is just moist enough so that it crumbles easily when worked between the fingers. Enough passes should be made so that the holes are spaced about 2 to 3 inches apart. Ideally, the holes should penetrate 2.5 to 3 inches deep. The cores can be left on the lawn to fall apart naturally (a process that usually takes two or three weeks, depending on soil-type), or they can be broken up with a power rake set just low enough to nick the cores, and then dragged with a section of chain-link fence or a steel doormat. The intermingling of soil and thatch is beneficial to the lawn.

Larry E. Crouse

Butler County Horticulture Agent

K-State Research & Extension

206 N Griffith, Suite A

El Dorado, KS 67042

(316)321-9660

lcrouse@ksu.edu