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### Genesee County Master Gardener Newsletter

# **DOWN TO EARTH**

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VOLUME 14

1

2016



### FEATURE ARTICLE

# How to Make Your Own Potting Soil

Packaged potting soils are a terrific convenience, but their cost adds up fast in a busy garden. Last year, I paid \$7 per 22-quart bag for my favorite, McEnroe Organic, is a fair price but nevertheless dollars out the door. Making only about half of the potting soil I used saved me around \$60. Next year, when my pile of rotting sawdust matures, I hope to be potting soil self-sufficient.

Potting soil self-sufficiency is good for your pocketbook, your plants and the planet, and you actually gain convenience by always having potting soil ready when you need it. If you have soil and compost, you've got the basic ingredients for making your own potting soil. In place of peat moss, perlite and vermiculite (the three leading ingredients in bagged potting soil), you can simply combine your best soil with cured compost, leaf mold, rotted sawdust (from untreated wood) or a long list of other organic ingredients. Prepare some small batches, mix it with store-bought stuff to stretch your supply, and gradually make the transition to what potting soil should be — a simple, nurturing medium for growing healthy plants or starting seeds.

### **Giving Up Exotic Planting Ingredients**

At least half of any homemade potting soil is homemade compost, but most commercial potting soils are based on some combination of peat moss, perlite and vermiculite — all of which contribute to land degradation and pollution as they are mined, processed, packaged and shipped.

Peat moss comes from wetland bogs in Canada or Michigan, which

#### (CONTINUED FROM PAGE 1)

is not sustainable and probably a long, long way from where you live. Many nurseries that grow woody shrubs and trees have found that composted tree bark or wood chips work beautifully as a peat moss substitute. In Walla Walla, Washington, Organix Inc. has developed a technology that turns the cow manure used in methane production into a peatlike material, sold as RePeat. Coconut husk fibers, coir, will stand in for peat moss any day of the week, but unless you live where it's produced — in India or Central America — coir is about as exotic as you can get. For most of us, the best peat alternatives are leaf mold (rotted leaves), rotted sawdust or a mixture of both. A 4-by-5-foot pile of chopped leaves will take about two years to decompose into leaf mold. In areas where organic rice or other grain hulls are available, composting them will create a light material for fluffing up potting soil.

Rotted sawdust, leaf mold or the abundance of organic matter in garden waste compost also can compensate for the absence of vermiculite, a mined mineral with as many environmental issues as peat moss. Deposits in Montana and Virginia have been found to contain asbestos, leaving a small area of South Carolina as the lone remaining safe source in North America. Personally, I don't want to pay money to help deplete a limited supply of billion-year-old minerals.

Perlite ore, mined from mountain plateaus from New Mexico to Oregon, travels a long way to your garden, too, and its main contributions to potting soil — lightening texture and improving drainage — often can be matched by clean sand. When you want a light mix, a handful of sand per quart will do the trick (you don't need much). As a hedge against slow drainage in the bottoms of seedling flats or containers, use a thin layer of rotted leaves, sawdust or sand.

#### Taming the Wild Ones: Live Compost

Using live compost or biologically active garden soil in your potting mixes often requires two extra steps — screening and then heat-treating or pasteurizing the material at 160 degrees to 180 degrees Fahrenheit. I like to use the compost made from garden waste to make potting soil, so whenever a batch looks good, I screen some and put it in plastic pails, bins or bags (such as those saved from purchased potting soil). My compost screen is a piece of half-inch mesh plastic fencing stapled to two pieces of scrap lumber. Many people use a similar version, with the screen attached to a sturdy wood frame. Stored where it can stay lightly moist, screened compost continues to cure and improves with age.

When you have excellent-quality, cured compost, and you're not working with light-stressed little seedlings (the most disease-prone of all green beings), it's fine to go ahead and mix up a 50:50 mixture of compost and good soil, and try it out. Or use more compost and less soil. My garden waste compost often contains quite a bit of soil already, mostly from the roots of pulled plants, so I often go with three parts compost to one part soil when potting plants that are ready for a rich, outdoorsy mix that gives them a nice taste of their future.

Now for the risks. The bioactive nature of compost makes it an ideal primary food source for your garden's soil food web, but teeming colonies of random fungi and bacteria are the last thing you want in containers. Many of the microbes in compost specialize in breaking down dead plant matter, but if they are deprived of food they often find ways to invade live plant tissues. Good examples are the cadre of fungi that cause seedlings to rot off at the soil's surface, called "damping off." These fungi are usually present in compost, but when forced to

#### HOME GROWN 846

#### Every fall, I buy several of those bright, blooming chrysanthemums. I plant them, water them and put mulch around them. Next spring, they are all dead. What am I doing wrong?

The quick answer is that you are probably not doing anything wrong. The problem is with the chrysanthemums. The first problem is that you are buying them when they are in bloom. Plants can do only one of two important things at a time. They can grow roots and shoots or they can make flowers and fruit. Once they switch to the flowers and fruit business, there is no going back to roots and shoots. The plants never root into your soil. With no time left to grow late in the season, they just sit in their little holes. Many are grown in a peat-like greenhouse mix and not soil. This material takes in water and cold differently than the surrounding mineral soil. Even with watering the plant and mulching it, cold can be a huge enemy. The next problem is that chrysanthemums cannot handle wet or heavy soils. Drainage must be very good. You may have some type of soil that is not sandy enough. If you were able to buy chrysanthemums in the spring without flowers, they would have a very good chance of growing and lasting more than a season. It's always better to consider the inexpensive chrysanthemums available in the fall as temporary landscaping. You may not want to go to all the trouble of taking it out of the container and planting them if you have had pervious bad luck. If the price is right and you need some fall color, just dig a hole and drop the entire pot in. Next spring, all you have to do is grab the rim of the pot and pull it out. The contents will look good in the compost pile.

#### I have a big yard and I am noticing some bald places where grass was growing before. They look like roundish spots that have no grass and there are a fringe of dead grass around the edges and are not raised or sunken. If I look at these, they almost make a very winding, loopy line. I have no idea how long these have been there. Is this a grass disease and what do I do about the bare areas?

It sounds like an Eastern mole has dropped by in late summer or fall and fed happily on earthworms, soil insects and maybe a grub or two. This is not recent damage. This mole makes a tunnel just below the surface of the grass, just about at root level. That's where all those tasty worms are hiding out. Eastern moles make two different kinds of tunnels, depending on what they are up to. If the tunnel is relatively straight with just gentle bends, this is the mole expressway to go from one area to another. They get used often. If the tunnel is serpentine and convoluted, it is the mole side road, used for feeding excursions. Your weird tunnels are a side road. When it was created, it jacked up the grass roots as the mole passed under. This left roots hanging over a cavity. Roots dies and then, grass died because the roots dried out. Since this was in the past, the dead plants eventually dried up and took off like little tumbleweeds. The grass around the edges was only partly separated and so it still died but not as fast. With rains and snow, the raised tunnels eventually sunk down. Since the mole does not dig a tunnel that is in perfect alignment with the soil line, some places are higher and some are lower. That's where the series of spots come from. When they were created, there was one continuous line that you could walk on. Right now, there is nothing to do other than walk on soil and make sure none is still raised. In the spring, between mid-April and mid-May, reseed those areas. This is not about grubs so skip the grub-killing products. It's about earthworms which have become a meal for a hungry Eastern mole.

(ARTICLE BY GRETCHEN VOYLE)



2 tbsp (30 ml) canola oil

3 lb (1.3 kg) beef brisket

Salt and freshly ground pepper

1 large onion, sliced

4 cloves garlic, crushed

# **COOKS CORNER**

# **Beer-Braised Brisket**

By Dina El Nabli for <u>ediblefeast.com</u>

½ tbsp (4 g) paprika
¼ tsp turmeric
2 (12-oz [355-ml]) bottles of Goldstar
beer or other amber lager
½ cup (88 g) pitted prunes

Preheat the oven to  $325 \,\text{`F}$  (160 °C).

Heat the canola oil in a large Dutch oven over medium-high heat. Generously season the brisket with salt and pepper on both sides. Sear the brisket for 5 to 6 minutes on each side. Transfer the brisket to a plate and add the onions to the pot. Stir and cook for 5 minutes until they have softened and picked up some color. Stir in the garlic, paprika and turmeric. Cook for another minute to release the flavors. Deglaze with 1 of the bottles of beer, scraping the bottom of the pot to release any flavor bits. Return the brisket to the pot with any accumulated juices. Top with the second bottle of beer and bring to a boil. The brisket doesn't need to be fully submerged. Add in the prunes.

Place in the lower third of the oven to braise for 3 hours, turning the brisket halfway through. Let cool slightly.

Carefully transfer the brisket to a plate and cover with tinfoil. Strain the sauce, reserving the onions and prunes to top the brisket. Skim off as much as possible of the fat that has accumulated at the surface of the sauce with a spoon and discard.

Bring the sauce to a simmer over medium heat and reduce to intensify the flavors. This will be more like an au jus, so do not reduce it until it is a syrup.

Top the brisket with the onions and prunes. Drizzle a generous amount of sauce over the brisket and serve the extra sauce on the side. Slice into the brisket against the grain.



#### (CONTINUED FROM PAGE 2)

compete with other microorganisms in open soil, they stick to a dead-plant diet. But when let loose in a flat of tomatoes, with little or no appropriate food or competition, they will go after tender new roots and stems rather than starve.

Numerous studies have shown that pasteurization, which involves heating compost or soil to 160 degrees for an hour, or 180 degrees for 30 minutes, kills a high percentage of all fungi and bacteria (the good and the bad), while preserving the biological integrity of the material — and its ability to suppress other diseases. Pasteurization kills persistent insects such as fungus gnats, too, along with all but a few heat-resistant weed seeds. The temperature must not go above 190 degrees, which can result in the formation of compounds that hinder plant growth.

In summer, a solar cooker made from a cardboard box (See <u>Making a Solar Cooking for Free</u>) will heat a 3-gallon black plastic pot filled with soil and enclosed in a plastic bag within a few hours (search for "solar cooker" at motherearthnews.com and you'll find three or more articles that describe easy-to-build models).

The rest of the year, use your oven and a big heat-retaining Pyrex baking dish (mine came from a thrift store) to pasteurize compost or soil. When done correctly, you will smell an earthy fragrance as the process unfolds. (Reports of foul odors from oven pasteurization are wildly exaggerated.) Here's the basic method.

• **Preheat the oven to 200 degrees.** Place 3 to 4 quarts of screened, mature compost (or screened rich garden soil) in a bucket or pail, and mix in enough water to make it lightly moist. Spread the moistened material in a large metal or glass pan, but don't pack it down because steam needs to be able to circulate through the crevices. Cover tightly with aluminum foil. Poke a meat or oven thermometer into the center of the cover at a diagonal angle.

• Place the pan in the oven, and check the temperature at 15 minute intervals. Turn the oven off when the thermometer shows 150 degrees. Compost heats up quickly, while denser soil can take up to 30 minutes to hit 150 degrees. After the oven is turned off, the temperature should rise to 170 degrees; vent the oven if it goes to 180 degrees. Sharp odors indicate that things in the oven have gotten too hot. Allow the pan to sit in the warm oven for at least 30 minutes. To free up the oven for dinner, remove the pan from the oven and wrap it snugly in dry towels. This is an optional step, but it will slow cooling, which makes for more thorough pasteurization.

• When the pan is cool, dump the pasteurized compost or soil into a clean container with a lid. Let it rest until you need it. As long as you have your pan and foil handy, consider doing a second batch.

Germinating seeds, young seedlings and plants being rooted from stem cuttings benefit greatly from a pasteurized mix, as do long-lived houseplants and trees that are seldom repotted. But you need not heat-treat compost-soil mixtures used for potting up plants that are almost ready to grow outdoors. In fact, I think switching to an unpasteurized, bio-active soil mix during the last "potting up" before transplanting reduces transplant shock. When plants spend a week or two in a potting mix made from the same stuff they will encounter in the garden, (CONTINUED FROM PAGE 5)

#### Adding Fertilizer to the Potting Mix

Of the numerous recipes for organic potting mixes collected and published by the <u>National</u> <u>Sustainable Agriculture Information Service</u>, many include blood meal (for nitrogen), bone meal (for phosphorus), and small amounts of kelp meal, greensand or various rock-based minerals for minor nutrients. Think before you act, especially if you are substituting nutrient-rich compost for nutrient-poor peat, perlite or vermiculite. Give real potting soil a chance, wait and see, and let experience be your teacher. Should plants grow slowly or show other signs of nutrient stress, it's easy enough to feed them with a mix-with-water organic fertilizer. Add organic fertilizer in small amounts until your potting soil is giving you the results you want.

Until 30 years ago, most gardeners made their own potting soil by combining their best garden soil with rotted manure from the barn or buckets of leaf mold hauled home from damp stream banks, topped off with a dusting of wood ashes. Contrast and compare: North American gardeners now spend more than \$500 million each year on potting mixes and specialty soils. How many of those dollars do you want to come from your wallet?



Barbara Pleasant reference material can be found in motherearth.com



See article on worm farm page 9



# MASTER GARDNER ASSOCIATION MEETING OF NOVEMBER 19, 2015

The Master Gardener Association's regular meeting was called to order at 6:00p.m. by President Vicki Laurin.

President Laurin announced that ballots were available for voting on next year's three vacant director positions.

**<u>Review of Minutes</u>**: The October 15, 2015 minutes were reviewed. With there being no corrections, Pam Kvasnicka moved to accept the minutes as written. It was seconded by Katie Van Patten. The motion carried.

**Treasurer's Report:** Michelle gave the treasurer's report. The October beginning balance was \$38,462.44. Income was \$1,262.82. Expenses for the month were \$3090.29. The projected final balance for the year 2015 should be approximately \$34,000 after outstanding checks and expenses are deducted.

The proposed 2016 budget was presented to the membership who had copies available for them when they entered. Michelle explained what had been put aside for various accounts and requests from several MGAGCM funded projects. The Board was looking ahead to next year's projected expenses and projected income. Abi explained that a portion of the class fees will come back to her account at the Extension. There being no questions regarding the proposed Budget, Cheryl Borkowski motioned that it be accepted as presented. The motion was seconded by Alan Grove. The membership then voted to accept the budget as proposed.

**Project Reports:** Because of the holiday event, project reports were voluntary.

Joanie Snyder wanted to thank everyone for their support at Ladies Night Out and announced that there were a few items on the table for sale for those interested.

<u>Old Business</u>: There is still a need for projects for the following areas: I-23 rest area, Clio Veterans Memorial Garden, the 2016 holiday party and Baker Library.

Three volunteers are needed for the annual audit in January. Maggie Gregg, Nettie Sparks and Mel Kennedy volunteered to be on the audit committee.

<u>New Business</u>: A presentation of a plaque was made by President Laurin to Jim Harrow for his dedication to the program and Genesee County Master Gardeners. He went above and beyond while the transition to MGAGCM was taking place by assisting members and stepping in wherever help was needed. A standing ovation by the membership was given. **Thank you, Jim**.

President Laurin motioned to adjourn the meeting. The meeting adjourned at 6:17 pm.

Respectfully submitted,

Loretta Ellwood Secretary

### **RECOGNITION FOR A HARD WORKING GROUP**

The following is a reprint of a letter sent to the attention of Abiya Saeed dated November 3, 2015. The letter pertains to one of the Master Gardener projects which in this case is headed by Sylvia Hansen and involves the Flushing River Trail. This is a project that Sylvia has been chair for some time and in the past has contributed articles to DTE.

Dear Ms. Saeed:

On behalf of the City of Flushing, I would like to thank the Master Gardner Association, Genesee County Chapter, for their donation to the city's non-motorized trail.

The group's continual efforts to make on projects, educate and inspire the residents of Flushing are welcomed. That additional signage to be placed along the non-motorized trail will be appreciated by all of its users.

Community groups such as yours, fill a void that municipalities can no longer fulfill due to monetary constraints and economic challenges, However actions like this, guarantee the continuance of a high quality of life in the City of Flushing.

Again thank you for this donation and all that your organization does for the Flushing community.

Signed

Kevin Kane

Mayor of Flushing

# How to Make a Night Crawler Worm Farm

If you want to know a simple arrangement to starting up a night crawler worm farm of your own, then here are a few how to steps to raising night crawlers possible!

#### How to Start

First off, you must know <u>where to buy compost worms</u>. So for the night crawler kind, you can either find them being sold in local bait shops, or from a gardening store online. Other than that, you may be able to find a few dealers who sell this type of worm, to laboratories, aquariums, gardeners, etc.

#### Your night crawler choice

To <u>buy European Night Crawlers</u> would also be the best choice for a night crawler worm farm type, other than the African night crawlers kind. Anyway, these types of night crawlers favor non-compacted and damp soil. Night crawlers also prefer being fed with organic materials that are high in nitrogen and has no acid content. And if they're maintained and cared for this way, they'll in turn, not only aerate the soil they burrow in; they'll also produce rich worm castings for you (which you can make into an organic fertilizer); and reproduce more worms for you to breed and raise.

#### What You'll Need

Now, to take on this farm project for night crawler worms, you must prepare the following things:

Night crawler worms

A Dark Colored Plastic Bin – can be about 7-10 inches deep, 9 inches wide, 14 inches long (a dark colored bin or container is more favorable for night crawlers)

Shreds of Newspaper, Crushed Eggshells, some Potting Soil, and other food scraps (anything organic except those meat, dairy, oily, salty, and acidic products) – Put these inside the bin and make sure these are watered all together (should be damp and not soaking wet)

A Spray Bottle – use this to spray water on the bin's contents

#### What to do next

When <u>raising night crawlers</u>, their worm farm should be kept away from areas that have direct sunlight to it. Their bin should also be kept at room temperature. And for each month, you should be able to harvest at least half of your worm population, inside the worm farm. You're going to just have to keep replenishing the bin with organic food supply, and fresh bedding, so that you may keep things fresh for your worms to thrive in as well.

(CONTINUED ON PAGE 10)

#### CONTINUED FROM PAGE 9)

<u>Raising night crawler worms</u> is easy. You just have to know the how to steps to the proper needs and maintenance of a Night Crawler Worm Farm. You'll be happy to know that when you take good care of your worms, they in return, will reward you with even more good stuff. Later on, you may be able to make money out of them by selling them as fish bait (or live worm food); or use their produce (worm castings) as an organic fertilizer. Breeding and raising worms can also be a good way to recycling our organic wastes.

Raising night crawlers could be one of the most meaningful things to do especially when you are not busy. Aside from the fact that they are both good as composting <u>worms</u> and fishing baits, they are also very adaptable making it easy for you to raise them.

#### More Worm Composting Hubs

#### Facts about Vermicomposting

If you are someone new in vermicomposting, here are some quick facts that may help you on your newly discovered adventure. These facts will give you an idea on what you are supposed to expect and do as...

Just like the <u>Red Wiggler worms</u>, Night crawlers are heavy eaters of organic materials. In order to nourish them, you should provide them with a good environment and diet. For their home, you may use your old containers and tubs at home. Carefully place the bedding (coconut coir and peat moss are highly recommended) at around six to eight inches deep but before that, make sure that the bedding is moist. Night Crawlers have the tendency to escape from the bin if their environment is too dry or too wet. To check whether or not you have it right, try to squeeze the bedding and if out get at least 1 or 2 drops of water, then, that's fine. Their environment should also have a maintained temperature of 55-78 degrees Fahrenheit though Night crawlers can still stand a temperature of 45 degrees.

pH level is also important. You have to have 6 to 7 pH level of acidity and to better achieve that, sprinkle powdered limestone in the bedding. You should always have pH meter on hand to monitor the bin. Foods are likewise vital for the <u>night crawler</u>. Give them organic foods but minimize dairy products and meat. Your kitchen scraps, fruit peelings, tea bags, newspapers, coffee grounds and chicken mash would do. If you are raising night crawler for the first time, it is advised that you do not yet give them foods for the first 3 days so they can adapt to their new environment.

<u>Night crawlers</u> multiply easily so it will not take a long time before you see the fruits of your labor.

(author unknown)

# THE POSSIBLE EFFECTS OF EL NIÑO IN OUR AREA

FLINT (WJRT) - (08/14/15) - No one can argue that our past two winters have been brutal.

We've gotten a pounding in Mid-Michigan by almost all of the weapons winter has, but we are still holding out hope for a milder winter coming up.

Seasonal weather pattern changes come and go, but this winter, we could be under the influence of one of the strongest El Niños in decades.

We all remember our record snow and cold temps over the past couple years. El Niño's presence is expected to change all that.

The El Niño pattern shows warmer than normal Pacific Ocean water off the South American coast.

When trade winds weaken, that allows the water to heat up. That in turn heats up the air above, changing the jet <u>stream</u>, which steers winter storms.

Stronger storms hit the Pacific Coast, sometimes dropping heavy rain and creating mud slides, but, those same storms generally avoid the Great Lakes.

The position of the jet stream also keeps the coldest air up in Canada.

We'll still have periods of cold and snowy weather of <u>course</u>, but in general, winter temperatures will be higher and we should see less snow in an El Niño year.

We might catch a break with less severe weather and more mild spells this winter. However, many other atmospheric factors can influence and interact with El Niño seasons.

THE NEW FLINT HAPPY NEW YEAR TO ALL THE MAS-TER GARDEN-ERS.

PLANT YOUR ORANGE GROVE NOW!



### Master Gardener Classes will begin January 21, 2016. We are close to a full class, but have a few openings avail-

able. If you know of someone interested please contact Abi Saeed at

810-244-8531.

#### 2016 Re-certification Timeline:

January 11-January 29, 2016: Recertification will be open. (Log into the VMS to recertify)

January 30-February 12, 2016-Late Re-certification will be open(\$10 fee applied)

February 16, 2016: Re-certification will be closed at midnight for 2016 and will not reopen until January 2017

If you have any questions about re-certifying please contact Ruth Simon, Jim Harrow or Abi Saeed.

#### **2016 PLANTS OF DISTINCTION**

February 4, 2016, 8:30 a.m.-4 p.m., at Novi Crowne Plaza, 2700 Karevich Drive, Novi, Mi. 48377. Time of registration is 8:30 a.m., program starts at 9:00 a.m.- 4:00 p.m.

Cost is \$80.00 and includes lunch, refreshments, and handouts. Extension Master Gardeners this includes 6 education credits. For questions contact Marybeth Denton at denton.marybeth@anr.msu.edu or 989-535-7805

### **DATES TO REMEMBER**

Our monthly MGAGCM meeting will be held on January 21, 2016 at the GCARD building at 605 N. Saginaw St, Flint. Social hour starts at 5:30 p.m. and our speaker, Abi Saeed, will be speaking on "Pollinators", will begin at 6:00 p.m. Our business meeting will begin after a short break. Please plan on attending as it's always good to see you support our membership and meet our new board members.

## DTE SUBSCRIPTION

The deadline to continue receiving a hard copy of the DTE is fast approaching, January 31, 2016. Send a\$10.00 check made out to MGAGCM and mail it to PO Box 34, Flushing, Mi 48433.

#### 2016 WINTER SYMPOSIUM

Who: Capital Area Master Gardeners

WHAT: It's All About.....Healthy Gardening 2016 Winter Symposium

WHERE: Plant and Science Building on MSU's Campus in East Lansing in MPS 1200 which is the new auditorium/tiered classroom.

WHEN: Saturday, 30, 2016

EARN; 5 Master Gardener education hours

COST; \$35.00 for CAMG members/\$45.00 for non-member Active, Certified MGV's/\$55.00 all others.

For questions, mga.cac@gmail.com

#### **MGAGCM OFFICERS (2016)**

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#### Vicki Laurin

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#### THIS NEWSLETTER PREPARED BY:

Vicki Laurin,laurinvicki@gmail.com. George Rappold, grappocp@att.net, of counsel Ruth Simon .



#### CHECK OUT OUR WEBSITES

<u>MMGA Inc Website at:</u> <u>www.michiganmastergardener.org</u>

<u>MMGA Inc Facebook Page at:</u> <u>www.facebook.comMichiganMG</u>

<u>MGAGCM Website at: Genesee County</u> <u>MG.org</u>

MSU Extension-Genesee 605 N. Saginaw St. Suite 1A Flint, MI 48502 (810) 244-8500

Plant & Pest Hotline: (810) 244-8548 Hours: Friday from 8:30 am-1:00pm

<u>geneseeplantpest@anr.msu.edu</u>

**Public Office Hours**: 8 am - 1 pm Monday through Friday.

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