



THE GARDEN SPADE



A monthly Gardening Publication of the University of Missouri Extension -- Southeast and East Central Regions

Starting Seeds Indoors

By Katie Kammler

With the dreary winter weather we have been experiencing, seed catalogs have been arriving to brighten our days and give us hopes of an early spring. Plants of many annual flowers and vegetables may be started indoors for a jump start on planting when warm weather finally arrives.

The starting date for planting seeds indoors varies according to the speed in which the seedling grows and the cultural conditions of your home. It could range anywhere from



4 to 10 weeks before the average frost free date of this area, April 15th. The best way to determine the appropriate planting date is to read the seed packet. The package should contain information on the crop, variety, germination percentage, chemical seed treatments, days to germinate, and days to harvest.

Seeds can be started in a variety of containers but the most important factor is that it should be clean. This is important for good germination and the prevention of disease. If you are reusing plastic flats or other containers, use a bleach solution to sterilize them. Another factor to consider is the space you have

available. Wood flats, fiber trays, plastic trays, clay and plastic pots, peat pots, and compressed peat pellets are all good options for starting seeds. Remember that you will also need some sort of tray underneath to catch water, regardless of your container choice.

The next decision to make is the soil mix or other growing medium you will start your plants in. The most important part is that the medium

used for starting seeds should be loose, well drained, and fine-textured. Vermiculite, synthetic mixtures of peat moss, vermiculite, and perlite, soil-vermiculite mix, soil-peat-sand mix, milled sphagnum moss, and layered mixes are all options for starting seeds. You can make your own mix at home or buy already prepared mixes. Look at the label of the bag of potting mix that you are buying to see the contents and percentages.

Fill the container up to $\frac{3}{4}$ inch from the top with your soil mixture. It should be (Continued on page 2) moistened before filling pots to where you can form a ball that

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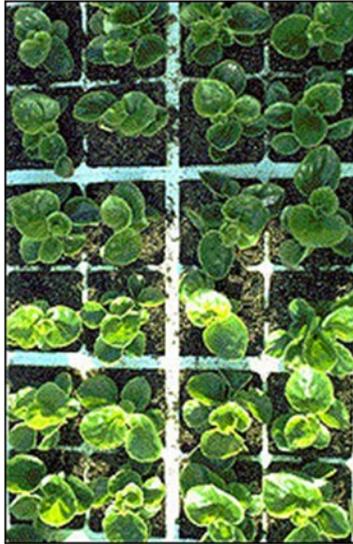
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Starting Seeds Indoors

By Katie Kammler

crumbles easily.....you should NOT be able to squeeze water from it. Level in the container and gently firm the medium. A small, clean board works well. Shallow rows can be made in the container using a pencil if more than one type of seed is going to be planted or if only doing one kind, the seed can be broadcasted over the surface. Sow seeds uniformly and label with plant name and date. Cover the seeds. The depth of the covering depends on the size of the seed. Very fine seeds such as petunia or begonia need no covering. Moisten top with a fine mist or allow warm water to soak in from the bottom, just be sure to remove the water when the soil starts to get damp on the top. Then put containers in clear plastic bags which will hold the moisture until the seeds germinate. Place in a warm location with temperatures of 65 to 75°. Watch daily for germination and remove bags as soon as germination takes place.

After the seedlings have germinated, they must be given the best possible growing conditions to ensure stocky, vigorous growth for transplanting outside.



Bright light from a south window or fluorescent lights and temperatures between 65 and 75° give an advantage. Humidity and keeping flats moist at all times but never soggy is essential. Damping off is a problem where seedlings fall over at the ground line. This is a fungus attack and an application of a soil drench fungicide can help with this problem plus making sure not to overwater. Seedlings also need to be fertilized at about a half rate (to prevent burning) with a water soluble fertilizer.

After seedlings develop at least one set of true leaves, they should be transplanted or spaced out to encourage sturdy, healthy plants. This is usually done with small seeded plants. The best transplanting tool that I have found is a sharpened pencil to poke the roots into the soil. Plants with large seeds such as cucumber, pumpkin, and watermelon should be planted directly into peat pots to avoid having to transplant and disturb the roots. Be sure to harden plants off before planting outdoors and enjoy an early start to the gardening season.

Insect of the Month: Fungus Gnats

By Katie Kammler

It seems, this time of year I often get calls about those annoying little gnats flying around houses. These critters are fungus gnats and they love wet organic matter. In other words, they like the fact that many people tend to overwater their houseplants in the wintertime. I, too, am guilty of having this problem and really have to pay attention when I water. The best control measure for fungus gnats is to let your house plants dry out between waterings and make sure the saucers are empty. Sticky

traps and insecticides can also be used but are not as effective as controlling the wet organic environment that they need to reproduce.



February Gardening Calendar

By Donna Aufdenberg

Outdoor Flowering Plants and Ornamentals

- Inspect summer bulbs in storage to be sure none are drying out. Discard any that show signs of rot.
- Take geranium cuttings now. Keep the foliage dry to avoid leaf and stem diseases.
- Seeds of slow-growing annuals like ageratum, verbena, petunias, geraniums, coleus, impatiens and salvia may be started indoors now.
- Dormant sprays can be applied to ornamental trees and shrubs now. Do this on a mild day while temperatures are above freezing.

Indoor Plants

- To extend the life of Valentine flowers, re-cut the stems underwater with a sharp knife. Remove any stem foliage that would be underwater. Use a flower preservative. Display the flowers in a cool spot, away from direct sunlight.
- Repot any root-bound plants before spring arrives and vigorous growth starts. Move the plant up in size no bigger than 1" larger than the present container.
- Late February is a good time to air-layer house plants such as dieffenbachia, rubber tree, and dracaena or corn plant.

Vegetable Gardening

- Run a germination test on seeds stored from previous years to see if they will still sprout.
- Before working an area in the garden for early spring planting, check the soil. It should be dry enough to crumble in your hand before you work it.
- Season extending devices such as cold frames, hot beds, cloches and floating row covers will allow for an early start to the growing season.
- Early varieties of onions are most productive when grown from transplants (small plants) or from sets.
- Check any vegetables you have in storage. Use or dispose of any that show signs of shriveling or rotting.

Fruits and Nuts

- Check fruit trees for tent caterpillar egg masses. These are laid on twigs in tight clusters that resemble an oblong brown lump of gum wrapped around the stem. Prune off these twigs or destroy the eggs by scratching off the clusters with your thumbnail.
- Begin pruning fruit trees. Start with apples and pears first. Peaches and nectarines should be pruned just before they bloom.
- Fertilize fruit trees as soon as possible after the ground thaws, but before blossoming begins.

Time to Check Seed Germination Rates

- *For each seed packet you want to test, dampen a paper towel.*
- *Take ten seeds from each packet, roll them gently in a moist paper towel, and place each towel in a labeled plastic bag in a warm spot (75-90°F) such as the top of the refrigerator.*
- *After a week, count the number of seeds in each paper towel that have sprouted. Multiply by ten to get a germination percentage. (keep in mind that some seeds might need a bit more time for germination)*
- *Discard seeds that have a germination rate below 50 percent.*



Walls Of Water

By Rennie Phillips

We moved to this region back in 1986 and began gardening probably the next summer. And from then on the main contest between us gardeners was who could eat the first ripe tomato. At first I would at least try and be fair so I'd start with normal tomato sets and would end up with a tomato about the end of June at best. But this one friend of mine would have his the middle of June or so. Finally he confessed he bought big mature tomato plants with fair sized tomatoes already on them. Not quite fair. So my quest has been to grow tomatoes earlier each year but do it fair and square.

Last summer my wife and I ate our first tomato the first week in June. This early tomato was the culmination of several things. The variety of tomato is a very important factor. But the most important factor is the use of "walls of water."

Walls of water are a series of vertical tubes of water about 1 ½ to 2 inches around connected to each other. These tubes are independent of each other so if one tube gets a hole in it, it doesn't affect the next one. There are enough vertical tubes so that when filled the circle of tubes is just bigger around and taller than a five gallon plastic bucket. During the day light hours the sun will warm these tubes of water which creates a warm environment for the tomato during the cool evening hours. And if by chance it gets cold enough to frost these warm tubes of water will protect the plant from frost damage.

Most garden catalogs have walls of water for sale. Some are more expensive than others. I have found that all those I've ordered or bought locally are virtually the same thing. My goal has been to buy a new set of three every year. I can then replace those that are damaged and possibly increase

my tomato output early. My wife and I just can't get enough of those early first tomatoes.

The first thing when planning on using walls of water is to plan ahead. If your local frost free date is May 10 you can probably plant your tomatoes in the wall of water from April 1 to April 10. You might be able to plant earlier, but this has been my goal. One month earlier than normal.

Because we are planting the tomatoes early I try to use tomato plants that will bloom and retain their blossoms even in cool weather. The tomato varieties that I normally use are Stupice and Cold Set. This normally is where a problem arises.

Most garden centers don't have these two varieties ready to plant by April 1 so one must grow their own tomato plants.

Tomatoes normally take 6 to 8 weeks from planting the seed to being ready to transplant in the garden so seed planting should take place from about the middle of January to the first of February. If you discover you don't have the time to grow your own tomato plants and have them out by March 20 to April 1 don't despair.

Plant whatever variety you can, just plan on planting them out around April 15 or so. This will be two weeks earlier than normal which would make your first tomato due about June 15.

About the end of March or first of April I wait for a warm morning to plant my tomatoes. These tomatoes should have been previously hardened off. Plant your tomatoes just like you normally do. If they are tall and leggy plant them deep or lay them down and plant them. My next step is to take a five gallon bucket which has the bottom cut out. I cut the bottom out about ½ an inch up on the side of the bucket and not on the bottom. Keep the bottom of the bucket. I set this bucket with the bail end up over the tomato and center



Walls Of Water

By Rennie Phillips

the tomato in this bucket. I level the ground for a couple inches outside the bucket. My brother Mick digs a shallow trench around his five gallon bucket for the walls of water to sit in.

Now I take the wall of water and slip it around the plastic bucket with the openings up. Slowly begin to fill all of the tubes until they are within four or five inches of the top. I lift the filled wall of water every three or four inches using the top to grasp, settling it in place. I leave the bucket in for a couple days. After a couple of days I slowly lift out the plastic five gallon bucket. If frost or freeze threatens, simply put the cut out portion of the bottom of the five gallon bucket on top of the wall of water. Mick takes a couple clothes pins and

simply pins the top of the wall of water shut protecting the plant. After a couple weeks you can go ahead and fill the tubes clear to the top.

By the end of April or first part of May your tomato plant should be growing out of the top of your wall of water. Now comes the hardest part. Now, with some help, grasp the top of the wall of water and lift it straight up off the tomato plant. Once the wall of water is off the plant mulch and cage the plants as you normally do. I would pick a warm day to remove the wall of water. If the weather is cool I'd probably wait until it warms up. If you have questions or comments email me. I may not know the answer but it will be fun finding it. phillipsrb@hotmail.com

Tips For Great Garden Photos

By Donna Aufdenberg

Photographing flowers and garden plants can be a challenge. Here are some tips that might lend a hand in getting those picture perfect blooms:

- Find out what you truly want in the picture. Ask yourself: What is my subject? So what exactly attracted you to the scene in the first place? Do I want a single blossom or multiples in the picture? How can I emphasize it? How can I eliminate certain features?
- Steady your Camera. Shakiness or a little bit of movement can really blur the best pictures. Your stance should be relaxed yet firm with feet apart and elbows tucked next to your body. If you are not comfortable with your steadiness, consider using a tripod!
- Consider getting a closer, more intricate photo. One of the most common mistakes is not getting close enough. Try using the Macro setting to be able to focus on objects



that are small.

- Avoid shooting at noon because bright light tends to bleach out pictures. Experiment with light around your garden to see how it effects your photo. Good light delivers clear and crisp photographs. Overcast days can intensify color. What about the direction of the light - front light, side light or back light? Check how the flower or object looks from the different sides.
- Find little critters to make photos interesting. Are there bees, butterflies, ladybugs or spiders that you can add to your masterpiece? Children can also be an added interest in photos: picking flowers, playing in the landscape or helping in the garden!
- Learn what your camera has to offer. Many of us take for granted that the auto setting will do the trick. Take a look at the manual and see what it can do...EXPERIMENT.

Crabgrass Control

by Sarah Denkler

One of the more pesky weeds in a lush green lawn is crabgrass. Proper identification is key in controlling the problem. Large crabgrass is an annual plant that is pale green and covered with coarse hairs. The ligule is membranous and has no auricles. See picture.

Cultural control includes proper mowing height for your desired grass to prevent seeding of crabgrass and maintain a thick stand of desired grass. Reseeding and proper fertility can both help to maintain a thick grass stand.

Control of weeds should be done early before they have a chance to germinate. Application of pre-emergent control can be gauged by the blooming of the forsythia in spring. Pre-emergent should be applied just before the Forsythia blooms when the soil temperature reaches 52°F allowing for seed germination. Remember to irrigate after you apply pre-emergent herbicides so the material will move into the soil. This step is often omitted and can be the reason for control failure.

A second application of pre-emergent should be applied 2 months after the first application to increase the length of time control is actively working in the soil. However, lawn seed and wildflowers will not germinate during this time so plan any new seeding accordingly. Some chemical names for control include: Treflan, Pendamethalin, Balan, Benefin and Oryzalin (for warm season grasses). These are sold under brand names such as: Barricade, Team,

Dimension, Tupersan, Pendelum, Amaze Grass and Weed Preventor and XL.

If you don't get pre-emergent control down you can use a post-emergent such as MSMA crabgrass killer. Again, products should be used when weeds are small, actively growing and most vulnerable (1 to 3 leaf stage). At this stage you can control plants with one application. As weeds mature, they become more difficult to kill and will begin to produce new seed.

MSMA should be applied when temperatures are above 75 degree Fahrenheit. Do not use MSMA above 95°F and lower the rate above 85°F. It cannot be used if you have St. Augustine or

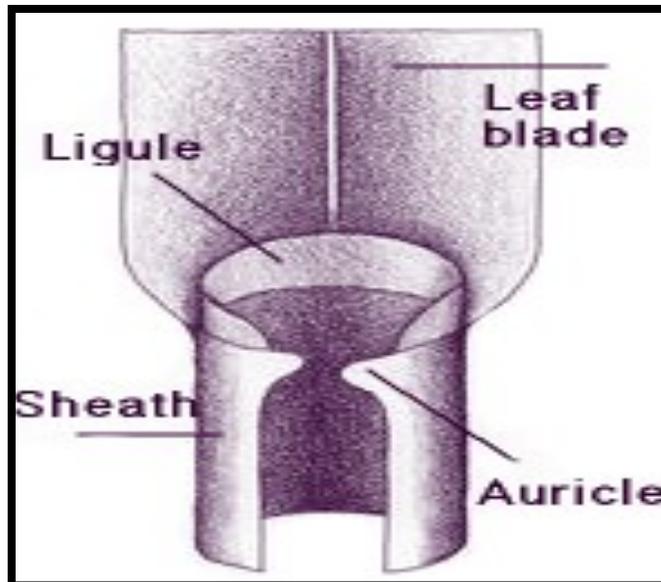
Centipede lawns as it will kill your lawn.

Individual plant clumps can become low growing from continued mowing so hand weeding may also be an option.

In order to help maintain a thick stand of grass re-seed the open space during the fall with a desired grass.

For further information try MU Guide G6705

by Brad Fresenburg and John Dunn entitled Cool Season Grasses: Lawn Maintenance Calendar from the University of Missouri Extension Revised March 2003.



DISEASE OF THE MONTH

Alternative Fungus Control by Sarah Denkler

Fungus is defined as an organism of the kingdom Fungi lacking chlorophyll and feeding on organic matter. Most fungi are beneficial in that they help to decompose dead tissue. Some fungi are not friendly and cause problems for ornamental and fruiting plants.

There are several sprays that can be used for control of fungus as shown in the **MU guide sheet 6010 Fruit Spray Schedules for the Homeowner**. One option that is sometimes overlooked is the application of horticultural oil. These oils can be used to control fungus as well as insects so the benefit can be twofold.

Horticulture oils have traditionally been called dormant oil as they are often used during the dormant season to prevent burn damage to leaf tissue. There are new, superior oils that can be used during summer on foliage. These are sometimes called foliar oils or summer oils and are most often used for insect control. These oils are lightweight petroleum or vegetable based oils used in both horticulture and agriculture.

Dormant Oil for Fungus - Oils should be used when you have had a history of fungus issues on plants and in conjunction with cultural practices such as pruning, sanitation and removal of debris.

Oils are generally considered suitable for 'organic pest control', with most oils permitted under the US National Organic Program so they may serve as an alternative to chemical control. For the most part they do not interfere with biochemical processes and are not as persistent in the environment.

Neem oil is most often used for fungal control. Available as Azatin, Bioneem, Margosan-O and Neemazad, neem oil is developed from the neem tree (*Azadirachta indica*) and is safe enough for use on vegetables.

If applied during dormancy, apply in late winter when temperatures are above 40°F for 24 hours.

These are usually heavier oils such as neem oil and are effective at preventing black spot on roses, rusts, leaf spot, blight anthracnose, alternaria, botrytis, scab and powdery mildews. Always remember to read the label carefully before using to ensure plants are not burnt.

In addition to fungal control, oils will provide control for insects that overwinter on bark, stems and debris. These include flea mites and scale. Flea beetles and aphids can also be controlled using oils. This is accomplished by suffocating the insect. Through control of insects, oils have shown a positive effect in slowing the spread of virus' through plants.

Common brand names of horticulture oils for this purpose include Ferti-lome Scalecide dormant and foliar oil, Ortho Volck Oil Spray, Sunspray Ultra-Fine Spray Oil, Bonide All Seasons Horticultural and Dormant Spray Oil, Monterey Saf-T-Side Horticultural Oil and Earth-tone® Horticultural Oil.

Precautions should be taken to never apply oils in conjunction with sulfur because of potential damage to plants. Remember to read the label in regard to application during the summer as temperatures above 90°F can be harmful with some oils. Some plants do not handle oil application well and will show signs of burn when vegetation yellows. Maples, hickory and walnut are examples.

Application rates are usually based on the type of plant, the temperature and humidity levels.

For further reference see G6010, Fruit Spray Schedules for the Homeowner. University of Missouri Extension revised October 2008.



Plant Trivia: Botanical Mania

by Donna Aufdenberg

Latin is the universal basis for a plant's botanical name. See how many of these common Latin terms you can match with the correct meaning!

- | | |
|------------------------|--|
| 1. Fruiticans | A. Sold in shops as medicine. |
| 2. Dentatus | B. Soft |
| 3. Indicus | C. Heart-shaped |
| 4. Laevis | D. Evergreen |
| 5. Cordata | E. Shrubby |
| 6. Sempervirens | F. Yellow |
| 7. Officinalis | G. Toothed |
| 8. Dioicus | H. Having male and female reproductive organs. |
| 9. Flavens | I. Prostrate |
| 10. Hirta | J. Indian or far east |
| 11. Repens | K. Hairy |
| 12. Procumbens | L. Creeping |



The Garden Spade

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Group News - What's Happening

February 2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
If you have a horticultural event for the calendar, contact the editor in your area.	1 Grow Your Farm - TCRC, Poplar Bluff, MO Parkland Master Gardener Meeting, Farmington Courthouse Annex, Third Floor at 6:30 p.m.	2 Grow Your Farm - Ag Bld., Fredericktown, MO Butler County Master Gardener Meeting, 6:00 pm, UMC Ext. Center.	3	4 Grow Your Farm - UMC Ext. Center, Perryville, MO	5	6 Perry County Master Gardener's Symposium, Perryville Higher Education Center, 7:30 a.m. to 12 p.m. 573-547-4504
	7	8	9	10	11	12
13	14	15 Ste. Genevieve Master Gardener Meeting at the Ste. Genevieve Co. Ext. Center at 6:30 pm.	16 15-17 State Small Fruit and Vegetable Conference at Lake of the Ozarks, MO. For more info http://mtngrv.missouristate.edu/	17	18 Stoddard County Master Gardener Meeting, 6:00 pm, Chamber of Commerce Cape Girardeau Co. Master Gardener Meeting at the Cape Co. Ext. Center at 7:00 pm.	19 20
21	22 Perry Co. Master Gardener meeting at the Perry Co. Ext. Center at 6:30 p.m.	23	24	25	26	27
28	29	30	Contact your local Extension Center if you have questions about any event on the calendar.			

More Upcoming Events....

MARCH

2 - Poplar Bluff Master Gardeners meet on the first Tuesday at Holy Cross Episcopal Church in Poplar Bluff at 6:30pm

6 - Parkland Master Gardener Gardening Symposium will be held on March 6, 2010 at the Mineral Area College in Park Hills from 8 a.m. to 3 p.m., Seats will fill up fast so call to get your registration form! 573-883-3548

15 - Ste. Genevieve Master Gardener Meeting is held every Third Monday of each month at the Ste. Genevieve County Extension Center at 6:30 pm.

8 & 15 - Small Farm Conf., Fredericktown, MO at 6:00 p.m.

18 - Stoddard County Master Gardener Meeting is held every Third Thursday of each month at the Chamber of Commerce in Dexter, MO at 6:00 pm.

23 - Perry County Master Gardener Meeting is held every Fourth Monday of each month at the Perry County Extension Center at 6:30 pm.

APRIL

2 - Poplar Bluff Master Gardeners meet on the first Tuesday at Holy Cross Episcopal Church in Poplar Bluff at 6:30pm

15 - Ste. Genevieve Master Gardener Meeting is held every Third Monday of each month at the Ste. Genevieve County Extension Center at 6:30 pm.

18 - Stoddard County Master Gardener Meeting is held every Third Thursday of each month at the Chamber of Commerce in Dexter, MO at 6:00 pm.

23 - Perry County Master Gardener Meeting is held every Fourth Monday of each month at the Perry County Extension Center at 6:30 pm.

Editor's Corner

The Monthly Spade is published monthly by University of Missouri Extension staff for individuals and families living in Southeast and East Central Missouri. This newsletter is provided by your local extension council.

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We welcome and encourage Master Gardener groups and individuals to submit items to the newsletter. We encourage the submission of any news such as upcoming volunteer opportunities, community events related to gardening, warm wishes or congratulations to fellow gardeners. We also encourage Master Gardeners sharing experiences and writing articles on timely topics.

All entries into the group news sections must be received by 4:30 on the 15th of each month for the following months news.

Email News to: kammlerk@missouri.edu,
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