



## Homemade Organic Fertilizer

Spring is in the air and your garden is waiting. Deciding what your garden will look like requires a plan and is almost without limit. We compost in our garden year round and this keeps our worms happy. We save almost all uncooked vegetable scraps, coffee grounds and tea bags in a closed bin in our kitchen and turn them into our garden regularly. Remember do not bury meat or dairy. This is a sure way to entice dogs and rodents into your garden.

The nutrients from these scraps provide a rich tapestry of microorganisms that pay dividends all year long. When our scrap bin gets full we dig a trench in our garden about one foot deep to deter pests. We rotate our composting locations and soon we have rich organic soil. A nice side benefit is these kitchen scraps are free. What a great way to recycle. This method of amending our soil is much better than using chemical fertilizers. Yes, chemical fertilizers have nitrogen, phosphorous and potassium, but that's about it. Chemically treated soil becomes devoid of other elements of life and the resulting yield on your table has less nutrients in them.

We save our eggshells too. This free garden resource has many uses. When broken into chunks these eggshells cut the bodies of slugs, snails and cutworms as they try to get close to your tender seedlings. We also grind some eggshells to a powder and by returning them to the soil we add calcium, an essential nutrient to plant cell walls. Newly placed transplants, like tomatoes, will appreciate crushed shells placed in the bottom of their transplant holes. You can mix small pieces of eggshells into birdfeed by oven heating them first to kill pathogens. This helps mother birds with the calcium intake they need.

Chipped yard debris from trees and other plants make a good free source of mulch. When green, they add nitrogen to the soil. Chicken and rabbit manure and green grass clippings also add nitrogen when mixed with your soil.

Another way we recycle is to use the output from our paper shredder in our garden. We limit our shredding to matte papers (no glossy or plastic). We love to shred our brown paper bags from the grocery store. Worms love paper and move through the soil, aerating it and depositing nutrient rich worm manure casings as they go. A thick layer of shredded paper also slows down weed growth.

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### *Ask Billie*

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Billie Nicholson



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## **7 Steps to Earthquake Safety**

When the earth begins to move, it's scary. Caused by the breaking and shifting of subterranean rock as it releases accumulated strain, earthquakes can start out mildly and then strengthen to extremely violent quickly. This movement passes the stress energy on to other items attached to the earth, like buildings, streets, railroad tracks, tunnels and bridges. Any object can become a flying projectile, houses can be moved off their foundations or collapse, utilities, roads and their structures are all subject to damage.

Earthquakes have also triggered landslides, avalanches and tsunamis. [1]

All 50 states and 5 U.S. Territories are at some risk of earthquakes. The risk is higher in seismic identified zones, where frequent movements have been recorded. Earthquakes happen when two blocks of the earth slip past one another. The surface where the slip occurs is called a fault plane. Earthquakes can be made up of small movements (foreshocks) before a big one (mainshock) and small quakes that occur afterward (aftershocks).

The crust and top of the mantle (parts of the four major layers of the earth) are made up of many pieces, like a puzzle covering the earth's surface. These pieces (tectonic plates) keep slowly moving around, sliding past one another and bumping into others. The plate boundaries (edges) have many faults. Most of the earth's earthquakes occur along these faults. When these edges move far enough they get unstuck, releasing energy and resulting in an earthquake. This energy radiates out in all directions as seismic waves. The seismic waves shake the earth as they move. They shake the ground and everything on it, including us. [2]

Scientists measure the size of earthquakes by recording these movements on a seismograph, creating a seismograph, a series of wiggly lines that vary in height. The taller the wiggly line the greater the quakes magnitude. Scientists have seismographs located at many different places throughout the country. When a quake occurs all the seismographs record the movement. The epicenter of where it occurs is determined by a method called triangulation. There are two types of waves associated with earthquakes, P waves and S waves. P waves, compressional wave, are the fastest and the first to arrive at a given location. It alternately compresses and expands material in the same direction it is traveling, results in a small jolt or light shaking. An S wave, or shear wave, is a seismic body wave that shakes the ground back and forth perpendicular to the direction the wave is moving. S waves create a larger jolt or strong shaking. [2]

Scientist can't actually predict when an earthquake will occur. Strong seismic shaking from an earthquake travels at about 2 miles per second, so it is possible to detect a large earthquake near its source and broadcast a warning of imminent strong shaking to more distant areas before the shaking arrives. Earthquake Early Warning Systems are operational in several countries around the world, including Mexico, Japan, Turkey, Romain, China Italy, and Taiwan. All of these systems rapidly detect earthquakes and track their evolution to provide warnings of pending ground shaking. Systems can vary depending on the local faults and the specific ground motion data available. Mexico City's system has been operational since 1991. Japan has the world's most sophisticated warning system.

## 7 Steps to Earthquake Safety continued from page 2

They have been issuing public warning systems since 2007. An earthquake early warning system on the west coast of the United States could provide up to tens of seconds of warning prior to shaking arriving. [3]

### **Seven Steps to Earthquake Safety**

Before the next earthquake four steps are recommended that will make you, your family, or your workplace better prepared to survive and cover quickly. [4]

1. Secure your space by identifying hazards and securing moveable items. This includes placing bookshelves or heavy wall mounted items away from places where people sit, sleep or spend a lot of time. Put the heaviest shelved objects on the lowest shelf. It also means securing heavy furniture and appliances to wall studs. Plan to be safe by creating a disaster plan on what each person in your family should do during an earthquake to remain safe. These plans should include practicing “drop, cover, and hold on”(also Step 5), identifying safe spots in every room, and how to protect yourself no matter where you are when an earthquake strikes. Also make plans on how you will communicate and where you will meet after the initial event is over.
2. Plan to be safe by creating a disaster plan on what each person in your family should do during an earthquake to remain safe. These plans should include practicing “drop, cover, and hold on”(also Step 5), identifying safe spots in every room, and how to protect yourself no matter where you are when an earthquake strikes. Also make plans on how you will communicate and where you will meet after the initial event is over.
3. Organize disaster supplies in convenient locations. Everyone should have personal disaster supplies. Store some at home, at work and in your vehicle. Emergency supplies will reduce the impact on you or your family.
4. Minimize financial hardship by organizing important documents, strengthening your property, and considering insurance. Keep copies of identification, insurance cards, lists of emergency numbers and photos of your belongings in your home all organized in a “grab-and-go” bag.
5. During the next big earthquake, and immediately after, is when your level of preparedness will make a difference in how you and others survive and can respond to emergencies. Be prepared to “drop, cover, and hold on” when the earth shakes. This action can save lives and reduce the risk of injury.
6. Improve safety after earthquakes by evacuating if necessary, helping the injured, and preventing further injuries or damage. Be prepared to move to higher ground if a tsunami is possible. If you are not in a tsunami zone, evacuate only if there is damage to the building or the surrounding area is unsafe. If you are trapped by falling items or a collapse, protect your mouth, nose, and eyes from dust. If you are bleeding, put pressure in the wound and elevate the injured part. Signal for help. The signal rescue personnel will be listening for are sounds in a group of three. Once you are safe, help others and check for damage. Wear sturdy shoes and work gloves to avoid injury from broken glass or debris. Dust mask and eye protection can also help. Be prepared for aftershocks and stay away from anything that looks like it may fall. Register on the Red Cross “Safe and Well” website so family members will know you are okay.
7. Reconnect and restore - restore daily life by reconnecting with others, repair damage and rebuild the community. There is a process to go through to handle the time after an earthquake.

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## [Making Herbal Tinctures](#)

Water extractions can get out some of the medicinal components - molecules that plants manufacture for self-protection, in herbs, but to get the most concentration, use ethyl alcohol. These extracts are generally intended for internal use, taken a few drops at a time, several times a day. Some tinctures can also be applied directly to wounds or skin infections. Tinctures made with at least 80-proof ethanol (40% alcohol) don't spoil, maintain their potency for a long time, properly stored, and stored in small dropper bottles, are easy to take along while traveling. They are meant to be used as medicine in small amounts. [1]

The preferred alcohol for producing a tincture is vodka. It is colorless, odorless and mostly flavorless. Choose a glass container. Avoid metal or plastic as they may react with the tincture or leach dangerous chemicals over time. Make sure it is clean and sterilized prior to use. Herbalists love tinctures because they keep nutrients from the plants in a stable, soluble form and they retain the volatile and semi-volatile ingredients that can otherwise be lost in heat extractions. [2]

You can use fresh, powdered or dried herbs, seeds, stem, or roots.

- When using fresh plant material, chop or bruise them in a mortar and pestle. Add enough to fill the jar loosely and cover with alcohol. [3]
- When using powdered herbs, add 4 ounces with 1 pint of alcohol. [4]
- When using dried herbs, add 7 ounces to 35 fluid ounces of alcohol.

All plant materials should be covered with alcohol. Nothing should be exposed to air to prevent molding. Stir well to eliminate any trapped air bubbles. Screw lid on tightly. Label jars with herb and type of alcohol as well as the date. Store in a cool, dark place. Check it once a day for two weeks, shake the jar gently to stir the plant material around in the alcohol. Sometimes the herbal material will absorb the alcohol, add extra to keep things covered. Allow to sit another two weeks.

Strain through cheesecloth, squeezing the remaining material to remove all tincture. Using a funnel, pour the liquid into amber colored glass dropper bottles. Label bottles with herb name, alcohol used and date pressed. Herbal tinctures kept in a cool environment and out of direct sunlight can be expected to last three to five years, or longer. [5]

Next step, learn to use them safely. The first thing is make sure you know the herb you are using. A misidentified plant can be real trouble. Know the properties of the particular herbs you've used. Follow the guidance of the recipe you used in terms of how long to keep the tincture. Consult a qualified herbalist or health professional if you need more information.



Tincture Recipes - [Wilderness College](#) includes recipes for burdock root, dandelion and stinging nettle tinctures. [Fresh Bites Daily](#) published a migraine remedy that uses feverfew, lemon balm and peppermint leaves. [Wellness Mama](#) uses a tincture made from peppermint, ginger root and dried fennel seeds to combat nausea and tummy aches. She also has a recipe using [chamomile](#) that can be used with children dealing with stuffy noses, teething pain and colic. Used in adults, it can improve sleep, ease menstrual cramps, relieve headaches and soothe frayed nerves. [Yarrow tinctures](#) have been used for wounds since the Roman era.

[References](#)



## MATERIA MEDICA - PARSLEY

**Botanical Name:** *Carum petroselinum* (AKA: *Petroselinum crispum*)

**Common Name:** parsley

**Family:** Umbelliferae (Apiaceae)

**Ayurvedic/TCM Name:** Prajmoda

**Parts Used:** leaves, seeds and roots in some varieties

**Native Region:** Indigenous to the eastern Mediterranean; naturalized in Europe and widely cultivated around the globe as an herb, spice, and vegetable. [1]

Photo: [Wikimedia](#)

**Botanical Description:** Garden parsley is a bright green, biennial plant in temperate regions and an annual herb in subtropical and tropical areas. Where it grows as a biennial, in the first year, it forms a rosette of tri-pinnate leaves 10-25 cm long with numerous 1-3 cm leaflets, and a tap root used as a food store over the winter. In the second year, it grows a flowering stem to 75 cm (30 in.) tall with sparse leaves and flat-topped 3-10 cm diameter umbels with numerous 2 mm diameter yellow to yellowish-green flowers. The seeds are ovoid, 2-3 mm long, with prominent style remnants at the apex. One of the compounds of the essential oil is spill. The plant normally dies after seed maturation.

**Growing Parsley:** Parsley grows best in moist, well-drained soil, with full sun. Best growing temperatures are 72-86° F. There are several cultivars, depending on the form of the plant. Leaf parsley is divided into two main groups, flat leaf and curly leaf varieties. It is usually started from obstinate seeds, that require presoaking to speed up germination. When the temperatures get hot, parsley should be partially shaded to avoid sunburning. For a continuous supply, three sowings are recommended: one in February as weather permits, in April or early May, and in July and early August, the last to ensure an overwintering supply (flat leaf variety does best). These should be planted in a sheltered position, with southern exposure. The February crop will take longer to germinate, waiting for the earth to warm, but these plants will be good for summer eating and drying purposes. Broadcast seeds and slightly cover with 1.2 in soil. Thin to 12' apart and be sure to eat the thinning. Water liberally in dry weather, cut off dying leaves. [2]

**Harvesting Guidelines:** Pick leaves from the plant, stem and all. Rinse and store in moist plastic bag or cut stems under water and store in vase covered with plastic bag in refrigerator to minimize drying out. The more leaves you pick the more leaves you'll get. In the second year, the plant will go to seed quickly. Leaves will change from flat tri-pinnate leaves to fine strings. You can harvest seeds when mature, store for reseeding or let some fall to the ground and reseed for you.[3] Another type of parsley is grown as a root vegetable, the Hamburg root parsley. This type of parsley produces much thicker roots and is common in central and eastern European cuisine, where it is used in soups and stews, or simply eaten raw as a snack. Although root parsley looks similar to the parsnip, its taste is quite different. [2] To dry parsley at the end of summer for culinary use, it can be dried slowly in an oven or dehydrator, crumbled, and stored in a dark, air-tight container to preserve color. [1]

**Continued**

## Praying Mantis - A Gardener's Friend



Image: [Wikipedia](#)

The Praying Mantis is a very interesting insect. Like most insects it has six legs, two wings and two antennae. It has large bulging eyes and a swiveling head, the better to see it's prey, and powerful, spine forearms, to tightly hold it, and strong chewing mouth parts. Females usually can't fly with their wings, but the males can. When the eggs hatch, miniature mantises emerge, unlike some other insects that have varying life forms, i.e., larvae, chrysalis or cocoon. Mantis nymphs shed their skin 6-9 times as they grow to adulthood.

Reverently poised upon a plant, with its forearms raised as if in prayer, the mantis waits patiently for an unsuspecting insect to move within its grasp. Aphids, beetles, various other bugs,

butterflies, caterpillars, and leafhoppers are all potential meals. They maintain such a low-paced lifestyle that they don't eat much, although they are considered a beneficial garden insect.

The large eyes spaced wide apart on the head allows the mantis the ability to see in stereo. It can look at the same spot with both eyes and accurately judge distances. It can swivel the head allowing it to be able to see movement in 180°.

When another insect moves within its reach, the mantis' strong arms suddenly strike out catching its meal within them, the spines help hold the prey long enough for the mantis to make one quick bite at the neck, severing crucial nerves and effectively paralyzing it. Slowly, the mantis eats the prey alive.

Mantis sense of smell is limited to smelling specific pheromones from others of its own species. Their sense of hearing is accomplished with an ear located on the middle of the abdomen. It can sense high-pitched tones, especially those echolocation calls of bats. The males are usually the only ones out flying at night, often looking for females, and have developed an escape mechanism of looping and dropping to the ground.

When a male spies a female, he slowly approaches her from behind, sometimes taking over thirty minutes to move a few inches. When she is within reach, he hops up and grabs her in a mating embrace. The female will frequently turn on the male and bite off his head. This doesn't stop the mating process and he continues to engage her until the process is complete. The female then eats the male to satisfy her hunger.

The female lays as many as 100 eggs in a foamy, sponge like egg case, which she creates and deposits on branches or suspended from twigs. The egg case has a extra thick, flat top which keeps water from penetrating the case. When the eggs begin to hatch, the bottom edge of the egg case is broken open (probably by chewing) and the new mini-mantises stream out.



If you would like to attract mantises to your garden by planting cosmos, raspberries or other brambles, or just allow a stand of weeds to flourish. If you want to purchase mantis egg cases, an internet search will provide many sources. We have been successful purchasing cases from [planetnatural.com](http://planetnatural.com). One case hatched in our kitchen. We spent a week catching those little critters and turning them outside. Now, it they'll just get busy eating the bugs around our garden .... [References](#)

## Sun Baked Meatloaf with Cabbage from our Solar Chef



**Most vegetables can be mixed into your favorite meatloaf recipe and cabbage works particularly well.**

### Ingredients

- 1 onion, finely chopped
- 1 small green cabbage, shredded (about 4 cups)
- 2 cloves garlic, minced
- 1 3/4 pounds lean ground beef
- 2 eggs lightly beaten
- 3/4 cup dry bread crumbs
- 1/2 cup dry red wine
- 1 teaspoon dry mustard
- 1/2 teaspoon salt
- 1/2 teaspoon dried basil
- 1/4 teaspoon pepper

### Directions

Set Sun Oven out to preheat.

Place a toaster oven rack in a large roasting pan. Fold a long piece of aluminum foil in half lengthwise and place it over the rack with the ends extending out on both sides. Spray the foil with cooking spray.

In a large mixing bowl use your hands to combine all the ingredients. Shape the mixture into a oval loaf and place it on the foil. Insert a probe thermometer into the center of the loaf (optional). Cover the roasting pan and cook the meatloaf in the Sun Oven until it reaches an internal temperature of 160, 2 1/2 to 3 hours. Let rest 5 minutes before using the foil to lift the loaf out of the pan and onto a platter.

Makes 8 servings.

## It's a Bullet Wound - What Do You Do?

You may never be exposed to a gunshot wound. If you should be involved in providing help for a gun shot victim, here are some things to know.

1. Safety first. Running into an active shooting scene without knowing the area is secure can result in another shooting victim, you.
2. Call 911 and follow directions of the dispatcher.
3. Address circulation problems first - stop the bleeding. Severe blood loss is the most frequent preventable cause of death in gun shot wounds (GSW).
  - Direct pressure, elevation, and a pressure bandage work for most extremities. Pressure should be hard enough to trap the injured tissue against a bone and elevating the limb until the bleeding is completely stopped.
  - Use a dressing to help the blood clot and seal the wound. Two main types of ready-made pressure bandages are the Israeli bandage and the H-type bandage. You should plan on adding one or two of these to your first aid kit and learn how to use them.
  - Use a tourniquet if you can't get bleeding to stop. Apply it 3-4 inches above the wound or above the nearest joint. When properly set up, it will be uncomfortable. It can be left on for up to three hours with no ill effects. Tourniquet use saves lives. [1]
4. Look for signs of internal bleeding. There are initial vital sign changes that are warnings of internal bleeding:
  - Decreasing alertness
  - Nausea/vomiting
  - Weak pulse
  - Lowering blood pressure, or faster and faster pulse [2]
  - Rapid enlarging area
5. Check for a clear airway; what are respirations like? Is breathing spontaneous or raspy and irregular? You may need to do rescue breathing if the victim isn't breathing on their own.
6. Treat for shock - Cover the victim to keep warm. Shock is a failure to deliver adequate oxygen to tissues. In blood loss cases, it results when the volume of blood and hemoglobin, which carries oxygen in the blood are reduced. Adults have approximately 5 liters of blood. As blood loss increases, physiological changes will become more prominent and severe. Systolic blood pressure begins to fall, pronounced heart rate increase to greater than 120 beats per minute, respirations increase to greater than 30 per minute. With greater than 40% blood loss (>2000ml), lethargy, loss of consciousness and cardiac arrest can occur. [3]
7. For a gunshot wound in the head, attempt to control the bleeding with direct pressure. Make sure the blood doesn't choke the victim. Have a conscious person sit up and lean forward. Turn an unconscious person on their side, bend the top knee forward and make sure tongue is not blocking airway. If you believe a carotid artery is nicked, apply soft direct pressure and include an occlusive dressing.[2]
8. For a gunshot wound in the chest, determine if it is a sucking chest wound (sucks air into the chest when victim tries to breathe and can lead to a collapsed lung. Close it with an occlusive dressing - a plastic laminated driver's license or plastic wrap can do this. This victim will need emergency treatment like a chest tube right away. Minimize movement of these victims because the spine could also be affected. If the heart, lungs, spine or a large blood vessel is damaged, immediate medical care is required.[2]
9. If the gunshot wound is in the abdomen, think organ protection. Cover visible open wounds with sterile dressing. If intestines are ripped open, immediate medical care is needed. Here you have not only bleeding issues but severe infection from microbes inside intestinal tract. No food or drink by mouth should be allowed for a day or two. Slow drip IV fluid is useful during this time.
10. Gunshot wound to arm or leg - think bones. Elevate wound above the heart and apply direct pressure bandage. Tourniquets can be used on extremities if bleeding is unstoppable. When bullets hit bones, the bone can be shattered and may change the bullet's direction.



Photo: [misadventuremag.com](http://misadventuremag.com)

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