From The Ground Up

VOLUME VI ISSUE III EDITOR: MARGARET MURPHY, MASTER GARDENER JUNE, 2014 INFO@MINNEHAHAMASTERGARDENERS.ORG WWW.MINNEHAHAMASTERGARDENERS.ORG

Integrated Pest Management (IPM)

By: Margaret Murphy, Master Gardener

As we make our way through a new growing season, it's a good time to talk about pest management, specifically Integrated Pest Management, or IPM.

The goal of IPM is to provide safe, effective, economical and environmentally sound pest management. It involves using a combination of techniques to keep pests from overtaking your garden.

There are four basic steps to IPM. The first is to identify the pest that is the source of the problem. Correct identification allows you to find the best approach to the problem. It is important to gather as much information as possible about the pest in order to arrive at an appropriate solution.

The second step is to set an action threshold. This basically means how many pests can you tolerate before needing to treat the problem? IPM works on the premise that most crops can tolerate a certain amount of damage.

Thresholds will vary by type of pest as well as by situation. For example, a commercial grower who is concerned with selling blemish -free product may have a lower threshold than



beetles Photo: hort.uwex.edu

a home gardener who is okay with a some chewed leaves.

The third step involves selecting an appropriate management strategy, which may include one or more of the following:



is published monthly during the growing season by the

Minnehaha Master Gardeners 2001 E 8th St. Sioux Falls, SD 57104

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Cultural controls - these are preventative measures such as selecting disease resistant cultivars, employing good sanitation practices, rotating crops, and promoting plant vigor with proper fertilization and irrigation.

Physical controls - these include techniques that exclude pests from crops such as row covers or traps, and may involve manual removal of pests.

Biological controls – these include the use of natural predators to reduce pest populations.

Chemical controls - these include the use of synthetic or botanical pesticides, insecticides, or horticultural oils. Keep in mind that natural doesn't mean non-toxic.

When using pesticides always follow the instructions on the product label carefully and check to ensure it is intended for the target pest and can be used on your crop. Choose low-toxicity products and try to spot treat instead of broadcasting the treatment whenever possible.

The final step in practicing IPM is to take



Imported Cabbageworm Photo: Clemson University Extension

notes and evaluate your results. It is helpful to keep track of your management strategy together with your successes and any failures.

IPM is a process that is designed to solve pest problems while minimizing risks to people and the environment. It allows for flexibility to fine-tune your approach as needed and can easily be practiced in your home garden.

Eye Spy...mushrooms in my yard

I have a few mushrooms popping up in my yard. They are in a spot where we previously had a mulberry tree. After the rains we've had this is not surprising. Most fungi like it cool and moist.

From what I understand not much can be done to keep mushrooms from coming up. Removing the mushroom doesn't remove the underground portion from which they are growing. The mushroom that we see is actually the fruiting stage of the fungus. This is the stage where it produces and releases tiny spores that are carried by the wind to new sites

Getting rid of the mushroom; however, does help prevent it from spreading more spores that can lead to future pop-ups. You can pick them or mow them off. Since we have them coming up in the site where we took out a tree, it is very likely that mushrooms will continue appearing there (when the conditions are right) until the organic matter they are feeding on is gone.

Mushrooms found growing in lawns should never be eaten, unless you are well acquainted with the different species. Many mushrooms are poisonous to some degree and only an expert can distinguish between edible and poisonous species. Thus, other reasons to remove them aside from improving the lawn's appearance is to protect children and pets.

For more information, check out this link on <u>mushrooms</u> in the yard from the University of Illinois Extension.



June 2014

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9 Deadhead flow- ers as needed	10	11	12 Divide spring-blooming perennials	13	14 <u>Mulch</u> to keep soil moist and reduce weeds
16	17 Stop harvest- ing <u>asparagus</u> and <u>rhubarb</u> by mid- June	18	19 Renovate June-bearing <u>strawberry</u> beds immediately after final harvest	20	21 Set your mower to trim grass 2 1/2 to 3 inches
23 Weed a little bit everyday to keep up with them	24	25 <u>Upper Midwest</u> <u>Master Gardener</u> <u>Conference in</u> <u>Bettendorf, IA</u>	26	27	28
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The Herb Garden

The herb section highlights herbs that can be grown in the South Dakota region

By Priscilla Jurkovich, Master Gardener

Fennel, *Foeniculum vulgare*, is a perennial in zones 5 to10 from the Apiaceae family (formerly the Umbelliferae). In South Dakota, fennel is grown as an annual. It prefers full sun with loose well drained soil. It does better with a direct sowing of the seed in the soil after danger of frost has past.



Photo from Priscilla Jurkovich's garden

The Florence variety is best to produce a white or pale green bulb where the stalks are superimposed. Once the plant starts to produce a bulb, water well and "hill up" the soil around the bulb to prevent it from turning green and it will make a sweeter bulb. The feathery green leaves look similar to dill and produces yellow flowers.

The bulb, stalk and the seeds are all edible but you can't harvest all from the same plant. If you want the vegetable (bulb), it's best to harvest before the plant goes to seed. If you want to harvest the seeds, separate the fennel from the dill or coriander (cilantro) as they can cross pollinate and the seeds will not be as sweet. Fennel has a distinct anise or licorice fragrance. Fennel bulbs can be eaten raw or cooked.

Fennel has a variety of medicinal uses. Fennel has been used to relieve anemia, indigestion, flatulence, constipation, colic, diarrhea, respiratory disorders, menstrual disorders, increase breast milk in lactating mothers and has benefits regarding eye care. It's found in medicines for irritable bowel syndrome and diarrhea. Research has been done on its properties to inhibit the growth of cancer tumors and it also protects the body of the chemotherapy effects. The diuretic effect will assist with removing toxins from the body. The seeds can be chewed to assist with digestion and eliminate bad breath.

Anthracnose on Ash Trees

In my job as the horticulture educator for Iowa State University Extension and Outreach, I have recently received several calls from people concerned about seeing leaf spots and distorted leaves together with some leaf drop on their ash trees. These can be symptoms of a common fungal disease called anthracnose.

Anthracnose is caused by several different but closely related fungi and may occur on a variety of shade trees. Trees that are most often affected include ash, oak, maple, sycamore and walnut. Each fungus is specific to the host tree it affects. So for example, the ash anthracnose fungus affects only ash and will not spread to other tree species.

Anthracnose fungi overwinter on twigs or fallen leaves. Spores are produced during the spring and can be carried by wind- driven rain onto new leaves. Since water is needed for the spores to germinate and infect the tree, the release of spores together with the infection period are closely tied to spring weather conditions. Cool, rainy weather favors its development. Hot, drier conditions slow down anthracnose fungi and lessen the symptoms of the disease over time.

Symptoms of anthracnose infection can vary depending on the specie of tree and severity of infection. Therefore, it can sometimes be confused with other foliage diseases. With ash trees, anthracnose produces irregular brown or tan spots on leaflets. Leaflets tend to curl or twist toward the blighted area and fall from the tree.

With healthy, vigorous trees the fungus usually has very little affect on their health. Even in severe cases where the tree loses a large portion of its leaves, it can survive. Most trees are able to manage the infection and push out a new crop of leaves. Ash trees will generally produce another set of leaves in four to six weeks.



Anthracnose on ash leaves Photo University of Minnesota Extension

Generally, no treatments are recommended although management practices that promote good tree health can help trees recover from the disease and minimize the risk or severity of future infections. Be sure to rake and remove fallen leaves and twigs in the fall to reduce the overwintering population of anthracnose fungi. For more information on anthracnose, see the <u>University of Minnesota</u> <u>Extension</u>.

Margaret Murphy

Weed of the Month By Paulette Keller, Master Gardener

Dame's Rocket

Growth: Dame's rocket is a biennial or short-lived perennial that can grow up to three and a half feet tall. The leaves are lanceolate shaped, which means they are wider than broad. They can be up to 5 inches long and up to 2 inches wide and are alternately arranged on the plant stem. The leaves are covered in short hairs. The fragrant flowers can be bluish-purple, white and sometimes pink and are up to an inch across.

Dame's rocket is found in the central and northern Great Plains on roadsides, waste areas, abandoned farm buildings sites, open woods and thickets. Dame's rocket can bloom from May to August but warm weather sometimes puts a halt to the duration of the flowers. The seeds are formed in long pods that are anywhere from two to five inches long. The seeds are dark reddish brown.



Photo: www.colostate.edu

Uses and Values: Dames' rocket is commonly added to wildflower seed mixtures that are used for naturalizing. It grows best in full sun to part shade and will form a dense colony of plants. The seeds are often eaten by ground-foraging birds.

Historical: Dame's rocket was the first flower planted by early settlers. This is why it is found around old building sites.

Fun Facts Flowers



•Almost 60 percent of fresh-cut flowers grown in the U.S. come from California.

•Dandelions might seem like weeds, but the flowers and leaves are a good source of vitamins A and C, iron, calcium and potassium.

•The flower buds of the marsh marigold are pickled as a substitute for capers.

•Ancient civilizations burned aster leaves to ward off evil spirits.

•Roses are related to apples, raspberries, cherries, peaches, plums, nectarines, pears and almonds.

The very expensive spice, saffron, comes from a type of crocus flower.
Chrysanthemums are associated with funerals in Malta and are considered unlucky.

From the Gardening Channel

Flowers By Ann Larson , Master Gardener Intern

If you are still looking for a clematis, here are a couple of recommended varieties



Clematis Diamantina - an exceptional free flowering clematis with 4 to 6 inch pom-pom like blue/purple double flowers on each stem and each flower last up to 4 weeks with repeat flowering throughout the summer. This double clematis out performs any other purple on the market. It grows up to a height of 7 foot. This beauty makes an outstanding cut flower, stunning with roses!

Photo: Jung Seed Catalog

Clematis Sapphire Indigo - this clematis stays true to its name with long lasting dark purple blooms that fade to deep blue. It has stunning dark purple to black anthers. It is a continuous bloomer; June to September. It can be trained to climb or grow as shrubby ground cover with no support. Growing to a height of 4 feet it is a good choice for containers and can be grown in partial shade.



Photo: Dave's Garden

Exploring Food Hubs in South Dakota

By Chris Zdorovtsov and Kari O'Neill, Community Development Field Specialists, SDSU Extension

Small-scale producers often find themselves with too little time to produce and direct market their locally grown products. Food hubs provide another marketing option to producers who do not have time to participate in a farmers market or other direct marketing venues.

Research has indicated that consumers are willing to pay a premium if they know about the origins of local and regional food. However, finding access to distribution into mainstream markets is challenging for local, small-scale producers. Food hubs can help overcome this challenge.

What is a food hub? According to the USDA, "A regional food hub is a business or organization that actively manages the aggregation, distribution and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail and institutional demand."

The functions and structure of a food hub vary, but generally include the following: market access for local producers, information sharing, transportation and distribution, brokerage services, product bundling and aggregation, season extension, maintaining producer-consumer connections, and producer-oriented technical assistance.

Food hubs do not replace farmers markets. Farmers markets still provided a unique opportunity for producers to have direct contact with their customers. Food hubs are beneficial for



producers who do not have the time or personal interest to sell at farmers markets. The chance to participate in a food hub connects the producers to new market opportunities.

Most states in the US have at least one food hub, but at this point there is not one in South Dakota. In March over 40 South Dakota local food producers and resource providers gathered to hear a speaker from "Stewards of the Land" Food Hub in central Illinois talk about the structure of their business.

Regions in South Dakota are currently discussing how a hub might work in their area. If you are interested in the progress of a particular region of the state, let us know and we will connect you with a group having conversations. Contact Kari at <u>kari.oneill@sdstate.edu</u> or (605) 685-6972.

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