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October is Sweet Potato Harvest Time

For those who planted sweet potatoes in their garden this year and have yet to harvest them, the time is drawing near. Sweet potato is a warm-season vegetable that cannot tolerate cold temperatures. Normally, this nutritious, under-used root crop is harvested after the first light frost of the fall season which, at our latitude, frequently occurs in late October.

Sweet potato (*Ipomea batatas*) is a member of the Convolvulaceae, or morning glory, family. It is thought to be native to tropical South America where it has been used as a food source by early civilizations such as the Incas and Mayas more than 5000 years ago. Columbus likely encountered sweet potato in his early voyages to the West Indies but it was not until his fourth voyage (to Yucatan and Honduras) that he recorded its discovery in his journals. He is credited with its introduction to the New World (Spain) in about 1500 and a number of different types were cultivated there by the mid-1600s.

Sweet potato was grown in what is now Virginia as early as 1648. From there it was taken both north and south. The southern migration of the plant was much more successful than the northern, again, because of the plant's need for warm temperatures. Native Americans were known to have grown sweet potato extensively by the 1700s and soon thereafter it became a popular staple of the South. Even today, sweet potato is much more popular in the south than the north as a food.

Although sweet potato skin color varies fairly extensively among cultivars, flesh color is either white or dark orange. The white-fleshed types usually are drier in consistency and originally were favored in northern areas of our country.



Photo source: wikipedia

Orange-fleshed types, favored in the South, typically have moist flesh and often (erroneously) are referred to as "yams". Yams (*Dioscorea* species) are perennial herbaceous vines cultivated in tropical regions of the world for their starchy tubers. Yams are still mainly a curiosity in the United States.

As mentioned previously, sweet potatoes usually are harvested after the first frost of the fall season. The latter is

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Understanding those bluegrasses

The bluegrasses are a diverse group of turfgrasses that have hundreds of varieties on the market for various sub-species. All bluegrasses can be identified by a boat-shaped leaf tip and folded vernation. Among the species, variations in color, texture and growth habits exist. Some are yellow-green in color while others are dark blue-green. Some are coarser in leaf texture than others. Some will spread by stolons or rhizomes or not spread at all. In this article, we will discuss some of the more common bluegrasses seen in Missouri with a final focus on some of the more current Kentucky bluegrasses varieties.

Annual bluegrass

Annual bluegrass (*Poa annua*) is mostly considered a weed in many turfgrass settings. However, in some venues it is a component of the turfgrass sward; such as on putting greens, since it adapts well to close mowing. It is different from the other annual weeds we are used to. Annual bluegrass is a winter annual that emerges and matures vegetatively in the fall. It will flower, set seed and die in the spring if it is a true annual bio-type (*Poa annua* var. *annua*). Some annual bluegrass bio-types behave as a perennial (*Poa annua* var. *reptans*) surviving throughout the year often developing seedheads throughout the year. Seedhead development is often troublesome and unsightly. Annual bluegrass can contaminate production seed fields and therefore contaminate some commercial seed products.

Some commercial types of improved perennial *Poa annua* are being developed for the golf course industry. Penn State currently has a breeding program for annual bluegrass. DLF-International Seeds is currently some annual bluegrass varieties – True Putt (golf industry) and World Cup (sports turf). We have not seen annual bluegrass being used in Missouri as a turfgrass of choice. It is still considered a weed in the golf course industry.



Annual bluegrass (Poa annua).

Kentucky bluegrass

Kentucky bluegrass (*Poa pratensis*) is a turfgrass species that was substantially a bigger part of home lawns in the 70s and 80s than it is right now. Its current foothold is still in athletic fields and golf courses. Yes, we still see Kentucky bluegrass being used in home lawns, but more so in a mixture with turf-type tall fescues. Hot, droughty summers of the past decade have transitioned many home lawns from a blend of bluegrasses to mixtures with other species. Kentucky bluegrass is not as deeply rooted as tall fescue and therefore has a tendency to go dormant faster than tall fescues.

Kentucky bluegrass is not a bunch-type grass like most tall fescues. It spreads by rhizomes providing an advantage over other turfgrass species to allow excellent recuperative capabilities. Many of the newer, improved varieties are being developed for better drought tolerance, disease resistance and low maintenance. Several varieties have shown resistance to several diseases – dollar spot, leaf spot and summer patch.



Annual bluegrass (light color) growing in putting green.



Kentucky bluegrass (Poa pratensis) spreads by rhizomes.



Kentucky bluegrass characteristics – boat-shaped leaf tip and translucent mid-vein.

Some of the more recent Kentucky bluegrasses tested by NTEP from 2006 to 2010 are listed below. These selections were based on evaluations for quality, color, dollar spot, and leaf spot. Several selections from this listed were also rated well for summer patch, as noted (See Table 1).

Table 1. Kentucky Bluegrasses

Alexa II	Blue Note	Everglade*	NuChicago*	Shiraz
AwardBluestone	Excursion	Nu Destiny*	Skye*	
Barrister	Diva	Granite	NuGlade*	Solar Eclipse
Bewitched	Empire	Impact*	Rhapsody*	Sudden Impact
Beyond	Everest	Midnight*	Rugby II	Zinfandel

*Summer patch resistance.

Rough bluegrass

Rough bluegrass (*Poa trivialis*) is mostly used in cool, humid regions under shade. It actually does better than Kentucky bluegrass in the shade. We see it in Missouri mostly due to establishment through contaminated seed. Patches of this finer leaved grass may be mistaken for Nimblewill. It does spread by stolons and is intolerant to dry conditions, reasoning for it browning out during Missouri summers. Due to its lack of tolerance to dry, hot weather; it is used as an over-seeding species in the southern states.

Most often this specie is referred to by a shortened version of its Latin name – *Poa triv.* There are several varieties commercially available – Bariviera, Colt, Laser, Racehorse, Proam, Sabre, Sabre II, Sun-Up and Winterlinks.



Rough bluegrass (Poa trivialis) spreads by stolons

Texas bluegrass

Texas bluegrasses (*Poa arachnifera*) have proven to be well adapted to arid and semi-arid regions such as Texas. This grass species has had limited use due to its lesser quality than Kentucky bluegrass. It has been crossed with Kentucky bluegrass to create a hybrid that is heat tolerant with Kentucky bluegrass qualities. Several commercial varieties are available with some being introduced into seed mixtures at some of the box stores and local garden centers. These include – Bandera, Dura Blue, Longhorn, Reveille, Solar Green, Thermal Blue and Thermal Blue Blaze.



Heat tolerant Texas bluegrass (Poa arachnifera).

Selecting Local Seed Products:

The number of seed products being sold over-the-counter and through seed houses can be overwhelming. However, by looking at the seed tags on products, the selections can be narrowed if one is looking for a specific blend or mixture. Keep in mind that seed products are packaged for national sales and are excellent products for many areas of the country. However, that does not mean that all seed products grow well in all areas of the country.

Brand names of Kentucky bluegrass blends from several vendors can be found in Table 2. These blends can contain 2 or more varieties of Kentucky bluegrass. Be sure to inspect the seed tag pasted on the back of the bag to identify the varieties of Kentucky bluegrass making up the blend.

Table 2. Kentucky Bluegrass Blends

Brand Names	Vendor
Best of the Blues	Hummert International
Scott's Classic Kentucky Bluegrass Seed	Lowe's, Home Depot
Pennington Kentucky Bluegrass Lawn Seed Blend	Lowe's
Tournament Quality Kentucky Bluegrass Lawn Seed Blend	Lowe's
Pennington Kentucky Bluegrass Penkoted Lawn Seed	Lowe's
Scott's Turf Builder Kentucky Bluegrass Grass Seed	Home Depot

The mixture mentioned early on in this article with tall fescue and Kentucky bluegrass has several nice combinations available over-the-counter or through seed houses. Many vendors market a 90/10 combination by volume of tall fescue and Kentucky bluegrass and are an excellent choice for Missouri. Mixtures can also be made by purchasing a blend of turf-type fescues and a blend of Kentucky bluegrass (Table 2) and combining them in a ratio of 9:1 by volume. Some of the branded mixtures on the market are listed in Table 3.

Table 3. Tall fescue/Kentucky bluegrass mixtures

Brand Name	Vendor
Fescue Blue Mix	Hummert International
Master Turf Ultimate Blue Lawn Seed Mixture	Wal-Mart
Pennington Fescue/Bluegrass Lawn Seed Mixture	Lowe's, Wal-Mart
Revolution Plus	Williams Lawn Seed
Tournament Quality Ultra-Premium Fescue Plus Lawn Mixture	Lowe's
Tri-Star Low Water Lawn Seed	Orscheln's farm & Home
Winning Colors Plus	Lebanon Turf

While we are seeing less Kentucky bluegrasses in Missouri, it is still part of our landscapes and grounds. Annual and rough bluegrasses are primarily considered weeds in Missouri even though they are considered desirable species in other regions. Any of the varieties or brand named products listed in tables 1 to 3 should provide acceptable performance in Missouri. Any additional questions can be directed to fresenburg@missouri.edu.

Reference:

Turgeon, A.J., Turfgrass Management (7th edition), Prentise Hall, 2004.

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likely to do considerable damage the leaves. However, the roots remain unharmed, but should be dug as soon as possible following the frost. Sweet potato roots have thin skins and bruise easily. Therefore, care should be taken when harvesting them. Using a potato fork, gently lift the roots from the soil. Any soil that remains on the roots after they have been dug should be removed. Also, it is a good idea to let the freshly-dug roots dry atop the soil in the sun for several hours before proceeding further.

Sweet potato roots that are accidentally cut during the harvest process should be separated from those that are sound, since they will not store well. Roots exude a milky like sap when damaged. However, this does not “seal” the wound and protect the root from invasion by organisms that cause decay.

Following harvest, sweet potatoes should be cured in a warm, humid environment for about 10 days. This practice produces higher sugar content and better color in the flesh while allowing minor wounds to heal. A temperature of 80 to 85 degrees F is ideal; a loose covering of plastic will help to maintain a high relative humidity around the roots. Failure to maintain humid conditions around the roots or curing at overly warm temperatures will lead to desiccation and the loss of quality.

Following curing, sound sweet potatoes have a storage life from between six to ten months when stored at temperatures of between 55 and 65 degrees F in a humid environment. The latter can be facilitated by placing roots in a plastic bag with holes cut in. This will allow for good air circulation and gas exchange.

Do not store sweet potatoes in locations where temperatures drop below 50 degrees F. Refrigerators and outdoor pits are suitable for storing a number of different vegetables. However, sweet potato is not one of them. Overly cool storage temperatures reduce storage life and promote the onset of decay.

One of the most common problems encountered in sweet potato storage is a disease known as scurf. The latter is caused by *Monilochaetes infuscans*, a soil-borne fungus. The causal pathogen normally attacks the skin of the sweet potato root producing symptoms of dark (nearly black) irregularly shaped lesions. These lesions become more severe under humid storage conditions. While scurf does not make the root inedible, it does shorten its storage life and render the sweet potato unsaleable.

As is the case with most plant diseases, prevention is the best cure. Once introduced to the soil, the scurf pathogen has the ability to remain for many years. There is no chemical control or known resistant sweet potato varieties. Therefore, avoid planting sweet potato slips from roots afflicted with scurf. If scurf does appear, then rotate the planting site to an area as far from the contaminated area as possible. Avoid using tools or equipment in both areas of the garden without thorough disinfection.

Sweet potato is a nutritious vegetable that probably deserves more attention than it gets in the diet of the average American. In addition to being rich in starches (for energy), it contains complex carbohydrates, dietary fiber, protein, beta carotene (pro vitamin A), vitamin C and vitamin B6. Sweet potato is relatively low in calories (a 100 gram serving is reported to contain about 115 calories) and also is an important source of minerals such as calcium, magnesium and potassium.

For those who did not grow sweet potatoes this year, October is a good time to secure an adequate supply of freshly-dug roots for storage. Local farmers' markets or produce auctions are excellent places to shop.

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November Gardening Calendar

Category	Week				Activity
	1	2	3	4	
Ornamentals	x	x	x	x	Continue watering evergreens until the ground freezes. Soils must not be dry when winter arrives.
	x	x	x	x	Now is the ideal time to plant trees and shrubs. Before digging the hole, prepare the site by loosening the soil well beyond the drip line of each plant. Plant trees and shrubs at the depth they grew in the nursery and not deeper. Remove all wires, ropes and non-biodegradable materials from roots before back filling. Apply a 2-3 inch mulch layer, but stay several inches away from the trunk. Keep the soil moist, not wet, to the depth of the roots.
	x	x	x	x	Remove the spent flowers and foliage of perennials after they are damaged by frost.
	x	x	x		Newly planted broad-leaf evergreens such as azaleas, boxwood and hollies benefit from a burlap screen for winter wind protection. Set screen stakes in place before the ground freezes.
	x				Now is a good time to observe and choose nursery stock based on fall foliage interest.
	x				Plant tulips now.
			x	x	Mums can be cut back to within several inches of the ground once flowering ends. After the ground freezes, apply a 2 to 3 inch layer of loose mulch such as pine needles, straw or leaves.
			x	x	Mulch flower and bulb beds after the ground freezes, to prevent injury to plants from frost heaving.
			x	x	Roses should be winterized after a heavy frost. Place a 6 to 10-inch deep layer of mulch over each plant. Top soil works best. Prune sparingly, just enough to shorten overly long canes. Climbers should not be pruned at this time.
			x	x	Take steps to prevent garden pools from freezing solid in winter. Covering pools with an insulating material or floating a stock tank water heater in the pond will lessen the chance of ice damage.
			x	x	Covering garden pools with bird netting will prevent leaves from fouling the water. Oxygen depletion from rotting organic matter can cause winter kill of pond fish.
Vegetables	x	x	x	x	Fall tilling the vegetable garden exposes many insect pests to winter cold, reducing their numbers in next year's garden.
	x	x	x	x	Any unused, finished compost is best tilled under to improve garden soils.
	x	x	x	x	To prevent insects or diseases from overwintering in the garden, remove and compost all plant debris.
	x	x	x		Overcrowded or unproductive rhubarb plants can be divided now.
			x	x	Root crops such as carrots, radishes, turnips and Jerusalem artichokes

November Gardening Calendar

Category	Week				Activity
	1	2	3	4	
					store well outdoors in the ground. Just before the ground freezes, bury these crops under a deep layer of leaves or straw. Harvest as needed during winter by pulling back this protective mulch.
				x	For Thanksgiving, weave a holiday wreath of garlic, onions, chili peppers and herbs. It will make a gourmet gift for a lucky friend.
Fruits	x	x	x	x	Keep mulches pulled back several inches from the base of fruit trees to prevent bark injury from hungry mice and other rodents.
	x				Harvest pecans when they start to drop from trees. Shake nuts onto tarps laid on the ground.
	x				Fallen, spoiled or mummified fruits should be cleaned up from the garden and destroyed by burying.
			x	x	A dilute whitewash made from equal parts interior white latex paint and water applied to the southwest side of young fruit trees will prevent winter sun scald injury.
			x	x	Commercial tree guards or protective collars made of 18-inch high hardware cloth will prevent trunk injury to fruit trees from gnawing rabbits and rodents.
			x	x	Mulch strawberries for winter with straw. This should be done after several nights near 20 degrees, but before temperatures drop into the teens. Apply straw loosely, but thick enough to hide plants from view.
Miscellaneous	x	x	x	x	Now is a good time to collect soil samples to test for pH and nutritional levels.
	x	x	x	x	Roll up and store garden hoses on a warm, sunny day. It's hard to get a cold hose to coil into a tight loop.
	x	x	x	x	To prevent injury to turf grasses, keep leaves raked up off of the lawn.
	x	x	x	x	Continue mowing lawn grasses as long as they keep growing.
	x	x	x	x	A final fall application of fertilizer can be applied to bluegrass and fescue lawns now.
		x	x	x	Clean house gutters of leaves and fallen debris before cold wet weather sets in.
		x	x	x	Set up bird feeders. Birds appreciate a source of unfrozen drinking water during the winter.
		x	x	x	Be sure to shut off and drain any outdoor water pipes or irrigation systems that may freeze during cold weather.
			x	x	For cyclamen to bloom well indoors, they need cool temperatures in the 50-60 degree range, bright light, evenly moist soils, and regular fertilization.
			x	x	Reduce or eliminate fertilizing of houseplants until spring.

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