

Resource-Efficient Yard Care

for Unincorporated Ventura County Residents and Businesses

Composting

**Worm
Composting**

Mulching

Grasscycling

**Less Toxic
Gardening**

**Native Plants
and more...**



WHY Practice Resource-Efficient Yard Care?

- Save money on water, fertilizers, pesticides and hauling service.
- Save resources and feel good about protecting our environment.
- Improve your garden's health naturally.
- Save time on yard care.



Resource-Efficient Yard Care

Most solutions to Ventura County's solid waste management problems are very expensive. In contrast, backyard composting and other methods of resource-efficient yard care offer County residents relatively inexpensive and environmentally sound ways to substantially reduce the amount of "waste" going to local landfills.



Reducing Yard Trimmings in the First Place

Reduce, Reuse, Recycle. These should be priorities for all of us. Before we reuse and recycle our yard trimmings, much can be done to reduce the generation of these materials in the first place. Fortunately, the landscaping techniques that reduce the amount of yard trimmings produced, also reduce the amount of water consumed.

Limit Lawn Size

Lawns are thirsty, time consuming, and generate a considerable amount of clippings. Plant a lawn only where it will be used for play or entertaining and use a low water variety. In the front yard, consider replacing the unused lawn with a creative arrangement of shrubs, trees, ground covers and hardscapes (patios, walkways, mulched planting beds, etc.).

Irrigate Efficiently

Over-watering promotes rapid growth, generating more yard clippings. Over-watering is also a common cause of lawn and plant disease. Use water-efficient irrigation equipment, such as drip and low-output sprinkler heads, and water each plant according to its specific needs.

Use Mulches Around Trees and Shrubs

Several inches of mulch will deter weeds and reduce evaporation. The best place to find mulch materials is in your own yard - such as shredded yard trimmings, compost or leaves. Mulch and compost can be purchased at local greenwaste collection facilities as well.

Plant Water-Efficient and Low-Maintenance Vegetation

Water-efficient plants tend to grow slower and require less maintenance (e.g., pruning). There are many lovely, colorful plants available. Chose plants whose size at maturity is appropriate for a particular site.

Improve Soil

A good soil is very important to the success of water-efficient plants. The best way to improve either a sandy or clay soil is by adding organic amendments, and the best place to get these amendments is from your own compost pile.

Limit Fertilization

Excessive applications of fertilizer - particularly high nitrogen fertilizer - promote vigorous growth, increased water use, and stormwater/water pollution.

Plan and Design

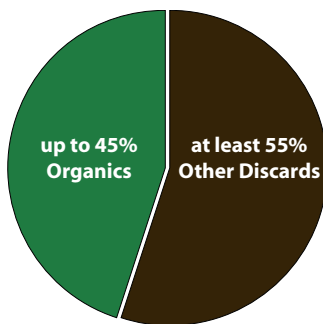
When planning the landscape, give plants enough growing space, otherwise plants may have to be severely pruned or removed in the future. Also leave space for compost piles and brush chipping.

Prune Conservatively

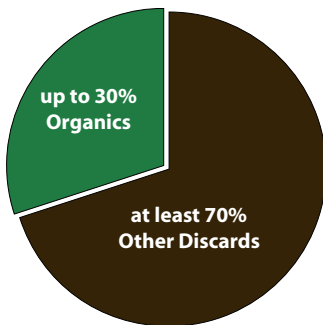
Observe how your trees, shrubs and hedges respond to pruning. If the plant consequently throws out vigorous sprouts or heavy new growth, you probably trimmed too much or at the wrong time. Research the pruning requirements of each specific plant.

Organic Slice of the Waste Stream Pie

Residential



Commercial



Source: 1999 Statewide Waste Stream Characterization Study by the California Integrated Waste Management Board

Use 1/2 Greens & 1/2 Browns



*Ratios indicate Carbon:Nitrogen
(see text for explanation)



Store kitchen scraps in a container with a tight-fitting lid until ready to add to the compost bin.



omposting

The compost pile is really a teeming microbial farm. Microorganisms, such as bacteria and fungi, are naturally present on food and yard trimmings added to the pile. These organisms decompose organic materials into rich, earthy-smelling organic matter. Earthworms, centipedes, beetles, millipedes and other organisms are also involved in the decomposition process.

There are many different methods of composting. The type and amount of material you have to compost, and the amount of time you can devote to it, will determine the system that is best for you.

Hot composting is the quickest method and is good for composting large amounts of material. This method (described later in this brochure) depends on heat loving and heat generating bacteria. In order for these bacteria to thrive, *the pile should be of correct size, have the proper temperature, and have the proper balance of food, water and air.* If these conditions are met, the microorganisms will raise the temperature of the pile to 140° F or more, hot enough to burn your hand! The heat from this rapid decomposition is enough to kill most weeds and disease-causing organisms.

The **slow composting** method is largely the same but is for people who can devote less time and attention to the process. Decomposition takes longer because conditions aren't optimal for the fast-acting, heat-loving bacteria. Bacteria and fungi that function at mild temperatures are the primary decomposers here.

Materials to Use

Just about anything that was once alive can be composted. All living things are made up of large amounts of carbon (C) combined with smaller amounts of nitrogen (N). The microorganisms in your compost pile will work quicker if fed a diet of 30 parts carbon to 1 part nitrogen (30:1).

It helps to think of materials high in nitrogen as “greens,” and carbon-rich materials as “browns.” Grass clippings, manure, food scraps, and fresh garden trimmings are examples of greens. Dry leaves, straw, wood chips, nut shells, and sawdust are examples of browns. A good guide to get the right balance of greens to browns is to use roughly **half browns and half greens** when building your pile. *See left panel.*

A pile that is too high in browns will stay cool and sit a long time without breaking down. A pile too high in greens can get slimy and have a foul odor.

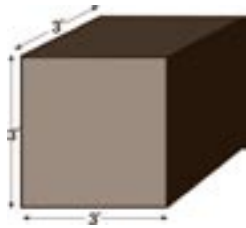
Preparing the Materials

The more surface area the microorganisms have to work on, the faster the materials will decompose. Chop up large kitchen scraps into smaller pieces. Cut or bruise yard trimmings with a shovel or machete, or put them through a chipper or shredder.

Some materials may be run over with a rotary lawn mower. The harder or the more woody the tissues, the smaller they need to be chopped.

Materials Not to Compost:

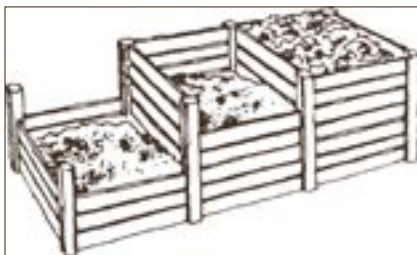
- Meats, fats, oils, dairy
- Large branches or logs (unless shredded)
- Plastics or synthetic fibers
- Manure from carnivorous (meat eating) animals
- Diseased plants or plants suffering from severe insect attack
- Weeds with seeds
- Invasive plants and weeds (ivy, succulents, Bermuda grass, morning glory)
- Plants that have been recently treated with herbicides
- Charcoal ashes



A cubic yard is the minimum size of a hot compost pile.



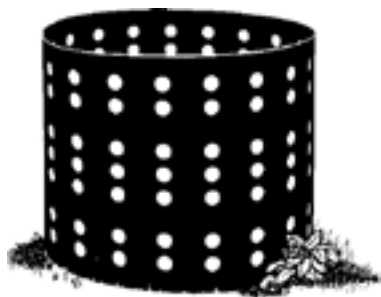
Wood & wire bin



Multiple-bin Unit



Concrete block bin



Simple plastic bin

Bins

Backyard composting can be done in homemade bins, store-bought bins, or in an open pile without a bin. The ideal size of the pile or bin is one cubic yard (3' x 3' x 3'). Multiple piles or bins are recommended for different stages of composting.

Bins help the pile retain moisture, and help to achieve the optimum pile dimensions. Some people find them more attractive than an open pile. An open pile, on the other hand, is free and is very easy to turn.

Homemade bins can be constructed out of many materials such as wire mesh, scrap wood or pallets, a combination of wood and wire, or concrete blocks. A barrel composter can be built out of a 55 gallon barrel, with holes and a loading door cut out. Enclosed containers should have slits for air to enter. Bins can have one, two or more compartments for compost in different stages of decomposition.

There are many pre-made compost bins on the market. Plastic bins with lids help the contents of the bin stay damp by reducing evaporation by recycling water condensing on the interior of the lid. Plastic bins should be thick and durable so they won't crack in the sun.

Place the pile or bin in a shady location out of the wind to reduce evaporation, and locate it over soil so water can drain down and decomposing organisms can come up. Consider locating an open pile in the corner against a block wall—this gives you two "sides" and will help reduce water loss.

Use a rodent-resistant bin if food scraps are going to be composted. Use a closed container that has openings no larger than 1/2 inch, or line the top, bottom and sides of a composting bin with 1/2 inch wire mesh.

Making Compost

In a **hot compost pile**, enough materials are added to create a 3' x 3' x 3' pile **all at once**. Piles smaller than 3 feet cubed will have trouble holding heat, while piles larger than 5 feet cubed don't allow enough air to reach microorganisms at the center.

Alternate layers of green and brown materials. Begin with a thick layer of coarse, bulky material, such as twigs or flowers, to allow air to circulate in the pile. Then layer greens and browns and mix the layers together.

When adding food scraps, try to place them in the active center of the pile, and always cover them with a thick layer of dry materials to avoid attracting flies or critters.

Spray the materials with water as you build the pile. Continue mixing greens and browns until the pile is 3-4 feet high, and then do not add more materials.

In one to three days, the temperature in the pile should rise considerably—a sign that the microorganisms are busy!

After about a week, the temperature will drop, a sign that conditions are less optimal for the decomposing organisms, and the pile needs to be turned and moistened again.

Turning releases heat and brings in fresh oxygen to the microbes. If a compost bin that can be picked up and moved is being used, remove it and place it next to the pile, and move the compost into it with a pitchfork. Similarly, if you are using an open pile, turn the material over into a new pile. You can also just "fluff" the pile with a pitchfork to add oxygen. If you're using more than one bin, fork the compost into the next bin. As you turn it, move the drier outer materials to the active center of the pile.

Limiting moisture is the biggest mistake that people make! The composting material should be as moist as a well wrung-out sponge. This is rather wet, especially in our dry climate. If you have an automatic irrigation system, consider hooking your compost pile up with a micro spray head. A layer of straw, plastic or carpet scraps on top of the pile helps keep its outer edges moist. But if the pile is soggy or emits a foul, ammonia-like odor, it is too wet. Add dry ingredients, fluff the pile, and let it dry out.

Once you've turned and watered the pile, you've made the conditions good once more for the microorganisms, and the temperature should rise again, though probably not to as high a temperature as the initial buildup. This process should be repeated several times, turning about once every 7-10 days, until the temperature ceases to rise significantly.

At this point most of the readily-available nutrients have been consumed by the microorganisms, and you should have a dark, rich compost, with very little of the original materials recognizable. Most batches of finished compost will have some materials that haven't broken down enough. A sifter with a 1/2" mesh is good for screening out these materials, which can then be returned to the compost pile or used as mulch.



Hot compost “cooks” at 140° or higher. Long thermometers are available to keep track of compost temperature.



Turning the compost pile brings fresh air to the microbes. Their numbers multiply quickly again and the pile reheats. Finished compost should look dark, crumble easily in your hand and have a fresh, earthy smell.

It's best to let the sifted compost sit for a week or two for final “curing” before use. Don't let it sit too long though, especially where it will dry out, or it can lose many of its valuable nutrients and qualities.

In a **slow compost pile**, materials are added as they are generated, rather than all at once, and the high temperatures of a hot pile may not be reached. The pile should be turned as often as possible, ideally once a week. Don't worry though, the materials in your pile will eventually compost even if never turned. Turning merely speeds up the process.

Continue adding materials to the bin, mixing the greens and browns, until it is full. The materials will reduce significantly in volume as the composting process takes place. If the pile is never completely turned, the compost on the bottom of the pile will mature first. Some bins have a bottom opening to harvest this finished compost. Others require the bin to be pulled up over the mature compost for harvesting.

If you don't have a “continuous feed” system, where you are regularly adding materials to the top and pulling the mature compost out of the bottom, it is best to have more than one composting bin or pile. This way you can eventually stop adding materials to one bin and allow everything to decompose until finished.

Benefits of Compost

High quality compost is composed largely of humus, a fragrant, nutrient-rich material that creates and supports the biological processes in the soil. And a healthy, living soil results in improvements in all aspects of plant growth and performance.

Compost is considered a soil conditioner, rather than a fertilizer, but it can contain a good range of plant nutrients. Of special importance are the micro nutrients present in the compost. They are needed in small doses by plants, yet micro nutrients are often absent from commercial fertilizers. Further, the nutrients in compost are released slowly at a rate which the plants can use best. Compost use is a major tool in the creation and preservation of soil fertility.

By improving the health and balance of the soil, compost creates an environment that aids plants in resisting many disease, insect and weed pressures. Compost adds organic matter to the soil, which improves soil texture and structure. This helps make clay soils less compact and better drained and helps sandy soils hold valuable nutrients and water.

Compost helps control erosion, controls pH, supports essential bacteria, stops nutrient loss through leaching, and acts as a buffer against toxins in the soil.

Using Compost

Finished compost is dark, crumbly, and has a fresh earthy smell. Following are some common uses of compost:

- Spread compost about 2-4 inches thick over the entire **garden** area and work into the top 8 inches of soil. Add compost several times a year.
- Twice a year, loosen the top few inches of soil in your **annual and perennial beds** and work in an equal quantity of compost.
- Use as a **mulch**, 2-6 inches deep around plants, to prevent water loss through evaporation and to smother weeds. This is a good use for unfinished compost.
- Every spring, use an aerator on your **lawn** and then spread a mixture of fine finished compost and bonemeal.
- Sift compost and add to household **potting mixes**. To rejuvenate the soil in **indoor plant pots**, scratch an inch or so of compost into the surface twice a year.
- Make a **compost tea** by putting compost in a burlap sack and soaking in water (1 part compost to 5-10 parts water, by volume). Allow to sit 3 days to a week, stirring each day if possible. Filter and spray directly on the plant surfaces to improve resistance to pathogens and to deliver nutrients, or use the tea to water plants.

Backyard Composting Bin Offer

SOILMAKER



Only \$30!
(a \$79 value)

- Holds nearly 12 cubic feet
- Locking lid, two slide-up doors
- Easy to assemble, no tools
- Spanish/English composting guide
- 25-year warranty
- 27 lbs, 50% recycled resin

UNINCORPORATED VENTURA COUNTY RESIDENTS ONLY
(city residents can contact their recycling coordinators)

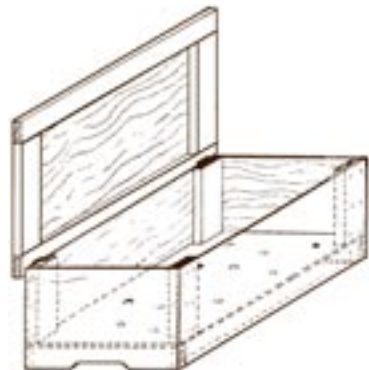
1. Make \$30 check payable to Greenline Products.
2. Provide shipping address and phone number
3. Mail with your check to
Ventura County EERD,
1000 Hill Rd. #100, Ventura, CA 93003
For more information, call 805/289-3119

DELIVERED DIRECTLY TO YOUR DOOR VIA U.P.S.

“It may be doubted whether there are many other animals which have played so important a part in the history of the world as the lowly earth-worm.”

Charles Darwin

Worms



Wooden Worm Box

Dark plastic storage boxes also work well. Keep them well ventilated to prevent overly soggy conditions.

In two to six months the worms will have turned the food and bedding into a dark, rich humus material known as worm castings.



Red worms
Eisenia foetida or
Lumbricus rubellus

Worms “breathe” through their skin (oxygen dissolves in the moisture on the worms’ bodies, and then passes into the body), so it is important to keep the materials in the worm box moist so their skin stays wet.

For worms and worm composting kits look in the classified section of gardening magazines or call us at 805/289-3333

Worm bins (also known as vermicomposting systems) are simply dark, closed boxes which employ redworms, moist shredded newspaper (or other bedding material) and food scraps. If the correct environment is maintained, the worms will thrive and continuously produce worm castings, a high quality soil amendment.

Materials to Use

Feed your worms kitchen scraps, excluding meat, bones, fatty foods and dairy products. Finely chopped yard trimmings can also be fed to worms depending upon the size of your worm bin.

Containers

Use a container with small ventilation holes on the bottom and sides. The bin should either have a tight fitting lid or be covered with black plastic to keep out light. You can use shallow wooden or plastic boxes of any length or width, but no more than one foot deep, and no less than eight inches deep.

The bigger your household, the bigger the bin you’ll need. Generally, one square foot of surface is required for every pound of food scraps to be composted per week. Weather-stripping on the lid will help keep out flies. Sticky substances, such as TangleFoot, can be spread around the base of the bin if ants are a problem.

Setting Up the Worm Bin

1. Locate the worm bin where there is shade and ventilation. Keep the bin dark so the worms stay near the surface. The worm bin should create no odors, so a convenient place for the bin is the garage or patio.
2. Fill the bin with bedding, such as thinly shredded newspaper or corrugated cardboard, manure or brown leaves. Soak the bedding materials in water and then drain off excessive water. Do not use fresh manure.
3. Add redworms. The amount of worms necessary varies with the volume of food scraps generated. Use about two pounds of worms for a two person household, four pounds for a four to six person household. Feed your new worms coffee grounds for a few weeks to build up the population.
4. Feed the worms as regularly as is convenient, rotating the placement of the scraps throughout the worm bin. Chopping the scraps into smaller pieces will decrease the time it takes the worms to break them down. Bury the scraps under bedding (an inch or so). Use a garden digging fork to avoid killing worms. Add only as much food as the worms seem able to handle. Ignoring your box for weeks may reduce the population, but they will recover.

Care and Harvesting

1. Keep the worm’s environment moist but not soggy. If the bin attracts flies, bury any food scraps at the bottom of the bin.
2. In two to four months (depending upon the size of the materials added), the worms will have turned the wastes and bedding into a dark, rich humus material known as worm castings. To harvest the castings, carefully move the worms and castings to one side of the bin using a hand trowel or gardening fork and add new bedding to the empty half. For the next month or two, bury food scraps in the new bedding only. Most of the worms will migrate to the new side. Harvest the finished compost and add more bedding to the bin.

A second method of harvesting is to remove the top layer of material, which should contain the most recently added scraps and most of the worms, and then harvest the finished compost beneath.

Mulches are materials used on top of the soil to suppress weeds, hold moisture, prevent erosion and provide an attractive ground cover.

Mulching

Mulching involves grinding yard trimmings and applying them directly to soil surfaces without the breakdown of the material by microorganisms.

Materials to Use

Most yard debris is suitable for mulching. Non-woody materials (greens) are best in flower and vegetable gardens because they break down quickly and can then be turned under without competing with plants for the nitrogen in the soil. If fresh grass clippings are used, use layers thinner than one inch.

Woody yard trimmings and leaves (carbon-rich browns) can also be used, but should be pulled aside when tilling, or balanced by adding a high nitrogen source such as bloodmeal when turning them under. Shredded woody materials make excellent paths and play areas. Avoid mulching with plant materials recently treated with herbicides.



Shredder

Chipping Tools

Machete

Green or woody vegetable stalks.

Lawn Mower

Leaves & twigs up to 1/8" diameter.

Electric Shredder

Leaves & twigs up to 1/2" diameter.

Gas 5 H.P. Shredder

Twigs & branches up to 2" diameter.

Commercial Shredder (8+H.P.)

Branches over 2" diameter.

Mulching Yard Debris

1. Yard trimmings up to 1/8 inch diameter can be mulched by running over them with a rotary mower - a mulching mower or attachment will perform best. This is best managed by blowing the materials against a wall.
2. Chippers and shredders for home use can be purchased. Shredders are best for brush, leaves and stalks; chippers are required for tree and shrub branches. Many machines have both shredding and chipping capabilities.
3. Chippers and shredders can be rented from many rental stores and home improvement centers, by the hour or day.

Grasscycling

Grasscycling is the natural recycling of grass clippings by leaving them on the lawn when mowing. Successful grasscycling requires only the kind of attention all lawns should have on a regular basis. Mulching mowers are available or your current mower can be retrofit with a mulching blade.

Grasscycling

1. Remove excessive thatch before leaving clippings on the lawn. Although 1/2 inch of thatch is no problem, a thick layer will keep clippings from reaching the soil. Grasscycling does NOT cause thatch build up.
2. Mow when your grass is dry and at the upper recommended cutting level for your type of turf: 1 inch for Bermuda or other fine-leaved subtropical grasses and 3 inches for cool-season turfs such as fescues and ryes.
3. A sharp blade and frequent mowing mean finer clippings that will decompose quickly. A mulching mower, or a mower with a mulching attachment, is preferable.
4. Avoid overfertilizing your lawn. If it becomes too dense with growth, your clippings won't reach the soil to decompose.

With a mulching mower, you can grasscycle every time you mow, without collecting clippings. If you do choose to collect your clippings occasionally, recycle them as a mulch in planting beds or add them to the compost pile.

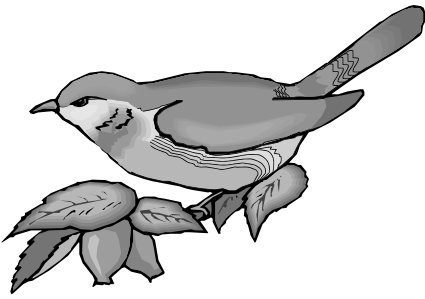


Grasscycling increases biological activity near the soil surface, resulting in a healthier lawn.



Native Plants

There is a trick to successful, low-maintenance, low-cost gardening in California: native plants! Plants that grow naturally in your areas do not require much care, are pest resistant, use little water, and provide food and habitat for wildlife. Native plants are also a major element in the natural beauty for which California is famous.



Landscaping with native plants encourages birds and beneficial insects to visit your yard.

The facts on native plants

Native plants are defined as plants which existed in the landscape prior to European settlement. Native plants are good for the environment because they can support 10 to 50 times more local animal, insect and bird species than do exotic or introduced plants. Native plants and animals have evolved not only to survive the climatic conditions of the area but have developed a dependency upon one another.

Having evolved here and being best suited to perform in this environment, native plants require very little care from you, once established. Many people think of cactus and rocks when you mention native plants and are quite surprised at the array of foliage and year round flowers that natives provide.

Using native plants has gained popularity in the last decade due to concern over the introduction of exotic, invasive plants and the effect on the local environment. This represents a change in approach for American gardening that historically relied on high maintenance lawns and pampered plants.

Native plants should never be dug from the wild unless it is done as part of a plant rescue on land that is to be developed. Instead, buy the plants from a reputable source that propagates its own plants. Native plant nurseries are popping up everywhere and many of the established nurseries and garden centers are now including native plants in their stock.

Native plants require very little water once established since they are adapted to our climate. This will greatly reduce your water bill and conserve our precious water resources since it is estimated that 50% of typical residential water use is for landscaping.

Gardening with native plants can mean incorporating just one native plant in the garden or can be the purist approach of only gardening with natives. Somewhere in between these extremes lies a realistic compromise which is beautiful, educational and, most importantly, it is the right thing to do for the sake of the environment. Once you start including native plants in the garden, the beauty, familiarity and ease of maintenance will make you want to include more.

Tips for Native Plantings

Remember that a native plant for Simi Valley is not the same as for Port Hueneme. We have many different regions within Ventura County, so plant accordingly.

Know how big a particular plant will get so you can give it plenty of room to grow. This eliminates pruning, which reduces your workload and the greenwaste produced.

Since you are producing a natural habitat, add a water feature such as a fountain or bird bath to attract birds and butterflies.

Most natives for our area like to be planted in the fall. This way they can take advantage of the cooler weather and rain to help get established.

Research the bloom times for various natives. That way you can insure there is color in your yard throughout the year.

Use mulch around your plantings to reduce evaporation and discourage weeds. Never pile mulch or compost against the plant stem or trunk as this promotes rot.

A healthy native plant tends to be resistant to pest invasions so pesticides are rarely needed. Many birds and beneficial insects use them for food and habitat. Use pest products that are low in toxicity or designed for organic gardening so you don't harm wildlife.

Many native plants provide food and habitat for our dwindling butterfly populations.



The Channel Islands Chapter of the California Native Plant Society often hosts plant sales, workshops, hikes and educational speakers.

Their website contains quite a bit of information including the plants for the regions within Ventura County. Go to the "plant checklist" for more information. <http://www.cnpsci.org/>



Ladybugs are natural predators of garden pests.

What is Compost Tea?

As the name implies, compost tea is made by steeping compost in water. It's used as either a foliar spray or a soil drench.

Why go to the extra trouble of brewing, straining, and spraying a tea rather than just working compost into the soil?

There are several reasons. First, compost tea makes the benefits of compost go farther. What's more, when sprayed on the leaves, compost tea helps suppress foliar diseases, increases the amount of nutrients available to the plant, and speeds the breakdown of toxins. Using compost tea has even been shown to increase the nutritional quality and improve the flavor of vegetables.

There are several methods of making compost tea. One requires 2-3 days, mature compost, two 5-gallon buckets, a pump, some air tubing, a gang valve, three bubblers, molasses and a stick. You can also drain moisture from a hole in the bottom of a "worm box" (see section on Worm Composting).



Organic Gardening

Organic gardening is the art of raising food and other plants without the use of petrochemical pesticides, herbicides and fertilizers.

Managing Pests

The garden is part of a complex ecosystem in which plants, animals and insects interact on many levels. When you try to eliminate one particular weed or insect, your actions also affect other living species. Pesticides can kill bees and other helpful insects, birds, and earthworms, and contaminate water supplies.

There are many effective strategies for preventing and minimizing pest damage without using toxic chemicals. Keep in mind, however, that the complete elimination of pest damage is not realistic or even desirable.

- Healthy plants are less susceptible to insect attack. Grow plant varieties well adapted to your climate, soil, and light levels. They will be more vigorous than species which have to struggle to survive.
- Plant a variety of different kinds of vegetables and flowers so that no single pest can destroy your garden.
- Rotate your crops in the garden on a regular basis. Some insect pests and plant diseases can be greatly reduced if you do not plant the same crop in the same place year after year.
- Birds are an important predator of insect pests. Encourage birds to visit your garden by providing shelter and water for them.
- Keep garden beds covered with a thick layer of mulch, such as straw or compost, to suppress weed growth.
- While you may not enjoy seeing holes in your lettuce leaves, you can tolerate some nibbles as long as you get a good crop of unchewed ones. Plant extra for the insects.
- Sometimes pest problems in annuals can be reduced by timing their planting for periods when pest populations are low.
- When pest damage approaches unacceptable levels, begin with the least intrusive control tactics—usually physical controls such as hand removal of insects or affected leaves. If this is inadequate, you may need to try something a little more drastic, perhaps introduction of additional natural predators, such as lady bugs .
- The least toxic chemical control for most garden insects is a soap mixture. Insecticidal soap is available in any nursery. Don't forget to spray the undersides of the leaves—this is where most of the insects are.

Fertilizing Organically

Chemical fertilizers gradually kill off the biological activity in the soil and ruin its structure. Eventually, few organic nutrients remain, leaving crops completely dependent on fertilizer. Chemically dependent plants in turn have lowered resistance to insects and disease.

Fundamental to organic gardening is the building of healthy organic matter in the soil through the use of such materials as compost and manure. Most gardeners that use compost or compost tea do not find a need to buy and use commercial fertilizers.



Less Toxic Gardening

Insectary Plants

These plants attract beneficial insects to your home garden.

Annuals

Baby blue eyes (*Nemophila*)
Calendula (*Calendula officinalis*)
Cosmos (*Cosmos*)
Lupine (*Lupinus spp.*)
Marigold (*Tagetes*)
Sunflower (*Helianthus spp.*)
Sweet alyssum (*Lobularia maritima*)

Perennials

Calif. poppy (*Eschscholzia californica*)
Coreopsis (*Coreopsis*)
Crown-pink (*Lychnis coronaria*)
Feverfew (*Chrysanthemum parthenium*)
Monkey flower (*Mimulus*)
Sage (*Salvia spp.*)
Tansy (*Taenacetum vulgare*)
Yarrow (*Achillea spp.*)

Shrubs and Trees

Buckwheat (*Eriogonum spp.*)
Calif. wild lilac (*Ceanothus spp.*)
Coyote bush (*Baccharis spp.*)
Hollyleaf cherry (*Prunus ilicifolia*)
Lantana (*Lantana spp.*)
Lavender (*Lavandula spp.*)
Rosemary (*Rosmarinus officinalis*)
Toyon (*Heteromeles*)

Herbs

Coriander/cilantro (*Coriander sativum*)
Dill (*Anethum graveolens*)
Mint (*Mentha spp.*)
Oregano (*Origanum spp.*)
Parsley (*Petroselinum crispum*)
Thyme (*Thymus spp.*)



Encourage beneficial insects, which reduce pest populations, by planting insectary plants for a healthy garden

A healthy garden filled with a wide variety of flowering plants will be more resistant to significant pest damage. A healthy, diverse garden will also attract beneficial creatures, such as dragonflies, ladybugs, lacewings, syrphid flies, and tiny, non-stinging wasps, which feed on pests

Attracting Beneficial Insects

- Reduce or eliminate the use of broad-spectrum pesticides in your garden. Birds, pollinators, and other beneficial insects are often far more sensitive to pesticides than the pests you might be trying to kill. Once pesticides eliminate the beneficial insects, pests are free to multiply without a natural check. As pest populations rise, you may be tempted to spray more frequently, but some pesticides leave genetically resistant strains of pests to breed, creating an increasingly resistant pest population. The harder it becomes to kill the pest, the more you'll need to spray and the fewer natural enemies you'll have to help you out.
- Provide food and water for the adult forms of beneficial insects. Although many beneficial insects perform their pest control services only during an immature stage; the adult stage feeds on nectar and pollen. You can attract and keep a wide variety of beneficial insects in your garden by including flowering plants that are rich in pollen and nectar. The Box on this page lists a number of these "insectary" plants. Some adult beneficial insects also need water from dew, irrigation, or other sources to sustain them during dry periods.

Choosing the Right Plant

One of the most important preventive steps in the pest management process is selecting appropriate plants for a particular location. Usually we choose plants for their beauty, but to minimize pest problems, consider other plant characteristics and the site where it will grow. It's easier to plant a compatible species for your site than to try to alter the growing conditions.

- Understand the soil conditions in your yard. Soil conditions must match the requirements of your plants. For example, some plants are well adapted to salty or compacted soil or soil with poor drainage.
- Know the sun and shade characteristics of your garden. Consider times of day and different seasons.
- Know that watering requirements differ depending upon the soil and plant type.
- Select pest-and disease-resistant plants.
- Plant a diversity of species. This ensures that a single pest problem will not devastate your entire landscape.
- To attract and keep beneficial insects, include "insectary" plants in your landscape (see box on back).
- You can get help in choosing the right plants from California Certified Nurserymen, University of California Cooperative Extension Master Gardeners, Horticultural Consultants, ISA Certified Arborists (see the Yellow Page Index), or local gardening clubs. Also, see the books recommended on the backside of this fact sheet.

Planting & Caring For Your Plants

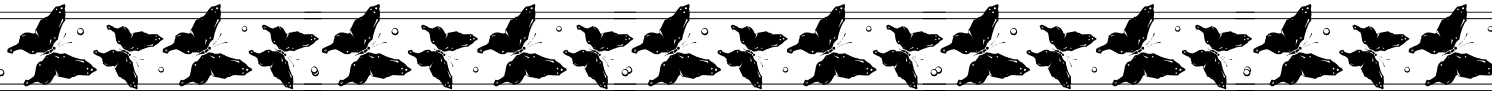
Start your plants out right by choosing healthy specimens and planting them properly. Keep your plants healthy by correctly watering, pruning, and fertilizing (if needed).

- Select plants that fit the container size they are in. Do not buy plants if roots are hanging out of the bottom, or if the plant appears to have out-grown the pot. Also check the "root crown," the region where the roots meet the stem or trunk. Don't buy the plant if that area is soft, rotten, or deformed.
- Don't pile soil around the plant any higher than the root crown. Don't plant in a depression that will allow water to wash soil down around the stem or trunk and cover the root crown. A continually moist root crown can cause rot.



Several Fact Sheets designed to help you handle specific pests in an environmentally friendly manner are available on-line at www.wasteless.org/8_2ipm_garden.html or by calling EERD at 805/289-3117.

- Since a young plant doesn't have an extensive root system, it can dry out quickly. Water thoroughly and keep the soil moist, but don't drown the plant.
- Cover bare soil with mulch. Mulch conserves soil moisture so plants don't dry out as quickly. A four-inch layer of mulch will prevent most annual weeds from growing, and any weeds that do sprout can be pulled out more easily. Remember the coarser the material, the fewer weeds you will have.
- Use a mulch of organic material (leaves, bark, or wood chips) on top of the soil to provide the soil with a slow, steady flow of nutrients to plants.
- Use organic fertilizers if soil testing indicates a need. Some types of soil testing kits are available at your local garden supply store and Fruit Growers Lab Inc. in Santa Paula (805/659-0910) can provide more extensive testing.
- Different plants require different kinds of pruning (if they need it at all). Learn how and when to prune your plants, and do so judiciously. Severe pruning can damage the plant and encourage pests and diseases.



Resources

Books

- *Backyard Composting*, 1992. Harmonious Technologies, Harmonious Press, Ojai, CA
- *Rodale Guide to Composting*, 1992. Organic Gardening Staff, Rodale Press, Emmaus, PA
- *Worms Eat My Garbage*, 1982. Mary Appelhof, Flower Press, Kalamazoo, MI

EERD Brochures

- Backyard Composting Questions and Answers
- Compost Bin Design Sheets (Wire mesh, wood & wire, 3-unit, and worm bins)

Workshops & Presentations

Many local jurisdictions conduct free backyard composting workshops and give presentations to groups and classrooms. Call your city recycling coordinator, or the Ventura County Environmental & Energy Resources Division at 805/289-3119 for more info.

Demonstration Gardens

Visit the following demonstration gardens to see composting bins and learn more:

- **Ojai**, Ojai Community Demonstration Garden, 415 Ventura Street
- **Thousand Oaks**, Conejo Valley Botanic Garden, Conejo Community Park, Dover & Hendrix Avenues.
- **Ventura**, Ventura Community Garden at Ventura College, Telegraph and Day Rd. and at the Ventura County Government Center, near the Service Building off of Hill Rd.

Composting Links

- The Compost Resource Page <http://www.howtocompost.org/>
- Composting for Home Gardens <https://composting.ces.ncsu.edu/home-composting/>
- Backyard Magic - The Composting Handbook <https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/LandWaste-TerreDechets/Composting-Compostage/CompostingHandbook.pdf>
- Composting with Red Wiggler Worms <http://www.cityfarmer.org/wormcomp61.html>
- Brewing Compost Tea <http://www.taunton.com/finegardening/pages/g00030.asp>

EERD website information

Visit the EERD website for information on sustainable landscaping, compost bin designs, worm vendors, less toxic gardening, local greenwaste processing facilities, and how to apply for a Greenwaste Fee Exemption at www.wasteless.org/7_2_1compost.html for information on:

Other Great Links

For a comprehensive listing of great websites on a variety of sustainable landscaping topics, go to www.wasteless.org/8_2ipm_garden.html

Household Hazardous Waste Collection

To dispose of unwanted pesticides, fertilizers, and other hazardous materials like paint, oil and cleaners, call 805/289-3110 to schedule an appointment.

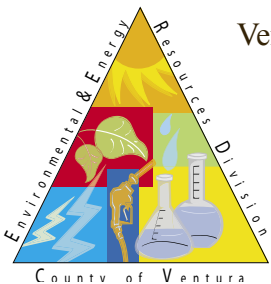
Master Gardeners of Ventura County

The University of California Cooperative Extension operates a free gardening assistance helpline for residents. Call 805/645-1455.



“Never doubt that a group of thoughtful committed citizens can change the world: indeed it’s the only thing that ever has.”

Margaret Mead



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Water & Sanitation Department
Public Works Agency
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