

Yellowstone Master Gardeners

We want to hear from you.

Send your submissions for the

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newsletter to -

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Interview cont.

Spring Garden

Soil Moisture

Green Manure

Book Review

Are you Addicted?

Plight of Monarchs

Truth or Fiction

about Marigolds

Library

Tips

Beads

Recipe

Crops

Education at the

Inside this issue:

2

3

4

5

6

Sheri Kisch
Ann Guthals

YELLOWSTONE MASTER GARDENER NEWSLETTER



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Featured Master Gardener ~ TEMIA KEEL



Temia Keel has had such a varied life living and learning, graduating with two master's degrees, working her way through college,

teaching and helping as she travelled. Temia, which is a combination of friends of her parents, Tom and Maria daughters' name Temia, was born in a suburb of St. Louis, MO the oldest of four children. She lived there for 35 years. Her parents were raised in the Florida panhandle and did garden and had access to lots of fruits and vegetables that they canned. In Missouri, they also had a vegetable garden and on some weekends they would go to "you pick" gardens and orchards for additional supplies for canning. She and her sister still can and freeze and share new recipes by email and occasionally getting together for a "canapaloozza" during the growing seasons. Columbia, MO is where she worked on her master's degree in social work and met Joe, who was in pre-med school two years earlier in St. Louis. After completing her undergraduate degree in Business, Temia was hired at McDonnell Douglas Corp. working in software and customer support and later as a corporate recruiter. In 1991 the company laid off 1/3 of their employees and no longer needed a recruiter. With federal funds available to retrain, she

went to school for one year of science needed for physical therapy work. After graduating, and starting a master's program in hospital therapy she spent one week there and decided it was not for her and quit. After spending much of a year working various part time jobs she decided social work is the direction she wanted to pursue. While going to school she worked in group homes, with troubled teens and one and a half years for the Columbia School District. By now Joe had finished school and they moved to Asheville, NC. There they were able to grow tomatoes and vegetables. One day she noticed her neighbor throwing something from her yard out in the field, pears. Temia asked why and the lady said she didn't know what to do with all of them. It didn't take long for Temia to return with sacks to fill and get them canned.

Temia moved to Worland, WY for Joe's first job out of his Family Medicine training residency. They had a very successful garden, having 70 lbs. of tomatoes ready to can after a 2 week vacation. In 2003 they moved to Billings and Joe commuted to Crow Agency for work. Their house in Billings has been redone and the yard turned into stone walkways, rock gardens, and veronica and thyme as ground cover. They had boulders from the Heights hauled in for seating at their large fire pit and wood chips to cover what was the front lawn prior to deciding on the veronica/thyme combination

Continued on page 2

Page 2

"The first of April is the day we remember what we are the other 364 days of the year." - Mark Twain

The mission of the Yellowstone Master Gardener Newsletter is to "educate and inform", not to advocate or persuade. The Newsletter Editorial Board takes no position endorsing or opposing, approving or disapproving, any of the assertions or arguments in the contributed information. Information submitted to the Newsletter is for your interest only.

as ground cover. There is no turf grass remaining, just ornamentals.

"Winging it" is Temia's style, although Joe is more orderly, coming from an architectural and medical background. She goes by the "right place, right plant" theory, and that can change many times due to micro climates. Try plants that are outside the recommendations sometime, like her \$4.99 pot of heather which grew for 10 years in the back and listed as Zone 5-6.

Temia completed Level 3 MG and with this knowledge started a Level 1 program by video out of Yellowstone Park where they lived for 4years at Mammoth Hot Spring area. The program had 75% complete their level one volunteer hours. They kept a garden in Gardiner at a friend's house because of the rules mostly prohibiting growing anything in the park. She has also worked on the Metra garden, test gardens, and attending classes to stay refreshed when in town. We truly appreciate all the work you have done promoting and helping with the Master Gardener program.

Submitted by Sheri Kisch



EDUCATION CLASSES AT THE LIBRARY

Interview Continued



Spring Gardening Tips

- Till the garden when soil moisture is like brown sugar, not mud ball or powdery dry.
- Add soil amendments such as commercial or organic fertilizer, gypsum or compost.
- Don't apply fresh manures in the spring.
 - For a complete list of timely gardening tips check out the Grapevine at the extension web
 - site: <u>http://www.co.yellowstone.mt.gov/extension/horticulture/grapevine.asp</u>

Information on Soil Expanding Beads

Printed on label: "Soil Vigor (SV) is made of environmentally safe polymer crystals developed for all water loving house plants, trees, shrubs, vegetable and flower gardens, and lawns. Indoor and Outdoor use. Soil Vigor is economical and reusable in the soil after mixing for up to 7 Years."

Demonstration at Healthy by Design summer of 2015: Add about 1/8" or less of SV to the bottom of an 8 oz. foam cup and filled the cup with water. In about 45 minutes, the product overfilled the cup when beads expanded. I kept adding water, and the product kept overfilling the cup more.

Garden: I added about $\frac{1}{2}$ cup (1/4 pound) of SV to my 4' x 8' x 8" raised bed (~ .7 yards) in the early spring prior to planting (much less than suggested) as an experiment over a couple of years. These granules are said to adsorb about 200+ times their weight in water. I did not notice any improved growth, for I was just looking for moisture added to the soil. When I forked over my garden in the fall, I noticed many gelatin-like globs (size of a couple of pea seeds) of SV in my gar-

den, way too big in my estimation to do much good for garden vegetables. I wished the granules were much smaller! I tried to grind these dry granules up to add to my other beds in the fall but not possible with a mortar and pistil. These granules are rock hard. To diminish the size of the granules, one would need to add water and soften them; then blend them, pouring the gelatinous mass on the soil. One may not get as even distribution as sprinkling. These granules will not give up water easily, except in the presence of roots or total drying out of your soil.

Basil cutting: I used SV for a cutting and this allowed the cutting to stay fresh looking for a few weeks while out of direct sun before the stem started to turn black.

Polymers: I believe these granules are the same product which is in baby diapers but a bit larger.

Submitted by Daniel Wickenberg

Editors Note - I found this on Old World Garden Farms blog.

The hydrogel in diapers is different than the co-polymers in horticultural hydrogels, such as Viterra Gelscape. The diapers are made to absorb water and not release it. The horticultural products are designed to absorb, then release water over and over, for up to 200 irrigations. They may actually work for up to 5-8 years. Don't use any gel in soils not labeled for that use. I use them with everything I plant."

From http://oldworldgardenfarms.com/ & http://www.amereg.com/pages/6/index.htm

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beets. She is no longer here to ask and never used a recipe anyway, so I asked three Germans (thinking borscht was							
German in origin) and go	t three different ans	swers, ve	egetables, sou	up, and vegetable s	soup. Wiki has an excellent page on	÷.	
the origin, spellings and i	ngredients.						
My research left me mor	e confused than wh	en I star	ted.				
Origin	<u>Always included</u>		<u>Served</u>	Meat	Beets	÷.	
Ukraine	Onions		Hot	None	None		
Jewish	Dill		Cold	Chicken	Just beet greens	-	
Russia	Sour cream			Beef	White		
	Carrots				Red		
Borscht Soup							
I hen or other meat		2 quarts	water and se	easoning			
I cup beet tops cut fine		I cup gr	een onion to	ps cut fine		-	
[▮] ½ cup green dill cut fine		I cup ca	rrots cut fine	2			
I cup celery cut fine		2 cups p	otatoes cut u	ıp		-	
I cup ripe tomatoes		I cup so	ur cream				
Boil the meat in the seasoned water until done. Add the borscht greens and vegetables and cook till done.							
Just before serving add the	ne sour cream. If yo	u don't ł	nave sour cre	am, add a little vir	negar to sweet cream. Serves 6		
Submitted by Sheri Kisch from Lutheran Ladies Cookbook							
						-	

Spring Cover Cropping/Green Manures					
FOR SALE Contact Temia at jomia426@gmail.com She has books, pots,	When we leave the soil in our gardens bare, we are not providing food for the mi- crobiome in the soil to grow and thrive. When we are not actively growing a crop, we can keep the soil covered by growing green manures.				
soil, mesh, fertilizer	Green manures are mixes of plants, primarily legumes, that provide many bene- fits to the soil: fixing nitrogen from the air to make it available to our crops, providing a continuous source of food for the small organisms that live in the soil in symbiosis with our above-ground crops, improving the organic matter in the soil when tilled under, preventing compaction and erosion, and suppressing weeds.				
nut wide mouth jars and I dozen egg car- tons (preferably pa- per) for children projects at the li- brary. Contact Elaine elaineswa- tergardens@hotmail .com or Tracy livtleah1@hotmail.c om	Green manures are grown before or after crops, then tilled under before planting the next crop. There are spring green manures and fall green manures (that overwinter). Spring cover crops are planted early, then tilled under when it is time to plant the main crop.				
	I use green manure mixes from Johnny's Selected Seeds, available from their online catalog. Here is a description of Johnny's Spring Green Manure Mix from their online catalog: "We use this mix on our farm in Albion. The mix contains field peas, oats, and hairy vetch. Designed for spring sowing, it may be sown anytime early spring through late summer. Sow 5 lb./1,000 sq.ft. (200 lb./acre) and cover lightly. For green manure, incorporate into the soil anytime your garden schedule suggests. Mid and late summer sowings may be left to winter over and the vetch allowed to regrow some in the spring."				
Take it for FREE One upright non working freezer. Use it for mouse proof storage. Con- tact Sheri <u>itsdlaw@tctwest.net</u>	In the fall I plant their Fall Green Manure Mix. Here is the catalog description: "This ready-made mix is comprised of winter rye, field peas, ryegrass, crimson clover, and hairy vetch. Vigorous late summer growth provides winter erosion control. The peas, clover, and ryegrass will winter kill to provide organic matter and soil cover. The hairy vetch and winter rye will regrow in the spring to provide nutrients for crops to utilize. Because the seeds of this mix vary in weight and size, it is best seeded with a grain drill. Sow at 50 lb./acre or 1 1/2 lb./1,000 sq.ft."				
Your mind is a garden. Your thoughts are the seeds. You can grow flowers	Though I have used green manures for many years, I still consider myself a notice and am glad to rely on already-created mixes. There are many subtleties to be learned in picking what varieties of green manures to use. I found a good is son about using green manures in <u>Will Bonsall's Essential Guide to Radical, Sel</u> <u>Reliant Gardening</u> by Will Bonsall. Submitted by Ann Guthals				
Or you can grow weeds	YOU KNOW YOU'RE ADDICTED WHEN				
<section-header><section-header><text><text><text><text></text></text></text></text></section-header></section-header>	 You rejoice in raineven after 10 straight days of it. You have pride in how bad your hands look. You have a decorative compost container on your kitchen counter. You can give away plants easily, but compost is another thing. Soil test results actually mean something. You understand what IPM means and are happy about it. You'd rather go to a nursery to shop than a clothes store. You know that Sevin is not a number. You take every single person who enters your house on a "garden tour". You look at your child's sandbox and see a raised bed. Author Unknown ~ Submitted by Ann Guthals 				

BOOK REVIEW: Field Notes from A Catastrophe By Elizabeth Kolbert

"Since the start of the industrial revolution, humans have burned enough coal, oil, and natural gas to produce some two hundred and fifty billion metric tons of carbon. The result, as is well known, has been a transformation of the earth's atmosphere. The concentration of CO2 in the air today—380 parts per million—is higher than it has been at any point in the past eight hundred thousand years, and probably much longer. At the current rate of emissions growth, CO2 concentration will top 500 parts per million—roughly double preindustrial levels—by the middle of this century. It is expected that such an increase will prompt a string of disasters, including fiercer hurricanes, more deadly droughts, the disappearance of most remaining, glaciers, the melting of the Arctic ice cap, and the inundation of many of the world's major coastal cities." (p. 212-213) And that description does not even touch on the disasters occurring in the oceans.

We can choose to look away and pretend this catastrophe is not happening. Or we can learn as much as we are able about it and look for solutions, not to go back to preindustrial levels of CO2—that would take eons—but at least to somewhat control how bad the consequences will be.

<u>Field Notes from a Catastrophe</u> is the best book I have read on climate change. It deals with every aspect you could think of about this phenomenon and explains it all in a style so readable and fascinating you will not want to put it down (though I had to take breaks because of the momentousness of what I was reading). It is solidly backed up by research and references, yet it is written for a lay person to read and digest.

The changes in the way humans live must be so great to avoid the worst-case scenario that individuals cannot make these changes on their own—there must be changes on the national and international level. But my belief is that the things we individuals do are still worth pursuing, especially if millions eventually join in.

Gardeners have their own unique ways to reduce carbon emissions, as well as face the unpredictable weather we are already experiencing. In order to garden successfully in the face of drought and floods, violent winds and hail, and wildly fluctuating temperatures, gardeners cannot rely on past experiences—we will have to learn new ways to raise food and have sustainable landscapes.

Here are some ideas to reduce emissions and be more resilient in the face of violent, unpredictable weather: practice no-till gardening to sequester more carbon and maintain a healthy microbiome in the soil; grow perennials; use drip systems to conserve water; garden organically; save seeds; build compost to improve the soil; grow food, not lawns; grow and eat local foods to reduce "food miles"; use row covers to protect crops; grow plants suited for our zone (and be aware zones will be changing); meet with fellow gardeners to learn together how to cope in this new world.

Other sources that may be of interest after reading Ms. Kolbert's book are <u>The Resilient Garden-</u> <u>er</u> by Carol Deppe and <u>Growing Food in a Hotter, Drier Land</u> by Gary Paul Nabhan. Book Review by Ann Guthals

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and they'll receive \$5 from RMG. Rocky Mountain Gardening

PAGE 5

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http:// www.co.yellowstone.mt.gov/ extension/horticulture/

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den: http://www.montana.edu/ news/newsarchives/1022802186.html



The Plight of Monarch Butterflies

We all have stories to share about seeing a beautiful butterfly, how they just seem to float gracefully from one blossom to the next. The monarch butterfly is also admired for its 2-3000 mile migration trip each year from the south (Mexico and California) to the north in the spring and back to the south again in the late fall. These wonderful creatures are not only pretty but they are also important to our ecological balance as pollinators. About 1/3rd of our food production or 1 out of every 3 bites of food we take is dependent upon pollinators, which includes these butterflies.



Most of us gardeners are aware of the problems of declining populations in managed and native bees but there has also been a decline of more than 90% of monarch butterflies over the past two decades. The main cause of this decline seems to be loss of habitat and critical nectar plants.

This loss of habitat is partially due to deforestation in Mexico, where many over winter, but much of the habitat loss is specifically a loss of the milkweed plant where the monarch lays its eggs and which is the principle food source for the caterpillar.

The loss of milkweed is due to loss of native prairie land to agriculture, an increase in land development for commercial and residential use, an estimated 5000 acres per day is lost to development (that's a lot of concrete and black top), the use of herbicides and planting of roundup tolerant corn and soybeans which allows farmers to spray planted fields to eradicate weeds including milkweeds.

Because of the migration of the monarch south in the fall and north in the spring and because their cycle of life includes 4 generations a year, milkweed plants are needed in all 48 states. We can help by planting milkweeds and by allowing the plants to grow where nature seeds them such as along ditch banks and roadways. We can plant flowers that provide important nectar for the mature butterfly. They prefer flowers that are flat such as back eyed susans, asters, zinnias and liatrus. The monarchs we are most apt to see in Montana would be those in the third and fourth generation which would

be late July and into October so flowers that bloom during this time are important.

There is much more information available if you are interested. Many organizations have teamed up with the US Fish and Wildlife Service to help save the monarch butterflies. Some helpful web sites are: <u>http://www.monarchwatch.org/</u> and <u>http://www.fws.gov/savethemonarch/</u>

Submitted by Joyce Hendricks



TRUTH OR FICTION ABOUT MARIGOLDS

How much is truth or fiction about marigolds keeping bugs away from plants in the garden? There are a lot of varying factors to consider. Which vegetable, which bugs, does planting marigolds attract more beneficial or harmful bugs, do marigolds kill bugs or keep them away???? It would be great if this biological control really worked.

Truth – There are no real benefits in repelling insects. Marigolds have their own pest problems attracting spider mites. Mites can devour the marigolds and then move on to your other vegetables if you do not keep watch and remove the infected plants.

Truth – Planting marigolds in the garden to control nematodes can help. Do you have harmful parasitic, root-knot, or lesion nematodes? You can't see them and soil contains thousands of beneficial and harmful nematodes. If you are having problems by mid-summer with plants failing to thrive, it would be wise to have your soil tested (possibly B&C Lab in Billings) for them. They will be able to evaluate the types and population levels of the nematodes in your garden. Although this website is from California, it has excellent pictures, host plants, nematode- suppressing plants, sanitation and symptoms. It is worth checking out. http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7489.html

Truth – Marigolds can act as a trap crop for nematode control. The nematodes enter the plants and are killed because they can't set up successful feeding sites or the marigolds produce nematicides that kill them.

One type of beneficial nematode is used in lawns to kill June bugs. Another, Steinerema feltiae nematodes helped rid our lawn of grubs. French marigolds (Tagetes patula) are more effective against root-knot nematodes. Some catalogs sell marigold seeds especially for nematode control.

Plant marigolds for their beauty and fragrance (which does not attract nematodes) but will attract butterflies, ladybugs, and parasitoid wasps. "Lemon Gem" is one that is considered and edible herb. Marigold blossoms and leaves can be collected and dried for making potpourri. Just plant and enjoy their positive attributes and watch for the negative side if that should happen.

Submitted by Sheri Kisch