



Vol. 3, No. 1

PRESS

Simple Smart Vegetable Gardening Topics for 2015

2015 Smart Gardening efforts focus on smart vegetable gardening. The following are 5 new tip sheet topics.

- Choosing a site for your vegetable garden
- Preparing your vegetable garden
- Integrated pest management (IPM) for your vegetable garden
- Smart fertilizer use in your vegetable garden
- Watering your vegetable garden

Download a copy of these at:
http://migarden.msu.edu/tip_sheets

Fertilizing lawns in spring – be patient and smart about it!

Patience is more than just a virtue when it comes to fertilizing lawns in spring. There is no benefit to fertilizing frozen soil.

Bob Bricault, Michigan State University Extension

Just a few weeks ago, temperatures across Michigan were well below zero and 50 degree days were only a dream. Though winter seemed like it would not go away, we finally saw warming temperatures by mid-March. Warmer days bring on spring fever and the desire to see “green,” and not just from Spartan fans. Garden centers and television advertisements are already encouraging us to get out and fertilize our lawns. I believe I saw my first fertilizer commercial the first week of March, while all of Michigan was buried in snow. Even once the snow disappears, we may still have frozen ground or significant frost in the ground, often until early April in southern Michigan and even later towards the north.

So what is a Smart Gardener to do? Be patient, my friends! First, we need to understand that we should never fertilize frozen soil in the home landscape. Fertilizer particles are not going to green up a lawn while the ground is still frozen. These tiny pellets can be washed off the frozen turf into storm drains after a rain storm, damaging lakes, streams and rivers with unnatural plant and algae growth.

Once soil temperatures begin to warm in spring, grass roots break dormancy and begin growth well before the grass blades start to green up. Turf root system development in early spring is critical for grass health. Deeper roots that form in spring help the vigor of the turf during summer’s hot and droughty conditions. Fertilizing in early spring can encourage lush top growth at the expense of root growth. Our desire for a green lawn early in spring is not always best for overall turf health.

A turfgrass fertilization guide from Pennsylvania State University states that high rates of nitrogen on the turf in early spring encourages excessive foliar growth, which uses up carbohydrate reserves meant for root development and disease resistance. MSU Extension’s Lawn Care Tip Sheet (www.lawncaresu.com/tipsheet) advises **avoiding fertilization until May**. This may be counter to the advertisements we hear on the television promoting combination products that fertilize the lawn early in spring and are also meant to control crabgrass.

Smart Gardening

Since crabgrass starts to germinate prior to May, these products encourage early use of fertilizer along with the herbicide. To avoid early fertilization and still manage crabgrass, it may be best to purchase a product that is only meant for crabgrass control. Pre-emergent herbicides that control crabgrass must go on before the crabgrass seeds germinate. This is often applied about the time forsythia begins to bloom. Not everyone needs crabgrass control, however. A thick lawn reduces light penetration to the soil surface, shading crabgrass seeds and preventing their germination. Only use a pesticide when it is needed and only where it is needed. Avoid blanket applications of herbicides and treat only the areas needed.

One other “smart” task for the lawn in early spring is to lightly rake the grass where the snow was piled for much of the winter along your driveway and sidewalk. It is common for snow mold fungi to grow on grass blades under insulated snow piles. The picture of snow mold was taken March 15, 2015 in Saginaw, Michigan. This matted-down grass is a moist environment where the fungus can thrive. Lightly raking these areas provides better air



Bob Bireault, MSUE

Snow mold.



**GREEN LAWNS
CLEAN WATERS
THE ECOLOGICAL APPROACH**

Go Green LANCARE TIP SHEET

MOW HIGH - RECYCLE CLIPPINGS

- Mow at least 3" high
- Return clippings to recycle nutrients
- Sweep or blow clippings from walks and driveways onto the lawn
- Taller grass crowds out weeds and promotes deeper roots
- Deeper roots help the lawn survive droughts

FERTILIZE IN FALL FOR BEST RESULTS

- Fall is the best time to fertilize your lawn
- Be patient in the spring - wait until May to fertilize
- Don't fertilize if the ground is frozen or saturated with water
- Don't guess, soil test for proper fertilizer recommendations

CHOOSE LAWN-TYPE FERTILIZERS

- Choose lawn fertilizers with low or no phosphorus (the middle number) and follow the directions
- Avoid using "triple" products (e.g. 12-12-12)
- Confirm spreader setting before applying

circulation down into the turf, drying out the area and reducing damage from the fungus.

Enjoy this spring and remember that being patient is also a task of the Smart Gardener.

“Cool” vegetables for you to grow this spring

Start your gardening season earlier by planting cool season vegetables, which prefer lower temperatures for seed germination and plant growth. Some crops can be seeded together.

Rebecca Krans, Michigan State University Extension

Smart Gardeners know they don't have to wait for those sunny and 70-degree days to get started planting in the vegetable garden. There are some “cool” vegetables that prefer the lower temperatures of spring for seed germination and plant growth. Known as [“cool season” vegetables](#), you can get started as early as the ground can be worked in late March to April, depending upon your Michigan location, to take full advantage and extend your gardening season. Make use of this smart practice to reap the rewards of fresh greens, root crops and [cole crops](#) earlier.

Once soil temperatures reach 50 degrees, you can seed a variety of cool season vegetables. Cool season



Rebecca Fineman, MSUE

Companion planting of garlic among Swiss chard.

vegetables prefer and sometimes require the cooler soil temperatures to germinate. These include leaf lettuce, onions, parsnips, mustard greens, beets, peas, carrots, turnips, cabbage, spinach, kohlrabi, cauliflower, radish, celery, Swiss chard, kale and collards. Measure the soil temperature using a soil probe or use a kitchen thermometer that measures hot and cold.

It's important to [prepare your soil for planting](#). Water-logged soils will cause seeds to rot before they make their way into the world. Take care that your soil is not too moist before planting. Also, any cultivation or disturbance of the soil when it is too wet will destroy the soil structure and be detrimental to the microbial life that lends to a healthy soil. Soils should be lightly tilled or broken apart to deposit seed not cultivated repeatedly.

This is also a great time to make plans for companion planting and different layers of your vegetable garden. Seed radishes and beets along with your lettuce. The shallow-rooted lettuce will grow near the soil's surface while the radishes and beets will push down into the soil. These root crops will naturally break up the soil, adding air and water space. Plant



Rebecca Finneran, MSUE

Container with edible peas on a trellis for support and pansies to provide color and a living mulch. Pansies are also edible.

roots will provide a place for necessary soil microbes to live. Place onion sets among your greens for the same effect. If your greens die back or bolt,

you can reseed another crop while allowing the root crop to fully mature.

Take advantage of the vining habit of peas to plant them amidst a ground cover of greens. Provide upright support for your peas via a trellis while lettuce or spinach help to shade and cool the roots of the peas and ward off weed seeds. Pea seeds can even be planted in a spring porch container along with cold-loving pansies or snapdragons.

Consider incorporating some perennial vegetables such as [asparagus](#) and [rhubarb](#). These crops will take more room and a permanent location, but once established and successfully managed, they will continue to provide fresh asparagus spears and rhubarb stalks. Choose a well-drained location for each and mix in organic matter such as compost to prepare the soil. Once plants are established, adding composted material annually around the base of the plants will continue to be a smart practice to build healthy soils.

Smart Gardeners can also work to incorporate [season extenders](#) like low tunnels or cold frames, which aids in heating up spring soils quicker and assist with germination for cool season crops. The sun's natural energy allows these covered beds to heat up as sunlight becomes more prominent in our spring sky. Providing protection from late-season frosts, these season extenders can boost your production dramatically.

Smart Gardeners can plan ahead to reseed a mid- to late summer, "cool" vegetable crop for fall harvest as well. For instance, plant greens even into late August for fall harvest.

Smart solutions for lawn & garden problems at www.migarden.msu.edu

[Gardening in Michigan](#) offers two FREE resources to connect you directly to the experts: The toll-free lawn and garden hotline and the Ask an Expert widget.

Lawn and Garden Hotline
1-888-678-3464
9 a.m.-12 p.m., 1-4 p.m. every day
Answered by trained Master Gardeners and MSUE educators

"Ask an Expert"
Type in a question and upload pictures to help the diagnostic team identify plant problems, insects, and connect with resources.

Don't forget to share these great resources with friends and neighbors!

Choosing native trees and shrubs for your Michigan landscape

Native trees and shrubs are low maintenance and a great addition to the landscape.

Gretchen Voyle, Michigan State University Extension

As people work to install landscaping around their homes, many questions arise. How do I choose trees and shrubs that have the best chance of survival? Which trees will withstand the extreme weather conditions we have experienced like droughts, below zero temperatures and heat waves? How can I make the best decisions when I purchase? There is more to having success with woody landscape plants than just choosing something that you like. All trees and shrubs require some care, especially after planting and during a drought. No plants, other than weeds, can be considered a “just plant it and forget it” kind of purchase.

Before purchasing a tree or shrub, assess the location where it will be planted. Factors to investigate include the amount of full, uninterrupted sun the area receives; whether the soil is sand, loam or clay; and how well the soil drains. Having standing water or saturated soil even for short periods of time may change plant selections. Do some research to find out if what you want to plant will grow in this location. Look at native trees that are growing successfully near where you will be planting. If you have questions about your soil, you can buy a Michigan State University Extension Soil Test Self-Mailer at www.msusoiltest.com and find out about soil type, pH, organic matter percentage and fertilizer recommendations.

Consider the “10 percent rule” when selecting trees and shrubs. Put in no more than 10 percent of any

one kind of tree or shrub into your landscape. This is like insurance against insect pests, diseases or other problems that could come along. Only a small part of your landscape would be damaged when an unforeseen problem arises, and diversity makes for a more interesting landscape. Using native trees and shrubs can help establish a sense of place and can be low maintenance.

Native trees and shrubs have an advantage when it comes to climate and growing conditions. They have been growing in this location for thousands of years and in most cases can survive problems with native insects and diseases. Not all native plants are resistant to disease or pest problems, especially if they are grown in the wrong location or do not receive adequate moisture. Also, not all pests or diseases are native. This can be seen with Dutch elm disease, oak wilt and emerald ash borer in recent history.

Native trees and shrubs also can create backyard habitat for birds, pollinators and other wildlife. Those that produce berries or nuts provide a source of food and offer shelter. Trees and shrubs that are grouped in an area also provide winter habitat, especially for birds. Listed below are a few trees and shrubs with some information about these natives.

Deciduous trees (lose leaves each fall)

Maples (*Acer* spp.). Red maple (*Acer rubrum*) and sugar maple (*Acer saccharum*). Avoid silver maples and boxelders because of weak wood. Non-native Norway maples and Japanese maples can cause or experience problems.

Oaks (*Quercus* spp.). Red oak, bur oak and swamp white oak will grow in poorly drained areas. Oaks are slow growing, large trees. Pin oaks require acidic soil.

Hornbeam or blue beech (*Carpinus caroliniana*). Small trees with attractive bark that can handle moist areas and are shade-tolerant.



Mature Kentucky coffeetree in fall.



Textured bark of shagbark hickory.

Kentucky coffeetree (*Gymnocladus dioica*). Medium to large tree, not shade-tolerant, relatively fast growing and has attractive foliage.

Hophornbeam (*Ostrya virginiana*). Small to medium in size, slow growing, very hard wood, shade-tolerant and has interesting fruit that look like hops.

Basswood (*Tilia americana*). Large tree with somewhat heart-shaped leaves, shade-tolerant and moderately slow growing. Its small, yellow-white fragrant flowers attract bees.

Blackgum or Tupelo (*Nyssa sylvatica*). Grows in the southern half of Lower Michigan, is slow-growing and has lustrous leaves with bright red autumn foliage.

Hickory (*Carya* spp.). Shagbark and shellbark produce edible nuts and both have textured bark, especially shagbark. Bitternut and pignut hickories produce nuts for wildlife; they are not tasty to people.

Hackberry (*Celtis occidentalis*). Medium sized tree, fast growing and moderately long-lived. The tiny edible fruit are eaten by birds.

Tamarack (*Larix laricina*). This deciduous conifer appreciates moist soils and can grow in wetland areas. Needles turn brilliant yellow in the fall and drop. In the spring, new needles grow. Needles are light and feathery.

Evergreen trees (needles remain all year, but have a life expectancy)

Eastern redcedar (*Juniperus virginiana*). Small to medium sized tree, roots deeply and is wind- and drought-resistant. Foliage turns bronze in winter. Birds feed on small, bluish berries.



Tamarack needles.



Eastern redcedar tree in the landscape.



Common elderberry fruit.

Eastern white pine (*Pinus strobus*). State tree of Michigan with long, soft needles in groups of fives. Moderately fast growing, large tree, vigorous as an ornamental tree and requires well-drained soils.

Black spruce (*Picea mariana*). Small to medium tree, grows well in acidic, moist soils and is very slow growing.

Deciduous shrubs (lose leaves each fall)

Shrub dogwoods (*Cornus* spp.). Examples like silky, red-osier, gray and yellow twig do well on moist soils. Many have brightly colored stems and are small in size.

Ninebark (*Physocarpus opulifolius*). White to pinkish flowers around June, heavily branched and not shade-tolerant. Erect spreading shrub forms a dense crown.

Spicebush (*Lindera benzoin*). Large aromatic shrub native to the southern half of the Lower Peninsula that grows best when moderately shaded. Has early, dense clusters of yellow flowers.

Common elderberry (*Sambucus canadensis*). Grows in moist soils and produces purplish-black drupes that are excellent wildlife food.

Highbush cranberry (*Viburnum trilobum*). Produces white flowers in June and acidic berries for wildlife.

This is just a brief look at a few native trees and shrubs. Use the botanical names to conduct an Internet search to find out more on those you would like to invite home. These are all made in America with pride.

For more information on selecting and growing trees and shrubs, see http://migarden.msu.edu/trees_shrubs.

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Soil testing instructions using MSU Extension's Home Lawn and Garden Soil Test Mailer

Step-by-step instructions on how to test soil for nutrient levels so you can save money on fertilizer costs.

Diane Brown, Michigan State University Extension

Taking a soil test to determine nutrient levels in the soil for a garden area or lawn is a smart thing to do. Testing the soil can save you money on fertilizer costs because you know what is already supplied by the soil. You add only the nutrients needed for optimum plant growth and excess fertilizer doesn't end up in groundwater, lakes or streams. Soil testing can be done any time the soil is not frozen.

For established plantings, you are monitoring changes in nutrients, pH and organic matter over multiple years. Organic matter content and pH impact nutrient availability in the soil. You will want to re-

test the soil every three to five years or after major changes are made, such as adding lime to raise the pH or adding sulfur to lower the pH.

In order to easily compare soil nutrients from year to year, Michigan State University Extension recommends making subsequent soil tests at the same time of year. Extractable nutrients tend to be lower in fall after harvest. Soil pH tends to be higher in spring than fall.

Collecting samples for testing the soil isn't difficult to do. The following are step-by-step instructions on how to do it.



1. Purchase a Soil Test Kit Self-Mailer at www.shop.msu.edu or your county Extension office.
2. Select one lawn or garden area to test per self-mailer "kit." The tested soil area should be composed of soils similar in texture and receive similar fertilizer treatments. For instance, if the front and back lawns are fertilized the same and the soil is similar, then samples should be collected from both areas and mixed together. Garden areas are managed differently than lawns and should be sampled separately from lawns.
3. Draw a map of the test area or make note of the location you are testing for reference so you can retest the same location next time for comparison.
4. Use a soil sampling tube, shovel or trowel to collect soil from 10-15 locations within the sample area. Take samples 3-4 inches deep for lawns and 7-8 inches deep for garden beds. Do not include roots, thatch or other plant materials in the sample. Each sample should be about 1/2 cup.
5. Collect soil samples in a zigzag fashion throughout the test area.
6. Allow the soil to air-dry overnight if it is very wet. Mix subsamples together in a clean plastic container.
7. Place about a cup of the mixed soil in the resealable plastic bag provided.
8. Fill out the form included in the mailer and send it in to the soil testing lab.
9. You will receive an email with soil test results. If you do not use email, you may have the test results sent to the Extension office in your county.



Choosing a smart site for your vegetable garden

Selecting the optimal place for your vegetable garden is important for success.

Denise Johnson and Pamela Bennett, Ohio State University

Understanding the essential key components including sunlight, water and good soil will ensure your garden bounty. Picking fresh vegetables from your own garden or patio container can be very rewarding. In addition, you may discover new foods to add to your plate and may influence others to try new vegetables.

To the new gardener, a word of caution: start small. Consider how much time and space you have available and do not start with a garden that may be more than you can manage. Depending on the amount of space and site conditions, you can consider a container vegetable garden, a small area with just a few plants, or a larger garden with a variety of vegetables.



Marilyn Goodison



Rebecca Finmeran, MSUE

Vegetables can be grown in a wide variety of containers, and they need not be fancy. Even a burlap bag will do.

Sun and water

Vegetables need sunlight in order to produce succulent fruits such as the tomatoes or fleshy stems like asparagus. Plants use sunlight to convert carbon dioxide and water into food through the process of photosynthesis. When selecting a site, find an area that gets at least eight to 10 hours of full sun per day. West or south-facing sites are preferred. Vegetable production declines as sunlight decreases, yet some early season crops such as radish or lettuce may be able to be produced in an area that receives part day of shade.

Before you select the site, observe it for a few days to determine the amount of sunlight it receives. Is there sun in the early morning? Is the site in the shadow of neighboring trees, shrubs, fences or other structures? At noon, is the entire area in full sun? What are the light conditions at 2 p.m. and 4 p.m.? Take time to observe and make notes in order to locate the garden in the best area of your landscape. Keep in mind if you are observing sun patterns in winter or early spring that the sun will be more directly overhead in summer, somewhat changing where sunlight appears during the growing season.



Rebecca Finmeran, MSUE

The large tree in the back casts a shadow, causing the garden's back side to be less productive than the front.

Plants also require water for growth and food production. Locate your garden where you have access to a clean and consistent water source. You cannot depend on rain to consistently provide adequate moisture, especially when establishing young plants or during the drier part of summer. In addition, gardens closer to the house are more visible and you won't succumb to the "out of sight, out of mind" problems that occur in the heat of the summer.



Rebecca Finmeran, MSUE

When grown in a full sun location, your garden will have optimum production.

Smart Gardening

Fertile, well-drained soil

The soil needed for growing vegetables should be fertile and well-drained. A quick and easy drainage test is to dig a bucket-sized hole and fill it with water. (insert a photo of a hole filled with water - not sure if this will be adequate to show drainage check.) Water should be completely drained from the hole within 24 hours. If there is still standing water, you should either select a new site or consider options such as raised bed gardens or improving the drainage by contouring the beds, allowing excess moisture to move away from the site. The pH should be in the range of 6.2 to 6.8 (slightly acid soil). A soil test will provide this information. Soil tests can be purchased online at the MSU Extension Bookstore (search for E3154 at www.shop.msu.edu). You can also refer to the Smart Gardening tip sheet "Don't Guess, Soil Test!" for more information. The results of your soil test will indicate the necessary amendments such as fertilizers or organic matter that are needed for good vegetable production.

Prior to choosing the site, investigate what might have been in this location previous to your garden. If you live in an older home where the potential for lead is higher (lead paint was used on older homes), indicate that you require a lead test on your soil test form.

The site should be level and free of large roots and rocks. A level area will prevent water from running off and washing away seeds as well as soil erosion. Avoid low areas where water does not drain. For good plant health, roots require moisture, but also need oxygen. Standing water or heavily compacted soil does not allow roots to breathe. Refer to the tip sheet on "Smart gardens begin with healthy soil" for more information on how to improve your soils.



Rebecca Fimeran, MSUE

If drainage is an issue, raised beds can be very productive and easy to manage.

Planting near walnut trees

Planting under or near a black walnut tree (*Juglans nigra*) is not recommended because all parts of the tree produce a chemical called juglone, which is toxic to certain vegetables, especially tomatoes, potatoes, eggplant and peppers. There are some vegetables that are not affected by juglone, such as snap and lima beans, onions, beets and parsnips. For a complete list of plants that can grow under or near the black walnut tree, see MSU Extension tip sheet #OC0280, "Black Walnut Toxicity," at <http://bit.ly/BlkWIntTox>. If you do have a sunny spot near a walnut tree and want to grow plants susceptible to walnut toxicity, consider a raised bed in which you provide new soil for plant growth.

If you face challenges locating the ideal site, do not despair. There are many gardening options such as container gardening or elevating the garden above ground level and creating a raised garden. You can grow potatoes in a trash can, herbs in a bag of top soil or tomatoes in a hanging basket. Wherever you find a sunny location, there is the possibility of growing vegetables.

Looking for more?

For more information on a wide variety of **smart gardening** topics, or to find out about smart gardening classes and events, visit www.migarden.msu.edu.

Stay up-to-date with resources and news for home gardeners by signing up at <http://bit.ly/MSUENews> to receive MSUE Home Gardening Production Digests via email.

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