Horticulture 2023 Newsletter
No. 12 March 28, 2023

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Video of the Week: Crabgrass Prevention in Lawns

REMINDERS

1. Plant new roses.
2. Remove winter mulch from existing roses.

TURFGRASS

Proper Timing for Crabgrass Preventers

Crabgrass preventers are another name for preemergence herbicides that prevent crabgrass seeds from developing into mature plants. Many people have a somewhat foggy idea of how they work and assume they kill the weed seed. Such is not the case. They do not kill the seed or even keep the seed from germinating but rather kill the young plant after it germinates. Therefore, they do not prevent germination but prevent emergence.

Crabgrass preventers are just that – preventers. With few exceptions they have no effect on existing crabgrass plants, so they must be applied before germination. Additionally, preventers do not last forever once applied to the soil. Microorganisms and natural processes begin to gradually break them down soon after they are applied. If some products are applied too early, they may have lost much of their strength by the time they are needed. Most crabgrass preventers are fairly ineffective after about 60 days, but there is considerable variation among products. (Dimension and Barricade last longer. See below.)

For most of Kansas, crabgrass typically begins to germinate around May 1 or a little later. April 15 is normally a good target date for applying preventer because it gives active ingredients time to evenly disperse in the soil before crabgrass germination starts. Even better, base timing on the bloom of ornamental plants. The Eastern Redbud tree is a good choice for this purpose. When the trees in your area approach full bloom, apply crabgrass preventer. A follow-up application will be needed about 8 weeks later unless you are using Dimension or Barricade. Products that do require a follow-up application include pendimethalin (Scotts Halts) and Team (Hi-Yield Crabgrass Control).

Dimension and Barricade are the only two products that give season-long control of crabgrass from a single application. In fact, they can be applied earlier than April 15 and still have sufficient residual strength to last the season. Barricade can even be applied in late fall for crabgrass control the next season.

Dimension can be applied as early as March 1. Because of the added flexibility in timing, these products are favorites of lawn care companies who have many customers to service in the spring. Though Dimension is usually not applied as early as Barricade, it is the herbicide of choice if it must be applied later than recommended. It is the exception to the rule that preemergence herbicides do not kill existing weeds. Dimension can kill crabgrass as long as it is young (two- to three-leaf stage). Dimension is also the best choice if treating a lawn that was planted late last fall. Normally a preemergence herbicide is not recommended unless the lawn has been mowed two to four times. But Dimension is kind to young tall fescue, perennial ryegrass, and Kentucky bluegrass seedlings and some formulations can be applied as early as two weeks after the first sign of germination. However, read the label of the specific product you wish to use to ensure that this use is allowed. Lawns established in the fall can be safely treated with Dimension the following spring even if they have not been mowed.

Note that products containing Dimension and Barricade may use the common name rather than the trade name. The common chemical name for Dimension is dithiopyr and for Barricade is prodiamine. Remember, when using any pesticide, read the label and follow instructions carefully.

We recommend crabgrass preventers be applied before fertilizer so that the grass isn't encouraged to put on too much growth too early. However, it may be difficult to find products that contain preemergents without fertilizer. Those that don't contain fertilizer are listed below.

Barricade
- Howard Johnson Crabgrass Control Plus with 0.37 Prodiamine 00-00-07
- Pennington Pro Care Crabgrass Control Plus .37 Prodiamine 0-0-7 Turf Fertilizer

Pendimethalin
- Scotts Halts

Team (Benefin + Trifluralin)
- Hi-Yield Crabgrass Control

Dimension
- Hi-Yield Turf & Ornamental Weed and Grass Stopper
(Ward Upham)

FRUIT

Apple Tree Sprays

Apples are the fruit most likely to be damaged by diseases and insects of any fruit grown in Kansas. Two common diseases on apple trees are cedar apple rust and apple scab. Though some apple varieties are resistant to these diseases — including Liberty, Jonafree, Redfree, Freedom and Williams Pride — most varieties are susceptible. For a listing of the disease resistance of various cultivars, go to: https://extension.missouri.edu/g6022

Fungicide sprays during April and May are critical to preventing disease on susceptible varieties.

The first spray should go down when leaves appear. A fungicide that is available to homeowners and very effective for control of apple scab and cedar apple rust is myclobutanil (Immunox, Fungi-Max and F-Stop Lawn & Garden Fungicide). There are several formulations of Immunox but only one is labeled for fruit. Check the label. Sprays should be done on a 7- to 10-day schedule to keep the protective chemical cover on the rapidly developing leaves and fruit. These diseases are usually only a problem during April and May.

An insecticide will need to be added to this mixture after petal drop to prevent damage from codling moths that cause wormy apples. We have five products that can be used. They are listed below along with the maximum number of sprays that can be used per year.

Product	**Maximum Number of Sprays/Year**
Bonide Malathion	2
Bonide Fruit Tree Spray	2
Bonide Fruit Tree and Plant Guard	4
Cyd-X	No limit

In order to protect bees, DO NOT use any insecticide during bloom. Wait until petal fall.

Although gardeners may continue to use myclobutanil after May, certain other fungicides are more effective on summer diseases such as sooty blotch and fly speck. Consider using Bonide Fruit Tree and Plant Guard or Bonide Fruit Tree Spray after petal drop as both contain an insecticide(s) and fungicide(s). However, you are limited in the number of applications per year allowed.

An organic control with the trade name Cyd-X is also labeled but will control only codling moth.

A spreader-sticker can be added to the fungicide-insecticide chemical mixture to improve the distribution and retention of the pest control chemicals over the leaves and fruit. Sprays are applied every 10 to 14 days. A hard, driving rain of about 1 inch or more will likely wash chemicals from the leaves and fruit. In such cases, another application should be made.

Another organic control that is often overlooked is bagging. There are bags made specifically for this purpose and are called Japanese apple bags. However, 3 lb paper bags (lunch bags) can work as well. Cut the lunch bags down to six inches long and cut a slit to slip over the stem of the apple. Place the bag over a single fruit when it is the size of quarter (about 3 weeks after petal fall) and secure with a twist tie. The bag should be removed three weeks before harvest to allow the apples to color. The Japanese apple bags already have the slit cut and a twist tie built in. Once the bags are placed on the fruit, no additional sprays are needed. The bags prevent both fungus diseases and attacks by insects. For a video illustrating all the steps required for bagging apples, see https://www.youtube.com/watch?v=sbbmgJ5F1wc . Following are the steps that need to be taken if bags are not used and the trees will be sprayed.

Leaves Appear: Immunox, Fungi-Max or F-Stop Lawn & Garden Fungicide

Petal Drop: Add insecticide to the Immunox, Fungi-Max or F-Stop. The mixture is Immunox,

Fungi-Max or F-Stop + one of the listed insecticides.

June 1: Drop the Immunox, Fungi-Max or F-Stop so you are applying only Bonide Fruit Tree and Plant Guard or Bonide Tree Fruit spray. Another option is to use one of the other listed insecticides plus Captan.

Spray every 10 to 14 days from the first application until the last. The last application would be either until the fruit is bagged or two weeks before harvest. Actually my last application goes down about August 15 as I don't have many problems past then. (Ward Upham)

Strawberry Planting

While the weather is cool the time is right for starting strawberry plants. Mother plants should be set from mid to late March in southern Kansas and late March to mid-April in northern Kansas when soil temperatures are between 65 to 80 degrees F. This cool period allows strong root systems to establish which promotes more runners and daughter plants to develop.

Establishing mother plants in early spring encourages daughter plants to grow earlier as well. This results in larger growth from the first daughter plants by the end of the growing season and ultimately more berries the following spring. Planting during the higher temperatures stresses the mother plants limiting their growth, making them weaker and delaying the onset of daughter plants. All of this negatively affects the number of berries produced.

Newly established plants have a limited amount of energy stored. This energy needs to be used for root development and making runners rather than making fruit. During the first growing season, remove all flowers to prevent energy from being used for fruit development. If fruit is allowed to develop during the first year of growth expect weaker daughter plants and a drastic reduction in the amount of fruit the following year due to insufficient energy.

Space strawberry plants 18 to 24 inches apart in rows 12 to 18 inches wide as strawberries bear most of the fruit on the edges of the row rather than the center. (Cynthia Domenghini)

VEGETABLES

Asparagus Time

You may start seeing asparagus spears emerging from hibernation. These first spears take longer to reach harvest size because asparagus growth is temperature dependent. Warmer day and nighttime temperatures result in faster asparagus growth. As the season progresses and spears get longer, their growth rate increases.

Spears can be harvested by snapping or cutting. Though snapping is quick and easy, the ends do dry out more quickly. Bend the stalk near the base until it breaks and store in the refrigerator as soon as possible. For cutting, use a sharp knife and cut the spear slightly below the ground level. The base is woodier than a snapped stem so it doesn't lose water as quickly. Remove the woody base prior to cooking.

Asparagus should not be harvested the first year of planting. The second year, harvest for three to four weeks until the spear size decreases. Every year thereafter, harvest the spears for six to eight weeks. (Cynthia Domenghini)

Frost Proof Vegetable Plants

Certain vegetables can tolerate our cold spring temperatures as long as they have been acclimated by gradually increasing their exposure to the sunlight and outdoor temperature. This process is called "hardening off" and usually takes about one week.

Reduce watering up to one week before hardening off. To begin hardening off move transplants outside for a portion of each day. First place them in a shady location protected from the wind. Over the week, gradually increase the plants' exposure to the elements. Cabbage, broccoli, cauliflower and onions that have been hardened off can withstand temperatures near 20 degrees F. Lettuce plants can tolerate temperatures in the mid 20s. (Cynthia Domenghini)

Growing Large Onions

Onion types: Onions bulb in response to daylength and are classified as short-day, intermediate-day and long-day plants. Onions classified as short-day are triggered to bulb earlier than intermediate-day plants and intermediate-day plants are triggered to bulb earlier than long-day varieties. Intermediate-day onions are best adapted to Kansas conditions if you are looking for large onions. We can also grow short-day varieties but bulbs will be smaller than if they were grown further south because the plants are still small when they are triggered to bulb. Long-day plants can also be grown but mature later in the season.

Varieties: : If you wish to grow large onions, choose an intermediate type such as Candy, Red Candy Apple and Super Star. Long-day onions will also produce large bulbs but must be kept growing during hot weather.

Sets or plants: Though onions can be grown from seed if started inside, we are too late to raise seed-grown plants this year. Therefore, we must grow them from sets or plants. Sets look like miniature, mature onions and are most often unnamed. They will produce small mature onions. Therefore, don't use sets if the goal is large onions but rather plants of one of the three varieties mentioned above or of another intermediate-day type. However, sets are fine if you want to grow green onions (scallions) or don't care about the size of mature onions. Any sets that are larger than a nickel in diameter will likely go to seed and should be used as scallions. Those that are smaller than a nickel should produce mature bulbs.

Fertilizing: Onions have shallow root systems and need good, even moisture and adequate fertilizer to develop large bulbs. Fertilize according to soil test and work the fertilizer into the soil before planting. If a soil test hasn't been done, use a complete, balanced fertilizer such as a

10-10-10 at the rate of 1 pound per 100 square feet. Actually, any fertilizer with the three numbers being similar will work; just follow the directions on the bag to determine how much to use.

Onions respond well to sidedressing (fertilizing as the plants are growing) about 3 weeks after the plants have started to grow. Use a fertilizer composed primarily of nitrogen such as nitrate of soda (16-0-0). This fertilizer may be applied at the rate of 2 pounds (about 4 cups) per 100 feet of row. High nitrogen lawn fertilizers such as a 27-3-3, 30-3-4, 29-5-4 or something similar are also good choices, but the rate should be 1 pound (2 cups) per 100 feet of row. Do not use lawn fertilizers that contain weed killers or weed preventers.

Planting: Space plants 4 inches apart to provide adequate room for bulb expansion. Set plants 1 to 1.5 inches deep. Rows can be spaced 12 to 16 inches apart or whatever is convenient.

Care: Keep the onions weeded to reduce competition. Water once per week if no rain. Onions should be ready for harvest the first half of July or earlier. (Ward Upham)

MISCELLANEOUS

Iris Borer Control

The eggs of the iris borer hatch in April and young larvae start to cause damage by feeding on leaf surfaces causing scars. As the larvae grow, they begin to bore into the leaves and start mining downward toward the base of the leaf. Look for small pinholes in leaves, slits, or young leaves notched or with ragged edges. The larvae move toward the base of the plant resulting in a slimy appearance near ground level. Small piles of "sawdust" (frass) may appear near the base of the iris. This is also the time that the rhizomes are hollowed out by the maturing larvae. Larvae are about half-grown (1/2 to 3/4 inches long) when they first enter the rhizomes. Mature larvae have whitish to pinkish bodies with dark brown heads and are about 2 inches long.

Pupation starts in August and adult moths emerge in September and October. The pupal stage normally lasts two to three weeks with the pupa found about 2 inches deep in the soil. The adults are seldom seen because they are nocturnal. Eggs are laid on brown, dried leaves. Damage by the iris borer is often associated with a disease known as bacterial rot. Wounded rhizomes are easily attacked by this bacterium which results in a foulsmelling decay of the rhizomes.

Removal and burning of dead leaves in the fall will eliminate a number of the iris borer eggs. Larvae can also be killed by hand in June by squeezing infested leaves in the vicinity of the injury. During division, rotted and heavily infested rhizomes should be discarded. Borers in lightly infested rhizomes can be killed by poking them with a piece of wire.

Control can be achieved through the use of products with permethrin (Eight; Hi-Yield Garden & Farm Insect Control) or spinosad (Natural Guard Spinosad, Captain Jack's

Deadbug Brew, Monterey Garden Insect Spray). Apply when the shoots are four to six inches long and repeat after 10 to 14 days.

Parasitic nematodes such as *Steinernema carpocapsae* or *Heterorhabditis bacteriophora* can also be used. The parasitic nematodes must be applied when the soil temperature is above 50 degrees F. Use one quart water/nematode mix per square foot to allow the nematodes to swim to the pest. *Steinernema carpocapsae gave* better control (100%) than *Heterorhabditis bacteriophora* (87%) in research conducted by the University of Maryland. (Ward Upham)

Compost and pH

Many gardeners assume that compost is acidic but such is usually not the case. Compost is more often alkaline than acidic. The possible use of alkaline composts on highbush blueberries was enough of a problem that Oregon State University carried out a study that included determining the pH of various composts. The listing below is of some of the composts Oregon State University studied and the pH of those materials. We have not listed those composted from materials not common in Kansas such as hops and mint hay.

Material	**pH**
Mixed Manure	7.9
Horse Manure	6.4
Dairy Solids	8.0
Leaf	7.2
Yard Debris	7.7
Composted Bark	5.4

It is interesting to note the tremendous variability in pH; from 8.0 for dairy solids to 5.4 for composted bark. Therefore, it is important to perform a soil test on soils that have been heavily amended with compost as the compost may have affected the pH. (Ward Upham)

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