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PRESS

Welcome to the first edition of the “Smart Gardening PRESS”

We are pleased to provide tips, tricks and techniques that will help you be a “smart gardener” all year long. Science-based gardening, environmental awareness and sustainability have long been a hallmark of MSUE programs. Through positive feedback over the past season, YOU have inspired us to take the smart gardening concept to a new level. From the buzz of pollinators to the roar of the mower, smart gardening news will help you save time, money and the environment. Dig in---the best is yet to come!

- Michigan State University Extension Consumer Horticulture Educators, Faculty and Staff

New weather patterns will require smart gardening

Become a smart gardener by changing the way you manage your plants.

Gretchen Voyle, Michigan State University Extension

For gardeners in Michigan, we’ve just finished the hottest and driest season that we’ve have ever

Simple ways to start Smart Gardening in 2013

Smart lawns

- Mow at the highest setting to promote deep roots, avoid grub damage and crowd out weeds
- Mulch leaves and grass clippings into the lawn to recycle nutrients.

Smart plants

- Select native or well-adapted plants, trees and shrubs to simplify meeting the plant’s needs.

Smart soils

- Don’t guess, soil test to ensure you have an effective balance of nutrients.

experienced. This challenging growing season and several preceding seasons have separated gardeners into two categories: the smart gardeners and the automatic gardeners.

The smart gardener can be defined as responsive or finely sensitive to their perceptions and environment. This is the thinking gardener. They are continuously looking and evaluating as they garden: How much rain is in my rain gauge after the last shower? What insect pests do I usually see in June?

Automatic gardeners use their memory with little intelligence when solving problems. They follow routines or repetition to carry out their tasks mechanically or unthinkingly. They just go through the motions and repeat what they have always done. They are not aware that anything has changed.

Success or failure in this difficult growing season often hinged on how nimble a gardener’s thinking was. Smart gardeners put out their rain gauge and checked to see how much water was falling from the

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sky. They dug small test holes to see how damp the soil was and then replaced what was missing. They inspected both tops and bottoms of leaves for insect or disease damage. They mulched soil to keep it cooler and prevent evaporation of water. They got soil tests so they could apply missing nutrients. They were concerned with the health of the plants and were willing and eager to learn new information.

The automatic gardener was big on excuses this season. When plants died or failed to perform, the first comment was a defense of sorts. There were a variety of reasons: I took care of it like I always do; The plant looked fine and just dropped dead; It was a native plant and it was living in Michigan so it shouldn't need any care.

MSUE horticulture educators are declaring that this is the beginning of the era of the smart gardener. Since weather patterns have shifted and all gardeners are



Butterfly milkweed, a native plant.

now dealing with more extreme weather and increased disease problems, changes in gardening are necessary. The smart gardeners will be willing to learn more and adapt that information to their home landscapes.

Smart gardeners get the dirt on soil testing

Testing soil every three years helps you accurately apply fertilizers to your lawn and garden and helps avoid over-use of nutrients that can become a powerful pollutant to Michigan's natural resources.

Rebecca Finneran, Michigan State University Extension

Plant scientists know that lawn and garden plants require 18 nutrients for healthy, productive growth. Your lawn and garden "soil environment" is a reservoir that houses these nutrients, providing the platform for plant roots to acquire them. Understanding each individual plant's needs and the type of soil you have is the first step in properly managing soil fertility.

Often our lawn and garden soils are rich and productive, needing little or no enhancements. Others may be poor soils or depleted, needing to be replenished. Approaching plant care without conducting a base-line soil test may put gardeners at the risk of over fertilization. This can have negative effects on plant growth and create an imbalance in the soil environment, and it can also lead to pollution of our local water resources.



Michigan State University Extension provides an easy-to-use [soil test kit](#) that can be purchased online from the [MSU Extension Bookstore](#) or from your [local county MSU Extension office](#).

The **Home Lawn and Garden Soil Test Mailer** can be used to process any type of home soil sample, such as lawn, vegetable garden, tree, shrub, flower, and tree or small fruit. Based on your soil test results, you'll receive a custom fertilization program to meet the needs of your plants and safeguard the environment. Cost of this mailer is \$25 plus shipping and handling fees. It may also be available for pick-up at your local MSUE county office.

Why should I soil test?

Know your soil. Soil testing is an important diagnostic tool to evaluate nutrient imbalances and understand plant growth.

Understand. The most important reason to soil test is to have a basis for intelligent application of fertilizer and lime.

pH. Testing allows homeowners to adjust soil pH to the optimum range (6.0-7.0), which makes nutrients more available for plant growth.

Protection of our environment. Avoid contaminants that can enter our surface and ground waters by over-application of phosphorous or nitrogen fertilizers.

Cost savings. Why apply what you don't need? Soil test results provide information about the soil's ability to supply nutrients to plants for adequate growth and are the basis of deciding how much lime and fertilizer are needed.

What will I find out from my soil sample?

Home Lawn and Garden Soil Test Mailer

results will determine your soil type, pH, level of organic matter and provide you with a reading for nutrients including phosphorus, potassium, calcium and magnesium. The results will also provide a recommendation for nitrogen and will determine how much lime should be applied based upon the type of plant you specify.

How long before I receive my test results?

You should receive test results in about two weeks. The lab analysis takes three to five working days from the time samples are received. Remember, MSU recommendations are in pounds of nutrient needed, not pounds of fertilizer to be applied!

Your results will also include an area calculator that helps you determine how many square feet you need to apply fertilizer.

Smart gardeners mulch fallen leaves into lawn to save money

Mulching fall leaves into lawn can help you reduce fertilizer and weed control.

Rebecca Finneran, Michigan State University Extension

Turfgrass specialists from Michigan State University know that the best dressed lawns begin in fall. After a long, hot summer, you may



How do I take a soil sample?

- Determine which one lawn or garden area you would like to test.
- Using a spade or trowel, collect 10 random soil samples from the area and place in clean pail.
- Each sample should be a slice of soil as deep as the plant roots go (3 to 4 inches deep for lawn; 7 inches deep for gardens and all other plants).
- Remove plant debris, roots and thatch from the sample.
- Combine the 10 random samples in the pail, mix thoroughly and remove approximately 1 cup of mixed soil. If the soil is wet, spread it on paper and allow it to air dry overnight before filling the sample bag. Don't use artificial heat as it will skew test results.
- Fill the re-closable plastic bag included in the Soil Test Mailer with your dry soil and seal carefully.
- Place bag inside the white, postage-paid envelope and put in your mailbox for pick up.

be thinking to yourself, "Why would I want to be thinking about my lawn when I just want to go inside and forget about it?"

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Over 20 years of turf research has proven that fall is the optimum time to “invest” in the green you will enjoy next spring. If fertilization is on your dance card, then you are on the right track, but don't forget about a resource that may be staring you right in the face – tree leaves.

For years, turf managers and homeowners have been raking and bagging leaves because we all know that when leaves pile up with wet, heavy snow, it can mean disaster for the turf plant below. The ban on yard waste during the 90s prompted MSU turfgrass specialists to begin investigating how lawns would react to having ground up leaves left on the lawn and the results may surprise you!

Leaf it – and reap!

On those slightly dewy mornings during October, elevate your mower deck to the highest setting and set out on your merry way, crossing over the leaves once or twice. Usually this can occur once a week, but if there is a heavy wind, you may find yourself mowing twice in one week. There will be an obvious leaf residue on the surface of the lawn that only lasts for a few days. The tiny pieces will eventually sift down through the turf and provide future weed control and essential nutrients that can save you money and time. Come spring, you won't even notice the tiny leaf particles.

Up to 6 inches of leaves can be “mulched” at a time, depending on the type of mower you have. Push mowers will handle smaller amounts, but are still very effective. During the research, several years passed and turf scientists starting noticing several benefits

including needing less fertilizer to achieve that spring green up. The second benefit was – what, no weeds?

The decomposing pieces of leaves cover up bare spots between turf plants that are an excellent opening for weed seeds to germinate. Experience has shown that nearly a 100 percent decrease in



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dandelions and crabgrass can be attained after adopting this practice of mulching leaves for just three years.

Another smart tip

If you have a bagging mower, you can also alternate between mulching into the turf one week and

collecting the ground leaves to use as mulch in landscape beds and vegetable gardens. Covering bare soil with ground leaves prevents winter annuals from germinating and makes a great organic addition to the garden.

So if you want a recipe for a luscious lawn yet want to be “green,” put your rake away and don’t bag it!

Your plum trees versus black knot

Winter is the perfect time to scout for black knot in plum trees.

Gretchen Voyle, Michigan State University Extension

Black knot is a fungal disease that strikes fear in the hearts of owners of plum trees. It doesn’t matter if they are edible plums or the decorative, landscaping variety, the trees could be fatally affected. Since twigs and branches are easily seen during winter, it is a good idea to check any plums for galls or swollen growths. [Michigan State University Extension](#) horticulture educators and [Master Gardener](#) hotlines receive many calls about black knot when the leaves are off the trees.

Black knot causes black, corky, swollen growths to form on branches, twigs and occasionally trunks. The nutrient and moisture flow is cut off to the branch that extends beyond the black knot. The spread of the disease has to do with suitable hosts and humid weather during the growing season.

Host trees are plums and occasionally cherries. Very susceptible edible plums are ‘Stanley’ and

‘Shropshire.’ For ornamentals, purple leaf plum and sand cherry are often targets. Edible plums that are moderately resistant to black knot are ‘Damson’, ‘Bluefree’, ‘Shiro’, ‘Santa Rosa’ and ‘Formosa.’ Japanese plums are generally less susceptible. ‘President’ is the only type of edible plum that is considered highly resistant.

Black knot takes several years to develop. In the first year, small, light brown swellings are visible on the current year or last year’s twig growth, which will be towards the ends of the branches. By the next year, the swellings have grown and become olive green with a velvety appearance. During this year’s growing season, the galls swell and turn black and become misshapen. As the nutrients and moisture are cut off to the twig, the twig could become curved or bent at the location of the gall.



Clemson Univ. – USDA Coop. Ext. Slide Series, Bugwood.org

Black knot on flowers and galls.



William M. Brown Jr., Bugwood.org

Black knot on branches.

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When black knot is found, there are two choices: remove the tree or attempt to treat it. Treatment may remove a large quantity of the branches if black knot is severe. During the winter, the galls need to be pruned out. Prune at least 6 inches away from an existing gall into healthy wood. This may leave very few branches, so this may be the point when deciding whether to keep the tree needs to occur. Burn or bury the pruned black knot wood. Do not drop the pruned galls on the ground. The galls can still spread spores during the growing season. Do not prune during the growing season because the fungal spores can be spread around at this time.

Using a fungicide is recommended only for trees with severe fungal problems or valuable trees. Apply the

fungicide when the trees are dormant in the spring – when there are no green buds, leaves or flowers present. Then, spray again when the flower buds color up. The fungicide is to prevent more problems; it cannot cure it. Use a fungicide that has an active ingredient of chlorothalonil or thiophanate-methyl. For many places in Michigan, it will be easier to find a fungicide with chlorothalonil. Be sure to follow the directions. The tree should be sprayed each spring following the timing given above.

Some of these plum varieties are just trouble waiting to happen. This is a very difficult fungal disease to eliminate, but for smart gardeners looking for replacement trees, they now have an idea of what not to select.

Come see MSUE at two upcoming shows!

Starting from the “ground up,” MSU Extension’s horticulture educators are embarking on a new campaign to help folks become “smart gardeners.” Launching this effort, MSUE educators will be presenting smart gardening in a variety of ways at two public shows in Michigan: the [Novi Cottage and Lakefront Living Show](#) on Feb. 21-24, and the [West Michigan Home and Garden Show](#) on Feb. 28-March 3. MSUE and Master Gardener volunteers will be available in their informational booths for you to “ask the experts” all your gardening questions.



Rebecca Finerman, MSUE

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](http://bit.ly/MSUEDigestSignup) at <http://bit.ly/MSUEDigestSignup> to receive MSUE Home Gardening Production Digests via email.

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