FRUIT

Growing Blueberries

Blueberries are not native to Kansas but will grow in the eastern half of the state with good preparation. They are related to azaleas and rhododendrons and require an acid pH, preferably 4.8 to 5.2. Blueberries do not have root hairs, so watering and mulching are important.

It is best to start planting preparations a year ahead of time to allow for pH adjustment, weed control, and the addition of organic matter. The first step is a soil test to determine how much the pH needs to be reduced. For a pH up to 5.5, the addition of sphagnum peat moss at the rate of 2 cubic feet per 100 square feet will be adequate. For a pH 5.5 to 6.0, add 1 pound of sulfur per 100 square feet of bed in addition to the peat moss. For a pH 6.0 to 6.5, add 1.5 pounds of sulfur per 100 square feet of bed. For pH levels above 6.5, use 2 pounds of sulfur per 100 square feet of bed and double the amount of sphagnum peat moss suggested earlier. Do not use aluminum sulfate to correct a high pH because excessive levels of aluminum can be toxic to blueberries. For each 0.5 movement up the pH scale from 6.5, add an additional pound of sulfur. Sulfur can be applied as a dust, but pelletized sulfur is much easier to spread.

Treat only the row. Row width should be 8 feet. Blueberries are normally spaced about 5 feet within the row. Sulfur takes time to react, so allow as much time as possible between sulfur application and planting. Blueberries will bear more if you plant more than one variety.

Recommended varieties vary, but you may want to try Bluecrop because it is adaptable. Patriot also seems to do well. You may want to try some other varieties. Blueberries should be mulched. Sawdust is the traditional material, but straw and wood chips will work as well. Mulch to a depth of about 3 inches.

Blueberries must be irrigated. Soils should be kept most but never waterlogged. Adding peat moss to the planting row will elevate the planting bed enough that standing water should not be an issue. An elevated bed will dry out more quickly, so there must be a means of adding water.
Trickle irrigation works well. Watering twice a week during the summer with enough water to wet the soil 8 inches deep should be sufficient except under extreme heat. Watering once a week may be enough during the cooler spring and fall weather. As you might guess, there is more to growing blueberries than can be included in a short article. Dr. Art Gaus from the University of Missouri shared this instruction sheet on how to grow blueberries more than 25 years ago. It is still excellent information on blueberry culture. You can access it by going to: http://hnr.k-state.edu/doc/extension-gardening-tips/Blueberry_Production.pdf

Blueberries require commitment. Anything less than excellent preparation and care will result in failure. (Ward Upham)

**Blueberries in Containers**

Growing blueberries in containers is becoming more popular. Chosen varieties are usually half-high plants that are a cross between highbush and lowbush blueberry species. Plants can be as small as 18 inches tall and wide (Top Hat), but typically are larger. Here are several tips for producing container grown blueberries:

*Acid soil pH:* Blueberries need an acid pH between 4.8 and 5.2. Sphagnum peat moss is very acid and often used in large quantities in soil mixes for acid-loving plants. In fact, blueberries can be grown in peat moss alone if nutrients are provided but that is an involved process. A 50/50 mix of peat moss and potting soil is recommended. This will provide nutrients and weight so the plant is less likely to blow over in wind.

*Container size:* Though containers as small as 2 gallons can be used for half-high blueberries, a larger container will be more stable in the wind and provide a larger moisture reserve during hot, dry weather.

*Watering:* Blueberries do not have root hairs, so they are not efficient in picking up water. Potting soil should be kept moist. This will likely be the most challenging aspect of growing blueberries in containers. A large container will not need to be watered as frequently as a small one.

*Winter care:* Though plants are winter hardy, the roots are not. Move pots into an unheated, attached garage or bury them in the soil or mulch enough to bury the pot in early November. Water them periodically during the winter. Use your finger to determine if the soil is moist one inch deep. If not, then water until some flows out the bottom of the pot.

*Varieties:* Though blueberries will produce some fruit if only a single variety is grown, two varieties will increase the potential fruit crop. Suggested varieties include Top Hat and Northsky. Each should reach about 18 inches high, though Northsky will likely grow wider than Top Hat. Northblue is another choice that should produce more fruit than either Top Hat or Northsky but
should reach 2 to 3 feet high. North Country is intermediate in size at 18 to 24 inches high and should produce a moderate amount of fruit.

*Wind protection:* Wind protection will decrease the amount of water these plants need and reduce the chances of leaf scorch.

*Exposure:* Blueberries do best with a minimum of 6 to 8 hours of sunlight a day. Try a northern or eastern exposure that is protected from the wind. (Ward Upham)

**TURFGRASS**

**It's Not Too Late for Dormant Overseeding of Turfgrass**

As mentioned in a companion article in this newsletter, the best time to overseed cool-season grasses such as tall fescue and Kentucky bluegrass is September because the turf has more time to mature before crabgrass germination in the spring and the heat stress of summer. However, dormant seeding of turfgrass is sometimes used to help fill in bare spots of lawns that weren't overseeded in the fall. Dormant seeding is normally not used to seed large areas because of the possibility of erosion before the seed emerges and becomes mature enough to hold the soil.

Dormant overseeding is usually done during the winter (December through February) when it is too cold for germination to take place. Spring seedings done in March can be just as successful as dormant seeding, but spring rains may delay plantings. As with any seeding program, it is vital that good seed-soil contact is achieved. There are several methods that are commonly used in dormant seeding.

One method is to seed when there has been a light snowfall of up to an inch over unfrozen soil. This is shallow enough that bare spots can still be seen. Spread seed by hand on areas that need thickening up. As the snow melts it brings the seed into good contact with the soil where it will germinate in the spring.

Another method is dependent on the surface of the soil being moist followed by some freezing weather. As moist soil freezes and thaws, small pockets are formed on the wet, bare soil which are perfect for catching and holding seed. As the soil dries, the pockets collapse and cover the seed. Slit seeding can also be used as long as the soil is unfrozen.

With any of the above methods, seed germinates in the spring as early as possible. There will be limitations on what herbicides can be used for weed control. Tupersan (siduron) can be used as a crabgrass preventer on new seedings even before they have come up. Also dithiopyr, found in Hi-Yield Turf and Ornamental Weed & Grass Stopper and Bonide Crabgrass & Weed Preventer, can be used on tall fescue, Kentucky bluegrass, and perennial ryegrass two weeks after
germination. Dithiopyr is longer lasting and more effective than siduron. Other preemergence herbicides available to homeowners require that the turf be well established before application. (Ward Upham)

**Lawn Calendar for Warm-Season Grasses**

Following is a lawn calendar for Zoysiagrass and Bermudagrass. Buffalograss, also a warm-season grass, is covered in a separate article.

**March**
Spot treat broadleaf weeds if necessary. Treat on a day that is 50 degrees F or warmer if possible. Rain or irrigation within 24 hours of application will reduce effectiveness.

**April**
Apply crabgrass preventer between April 1 and April 15, or apply preventer when the eastern redbud is approaching full bloom. If using a product with prodiamine (Barricade), apply two weeks earlier. Crabgrass preventers must be watered in before they will start to work.

**May – August 15**
Fertilize with 1 lb. of nitrogen per 1,000 square feet per application. Follow the recommendations on the bag. More applications will give a deeper green color, but will increase mowing and lead to thatch buildup with zoysiagrass. Bermudagrass can also have problems with thatch buildup but thatch is less likely with Bermuda than zoysia.

- **Bermudagrass** – Use two to four applications.
- **Zoysiagrass** – Use one to two applications. Too much nitrogen leads to thatch buildup.

- **One Application:** Apply in June.
- **Two Applications:** Apply May and July.
- **Three Applications:** Apply May, June, and early August.
- **Four Applications:** Apply May, June, July, and early August.

**June**
If grubs have been a problem in the past, apply a product containing imidacloprid by mid July. Imidacloprid can be applied as early as mid May if there are problems with billbugs or May beetle grubs. These products kill the grubs before they cause damage. They are effective and safe but must be watered in before they become active. June is a good time to core aerate a warm-season lawn. Core aeration will help alleviate compaction, increase the rate of water infiltration, improve soil air exchange and help control thatch.

**Late-July through August**
If you see grub damage, apply a grub killer. If Imidacloprid has been applied, this should not be necessary. Grub killers must be watered in immediately.
Late October
Spray for broadleaf weeds if they are a problem. Treat on a day that is at least 50 degrees F. Rain or irrigation within 24 hours reduces effectiveness. Use the rates listed on the label for all products mentioned. (Ward Upham)

Lawn Calendar for Buffalograss

General Comments
Buffalograss has become more popular in recent years due to its reputation as a low-maintenance grass. Buffalograss can survive with less water and fertilizer than our other turfgrasses but may have problems competing with weeds in eastern Kansas.

Buffalograss is an open growing grass that will not shade the soil as well as most of our other turfgrasses. Weeds are often the result. A regular mowing schedule can reduce broadleaf weed problems as most broadleaves cannot survive consistent mowing. Those that do either have a rosette growing pattern (dandelions, shepherds purse) or are “creepers” (henbit, chickweed, spurge). Annual grasses such as crabgrass or foxtail can also be a problem. A good weed preventer (prodiamine, pendimethalin or dithiopyr) may be needed prevent problems.

March
Spot treat broadleaf weeds if necessary. The most important treatment for broadleaf weeds should be in late October to early November well after the buffalograss is dormant. Treatments are much more effective then than in the spring as the weeds are smaller and the weeds are sending energy, as well as the herbicide, to the roots. Treatments in March are to take care of any “escapes” missed in the fall spraying. Spray early enough in March that the buffalograss is still dormant. Look at the base of the plants to make sure there is no green. Try to treat on a day that is 50 degrees F or warmer. Rain or irrigation within 24 hours of application will reduce effectiveness. Use a combination product such as Trimec, Weed-B-Gon or Weed-Out. Weed Free Zone is also good and will give quicker results under cool conditions.

April
Apply crabgrass preventer between April 1 and April 15, or apply preventer when the eastern redbud is in full bloom. If using a product with prodiamine (Barricade), apply two weeks earlier. Crabgrass preventers must be watered in before they will work. Avoid using broadleaf herbicides as the buffalograss is greening up as injury can result. The buffalograss will not be killed but growth will slow making the buffalograss less competitive with weeds.

June
Fertilize with 1 lb. of nitrogen per 1,000 square feet during June. More applications will give a deeper green color. If it is felt that a second application is needed, apply in July. If grubs have been a problem in the past, apply a product containing imidacloprid by mid July.
Imidacloprid can be applied as early as mid May if there are problems with billbugs or May beetle grubs. These products kill the grubs before they cause damage. They are effective and safe but must be watered in before they become active. Again, I would only treat if grubs have been a problem in the past. Note that the whole area may not need to be treated. The beetles that lay the eggs for the grubs are attracted to lights and moist soil and those areas are most likely to be infested.

**Late-July through August**
If you see grub damage, apply a grub killer. If imidacloprid has been applied or if grubs have not been a problem in the past, this should not be necessary. Grub killers must be watered in immediately.

**Late October to Early November**
Spray for broadleaf weeds if they are a problem. Look carefully as our winter annuals such as chickweed and henbit are small and easily overlooked. Use a product that contains 2,4-D as it increases effectiveness on dandelions. Treat on a day that is at least 50 degrees F. Rain or irrigation within 24 hours reduces effectiveness. Use the rates listed on the label for all products mentioned. (Ward Upham)

**MISCELLANEOUS**

**Establishing a Wildflower Area**
Native grasses and many native wildflowers do well within a wide pH range. Any pH between 5.5 and 8 should work. Just make sure the area receives at least 8 hours of sun a day.

It is better to choose a blend of grasses and wildflowers rather than a single species. Companies that provide regional blends include Sharp Brothers, Stock Seed and Wildseed Farms.

These plants do not take root and grow well in areas that already have established plants. Existing vegetation should be killed before seeding. Follow the following steps to increase the chances of success.

- Control perennial weeds by using a product containing glyphosate.
- Using glyphosate the fall before planting makes soil preparation easier the following spring
  - Adjust pH and fertilize according to soil test before planting.
  - The seedbed should be firm so that a boot heel sinks in no more than ½ inch.
  - The goal is good seed/soil contact.
  - Can mix seed with damp sand (4:1 sand/seed) for more uniform coverage with a drop seeder or whirligig spreader.
- The seed should be raked in about 1/4" deep. It is best if the seedbed is firmed up by using roller or driving over the area with a riding lawn mower. Don’t mulch.
- Keep seed moist while the seed is germinating (3 to 4 times per week, if possible). Slowly back off watering as plants develop.

What about planting dates? Warm-season grasses and most prairie flowers should be seeded between April 1 and May 15. To control any remaining living vegetation, spray with a product containing glyphosate, wait a week and plant. Make sure the soil temperature is at least 60 degrees before planting. Soil thermometers are often available in garden centers, hardware stores and auto stores (they are used to test air temperatures from air conditioners as well as in gardens).

Hand weeding can help but must be done with care to avoid uprooting small prairie flowers. Mowing as high as possible can help control fast growing weeds while preserving most of the foliage on the prairie flower. (Ward Upham)

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To view Upcoming Events: http://hnr.k-state.edu/events/index.html
The web version includes color images that illustrate subjects discussed. To subscribe to this newsletter electronically, send an e-mail message to cdipman@ksu.edu or wupham@ksu.edu listing your e-mail address in the message.

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