

2021 Kansas Summer Annual Forage Hay and Silage Variety Trial results now available

The results of the 2021 Kansas Performance Tests with summer annual forage varieties are available online at <https://www.agronomy.k-state.edu/services/crop-performance-tests/forages/2021-forage-performance-tests.html>. The results are summarized by location (Garden City, Hays, and Scandia) and are split into hay and silage categories. The results can be viewed by clicking the "Data Tables" link at the website listed above and downloading the document. At this time, only the yield results are available. Forage quality results will be posted in the next few weeks.

Summer annual forage performance tests are conducted each year by the Kansas Agricultural Experiment Station (Figure 1). The objectives of the Kansas Summer Annual Forage Variety Trial are to evaluate the performance of released and experimental varieties, determine where these varieties are best adapted, and increase the visibility of summer annual forages in Kansas. Breeders, marketers, and producers use data collected from the trials to make informed variety selections. The Summer Annual Forage Trial is planted at locations across Kansas based on the interest of those entering varieties into the test.

This work was funded in part by the Kansas Agricultural Experiment Station and seed suppliers. Sincere appreciation is expressed to all participating researchers and seed suppliers who have a vested interest in expanding and promoting annual forage production in the U.S. John Holman, Cropping Systems Agronomist, Southwest Research-Extension Center; Augustine Obour, Agricultural Research Center – Hays; Scott Dooley, Agronomist-in-Charge, North Central Kansas Experiment Field; Jane Lingenfelter, Assistant Agronomist, Crop Performance Testing

REMINDERS

1. Draw vegetable garden layout.
2. Replace or add mulch as needed.
3. Sand and seal wooden tool handles to prevent splinters.
4. Continue to feed birds.

Lawn Calendar for Cool-Season Grasses

The following suggestions are for cool-season grasses such as Kentucky bluegrass or tall fescue. Zoysiagrass, bermudagrass, and buffalograss are warm-season grasses and require a different maintenance regime. A warm-season grass calendar will be covered in a later newsletter.

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

April - Apply crabgrass preventer when redbud trees are in full bloom, usually in April. The preventer needs to be watered in before it will start to work. One-quarter inch of water will be enough to water in any of the products commonly available. Remember that a good, thick lawn is the best weed prevention and may be all that is needed.

May - Fertilize with a slow-release fertilizer if you water your lawn or if you normally receive enough rainfall that your turf doesn't go drought-dormant during the summer. If there are broadleaf weeds, spot treat with a spray or use a fertilizer that includes a weed killer. Rain or irrigation within 24 hours of application will reduce effectiveness of the weed killer, but the fertilizer needs to be watered in. If you are using a product that has both fertilizer and weed killer, wait 24 hours after application before watering in. If grubs have been a problem in the past, apply a product containing imidacloprid or chlorantraniliprole during May or anytime from May through June for imidacloprid. These products work to prevent grub damage. If rainfall does not occur within 24 hours, irrigate with 1/4" of water.

June through Mid-July - Apply second round of crabgrass preventer by June 15 – unless you have used Dimension (dithiopyr) or Barricade (proflumicarb) for the April application. These two products normally provide season-long control with a single application. Remember to water it in.

Late-July through August - If you see grub damage, apply a grub killer that contains Dylox. Imidacloprid and chlorantraniliprole are effective against young grubs but may not be effective on late instar grubs. The grub killer containing Dylox must be watered in within 24 hours or effectiveness drops.

September - Fertilize around Labor Day. This is the most important fertilization of the year. Water in the fertilizer if rainfall does not occur.

November - Fertilize. This fertilizer is taken up by the roots but is not used until the following spring. Water in fertilizer. Spray for broadleaf weeds even if they are small. Broadleaf weeds are much easier to control in the fall than in the spring. Try to spray on a day that is at least 50 degrees. Rain or irrigation within 24 hours reduces effectiveness. Use label rates for all products! (Ward Upham)

Planting Asparagus

Though it is too early to plant asparagus, it is not too early to make plans and prepare the soil. This crop is a perennial and will survive for many years if given proper care. It prefers full sun and a well-drained soil and is usually placed on the edge of the garden area so that there is no need to till around the area to plant other crops.

Proper soil prep is especially important for perennial crops. Take a soil test to ensure proper levels of nutrients. See the accompanying article on how to take a soil test for the correct procedure.

Work the soil as early in the spring as possible but do not work wet soil as clods will form. Then add two inches of organic matter to the surface and the fertilizer and work again so the organic matter and fertilizer are blended into the soil.

Asparagus can be propagated from seed but is more often started from 1-year-old crowns. These crowns are planted deeply; 6 to 8 inches deep either in a hole for each crown or in a trench with shallower planting recommended for soils with more clay. Space plants 18 to 24 inches apart. Fill in the trench gradually over the growing season to encourage growth.

March 15 to April 15 is the best planting time. Adapted varieties include Jersey Giant, Jersey King, Jersey Knight, Jersey Supreme and Purple Passion. These are all male hybrids that will produce three times as much as our old Martha or Mary Washington varieties. Males have a number of advantages over females in that they live longer, emerge earlier in the spring, are more productive and eliminate potential volunteer plants that can reduce the productivity of a planting.

Weed control is very important. Competition with weeds results in slow establishment. A shallow hoeing should be all that is needed. (Ward Upham)

Fertilizing Spring-flowering Bulbs

The best time to fertilize spring-flowering bulbs is when foliage emerges in the spring rather than at flowering. Traditionally, gardeners have applied fertilizer during bloom or a bit after, but because bulb roots start to die at flowering, fertilizer applied at bloom is wasted. Roots are active when the foliage first pokes through the ground. Nutrients applied then help the plant produce flowers the following year. If bulbs have been fertilized in the past, there is often plenty of phosphorus and potassium in the soil. It is best to take a soil test to be certain.

If the soil needs phosphorus and potassium, use a complete fertilizer (such as 10-10-10, 9-9-6, etc.) at the rate of 2.5 lbs. per 100 square feet. This would equal 1 rounded teaspoon per square foot. If phosphorus and potassium are not needed, blood meal makes an excellent fertilizer. It should be applied at the rate of 2 lbs. per 100 square feet or 1 teaspoon per square foot. Lawn fertilizers such as a 27-3-3 or 30-3-3 can be used, but cut the rate to a third of that applied for blood meal. Also make sure the lawn fertilizer does not contain a weed preventer or weed killer.

Remember to leave the foliage until it dies naturally. The energy in the foliage is transferred to the bulb as the foliage dies and will help the bloom for the next year. (Ward Upham)

Soil Testing

Most gardeners think that soil tests are done only to find out what nutrients are deficient. However, it is just as important to know if you have adequate levels of nutrients so you don't add unneeded fertilizer. The most basic soil test checks pH and the levels of phosphorus and potassium. Most of the lawn and garden soil tests that come out of our soil-testing lab show more than adequate levels of both phosphorus and potassium. If those nutrients are not needed, applying them is a waste of money and can be a source of pollution. In extreme cases, excess phosphorus can interfere with the uptake of micronutrients. So, if you haven't taken a soil test in several years, take one this spring.

Begin by taking a representative sample from a number of locations in the garden or lawn. Each sample is composed of about 8 sub-samples that go from the surface to 6 to 8 inches deep. Mix the sub-samples together in a clean container and select about 1 pint of soil. For more detail on taking a soil test, click [here](#) and choose "Soil Analysis" in the left column.

Take the soil to your local K-State Research and Extension office to have tests done at the K-State soil-testing laboratory for a fee. A soil test determines fertility problems, not other conditions that may exist such as poor drainage, poor soil structure, soil borne diseases or insects, chemical contaminants or damage, or shade with root competition from other plants (see accompanying article). All of these conditions may reduce plant performance but cannot be evaluated by a soil test. (Ward Upham)

Soil Tests When Soils are Wet

If your soil is wet, it would be best to wait until the soil dries before taking samples. Though it is possible to take soil tests when soils are wet, there are precautions.

Soil samples should be air-dried before being submitted for testing. Do NOT use artificial means of drying such as an oven or microwave as such treatment may result in inaccurate readings of nutrient levels. Also, be sure to use a clean container to collect the sample. Wet samples are more likely to absorb foreign materials adhering to the container, which may also influence soil test results.

For more detail on taking a soil test, click [here](#) and choose "Soil Analysis" in the left column. Then click "Sample Collection" at the bottom of the center column.

Take the sample into your local extension office. If you don't know the address for your local, county extension office, see <http://www.ksre.ksu.edu/Map.aspx> (Ward Upham)

Gardening Calendar

The Kansas Healthy Yards website has a gardening calendar that many gardeners find helpful. It lists all the months of the year and the chores that can be done during that month. Each month is divided into separate sections such as Vegetables and Fruits, Flowers, Lawns, Trees and Shrubs and Houseplants. Not all suggestions will be helpful each year but are important to have included. For example, one of the January tips is on removing snow and ice on limbs. You may brush off the snow, if desired, but ice should be allowed to melt naturally.

To find the gardening calendar, go to <http://kansashealthyyards.org/> and click on "Gardening Calendar" in the gray bar at the top of the page. (Ward Upham)

What a Soil Test Does Not Tell You

Though soil tests are useful for identifying nutrient deficiencies as well as soil pH, they do not tell the whole story. We often receive soils from gardeners that are having a difficult time growing crops even though the soil test shows the pH is fine and nutrients are not deficient. Here are some factors that can affect plant growth that are not due to nutrient deficiencies or pH.

Not enough sun: Plants need a certain minimum amount of sun before they will grow well. As a general rule, flowering (and fruiting) plants need at least 6 to 8 hours of full sun per day. There are, of course, exceptions such as impatiens that bloom well in shade. Move sun-loving plants into more sun or use plants that are better adapted to shady conditions.

Poor soil physical characteristics: Roots need oxygen as much as they need water. A tight clay soil or excessive water can restrict soil oxygen levels as well as make root penetration of the soil

difficult. Increasing the organic matter content of clay soils can help rebuild good structure. Add a 2-inch layer of organic matter and till it in.

Walnut trees: Walnuts give off a natural herbicide that interferes with the growth of some plants such as tomatoes. Vegetable gardens should be at least 50 feet away from walnut trees if possible. For a listing of plants that are susceptible to walnut, go to this site.

Tree roots: Trees not only compete with other plants for sun but also for water and nutrients. Extra water and nutrients may be needed.

Shallow soils: When new homes are built, the topsoil is often stripped off before the soils are brought to grade. Though the topsoil should be replaced, it sometimes is not or is not replaced to the same depth as it was originally. You are left with a subsoil that usually does not allow plants to grow well due to a lack of soil structure. Adding topsoil to a depth of 8 to 12 inches would be best but this often is not practical. In such cases, try to rebuild structure by adding organic matter and working it into the soil.

In other cases, a thin layer of soil may be spread over rock or construction debris. Plantings in shallow soils will wilt and die more quickly than other plants that are on a deeper soil. Use a soil probe to find such obstructions.

Too much phosphorus: Most Kansas soils are naturally low in phosphorus. However, soils that have been fertilized for a number of years may have phosphorus levels that are quite high. As a matter of fact, the majority of soil tests we receive show phosphorus levels in the "high" category. Extremely high phosphorus levels can interfere with the uptake of some micronutrients such as iron, manganese and zinc.

High phosphorus soils should only be fertilized with fertilizers that have no or relatively low amounts of phosphorus.

Improper watering: Roots develop where conditions are best for growth. Shallow, frequent watering leads to roots developing primarily near the surface of the soil where the soil is moist. Such shallow root systems are easily damaged by heat and any interruption in the watering schedule. It is better to water less frequently and to a greater depth to encourage a deeper root system that is less sensitive to heat and water stress.

Watering during the evening can also be detrimental to plants if the irrigation wets the foliage. Many diseases are encouraged by free water on the leaves. Watering late in the day often will keep the foliage wet until dew forms. Dew will keep the foliage wet until it evaporates the next morning. It is better to water early in the morning so leaves do not stay wet as long. If you must water late in the day, use drip irrigation if practical (such as in a vegetable garden).

Overwatering: Roots need to breathe. In other words, they must have oxygen in order to survive. Be careful to not water so heavily that the soil remains saturated. Water deeply but allow soil to dry somewhat between waterings. (Ward Upham)

Handling Tips for Valentine's Day Roses

If you are fortunate enough to receive roses from a loved one this Valentine's Day, follow these guidelines to help extend the life of your flowers.

For floral arrangements:

1) Keep the vase filled or floral foam soaked with warm water. Add fresh, warm water daily. If the water turns cloudy, replace it immediately. If possible, recut stems by removing one to two inches with a sharp knife. Do this under water. This allows the stems to draw in water instead of air.

2) Keep flowers in a cool spot (65 to 72 degrees Fahrenheit), away from direct sunlight, heating or cooling vents, directly under ceiling fans, or near radiators.

3) If a rose starts to wilt, remove it from the arrangement, and recut the stem under water. Submerge the entire rose in warm water. The rose should revive in one to two hours.

For loose stems:

1) If you can't get your flowers in a flower food solution right away, keep them in a cool place.

2) Fill a clean, deep vase with water and add the flower food obtained from your florist. Be sure to follow the directions on the package.

- 3) Remove leaves that will be below the waterline. Leaves in water will promote bacterial growth.
- 4) Recut stems under water with a sharp knife and place the flowers in the vase solution you've prepared. (Ward Upham)

A Newer Bush Cherry

Traditionally there have been two relatively well-known bush cherries; the Nanking cherry (*Prunus tomentosa*) and Hansen's bush cherry (*Prunus besseyi*). We now have a new addition which I will call Canadian Dwarf Sour Cherries. The cherries have a long and complicated history going back to 1944 in Saskatoon, Saskatchewan. The work was eventually taken over by the University of Saskatchewan resulting in the release of a number of cultivars. See <https://www.ag.ndsu.edu/carringtonrec/northern-hardy-fruit-evaluation-project/fruit-index/dwarf-sour-cherry> for more information on the history of these fruit.

So what makes these cherries special? They are dwarf (6 to 7 feet tall), very hardy and provide large yields of high quality fruit. They are also sweet having a Brix rating of 16 to 22% as compared to 11 to 16% for 'Montmorency'; our tart cherry tree standard.

There are four varieties that I have found available for sale in the U.S. They are Romeo, Juliet, Carmine Jewel and Crimson Passion. All of these can be found at <http://honeyberryusa.com/>. All but Crimson Passion are available from Gurney's (<https://www.gurneys.com/category/cherry-trees>) Carmine Jewel can be purchased from Raintree Nursery (<https://raintreenursery.com/collections/cherry-trees>). (Ward Upham)

Approaching Time for Peach Leaf Curl Control

If you have ever seen emerging peach leaves that are puckered, swollen, distorted and reddish-green color, you have seen peach leaf curl. Uncontrolled, this disease can severely weaken trees due to untimely leaf drop when leaves unfurl in the spring. Fortunately, peach leaf curl is not difficult to control if the spray is applied early enough. However, by the time you see symptoms, it is much too late. As a matter of fact, fungicides are ineffective if applied after buds begin to swell in the spring.

Don't spray when temperatures are below 40 degrees or will fall below freezing before the spray dries. Usually we can wait until March to spray but an extended warm period in February that encourages early bud swell may require spraying in late February. Though peach leaf curl can be controlled by a single fungicide application in the fall after leaf drop, it is more commonly controlled in the spring.

There are several fungicides labeled for this disease including chlorothalonil (Ortho Garden Disease Control, Fertilome Broad Spectrum Fungicide, GardenTech Fungicide Disease Control and Daconil). Thoroughly cover the entire tree during application. Note that it is much easier to achieve good spray coverage if the tree is pruned before spraying. (Ward Upham)

Pruning Fruit Trees

Fruit trees can be pruned from now through March as long as the wood isn't frozen. Following are some general recommendations on pruning mature fruit trees followed by more specific instructions on each species. If you have young fruit trees, see the accompanying article in this newsletter.

General Recommendations

- Take out broken, damaged or diseased branches.
- If two branches form a narrow angle, prune one out. Narrow angles are weak angles and tend to break during wind or ice storms.
- Take out all suckers. Suckers are branches that grow straight up. They may originate from the trunk or from major branches.
- If two branches cross and rub against one another, one should be taken out.
- Cut back or remove branches that are so low they interfere with harvest or pruning. If cutting back a branch, always cut back to another branch or a bud. Do not leave a stub.
- Cut back branches to reduce the total size of the tree, if necessary.

- Thin branches on the interior of the tree.

Follow the steps above in order but stop if you reach 30% of the tree. For a short video on pruning, click [here](#).

Specific Instructions

Peach and Nectarine: Peach and nectarine require more pruning than any other fruit trees because they bear fruit on growth from the previous year. Not pruning results in fruit being borne further and further from the center of the tree allowing a heavy fruit crop to break major branches due to the weight of the fruit. Prune long branches back to a shorter side branch.

Apple: Apples tend to become overgrown if not pruned regularly. Wind storms and ice storms are then more likely to cause damage. Also, trees that are not pruned often become biennial bearers. In other words, they bear a huge crop one year and none the next. Biennial bearing is caused by too many fruit on the tree. Though pruning helps, fruit often needs to be thinned as well. The goal is an apple about every 6 inches. Spacing can vary as long as the average is about every 6 inches.

Cherry, Pear, Plum: Light pruning is usually all that is needed. Simply remove branches that are causing or will cause a problem according to the general recommendations above.

For more detail on all aspects of fruit tree pruning, see the following two publications:

MF3450 "Pruning Apple and Pear Trees" at <https://bookstore.ksre.ksu.edu/pubs/MF3450.pdf>

MF3451 "Pruning Peaches, Plums, Cherries and Other Stone Fruits" at <https://bookstore.ksre.ksu.edu/pubs/MF3451.pdf> (Ward Upham)

Pruning Overgrown Apple Trees

Apple trees that are not pruned for several years will often produce so many branches that little energy is left for fruit production. Overgrown apple trees are also difficult to harvest and spray. Gardeners who have such a tree are often at a loss as to how to get it back in shape.

Often the best recommendation for such a tree is to make one pruning cut at ground level and start over with a new tree. However, trees may have sentimental value that will make revitalization worth the time and effort. Realize that this will be a multi-year process because no more than 30 percent of the tree should be removed in one year. Here are some steps to follow:

1. Remove all dead wood. This does not count toward the 30 percent.
2. Remove suckers from the base of the tree.
3. Choose approximately six of the best branches to keep as scaffold branches. Remove all others.

Branches should be cut flush to the branch collar without removing the collar. The collar is the natural swelling that occurs where a branch connects to the trunk or to a larger branch. Removing the collar would leave a larger wound that would take additional time to heal.

Do not paint wounds. Wounds heal more quickly if left open.

Candidates for removal include branches with narrow crotch angles, which are more likely to break in wind and ice storms, and those that cross branches that you will save. This may be all that is possible the first year if the 30 percent threshold has been reached.

4. Thin the branches on each scaffold branch. Remove crowded branches to open up the tree to light and allow humidity to escape. Shorten each scaffold branch by cutting back to a side branch. When you are through, the tree should have enough wood removed so that a softball can be thrown through the tree.

Severe pruning often will cause an apple tree to produce vigorous side shoots from the trunk called suckers. Main branches will also produce water sprouts that grow straight up. The suckers and water sprouts should be removed throughout the growing season so the center of the tree stays open. Do not wait until spring to prune out water sprouts and suckers as this will stimulate the tree to produce more. Removing water sprouts and suckers is the most time consuming and difficult practice necessary to bring an overgrown apple back into shape. (Ward Upham)

Pruning Young Fruit Trees

Young fruit trees should be pruned to begin developing a strong structure of the main or scaffold limbs. This will help prevent limb breakage over the years when the scaffolds carry a heavy fruit load.

Do not prune the year of planting except to cut back to the tree to a height of 36 inches if no side branches. This will cause side branches to develop. If there are already side branches, do not prune the year of planting so the tree has the maximum number of leaves to help with establishment.

Apple, apricot, sweet cherry, plum and pear trees generally are trained using the central leader system. The growth pattern for these trees is for a center branch to be dominant and to grow straight up. Peach and nectarine trees are normally pruned using the open center method because they do not have a strong tendency for one shoot or branch to dominate the growth of other shoots or branches. In this system, the tree is pruned to a vase-like pattern with no central leader.

Regardless of the system used, the three to four scaffold branches should:

- Be no lower than 18 inches from the ground. This makes it easier to prune and harvest the tree once it matures.
- Form wide angles (about 60 to 80 degrees) with the trunk. Wide angles are much stronger than narrow angles and are less likely to break under wind or ice loads.
- Be distributed on different sides of the tree for good balance.
- Be spaced about 6 to 10 inches apart on the trunk with no branch directly opposite or below another. (Ward Upham)

Check Plants for Scale Insects

The dormant season is a good time to check woody plants for scale insect infestations. This time of year, deciduous plants do not have leaves, so scale is more easily seen.

If an infestation is detected, make plans to apply a dormant oil for control by March 1. Be sure the temperature is 40 degrees or above before spraying. Scale insects are easily overlooked because they are small and immobile most of their lives and they do not resemble most other insects. Many of them resemble small shells that are oval or circular, but some have more unusual shapes like oyster shells. Coloring varies, but can include white, tan, and brown.

Plants that should be inspected for scales include apples, pears, other fruit trees, bush fruits, lilac, crabapple, oak, ash, elm, lilac, maple, linden, arborvitae, juniper, pine, spruce and yew. Manhattan euonymus, a broadleaf evergreen, is especially noted for having scale problems.

Plants are not harmed if only a few scales are present. But scale population can increase dramatically during the growing season. Heavy scale infestations can damage fruit crops, destroy branches and kill entire plants. (Ward Upham)