



Issue #19

July 2011

## Do You Need a Jack Hammer in Your Garden?

Sherrie Zirkle, El Dorado Master Gardener



Many gardeners in the foothills are discouraged by heavy clay or rocky soils. If you are one of them, take heart - there are several things you can do to improve your soil without having to resort to the extremes of a jackhammer.

The ideal soil (loam) for many plants is composed of mineral particles (45%), organic matter (5-10%), and pore spaces (50%) containing water and air. How these three parts bind together determines a soil's structure. Soil texture, on the other hand, is determined by the size of the mineral particles and will designate whether you have clay, loam, or sandy soil. You cannot change the texture of your soil but you can change and improve the structure.



If you are not sure which type of soil texture you have, try this easy test: Grab a fistful of wet soil, squeeze it together, and then open your hand. If the soil forms a tight ball that does not fall apart and has a slippery feeling, your soil is predominantly clay. If your soil feels gritty and the ball readily falls apart, you have sandy soil. If the ball is slightly crumbly but still holds a loose ball, your soil is closer to loam.



Tight ball = CLAY



Falls apart= SAND

The large quantity of mineral particles in clay soil are so tiny and so closely packed together that they form a dense mass that is difficult for your shovel, never mind roots, water, or air to penetrate. Because water can't easily soak through clay soil, poor drainage is a major problem that causes many root balls or bulbs to simply rot in the ground. But don't be discouraged because such "rock-hard" soil can be turned into more workable loamy-type soil.



First, never try to work clay soil that is very wet or bone dry. You will just end up making adobe bricks and can permanently destroy your soil structure. Running heavy equipment or even walking over wet clay soil will compact it even more tightly. Wait until the soil is just moist to begin your improvement campaign.

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### Master Gardeners

Advice to grow by ...

**Amador County**

209-223-6838

Office hours: 10 am—Noon

Tuesday—Thursday

[mgamador@ucdavis.edu](mailto:mgamador@ucdavis.edu)

**El Dorado County**

530-621-5512

Office hours: 9 am—Noon

Tuesday—Friday

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## Do You Need a Jack Hammer in Your Garden?

Continued from page 1

You can greatly improve both clay and sandy soils by adding organic matter, which is the decaying remains of any living organism. Common types of organic matter include compost, leaves, peat moss, and manures. You can also turn under living cover crops such as clovers, alfalfa, or even weeds (before they go to seed) into your soil. These will then decompose in place and add organic matter.

Tilling in cover crops is a particularly easy, economical means of adding organic matter if you have a large garden, yard or field that needs improvement. And remember that adding some type of organic matter is something you should do every year, not just once, as it is constantly being "consumed" by your plants and thus needs replenishment.



Soil pH is something else to be generally aware of in your garden soil. Soils can be either acidic or alkaline or somewhere in-between. Most plants prefer a slightly acidic pH range of 5.5 to 7.5, however there are many exceptions, such as rhododendrons or blueberries, which require acid soils at or below 5.5. You can get simple soil pH testing kits at local nursery centers. Soils with a low pH (very acidic) can be improved by adding lime or wood ashes, which act very quickly. High pH soils (alkaline) can be lowered by adding sulfur (which takes some time to react) or peat moss. These pH amendments need to be incorporated into the soil where the roots are, not spread on top of the soil.

No matter how poor your garden soil texture may be, you can improve the structure by first knowing what soil type and pH you have and then adding organic material on a regular basis.

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## Small Farm Class: Post-Harvest Handling for Small Growers

**Friday, July 8, 2011, 10:00am to 3:00pm**

This class is a must for small scale farmers who are directly marketing their products through farmers' markets or other outlets. It will cover how to improve and maximize your direct market appeal, how to handle your crops between harvest and sale as well as processing your products to add additional value.

The workshop will be taught by Shermain Hardesty, PhD, and Marita Cantwell, PhD. Dr. Hardesty is the director of the UC Small Farm Program and UC Cooperative Extension Economist in the Department of Agriculture and Resource Economics at UC Davis. Dr. Cantwell is a UC Cooperative Extension specialist in post-harvest physiology, handling and storage of intact and fresh cut vegetables.



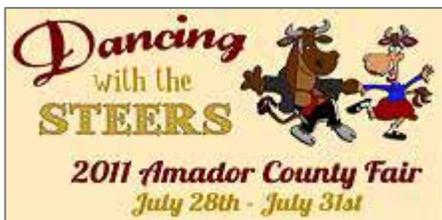
Contact: [skriletich@ucdavis.edu](mailto:skriletich@ucdavis.edu)

Location: Amador Co. Health and Human Service Bldg, 10877 Conductor Blvd, Sutter Creek CA 95685

Website: <http://ceamador.ucdavis.edu/workshops>

Fee: \$15.00 (lunch included)

Please register on-line on or before **July 6**, 2011 at <http://ucce.ucdavis.edu/survey/survey.cfm?surveynumber=6828>.



## It's Already July!

Don't forget to stop and see us at the Amador County Fair July 28 through July 31. We're giving away free tree seedlings.

## Eat Your Fruits and Veggies

*Ora Emmerich, El Dorado County Master Food Preserver*

The current recommendation of 13 servings per day of vegetables and fruits for adults might be daunting to the average person, who now eats about half of the desired amount. However, home preserved food makes it easy to incorporate fruits and vegetables into every meal. The Canned Food Alliance, at [Mealtime.org](http://Mealtime.org), promotes the addition of vegetables and fruits by encouraging everyone to "Just Add One" canned food to your favorite recipes, while a University of California Davis study finds that fresh, frozen, dried and canned vegetables and fruits each have particular nutritional values to add to the family meals.

Dr. Christine Bruhn from UCD relates the findings of a recent study on the nutritional values of fresh fruits and vegetables as compared to preserved. Amazingly, fresh produce does not always guarantee the most nutrition. Fresh vegetables and fruits must be eaten as soon as possible after harvest to insure the maximum benefit and nutritional content. Dr. Bruhn found that some foods actually have higher levels of antioxidants after being canned than before. She gives as an example cherries, which contain enzymes that begin to destroy the naturally occurring phenolic compounds after harvest. The phenolic compounds create the antioxidants. Heating the cherries for processing and preserving destroys the enzymes and saves the phenolic compounds. Eating canned cherries, with the juice, actually provides greater antioxidant benefits than eating fresh cherries that have been shipped to the markets.

Different preserving methods create different nutritional profiles. Frozen fruits and vegetables retain more nutrients initially, although these lose some value after being frozen for long periods of time. Be sure to rotate frozen foods, using first those which have been in the freezer the longest. Canned foods must be heated to be processed, and thus lose some nutritional value up front, but these can be stored much longer without subsequent loss of nutrients. The important thing to remember is to eat more fruits and vegetables, no matter how the food has been preserved. The following recipe, from the Harvard University Dining Services, combines fresh green beans with dried cherries to create a delicious, healthy treat.

### *Green Beans with Dried Cherries*

Serves 4

½ cup dried sweetened cherries  
 ½ tablespoon canola oil  
 ½ small red onion, diced (scant ¼ cup)  
 2 tablespoons firmly packed brown sugar  
 2 tablespoons cider vinegar  
 ¼ cup water  
 1 pound green beans, trimmed  
 Salt to taste (optional)



Begin by making the cherry glaze: Heat the oil in a small saucepan over medium heat. Add the red onion and cook for 3 to 4 minutes, or until tender. Add the brown sugar to the onions. Stir to dissolve. Add the dry cherries, vinegar, and water. Simmer mixture for 4 to 5 minutes, or until the cherries are soft and the liquid had reduced. Do not let the mixture cook until dry; if it begins to dry out, add more water in small amounts to keep it moist. Set the sauce aside. Place the beans in a small steamer basket, and place the basket in a pot with a tightly fitting lid, above an inch of boiling water. Cover and cook over medium-high heat for about 3 minutes, keeping the beans slightly crisp. Toss the steamed green beans with the cherry glaze, season with salt to taste (if desired), and serve.

## Vacuum Packaging

Ora Emmerich, El Dorado County Master Food Preserver

All right, admit it, there is something very cool about sucking all the air out of a bag of food. When the hum of the vacuum machine starts, all eyes watch to see the crinkly plastic settle down and embrace the curves of whatever type of meat, vegetable or fruit resides inside the clinging sheets of food grade plastic. The rock hard result looks as though it could last forever. Do not be fooled.



Safe preservation of food at home keeps pathogens low and prevents illness. Among the many methods of preserving food, vacuum packaging keeps food safe longer, but cannot substitute for safe food handling processes nor for safe storage practices. Removing the air from the storage container removes the air necessary for spoilage organisms to grow, but remember that not all pathogens require air to multiply.

The organisms responsible for the tell-tale signs of spoiled food, such as color change, bad odor or slimy feeling usually require air to multiply, so packing food in vacuum bags slows these processes. However, some pathogens, or disease causing organisms, such as botulism, actually prefer a low-oxygen environment and will reproduce quickly at room temperature in a moist, low-acid food when deprived of air.

Begin vacuum packaging with the usual safe food handling concerns. Be sure to wash your hands and all food preparation surfaces. Prepare the food for packaging and follow the manufacturer's directions for properly vacuum packaging the product. If the food to be packaged needs to be refrigerated, package and then return the food promptly to the refrigerator or freezer. Any perishable food that has been vacuum packed and left out at room temperature for more than 2 hours should be discarded.

This includes vacuum packed food that has been frozen and left to thaw at room temperature. The vacuum packing retards the growth of the organisms which usually spoil food. When these organisms cannot compete with the pathogens that do not require oxygen, then there seems to be even more opportunity for these anaerobic organisms to multiply. Always thaw frozen foods in the refrigerator at 40°F or below. It will take longer to thaw, but will be safer. When cooking these foods, be certain to heat the foods to a safe temperature.



Dry, non-perishable foods such as crackers or nuts can safely be stored in vacuum pack bags. These foods do not have enough moisture to allow bacteria to grow rapidly. Just be careful that the vacuum packaging process does not crush the food! Cracker crumbs have many uses, but may not be the desired result.

When determining the amount of food to put in each container, think about the end use. Pack only enough in each bag to use the entire amount at once. If a vacuum packed bag opens, the oxygen that enters the food resumes the deterioration processes. Use all the food and try to avoid resealing. If the vacuum packed food shows any signs of spoilage or if perishable, vacuum packed food has been left out above 40° for two hours or more, throw it out. Do not take chances with food safety!

Questions about safe home food preservation? Call the Master Food Preservers and leave a message at (530) 621-5506. A Master Food Preserver will return the call. The Master Food Preservers are also available free of charge to speak to organizations and clubs about food safety or food preservation topics. Just call the number above to arrange for a speaker for small or large groups. For more information about the public education classes and activities, including the free public classes on food safety and pressure canning, be sure to go to the Master Food Preserver website at [http://ceeldorado.ucdavis.edu/Master\\_Food\\_Preservers/](http://ceeldorado.ucdavis.edu/Master_Food_Preservers/).

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***To be Fire Safe remember to defend your space. Keep weeds down to bare dirt, keep gutters clean of dead leaves, and remove branches on trees to at least 10 feet near your home.***

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## No Summer Water for Blue Oaks

Those of us who reside in the foothills are blessed to be in the presence of so many ancient and beautiful oak trees. They provide us with cool shade, clean our air, and give us something graceful to study and wonder about. Our lives are affected daily by oak trees and the products we receive from them. Have you ever thought about how our community affects them in return? As development extends farther into the foothills, respect and proper care become necessary to support the population of oak trees, ensuring that our future generations will be able to benefit from our current variety and quantity of these majestic trees.



The genus (family) of oak trees is named *Quercus* (Latin for "oak"). There are over 600 different members in this family, all unique in their appearance and location. Our foothill woodlands are naturally dominated by blue oak trees existing in a forest cover zone defined as "Blue-Oak – Digger Pine." The blue oak is also known as iron oak, mountain white oak or mountain oak. In stature it is short, averaging 30 feet, but ranging from 20 to 66 feet. The canopy is rounded and open with many crooked branches covered in twiggy growth. Thin, scaly, light-grey bark gives way to bluish-green leaves that are 1-3 inches in length and have smooth to lobed edges. The thick leaves are blue-green above and yellow-green below, making identification possible. Its scientific name is *Quercus douglasii* in honor of Scottish biologist, David Douglas, who named it in 1831 after its blue-green foliage. Blue oak is one of the largest ancient forest types in California, covering about 3 million acres.

What makes the blue oak so unique is its natural ability to thrive in our harsh foothill conditions. As most backyard gardeners are well aware, our soil here is neither fertile nor easy to cultivate. Seldom will you find blue oak in deep, fertile soil because it cannot compete with the taller pine and more aggressive oak species. Instead, it specializes in undesirable areas; blue oak is well adapted to dry climates, grass fires and drought. It can survive temperatures above 100° F for several weeks at a time with no supplemental irrigation. Fatal drought stress is resisted several ways by different parts of the tree and its growth habit:

**Leaves:** A thick, waxy layer is produced on the top surface of the leaf, reducing water loss and providing the bluish cast. If the heat continues for too long, the tree will protect itself by dropping all its leaves and entering early dormancy; thus, conserving moisture.

**Roots:** The root system is extensive, growing through fractured rock to a depth of 80 feet or more to locate groundwater reserves. As much as 50% of the soil surface may be covered with rock or stones. Blue oak acorns germinate earlier than those of other species; all available energy is initially channeled toward root production, resulting in 73% of the tree's weight existing underground after the first growing season.

**Growth rate:** Blue oak is one of the slowest growing oak trees. Many mature trees are less than 25 feet tall and may require 50 to 100 years to obtain a trunk diameter of only 10 centimeters. The growth rings on a stump are so tightly packed that it's easier to lose your place than attempt to count them all.

Unfortunately, the trait that has made this tree a survivor is now its main cause of death. Excess irrigation is the leading killer of established oak trees in the landscape. Please, if you are fortunate enough to have a blue oak, do NOT give it extra water. Summer irrigation activates a large amount of decay-causing fungi that exist in our soil and helps them attack the roots and base of the tree. For this same reason it is best not to landscape underneath your trees; instead, simply leave the existing native grasses. If you desire a more polished appearance, spread mulch or wood chips, keeping the layer away from the tree trunk and root flare and disturbing the soil as little as possible. The blue oak has managed to adapt to an area that others found undesirable. It does, however, have vulnerabilities that are becoming painfully obvious. The species is being reproduced at a slower rate due to non-native grass competition, cattle grazing and past clear-cutting. Only time will tell if our current environmental changes will overcome the "little tree that could" or if we can all co-exist successfully. Keep in mind that the irrigation information just provided applies to the blue oak only, not the other native oak species. If you are interested in finding out more about what you can do to care for your oak trees properly, please call your local Master Gardener office.

## Name that Veggie!

How well do you know your veggies? The 2010 Dietary Guidelines for Americans (DGA2010) recommend eating at least 2-1/2 cups of vegetables daily (based on a 2,000-calorie diet). The DGA2010 further divide vegetables into five subgroups and recommend the following intake from each subgroup per week (for a 2,000-calorie diet):

- Dark-green vegetables (1-1/2 cups/week)
- Red and orange vegetables (5-1/2 cups/week)
- Beans and peas (legumes) (1-1/2 cups/week)
- Starchy vegetables (5 cups/week)
- Other vegetables (4 cups/week)



See if you can guess the following vegetables. There is one from each vegetable subgroup.

*The answers are on page 8.*

### Veggie 1:

1. Excellent source of protein, high in dietary fiber, potassium, and folate
2. Often eaten cold in salads or hot in soups
3. The type sold in the United States is usually cream-colored and relatively round
4. Main ingredient in hummus

### Veggie 2:

1. The French called them “love apples”
2. High in lycopene, an antioxidant that may help lower the risk of certain cancers and other conditions such as cardiovascular disease and osteoporosis
3. Taste best when stored at room temperature
4. Botanically, they are a fruit

### Veggie 3:

1. High in vitamin A
2. A dark green lettuce
3. Had its start as a Mediterranean weed
4. Has a long, loaf-shaped head of sturdy leaves

### Veggie 4:

1. Contains phytochemicals that may help reduce the risk of certain cancers
2. Its four-petaled flowers bear a resemblance to a Greek cross, resulting in it frequently referred to as a crucifer or cruciferous vegetable
3. Mark Twain called this vegetable “...a cabbage with a college education”
4. Creamy white in color

### Veggie 5:

1. The leading vegetable crop in the United States
2. A medium (5.3 oz.) skin-on serving has just 110 calories
3. High in potassium, a nutrient the 2010 Dietary Guidelines for Americans recommend Americans increase in their diet
4. A model of this vegetable serves as the basis for a toy named after it



## Public Education Classes & Events for Amador and El Dorado Counties – Free!!



Most classes are from 9 am – Noon. Please call ahead to confirm locations; they may change.

### Amador County

Location for all Amador classes: GSA Building, 12200-B Airport Road, Jackson.

#### July

### 16: Preserving the Harvest – Freezing, Dehydrating, and Fresh Produce Storage

Do you have a garden, fruit orchard, or berry patch? Do you have friends who share theirs with you? Would you like to preserve your bounty? If so, we have the class for you.

Learn about freezing, dehydrating, and fresh fruit and vegetable storage. If you tried freezing vegetables you may have questions on how to freeze the various varieties so they retain their near fresh quality when used. Fruits are easier but there are lots of tips to improve the quality and make them convenient to use. Dehydrating opens a whole new world to what you keep and how you can use the dried fruits and vegetables. Finally, if you want to keep everything fresh longer, the fresh storage methods portion of the class is a must.

Master Food Preservers from El Dorado County are the guest speakers.

If you have any questions about our classes or have other gardening questions, call the Master Gardeners at the UC Cooperative Extension Office from 10am to noon, Tuesday or Thursday, 223-6838. You can also contact us by e-mail at [mgamador@ucdavis.edu](mailto:mgamador@ucdavis.edu).

### 28 - 31: Amador County Fair

Stop by the Master Gardener Booth at the Amador County Fair. Check out our fun and educational displays, ask Master Gardeners questions about what's happening (or not happening) in your garden, swap gardening stories with other visitors at the booth, or just get out of the sun for a while!

While you're at our booth, pick up a **free tree** seedling and grow your own shade, courtesy of Sierra Pacific Industries.

### El Dorado County

Location for all El Dorado classes: Veterans Memorial Bldg, 130 Placerville Drive, Placerville.

#### July

### 9: Garden Bugs – The Good, Bad, & Ugly

Want to cut back or eliminate using costly and potentially destructive pesticides? You can do it by luring beneficial predator insects to your property. Learn how to turn your garden into an environmentally friendly habitat for your plants, animals, and other beneficial (pollinators) insects. Heck, us humans would benefit too, or so says Master Gardener Michael Freitas, as he covers this topic.

### 16: Container Gardening

Do you want to add a splash of color around your front door? Are there times that your perennial beds lack color and bloom? Container gardening is a great way to add new elements of interest and beauty to your garden. Master Gardener Julianne Melchor will help you learn to create a container garden that suits your needs.

### 23: Pets and Gardening

Master Gardener Heidi Napier will cover the risks to pets of various pesticides and poison plants, which pesticides are safe around animals and which are not. She will also discuss flea and tick control.

### 30: Cottage Gardening

Cottage gardens are both utilitarian and beautiful. Learn from MG Eve Keener the art of mixing fruit, vegetables, herbs, and perennial and annual flowers in this informal garden style. Overflowing with plants, a carefully planned cottage garden can add charm to a small lot or a larger garden plot.

Check out the El Dorado Master Gardener Facebook page at <http://www.facebook.com/pages/El-Dorado-County-Master-Gardeners/164653119129>.



## Name that Veggie Answers:

### Veggie 1: Garbanzo beans; also called chickpeas. (Beans and Peas [Legumes] Subgroup)

Additional vegetables in this subgroup include all cooked and canned beans and peas -- for example, kidney beans, lentils, chickpeas, and pinto beans. Does not include green beans or green peas.

### Veggie 2: Tomato. (Red and Orange Vegetables Subgroup)

Additional vegetables in this subgroup include all fresh, frozen, and canned red and orange vegetables, cooked or raw -- for example, red peppers, carrots, sweet potatoes, winter squash, and pumpkin.

### Veggie 3: Romaine Lettuce. (Dark-Green Vegetables Subgroup)

Additional vegetables in this subgroup include all fresh, frozen, and canned dark-green leafy vegetables and broccoli, cooked or raw -- for example, broccoli; spinach; collard, turnip, and mustard greens.

### Veggie 4: Cauliflower. (Other Vegetables Subgroup)

Additional vegetables in this subgroup include all fresh, frozen, and canned other vegetables, cooked or raw -- for example, iceberg lettuce, green beans, and onions.

### Veggie 5: White Potatoes. (Starchy Vegetables Subgroup)

Additional vegetables in this subgroup include all fresh, frozen, and canned starchy vegetables -- for example, corn, and green peas.



## Forceps, Please

Kathy Keatley Garvey, UC Communications Specialist

Have you ever stopped to admire a blossom and seen forceps protruding?

Earwig!



We were walking near Mrak Hall, UC Davis, on a hot summery afternoon and spotted a tell-tale sign: abdominal forceps, aka pinchers or pincers. Earwig!

We unfolded the blossom and an earwig crawled out. "Female earwig," said Lynn Kimsey, director of the [Bohart Museum of Entomology](#) and professor of entomology at UC Davis. "Young female earwig."

In a male earwig, the forceps are more widely spaced.

The most abundant earwig in California is the European earwig, *Forficula auricularia* (family Forficulidae), according to entomologists Jerry Powell and Charles Hogue in their book, *California Insects*. However, it was not known in the state until 1923.

They describe the adult as about 12 to 22mm long, mostly brown with pale forewings and antennae. "The immatures and adults feed on a wide variety of substances, from flowers and green foliage near the ground to living and dead insects, including aphids."

This one seemed to be escaping from the heat.



## Free Master Food Preserver Classes

The El Dorado County Master Food Preservers are once again starting their free summer public classes for you to learn the art and science of safely preserving food at home. The classes are on both Tuesdays and Saturdays from **10am to Noon**. You can attend either day or both. There is no charge for the educational experience and no reservations are required. All classes are at the El Dorado County UCCE Office at 311 Fair Lane, Placerville. Call 530-621-5502 for more information. No reservations necessary. Get the full schedule at [http://ceeldorado.ucdavis.edu/Master\\_Food\\_Preservers/](http://ceeldorado.ucdavis.edu/Master_Food_Preservers/).

### July

<b>9 or 12</b> , 10am - Noon	Food Safety & Basic Water Bath Canning
<b>16 or 19</b> , 10am - Noon	Jams and Jellies
<b>23</b> , 10am - Noon	Dehydrating & Freezing
<b>26</b> , 10am - Noon	Christmas in July—Holiday Gifts
<b>30</b> , 10am - Noon	Pickles, Relishes & Sauerkraut



## Pest Notes

Free Pest Notes are available on a variety of topics. For more information, call or email your local Master Gardener office.



To explore the Pest Notes on the UC Integrated Pest Management (IPM) website, go to <http://www.ipm.ucdavis.edu>.

Amador & El Dorado Counties Master Gardener Newsletter  
 Editor: Linda Hagye  
 Assistant Editor: Janice Johnson

*Not on our e-newsletter distribution list yet? Know someone who would like to receive our newsletters and notifications on classes and events? Sign up online:*

**Amador:**  
<http://ceamador.ucdavis.edu/newsletterfiles/newsletter3145.htm>

**El Dorado:**  
<http://ceeldorado.ucdavis.edu/newsletterfiles/newsletter3286.htm>

## Get Answers to Your Gardening Questions Online

Don't forget about our great Master Gardener websites — they're loaded with gardening goodies:

- Information about Master Gardeners and even how to become one
- List of public classes
- Calendar of Master Gardener events
- Useful links to gardening websites
- Home gardening publications
- Information request form to get answers to your gardening questions

[http://ceamador.ucdavis.edu/Master\\_Gardener](http://ceamador.ucdavis.edu/Master_Gardener)  
[http://ceeldorado.ucdavis.edu/Master\\_Gardener](http://ceeldorado.ucdavis.edu/Master_Gardener)

**Got a specific question?** Just email us!

Amador: [mgamador@ucdavis.edu](mailto:mgamador@ucdavis.edu)  
 El Dorado: [ceeldorado@ucdavis.edu](mailto:ceeldorado@ucdavis.edu)



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