

Bagged Soil Mixes for Garden and Container Uses

The following information provides some basics on bagged soils that can be purchased at home centers and nurseries. This should not be considered a definitive list or guide about the differences between bagged top soils, garden soils and/or potting soils. It just provides basic information. When using these products read all the information on the packaging that provides directions on how to use it and recommendations for fertilizer usage.

There are several examples of bagged soil labels that follow from different manufacturers. The information on how the medium is used and its ingredients, including nutrients, is either outlined in red or white. Brick Township Municipal Utilities Authorities and the Ocean County Soil Conservation District do not endorse these products. They are being used for informational purposes only.

Rutgers Soil Testing Lab does analyze Organic Media (potting soil and compost). This information is provided. If you are buying bagged products from a home center or nursery, content information should be on the package.

This information has been researched by Brick Township Municipal Utilities Authority and not by the Ocean County Soil Conservation District.

Garden Soil



Contains sand,
silt, clay,
loam, minerals.

- ◆ Also called Top Soil, are used for in the ground filling garden beds, raised beds and hollows in the lawn.
- ◆ Not good for container gardening because it can become compacted and waterlogged, reducing air space around roots (stunts growth).
- ◆ May contain weed seeds, insects and diseases if not sterilized.
- ◆ May contain compost or manure.
- ◆ Contains some nutrients.

(Always check the bag for ingredients and use)

Potting Soil



Contains rocks,
minerals,
plant matter.

<https://gardenerdy.com/garden-soil-vs-potting-soil/>

- ◆ Also called Potting Mixes, are made for growing plants in containers.
- ◆ Light weight.
- ◆ Retains moisture.
- ◆ Supplies air space around the roots.
- ◆ Contains an organic component (peat moss, compost, bark or coir).
- ◆ Contains a moisture retaining component (vermiculite or perlite).
- ◆ Contains some nutrients.
- ◆ May contain sand.
- ◆ May contain limestone.
- ◆ May contain fertilizers.
- ◆ May be pasteurized (sterilized) killing any weed seeds, diseases and pests within the mix.

(Always check the bag for ingredients and use)

DR. EARTH®

HomeGrown® SIMPLE & ORGANIC POTTING SOIL

POTTING CONTAINERS: INDOOR & OUTDOOR

...to ensure future root growth. Make sure that the container has at least one drain hole to allow for proper drainage. Good drainage is very important! Fill the container with Dr. Earth® HomeGrown® Potting Soil until it is filled to a level that allows the base of the plant to sit 1 inch below the top of the container. Finish filling the container with potting soil until the level of the soil is even with the top of the plant's own root mass. Gently compress the potting soil around the roots to remove air pockets. When complete, the soil level of the finished container should be approximately 1 inch below the top of the container. Water thoroughly. We recommend using Dr. Earth® HomeGrown® Potting Soil in any size container.

POT & CONTAINER PLANTING INSTRUCTIONS

It is important to choose a container big enough to accommodate the plant's future growth. Check that the container has sufficient drain holes. Good drainage is very important!



SEED STARTING

Fill the container with Dr. Earth® HomeGrown® Potting Soil to 1 inch below the top of the container. Water the soil well. Plant your seeds according to the package directions. Water well. Keep the soil moist and out of direct sunlight for best results. Use Dr. Earth® HomeGrown® Potting Soil in any size container.

ESTABLISHING CUTTINGS

Fill the container with Dr. Earth® HomeGrown® Potting Soil to 1 inch below the top of the container. Water well. Make holes with a pencil approximately 2 inches deep. Insert the cuttings into the pencil hole after they have been dipped into a rooting hormone. Keep the soil moist and out of direct sunlight for best results.

TREES AND SHRUBS

Select a site with good drainage and the proper sun exposure. If water stands or the soil is often soggy, a raised planter may be preferable. Dig a hole twice as wide as the root structure, and almost as deep as the root ball. Create a soil blend by mixing 1 part your soil with 1 part Dr. Earth® HomeGrown® Potting Soil along with Dr. Earth® Premium Gold® All Purpose Fertilizer according to product directions. Remove container and carefully score and loosen the sides and bottom of the root ball. Plant so that the root ball rests 1 inch above ground level. Backfill with soil blend around the root ball, firming in the sides to prevent settling. Only backfill to existing ground level. Use the remainder of your garden soil to make a 4 inch tall raised ring around the edge of the hole. Add more Dr. Earth® Premium Gold® All Purpose Fertilizer according to product instructions around the plant, then mulch with Dr. Earth® HomeGrown® Potting Soil in a 2 inch layer, being careful not to build up around the trunk of the plant. Water thoroughly.

BARE ROOT PLANTING

Dig an extra large hole (usually twice the size of the plant's root structure). Mix the soil from the hole with an equal amount of Dr. Earth® Pot of Gold® All Purpose Potting Soil. Put the new soil mixture into the hole to form a mound at the bottom of the hole until the mound is high enough to allow the base of the plant to sit at ground level. Sprinkle Dr. Earth® Premium Gold® All Purpose Fertilizer on top of the mound and scratch into the soil. Place the plant in the hole arranging the roots around the mound. Hold the plant in place and fill the hole around and over the roots to 1 inch below the ground level. Water well and allow to drain. Once it has drained fill the hole to the original soil level with more soil mixture. Water thoroughly once again.

THIS BAG WILL FILL

12-14 one-gallon containers; 6-7 two-gallon containers; 2.5-3 five-gallon containers

INGREDIENTS: Aged fir bark, fir bark, sphagnum peat moss, perlite, alfalfa meal, fishbone meal, bone meal, feather meal, kelp meal ecto & endo mycorrhizae, beneficial soil microbes, dolomite lime (pH adjusters) and wetting agent.

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS:

	Colony Forming Units (CFU)/gram
Bacillus amyloliquefaciens	50,000
Bacillus licheniformis	50,000
Bacillus megaterium	15,000
Bacillus pumilus	15,000
Bacillus subtilis	15,000

MYCORRHIZAE:

Endomycorrhizae (VAM):	Propagules/gram	Ectomycorrhizae:	Propagules/gram
Glomus aggregatum	0.0038	Laccaria laccata	0.77
Glomus clarum	0.0038	Laccaria bicolor	0.77
Glomus deserticola	0.0038	Pisolithus tinctorius	31.26
Glomus etunicatum	0.0038	Rhizopogon villosulus	0.77
Glomus intraradices	0.0038	Rhizopogon luteolus	0.77
Glomus mosseae	0.0038	Rhizopogon amylopogon	0.77
Glomus monosporum	0.0038	Rhizopogon fulvigleba	0.77
Paraglomus brasilianum	0.0038	Scleroderma cepa	1.56
Gigaspora margarita	0.0038	Scleroderma citrinum	1.56

STORAGE: Store in a dry cool place. Avoid direct sunlight.

EXPIRATION DATE: Best if used before:



F1832

Information regarding the contents and levels of minerals in this product is available on the internet at <http://www.aapl.com/minerals.html>

OTHER GARDEN PROJECTS

Dr. Earth® HomeGrown® Potting Soil is great for many projects in the garden. In addition to container planting, our potting soil can be used as a soil amendment for in-ground planting: Trees, Shrubs, Bare Root Planting, Flowers and Vegetables; Mulching; Seed Cover.

TRUBIOTIC® FOR SOIL

TruBiotic® is a broad spectrum biological soil inoculant. It consists of beneficial soil microbes and mycorrhizal fungi designed to bring life to all soil types in backyard gardens or container plants.

Guaranteed by Dr. Earth, Co. - Except for the manufacturer's express warranties and guarantees of this product, to the full extent permitted by applicable law, the company disclaims all other warranties, including but not limited to implied warranties of merchantability and fitness for a particular purpose. The company will not be liable for any damages of any kind arising from the use of the product, including but not limited to direct, indirect, incidental, punitive and consequential damages. This limitation of liability shall be applicable to any claim regardless of legal theory, and whether such legal theory involves tort, negligence, contractual liability or otherwise. Your exclusive remedy shall be limited to a refund of the purchase price for the product. Certain state laws may not allow limitations on implied warranties or the exclusion or limitation of certain damages. If these laws apply to you, some or all of the above disclaimers, exclusions or limitations may not apply to you, and you may have additional rights.

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P.O. BOX 460, Winters, CA 95694
707-448-4676 - www.drearth.com





IDEAL FOR:

VEGETABLES & FLOWERS

indoor & outdoor



DR. EARTH 

Free [®]

FREE & CLEAR:
✓ No Animal Byproducts
✓ No Chicken Manure
✓ No Chemicals

Organic
& NATURAL

ALL PURPOSE BLEND

VEGETARIAN
POTTING SOIL



DR. EARTH®

Free®

ALL PURPOSE BLEND

VEGETARIAN POTTING SOIL

POTTING CONTAINERS: INDOOR & OUTDOOR

Select a container large enough to provide ample room for future growth. Make sure that the container has at least one drain hole to allow for proper drainage. Good drainage is very important! Fill the container with Dr. Earth® Free® All Purpose Blend Vegetarian Potting Soil until it is filled to a level that allows the base of the plant to sit 1 inch below the top of the container. Finish filling the container with Dr. Earth® Free® All Purpose Blend Vegetarian Potting Soil until the level of the soil is even with the top of the plant's own root mass. Gently compress the Dr. Earth® Free® All Purpose Blend Vegetarian Potting Soil around the roots to remove air pockets. When complete, the soil level of the finished container should be approximately 1 inch below the top of the container. Water thoroughly. We recommend using Dr. Earth® Free® All Purpose Blend Vegetarian Potting Soil in any size container.



SEED STARTING

Fill the container with Dr. Earth® Free® All Purpose Blend Vegetarian Potting Soil to 1 inch below the top of the container. Water the soil well. Plant your seeds according to the package directions. Water well. Keep the soil moist and out of direct sunlight for best results. Use Dr. Earth® Free® All Purpose Blend Vegetarian Potting Soil in any size container.

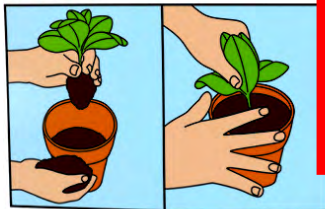
ESTABLISHING CUTTINGS

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SUCCESS TIP



Transplanting Starters: Fill pot with soil as high as the bottom of the root ball. Add fertilizer. Mix well. Transplant. Add more soil to fill to 1 inch below the top of pot.

INGREDIENTS: Aged fir bark, fir bark, perlite, sphagnum peat moss, composted green waste, sawdust, alfalfa meal, kelp meal, ecto & endo mycorrhizae, beneficial soil microbes, dolomite lime (pH adjuster) and wetting agent.

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS:

	Colony Forming Units (CFU)/gram
Bacillus amyloliquefaciens	50,000
Bacillus licheniformis	50,000
Bacillus megaterium	15,000
Bacillus pumilus	15,000
Bacillus subtilis	15,000

MYCORRHIZAE:

Endomycorrhizae (VAM):	Propagules/gram	Ectomycorrhizae:	Propagules/gram
Glomus aggregatum	0.0038	Laccaria laccata	0.77
Glomus clarum	0.0038	Laccaria bicolor	0.77
Glomus deserticola	0.0038	Pisolithus tinctorius	31.26
Glomus etunicatum	0.0038	Rhizopogon villosulus	0.77
Glomus intraradices	0.0038	Rhizopogon luteolus	0.77
Glomus mosseae	0.0038	Rhizopogon amylopogon	0.77
Glomus monosporum	0.0038	Rhizopogon fulvigleba	0.77
Paraglomus brasilianum	0.0038	Scleroderma cepa	1.56
Gigaspora margarita	0.0038	Scleroderma citrinum	1.56

STORAGE: Store in a dry cool place. Avoid direct sunlight.

EXPIRATION DATE: Best if used before:



Information regarding the contents and levels of metals in this product is available on the internet at <http://www.aapfco.org/metals.html> F1832

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Grow Better. Live Better



MANURE FREE • ODOR FREE



DR. EARTH

Raised Bed

Organic
& NATURAL

HAND CRAFTED BLEND

**RAISED BED
POTTING MIX**

**TruBiotic[®]
Inside**

*Beneficial soil microbes
plus Mycorrhizae*

IDEAL FOR:

Vegetables & Ornamental Beds

1.5 CUBIC FEET • 42.5 LITERS • 38.5 DRY QUARTS



PRODUCT OF USA PLEASE RECYCLE



DR. EARTH®

Raised Bed **POTTING MIX**

RAISED BEDS are a gardener's best friend. Easy to plant and maintain, they are beautiful and practical, making them a valuable asset for all serious gardeners. The soil in raised beds warms and dries out earlier in the spring than regular garden beds, so you can get planting sooner. Raised beds allow you to garden without fighting stones and roots, and the soil stays well aerated since it does not get walked on. The biggest advantage of raised bed gardening is the light, crumbly, absolutely perfect soil you are able to work with as a result.

SEED STARTING

Plant your seeds according to the package directions. Water well. Keep the soil moist and the seeds covered with mulch to help maintain consistent moisture.

HOW TO USE

Fill your bed with Dr. Earth® Raised Bed Potting Mix until it is level and 2 inches below the top of the raised beds sides. Leveling the soil will allow for even settling after watering.

SUCCESS TIPS FOR RAISED BED GARDENING:

AVOID STEPPING ON THE SOIL

When you build a raised bed, build it so that you are able to reach every part of the bed without having to step on the soil. If you already have a raised bed and find that you have to walk on parts of it, consider installing strategically placed patio pavers or boards and only step on those rather than on the soil. Do not compact the soil.



PLAN AN IRRIGATION SYSTEM

Two of the best ways to irrigate a raised bed are by soaker hose and drip irrigation. If you plan ahead of time and install your irrigation system before planting, you can save yourself additional work and time spent on manual watering.



INSTALL A BARRIER TO ROOTS, WEEDS & PESTS

If you have large trees in the area or want to ensure that you will not have weeds growing up through your high-quality soil, consider installing a barrier at the bottom of the bed before soil is added. This could be a commercial weed barrier or heavy plastic sheeting. Wire mesh can also be laid across the bottom to ensure ground pests do not enter the raised bed for the perfect feast.



TOP-DRESS ANNUALLY

Gardening in a raised bed is essentially like gardening in a large container. As with any container garden, the soil will settle and get depleted. You can keep the bed full of fresh matter by adding a 1 to 2-inch layer of organic mulch or compost each spring before you start planting.



CULTIVATE & AERATE

Open the soil with a fork cultivator before and after each crop to lighten compacted soil in your raised bed. Simply stick a garden fork as deeply into the soil as possible and wiggle it back and forth. Repeat at 8 to 12-inch intervals all over the bed and your soil will be nicely loosened without backbreaking work.



COVER SOIL, EVEN WHEN YOU'RE NOT GARDENING

Add a layer of organic mulch or plant a cover crop at the end of your growing season. Soil that is exposed to harsh winter weather breaks down and compacts much faster than protected soil.



INGREDIENTS: Composted green waste, fir bark, sphagnum peat moss, sand, perlite, alfalfa meal, fishbone meal, bone meal, feather meal, kelp meal, ecto & endo mycorrhizae and beneficial soil microbes.

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS:

	Colony Forming Units (CFU)/gram
Bacillus amyloliquefaciens	50,000
Bacillus licheniformis	50,000
Bacillus megaterium	15,000
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Bacillus subtilis	15,000

MYCORRHIZAE:

Endomycorrhizae (VAM): Propagules/gram	Ectomycorrhizae: Propagules/gram
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0.0038	0.77
Glomus clarum	Laccaria bicolor
0.0038	31.26
Glomus deserticola	Pisolithus tinctorius
0.0038	0.77
Glomus etunicatum	Rhizopogon villosulus
0.0038	0.77
Glomus intraradicis	Rhizopogon luteolus
0.0038	0.77
Glomus mosseae	Rhizopogon amyloporum
0.0038	0.77
Glomus monosporum	Rhizopogon fulvileba
0.0038	1.56
Paraglomus brasiliannum	Scleroderma cepa
0.0038	1.56
Gigaspora margarita	Scleroderma citrinum
0.0038	1.56

STORAGE: Store in a dry cool place. Avoid direct sunlight.

EXPIRATION DATE: Best if used before:



F1832

Information regarding the contents and levels of metals in this product is available on the internet at <http://www.agriculture.com/health.html>

TRUBIOTIC® FOR SOIL

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50 Lbs. (22.6 Kg) BACCTO® Top Soil

BACCTO®

Top Soil

Formulated to loosen heavy soils
and enhance water retention

Dark blend of reed sedge peat and sand

Ready to use, no further mixing required

Carefully screened and formulated

Use for top dressing lawns and planting beds

NET WEIGHT 50 lbs. (22.6 Kg)

Nature and Science — In Balance™

50 Lbs. (22.6 Kg) BACCTO® Top Soil



BACCTO[®]

Garden Soil

BACCTO[®]
Garden Soil

BY VOLUME 1 CU. FT. (28L)

Blend of moist horticultural sphagnum
peat moss and odor-free manure

For outdoor gardens and
landscape plantings

Ready to use

BY VOLUME 1 CU. FT. (28L)



BEACON

Includes starter and slow release fertilizers

Premium Potting Soil

Complete and ready to use

A general-purpose potting soil for indoor and outdoor planting in containers and beds

Contains a dark blend of reed sedge peat and other materials, including starter and slow-release fertilizers to help plants thrive



PERFORMANCE organics™



RAISED BED MIX
MEZCLA PARA MACIZOS ELEVADOS



RAISED BED MIX
MEZCLA PARA MACIZOS ELEVADOS

PERFORMANCE
organics™

UP TO **2X** MORE BOUNTY.†
GUARANTEED.*

MIRACLE-GRO® RESULTS
ORGANIC & NATURAL INGREDIENTS

blended with
AGED COMPOST

NO MIXING!
ready to use

HASTA EL DOBLE DE ABUNDANCIA.* GARANTIZADO.*
RESULTADOS MIRACLE-GRO®
INGREDIENTES ORGANICOS Y NATURALES
mezclada con composta madura
no necesita mezclarse lista para usar



†vs unfiled plants
*see back of pack for guarantee
†en comparación con plantas sin fertilizar
*ver la garantía al reverso del paquete

NET CONTENTS / CONTENIDO NETO 1.3 CU FT / PIES CUBICOS (36.81 L)





PERFORMANCE organics™

RAISED BED MIX

MEZCLA PARA MACIZOS ELEVADOS

Astonishing results, every time – that has always been the Miracle-Gro mission. Miracle-Gro® Performance Organics™ Raised Bed Mix delivers the Miracle-Gro results you expect with the ingredients you want. What does that mean for you? **TWICE the bounty* – from your raised bed - more vegetables, flowers and herbs - with organic and natural ingredients.**



UP TO **1.3 CF**

INSTRUCTIONS

INSTRUCCIONES

We recommend wearing gardening gloves when using this or other planting materials. Use with adult supervision and wash hands after use. *Recomendamos usar guantes de jardinería al utilizar este u otros insumos para sembrar. Usarlo bajo la supervisión de un adulto y lávese las manos al terminar.*

FOR RAISED BEDS

PARA MACIZOS ELEVADOS

1. Fill raised bed with soil.
1. Llene el macizo elevado con tierra.
2. Plant new plants or seeds.
2. Plante o siembre nuevas planta o semillas.
3. Water.
3. Riegue.
4. Apply mulch (optional).
4. Aplique mantillo (opcional).

HOW MUCH DOES YOUR RAISED BED NEED?

¿CUÁNTO NECESITA PARA SU MACIZO ELEVADO?

Area	6" Raised Bed	12" Raised Bed	20" Raised Bed
2' x 2' Bed Macizo de 60 x 60 cm	2 cubic feet/2 bags 0.57 metros cúbicos/2 bolsas	4 cubic feet/3 bags 1.13 metros cúbicos/3 bolsas	6.7 cubic feet/6 bags 1.90 metros cúbicos/6 bolsas
4' x 4' Bed Macizo de 1.2 x 1.2 m	8 cubic feet/7 bags 0.22 metros cúbicos/7 bolsas	16 cubic feet/13 bags 0.43 metros cúbicos/13 bolsas	26.8 cubic feet/21 bags 0.73 metros cúbicos/21 bolsas
4' x 8' Bed Macizo de 1.2 x 2.4 m	16 cubic feet/13 bags 0.43 metros cúbicos/13 bolsas	32 cubic feet/25 bags 0.90 metros cúbicos/25 bolsas	53.5 cubic feet/41 bags 1.51 metros cúbicos/41 bolsas
Two 2' x 8' Beds Dos macizos de 0.6 x 2.4 m	16 cubic feet/13 bags 0.43 metros cúbicos/13 bolsas	32 cubic feet/25 bags 0.90 metros cúbicos/25 bolsas	53.5 cubic feet/41 bags 1.51 metros cúbicos/41 bolsas

OUR COMMITMENT TO SUSTAINABILITY

DID YOU KNOW THAT YOU'RE PARTNERING WITH US IN ONE OF THE WORLD'S LARGEST RECYCLING EFFORTS? Each year, we beneficially reuse millions of pounds of material from yards, farms, and forests in our Miracle-Gro® Performance Organics™ soils, potting mixes and natural plant foods, to help you grow plants that enhance your environment and make the world more beautiful.

DEDICATED TO A BEAUTIFUL WORLD® Trusted by generations of gardeners, Miracle-Gro® is dedicated to helping you enhance and protect the natural beauty of your home environment. *Miracle-Gro®*

FOR EVEN MORE SPECTACULAR RESULTS

Consider starting a regular feeding program with Miracle-Gro® Performance Organics™ plant food. For more information, visit www.miraclegro.com.

SO MUCH GOOD STUFF, WE ALMOST RAN OUT OF ROOM.

INGREDIENTS
This product is formulated from (one or more of the following): compost, processed forest products, peat, and/or rice hulls), sphagnum peat moss, processed forest products, soil, compost, fertilizer (see below), and yucca.

In California, this product is formulated from compost, processed forest products, sphagnum peat moss, soil, fertilizer (see below), and yucca.

In Oregon, this product is formulated from compost, processed forest products, sphagnum peat moss, soil, fertilizer (see below), and yucca.

In Texas, this product is formulated from compost, processed forest products, sphagnum peat moss, soil, fertilizer (see below), and yucca.

In Idaho, this product is formulated from compost, processed forest products, sphagnum peat moss, soil, fertilizer (see below), and yucca.

In Georgia, this product is formulated from 60-70% processed forest products, sphagnum peat moss, soil, fertilizer (see below), and yucca.

In New Hampshire, this product is formulated from plant material, compost, processed softwood bark, processed forest products, sphagnum peat moss, soil, fertilizer (see below), and yucca.

NET WEIGHT 26 LB (11.79 KG)

MIRACLE-GRO® PERFORMANCE ORGANICS™
RAISED BED MIX 0.11 - 0.02 - 0.02

GUARANTEED ANALYSIS		F144
Total Nitrogen (N)	0.005% Water Soluble Nitrogen	0.11%
0.01% Water Insoluble Nitrogen**	Available Phosphorus (P ₂ O ₅)	0.02%
Soluble Potash (K ₂ O)		0.02%

Derived from: feather meal, soybean meal, bone meal, and sulfate of potash.
**This product contains 0.10% slowly available nitrogen from feather meal, soybean meal, and bone meal.

Information regarding the contents and levels of metals in this product is available on the internet at <http://www.regulatory-info-sc.com>

SATISFACTION GUARANTIZADA O SU DINERO DE VUELTA

Within 6 months of purchase if you, the consumer, are not completely satisfied with the results after using this product, we will refund your purchase price in full. Simply send proof of purchase and register receipt to: Miracle-Gro Lawn Products, Inc., P.O. Box 267, Marysville, OH 43041.

SATISFACCIÓN GARANTIZADA O LE DEVOLVEMOS SU DINERO

Si luego de utilizarlo usted el producto, no está completamente satisfecho con los resultados de este producto dentro de los primeros 6 meses después de su compra, le reembolsaremos el precio total que pagó. Tan sólo envíe su comprobante de compra y el recibo de la caja registradora a: Miracle-Gro Lawn Products, Inc., P.O. Box 267, Marysville, OH 43041.

DISCLAIMER AND LIMITATION OF LIABILITY

This product is intended only as a consumer product and not as a commercial growing medium. No warranty or representation is made, expressed or implied, concerning the results to be obtained from the use of this product if not used in accordance with the directions or established safe practices. The exclusive remedy of the user or buyer, and the limit of liability of the Scotts Company LLC or its affiliates, for any losses, damages, or injuries resulting from the use or handling of this product shall be the refund of the purchase price.

RENUNCIA Y LIMITACIÓN DE RESPONSABILIDAD

Este producto está diseñado únicamente a los pequeños consumidores y no es un medio de cultivo comercial. No se hace ninguna garantía ni representación, expresa o implícita, en cuanto a los resultados que pueden obtenerse con el uso de este producto si no se usa de acuerdo con las instrucciones o las prácticas de seguridad establecidas. El recurso exclusivo del usuario o comprador, y el límite de responsabilidad de The Scotts Company LLC o sus afiliadas por cualquier pérdida, daño o lesión a consecuencia del uso o manejo de este producto, será el reembolso del precio de compra.

CERTIFIED PRODUCT

<input checked="" type="checkbox"/>	Premium Potting Soil
<input checked="" type="checkbox"/>	Standard Potting Soil
<input checked="" type="checkbox"/>	Landscape Soil & Soil Amendment
<input checked="" type="checkbox"/>	Specialty Soils
<input checked="" type="checkbox"/>	Mulch

PRODUCTO CERTIFICADO

<input checked="" type="checkbox"/>	Tierra superior para macetas
<input checked="" type="checkbox"/>	Tierra estándar para macetas
<input checked="" type="checkbox"/>	Tierra para el césped y el jardín y empujadas para la mejora de la tierra
<input checked="" type="checkbox"/>	Tierra de especialidad
<input checked="" type="checkbox"/>	Pajote

This product has been registered and tested for conformance to the standards of the Mulch & Soil Council for the indicated product category. The Mulch & Soil standards do not contain a product category for pesticides, and this certification mark does not apply to pesticide claims. For more information, refer to the MSC website at www.mulchandsoilcouncil.org.

Este producto se ha registrado y ha sido probado para la conformidad con los estándares del Mulch & Soil Council para la categoría indicada del producto. Los estándares del Mulch & Soil Council no contienen una categoría del producto para pesticidas, y por esta razón la certificación no aplica a reclamos de pesticidas. Para más información, refiérase a www.mulchandsoilcouncil.org.

PROOF OF PURCHASE

Miracle-Gro Lawn Products, Inc.
14111 Scottslawn Road
Marysville, OH 43041
1-866-GROW BIG
1-866-476-9244

For Additional Gardening Tips Visit www.miraclegro.com

PRODUCT: 4958450
MATERIAL: 95762

VID-TRM

UP TO **2X MORE BOUNTY***
2X GUARANTEED.
*See back of pack for guarantee details. *HASTA EL DOBLE DE ABUNDANCIA. * GARANTIZADO.*

UP TO **1.3 CF**





PERFORMANCE organics®

ALL PURPOSE
 **CONTAINER MIX**
 MEZCLA UNIVERSAL PARA MACETAS

2X MORE BOUNTY.†
GUARANTEED.*

MIRACLE-GRO® RESULTS
ORGANIC & NATURAL INGREDIENTS

blended with
**AGED
COMPOST**

plant nutrition
feeds up to
3 MONTHS



EL DOBLE DE ABUNDANCIA.† • GARANTIZADO.*
RESULTADOS MIRACLE-GRO®
INGREDIENTES ORGÁNICOS Y NATURALES
combinada con COMPOSTA MADURA
nutrientes que fertilizan por hasta 3 MESES

†vs unfed plants
*see back of pack for guarantee
†en comparación con plantas sin fertilizar
*ver la garantía al reverso del paquete

NET CONTENTS / CONTENIDO NETO: 1 CU FT / PIE CUBICO (28.3 L)





PERFORMANCE organics®

ALL PURPOSE CONTAINER MIX

Astonishing results, every time - that has always been the Miracle-Gro mission. Miracle-Gro® Performance Organics® delivers the Miracle-Gro results you expect with the ingredients you want. What does that mean for you? **TWICE the bounty!** - more vegetables, flowers, and herbs - with organic and natural ingredients.
*vs unfed plants

INSTRUCTIONS INSTRUCCIONES

We recommend wearing gardening gloves when using this or other planting materials. Use with adult supervision and wash hands after use. Le recomendamos usar guantes de jardinería al utilizar este u otros insumos para sembrar. Úselo bajo la supervisión de un adulto y lávese las manos al terminar.

TRANSPLANTING TRANSPLANTE



1. Select a pot with a drain hole.

1. Escoga una maceta que tenga un hoyo de drenaje.



2. Fill pot about 1/3 full.

2. Llene aproximadamente 1/3 de la maceta.



3. Loosen root ball before placing in new pot.

3. Afloje el cepellón antes de colocar en una nueva maceta.



4. Add more mix, stopping 1/2" from rim, press lightly.

4. Añada más de la mezcla hasta llegar a 1/2 pulgada (1.3 cm) del borde y presione ligeramente.



5. Water, let drain.

5. Riegue y deje que drene.

SEEDING SIEMBRA



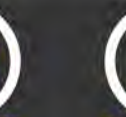
1. Select a pot with a drain hole.

1. Escoga una maceta que tenga un hoyo de drenaje.



2. Fill pot to 1/2" from rim.

2. Llene la maceta hasta 1/2 pulgada (1.3 cm) del borde.



3. Seed according to directions.

3. Siembre siguiendo las instrucciones.



4. Water, let drain.

4. Riegue y deje que drene.

LIGHTING
Refer to plant tags for specific sun or shade needs.
Consulte las instrucciones específicas de cada planta en la etiqueta de la planta.

WATERING
Let mix dry to the touch between waterings. Do not allow plants to sit in drainage water. Outdoor container plants require more frequent watering than indoor plants. This may be daily in hot weather.
Deje que la mezcla seque al tacto entre riegos. No permita que las plantas se sumerjan en agua estancada. A los plantas de exterior se les requiere un riego más frecuente que a las plantas de interior. Esto puede ser diario en climas cálidos.

REPOTTING
Repotting annually to the next larger size container will encourage fruit and bloom production.
Replantamiento: El replantamiento anual a la siguiente maceta más grande estimulará la producción de frutos y flores.

OUR COMMITMENT TO SUSTAINABILITY

DID YOU KNOW THAT YOU'RE PARTNERING WITH US IN ONE OF THE WORLD'S LARGEST RECYCLING EFFORTS? Each year, we beneficially reuse millions of pounds of material from yards, farms, and forests in our Miracle-Gro® Performance Organics® soils, potting mixes and natural plant foods, to help you grow plants that enhance your environment and make the world more beautiful.

DEDICATED TO A BEAUTIFUL WORLD®

Trusted by generations of gardeners, Miracle-Gro® is dedicated to helping you enhance and protect the natural beauty of your home environment.

FOR EVEN MORE SPECTACULAR RESULTS

Consider starting a regular feeding program with Miracle-Gro® Performance Organics® plant food 30 days after planting.

SO MUCH GOOD STUFF, WE ALMOST RAN OUT OF ROOM.

INGREDIENTS
This product is formulated from sphagnum peat moss, processed forest products, perlite, compost, fertilizer (see below) and yucca.

In Georgia this product is formulated from 45 - 55% sphagnum peat moss, processed forest products, perlite, compost, fertilizer (see below), and yucca.

In New Hampshire this product is formulated with sphagnum peat moss, processed softwood bark, perlite, compost, fertilizer (see below), and yucca.

NET WEIGHT 13 LB (5.89 KG)
MIRACLE-GRO® PERFORMANCE ORGANICS®
ALL PURPOSE CONTAINER MIX 0.19 - 0.03 - 0.03

GUARANTEED ANALYSIS		FT144
Total Nitrogen(N)	0.19%	0.19%
0.01% Water Soluble Nitrogen		
0.18% Water Insoluble Nitrogen***		
Available Phosphate (P ₂ O ₅)	0.03%	0.03%
Soluble Potash (K ₂ O)	0.03%	0.03%

Derived from feather meal, soybean meal, bone meal, and sulfate of potash.
***This product contains 0.18% slowly available nitrogen from feather meal, soybean meal, and bone meal.
Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.regulatory-info-sc.com>

GUARANTEED SATISFACTION OR YOUR MONEY BACK!

¡SATISFACCIÓN GARANTIZADA O LE DEVOLVEMOS SU DINERO! (SÓLO EN LOS EE.UU.)

Within 6 months of purchase if you, the consumer, are not completely satisfied with the results after using this product, we will refund your purchase price in full. Simply send proof of purchase and register receipt to:

Miracle-Gro Lawn Products, Inc.,
P.O. Box 267, Marysville, OH 43041.

Si usted, el consumidor, no está completamente satisfecho con los resultados de este producto luego de utilizarlo dentro de los primeros 6 meses después de su compra, le reembolsaremos el precio total que pagó. Tan sólo envíe su comprobante de compra y el recibo de la caja registradora a: Miracle-Gro Lawn Products, Inc., P.O. Box 267, Marysville, OH 43041.

DISCLAIMER AND LIMITATION OF LIABILITY:

This product is intended only as a consumer product and not as a commercial growing medium. No warranty or representation is made, expressed or implied, concerning the results to be obtained from the use of this product if not used in accordance with the directions or established safe practices. The exclusive remedy of the user or buyer, and the limit of liability of The Scotts Company LLC or its affiliates, for any losses, damages, or injuries resulting from the use or handling of this product shall be the refund of the purchase price.

RENUNCIA Y LIMITACIÓN DE RESPONSABILIDADES:

Este producto está dirigido únicamente a los pequeños consumidores y no es un medio de cultivo comercial. No se hace ninguna garantía ni representación, expresa o implícita, en cuanto a los resultados que puedan obtenerse con el uso de este producto si no se usa de acuerdo con las instrucciones o las prácticas de seguridad establecidas. El recurso exclusivo del usuario o comprador, y el límite de responsabilidad de The Scotts Company LLC o sus afiliadas por cualquier pérdida, daño o lesión a consecuencia del uso o manejo de este producto, será el reembolso del precio de compra.

CERTIFIED PRODUCT

<input checked="" type="checkbox"/>	Premium Potting Soil
<input type="checkbox"/>	Standard Potting Soil
<input type="checkbox"/>	Landscape Soil & Soil Amendment
<input type="checkbox"/>	Specialty Soils
<input type="checkbox"/>	Mulch

PRODUCTO CERTIFICADO

<input checked="" type="checkbox"/>	Tierra superior para macetas
<input type="checkbox"/>	Tierra estándar para macetas
<input type="checkbox"/>	Tierra para el césped y el jardín y enmiendas para la mejora de la tierra
<input type="checkbox"/>	Tierra de especialidad
<input type="checkbox"/>	Pajote

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Guaranteed by: Miracle-Gro Lawn Products, Inc. 14111 Scottslawn Road Marysville, OH 43041 1-866-GROW BIG 1-866-476-9244

Organic Media Sampling Instructions

Taking a representative sample for testing is a critical process for accurate evaluation and appropriate recommendations. Please follow these directions carefully.

Sampling Instructions for Greenhouse Crops

1. Growing media should be tested every 4 weeks during the growing season. Samples should be taken just **before** weekly fertilization.
2. Each sample should represent only one bed (one crop) in one greenhouse. Where poor growth exists, sample separately both good and bad areas (2 samples) for comparison of soil test results.
3. From the areas between growing plants, use hand or trowel to obtain growing mix from top 1/3, middle 1/3, and bottom 1/3 of bed. Sample should be representative of growing mix from top to bottom of bed. Place this subsample in clean bucket.
4. For each sample to be submitted for testing, repeat subsampling from 15-20 places in the bed. All subsamples can be added to the clean bucket.
5. When 15 to 20 subsamples have been obtained, mix thoroughly in the bucket.

Sampling Instructions for Compost -

1. For small-scale piles or containers, mix compost thoroughly before sampling to eliminate layering within the pile/container. Take 5-10 subsamples from various locations in the pile.
Or,
 1. For large-scale turned windrows and mixed piles, sample immediately after turning. Take quart-sized subsamples from edge of the pile by digging 1-2 feet into the pile. The appropriate number of subsamples depends on size of pile and uniformity of compost; 10-15 subsamples may be adequate.
Or,
 1. For large-scale static piles, dig out a section of compost to expose a cross-section of the pile. Take subsamples at various depths from the cross-section. Repeat at multiple locations in the pile. The appropriate number of subsamples depends on size of pile and uniformity of compost; 20-30 subsamples may suffice.
2. Combine subsamples in a clean 5-gallon bucket. Mix subsamples together thoroughly.

Sending Samples

1. Fill a quart-sized plastic bag with composite sample to ensure that there is sufficient sample for testing. Squeeze out excess air and close securely with twist-tie, rubberband, or zip/seal. Also tape or double-bag to ensure the bag will not open during shipping. Label the bag with permanent marker.
2. Complete a questionnaire for each sample. The sample ID that you provide on the questionnaire should match the label given on the bag. Attach payment or fill in credit card information.
3. Place the sample, the questionnaire, and payment in a padded mailer or small box or cooler. To minimize microbial activity, which could alter test results, the sample should be cooled and sent immediately using express delivery. Send to the lab using the address above.

Lab # _____
 Received _____

SOIL TESTING LABORATORY
 ASB-II, Cook Campus
 57 US Highway 1 South
 New Brunswick, NJ 08901
 (848) 932-9295 FAX: (732) 932-9292

OM

Soil test questionnaire for Organic Media: potting "soil" & compost

Read Sampling Instructions carefully before taking a sample. Then complete this form.

Please print legibly!

Contact Name

Farm or other

(____) _____ - _____
Telephone County

Street address

Email

City, State, Zip

Sample I.D. (name your sample)

Saturated Media Extract Test Request

- Organic Growing Media Fertility**
pH, available nutrients (P, K, Ca, Mg, Fe, Mn, Cu, Zn, B), interpretation \$ 30
- Greenhouse (soilless) potting media test**
pH, available nutrients, plant-available nitrogen (nitrate-N & ammonium-N),
soluble salt level, interpretation \$ 60
- Compost/Basic Test**
pH, nitrate-nitrogen, soluble salt level, maturity index, interpretation \$ 70
- Compost/Technical Test**
pH, plant-available nitrogen (nitrate-N & ammonium-N), soluble salt level,
organic matter content, total N, C:N ratio, maturity index, moisture content,
visual assessment \$ 150
- Add Available Nutrients to either Compost Test**
Saturated Media Extract of P, K, Ca, Mg, Fe, Mn, Cu, Zn, B \$17

Total payment required: \$ _____

.....
Please include payment by check to "Rutgers, The State University of New Jersey"
or provide credit card information:

Visa or Mastercard or Discover

Name as it appears on card

_____-_____-_____-_____
Card number

Billing address (if different than above)

____/____
Expiration date

3-digit Security code

Signature

Lab use

For greenhouse samples:

Type of growing media:

- new mix old mix
Components: peat bark sand perlite vermiculite
 other: _____

Fertilizer materials used in past month:

	Date	Kind	Amount (oz/100 plants)
Lime	_____	_____	_____
Fertilizer	_____	_____	_____
	_____	_____	_____

Greenhouse media: Check one type of planting. Provide additional information requested:

Vegetable & Fruit			
<input type="radio"/>	Annual vegetable	Type/Variety	Weeks after planting: _____ for tomatoes, number of clusters
			Condition of foliage: good-fair-poor Fruit set: good-fair-poor
<input type="radio"/>	Perennial vegetable	Type/Variety	<input type="radio"/> To be planted <input type="radio"/> Established
<input type="radio"/>	Strawberry	Variety	<input type="radio"/> To be planted <input type="radio"/> Established Year fruit will set: _____
Ornamental Shrub and/or Tree Nursery			
<input type="radio"/>	Woody ornamentals that prefer low pH		<input type="radio"/> To be planted <input type="radio"/> Established
<input type="radio"/>	Other woody ornamentals		<input type="radio"/> To be planted <input type="radio"/> Established
Flowers			
<input type="radio"/>	Annual & biennial flowers	Type/Variety	<input type="radio"/> To be planted <input type="radio"/> Established
<input type="radio"/>	Perennial flowers, bulbs, & ground cover	Type/Variety	<input type="radio"/> To be planted <input type="radio"/> Established
<input type="radio"/>	Other	Please specify: _____	<input type="radio"/> To be planted <input type="radio"/> Established

For compost samples:

Type of Compost:

- backyard pile or bin
- large static pile
- turned pile
- turned windrow
- in-vessel

Compost feedstock (check all that apply):

- leaves and woody yard waste
- grass clippings
- food scraps/waste
- manure: type _____
- stall bedding: type _____
- other: _____

Compost is best used as a soil conditioner. A fully mature compost improves soil quality by increasing organic matter content, improving fertility, nutrient- and water-holding capacity, biological activity, and soil structure & tilth.

Compost testing is most useful for evaluating maturity of the compost and its relative benefit and potential problems as a soil amendment. Compost may not work well by itself as growing media.



www.facebook.com/RutgersSoilTestingLab

Center for Agriculture, Food, and the Environment (1)

Integrating research and outreach education from UMass Amherst

Bagged Potting Mixes and Garden Soils for Home Gardeners



(<https://ag.umass.edu/sites/ag.umass.edu/files/fact-sheets/images/labeledprillsperlitegel2.jpg>)

There are many types of bagged potting mixes and garden soils available. Some are intended to be used in the ground to supplement or fill areas for gardens. Other products are intended for plants growing in containers and pots. It is important to read the label before purchasing to learn the intended use for the product.

Garden soil contains minerals, organic matter, air and water. Mineral-based soils alone are not recommended for container plants because in containers, soil becomes very compacted and saturated with water, limiting air space, which is necessary for plant roots. Unpasteurized soil is a source for weeds, insects and disease organisms.

Potting mixes intended for plants in containers and pots retain moisture, provide air space for roots, and are free from weed seeds, insects and diseases. Potting mixes, also called soilless mixes or soilless media, usually contain combinations of peat moss, pine bark, coir, perlite and vermiculite. Some composts are also intended for container use.

Components of potting mix for pots and containers

Peat moss is a plant harvested primarily from Canadian peat bogs and some bogs in the northern United States. Peat moss decomposes very slowly, retains moisture in the potting mix while providing a balance of air space and water for healthy growing roots. Peat is acidic (low pH) and limestone is usually added to the mix to neutralize the acidic reaction and balance the pH. Peat moss often makes up 30-80% of potting mixes. Peat moss by itself is difficult to wet, so wetting agents are added to the mix to make it wet easier.

Sphagnum peat moss is the young or live portion of the plant. It is sold as green and living, or brown and dried, and is used for plants requiring moist growing mediums while providing good aeration. It is often dried and milled in seed starting mixes.

Bark products are ground and/or partially composted by-products of the timber industry. This is usually a less expensive alternative to peat moss. Bark products have good aeration properties but they dry out quicker than peat moss. There are different properties associated with the specific types of bark. Barks should not be used in starting seedling because they immobilize nitrogen.

Composts are sold for in-ground gardens and some for potting mixes. Composts may not be consistent from batch to batch and can be unpredictable in physical and chemical properties. When used in containers, some composts have high levels of nutrients and will burn plant roots and have low air porosity. In gardens, composts are best mixed with existing garden soil.

Perlite is small white irregular shaped, volcanic rock that was crushed and heated. The heating causes it to expand. It is non-toxic, sterile and odorless. Perlite is used to improve drainage and aeration.

Vermiculite is very light, greyish puffy substance that forms when mica chips are heated. It contains some potassium, magnesium and calcium that will slowly become available. It is used to increase moisture and nutrient retention in mixes since it can also hold onto fertilizer for a period of time - helping to keep nutrients around the roots of your plants instead of washing out the bottom of the pot.

Coir is reddish-brown fibers that are harvested from coconut husks, a by-product of coconut fiber industry. It is used in potting mixes for containers in place of peat moss. Coir is easier to re-wet after drying than peat moss.

Styrofoam is sometimes used as an inexpensive substitute for perlite. Beads of Styrofoam are used to aerate potting mixes and serve as a space filler. Styrofoam is lightweight, float to the surface when watered and can blow away when pots dry out. Also, unlike perlite, styrofoam will compact over time.

Fertilizer starter charge and continuous fertilizer

A "starter charge" of fertilizer on the label indicates that there is a minimal amount of fertilizer in the potting mix. Most starter charges are gone from the potting soil after watering two to three times.

A continuous fertilizer (controlled-release, time-released or slow release) in the bag indicates fertilizer "prills" are incorporated with the mix. Prills are small and round and evenly distributed throughout the mix. The prills are water soluble fertilizer that is encased in a semi-permeable resin coating. When they come in contact with water, small amounts of nutrients are released into the soil for use by the plant over a period of time, usually several weeks. So, each time the soil is watered, the plants are getting "automatically" fertilized. The rate of nutrient release for most of these fertilizers is regulated by temperature. The warmer the temperature the faster nutrients are released. Look for the round fertilizer "prills" in the potting mix. Squeezing the prills can indicate if a fertilizer has been depleted. If the prills are empty, the fertilizer has been released. When the initial fertilizer has been depleted, re-apply controlled-release fertilizer or use water-soluble fertilizer to continue to fertilize plants.

Bagged potting mix containing slow release fertilizer must be stored dry. If the potting mix gets wet, the fertilizer in the potting mix can pre-release inside the bag and become concentrated which will burn plant roots when used. Dry, bagged potting mix will be light and fluffy.

Wetting agents

Wetting agents are chemical substance that increases the spreading and penetrating properties of a liquid (ie. water) by lowering its surface tension. These are used in potting mixes to enable water to thoroughly wet the mix. Tip: Moisten a potting medium with warm water before using to have uniform moisture throughout the container. Plants potted in dry medium and then watered will have inconsistent moisture levels in their root zones.

Organic mixes may contain yucca extract as a wetting agent.

Moisture retaining treatments

Some potting mixes contain moisture retaining polymer gels, crystals or chemicals that absorbs water. These help to reduce the need for watering over the growing season. A little extra care will be necessary to avoid overwatering when the temperatures are still cool since the soil will be slow to dry out. The moisture holding ability of the soil breaks down over the season, usually by mid to late summer. When hydrated, water retaining gels look like clear chunks of glass, but are soft to touch.

Specialty potting soils

While the all-purpose, general type potting mixes will work fine for almost all annual flowers and mixed containers, there are some crops for which specialty mixes might perform better such as orchids. Orchids require excellent drainage and most general potting soils hold too much water and lack enough air space. Components of mixes for orchids may vary, however, coarse materials are often used to allow for plenty of air movement through the medium.

Also succulents and cacti, require better drainage than annual flowers and in many cases prefer clay pots as well. Many succulent collectors use a regular potting mix and mix it with 50% sand, which makes the mix very heavy, but very fast draining.

Summary: Rules of Thumb for Choosing a Potting Mix for Pots and Containers

1. Potting mix bag should be light, fluffy and DRY. Avoid bags that are saturated with water or seem to be heavy and compact. This is especially important for potting mixes that contain fertilizer prills (often labeled as continuous feed, controlled release, timed release or slow release).
2. Look for a potting mix that contains peat moss, pine bark or coir and perlite or vermiculite.
3. Caution should be taken when using a compost-based mix. A soil test is advised.
4. Fertilizer may be in the mix in the form of a "starter charge" or "continuous feed" formulation. Adjust your fertilization practices accordingly.
5. Potting mixes also contain a wetting agent to make the soilless media wet easier. Organic potting mixes may contain yucca extract, a natural wetting agent.
6. Potting mixes may contain moisture retaining amendments such as gels.

Components of bagged amendments for in-garden and landscapes

Composts - See Potting Mixes

In landscapes, composts are best mixed with existing garden soil.

Manure products are intended for use in-ground gardens but not intended for containers. Manures contain a form of nitrogen that will burn plants in containers. Manure products are best when mixed with soil at a rate of about one part manure to two parts soil. Many manure related products contain sand, which makes them heavy for use in containers.

Mulch is usually a raw wood product (bark, wood chunks, shredded wood, etc.). It is intended to be used on the surface of the soil to maintain soil moisture, prevent water from evaporating and suppress weeds. Un-composted wood products, take available nitrogen from the soil as they break down (decompose). Use mulch products on top of the soil in your garden and landscape where they are intended to be.

Quality of bagged soil and mixes

7/25/2024

Additional Information from Healthy Soil Workshop 7/21/2024

Page 18 of 46

Does the bag feel heavy and compact or light and fluffy? Often, when a bag of garden soil or potting mix is very heavy, it is either water soaked or it contains too much sand.

If potting mix becomes soaked it can begin to break down in the bag, become compact, lose air space and result in poor roots and plant growth. Mixes that contain controlled fertilizer prills may pre-release fertilizer into the mix causing young plants to burn.

Coarse, horticultural grade sand provides anchorage and air space and is used as inexpensive filler. Unless growing cacti, or used to keep pots from tipping over, sand is not desirable for most plants.

Fungal growth on potting soil

Fungi and slime molds occasionally appear on the surface of growing media. These organisms will not hurt the plants or roots. They are saprophytic fungi involved in the decay of organic matter and are more likely to occur when the growing media remains wet for prolonged periods of time. Under normal outdoor growing conditions the fungi are usually short-lived. To eliminate mold, spread the media out on clean surface to dry it and expose it to sunlight, then re-bag or put it into a clean container when it is dry.

Resources

<https://www.provenwinners.com/learn/dirt-dirt-potting-soil> (<https://www.provenwinners.com/learn/dirt-dirt-potting-soil>)

<http://www.soiltest.uconn.edu/factsheets/purchasingpottingmedia.pdf> (<http://www.soiltest.uconn.edu/factsheets/purchasingpottingmedia.pdf>)

Tina Smith and Dr. Douglas Cox, UMass Extension

Last Updated: August 2015

Extension

What is the best soil for potted plants?

A Question of the Week

FRIDAY, JANUARY 24, 2020

SHARE



Going to the garden center to purchase potting mix can be a little overwhelming. With many types of products to choose from, it can be difficult to know which one will be best for the plants you intend to grow. Some are meant to be added to the garden or used to fill raised beds, while others are suitable for growing in containers or pots. Garden soils are typically intended for use in the ground and contain minerals and organic matter. They are not a good choice for containers because the soil can quickly become compacted and waterlogged, reducing air space around the roots. This can lead to poor or stunted growth. Garden soils can also contain weed seeds, insects and diseases if they haven't been pasteurized.

Potting mixes (also called soilless mixes), on the other hand, are specifically made for growing potted plants. They are lightweight, retain moisture, and they supply plenty of air space around the roots. Air space is actually one of the most critical aspects of potting mix. If the roots don't have enough air, a plant usually doesn't survive. Although the ingredients tend to vary, good mixes always contain an organic component (peat moss, compost, bark), vermiculite or perlite (to help retain moisture), sand, nutrients and limestone. Some contain fertilizer or moisture-retaining treatments, usually indicated on the label. Knowing what is in the potting mix is key to determining whether it will be a good match for the plants you are trying to grow. General potting mixes will work fine for most annuals and vegetables grown in containers, but they may hold too much moisture for orchids, succulents or cacti. Specialty mixes are sold for these plants and, while not absolutely necessary, can provide benefits.

Potting Mix Ingredients

Peat is a special type of organic material that comes from decomposed plants in bogs. Most peat comes from sphagnum moss, hence its other common name, “peat moss.” Peat is a major component of almost all potting mixes because it retains moisture without becoming waterlogged, is lightweight, and does not become easily compressed.

Compost is occasionally included in potting mix for added nutrients. It can reduce air space in the soil and should be used sparingly for potted plants. Compost should make up no more than 1/3 of a potting mix.

Bark that has been ground and partially composted is often incorporated into less expensive potting mixes in place of peat. Bark provides good aeration but dries out more quickly than peat, requiring more frequent watering.

Coir is a fibrous material from coconut husks that is sometimes used in place of peat. It is similar to peat in that it retains water without becoming soggy.

Vermiculite is the product of heating mica chips. It is a gray, spongy material that increases water retention in mixes. It also holds on to nutrients and thus keeps fertilizer available for the plant roots for a longer period of time.

Perlite is a white volcanic rock that is reminiscent of Styrofoam. It is light weight and porous and is used to improve the drainage and aeration of potting mix.

Sand is another common component of potting mixes. It can improve drainage and is often added in large quantities to mixes intended for cacti and succulents.

Fertilizer is sometimes added to potting mixes, usually in a slow-release form that breaks down gradually over time when it comes in contact with water. Thus, small amounts of nutrients are released over the course of weeks. Eventually this initial source of nutrients will be exhausted, and potted plants will require additional fertilizer.

Moisture retaining treatments come with some potting mixes and are meant to reduce how often you need to water. These “hydrogels” or “water storing crystals” are polymers that have the ability to absorb large amounts of moisture and slowly release it as the soil dries. Their effectiveness diminishes over time, and eventually the potting mix dries out as any other. Potting mixes with moisture retaining treatments are suitable for potted annuals but are a poor choice for succulents or other drought tolerant plants.

The best potting mix for potted plants may vary slightly depending on what you are trying to grow. However, all quality mixes will be lightweight, fluffy and dry, and contain peat, coir, bark, perlite, or vermiculite. Avoid products that are compost-based or seem overly heavy – these won’t provide enough air space for roots. When in doubt, choose a peat-based general purpose mix, or make your own potting mix by combining the ingredients above. Many potting mix recipes exist online, and you can adjust the ratios of the added materials according to the needs of the plants you’re growing.

Got questions? The Ask UNH Extension Infoline offers practical help finding answers for your home, yard, and garden questions. Call toll free at 1-877-398-4769, Monday to Friday, 9 a.m. to 2 p.m., or e-mail us at answers@unh.edu.

Related Resource(s)

Care of Flowering Gift Plants in the Home [fact sheet] >

Organic & Natural Fertilizers for the Home Ground & Garden [fact sheet] >

Do you love learning about stuff like this?

SUBSCRIBE TO GRANITE STATE GARDENING NEWSLETTER

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Home Composting

William T. Hlubik, Middlesex County Agricultural Agent; Jonathan Forsell, Essex County Agricultural Agent (deceased); Richard Weidman, Middlesex County Program Associate; and Mark Winokur, Former Program Assistant

What is Composting?

Composting is a natural process where organic materials decompose and are recycled into a dark, crumbly, earthy smelling soil conditioner known as “compost”. Compost improves soil structure and moisture retention, and contributes to healthy plant growth by providing plant nutrients.

Why Should I Compost?

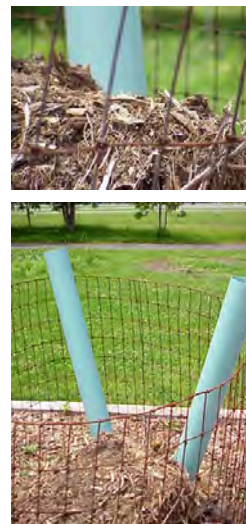
- Composting can save money!
- Reduces fertilizer and water use
- Avoids garbage collection and landfill fees
- Reduces the need for soil and plant amendments
- Composting helps the environment
- Reduces the volume of garbage going to landfills, transfer stations and incinerators
- Composting benefits your soil and plants
- Improves soil structure and texture
- Increases aeration and water holding
- Promotes soil fertility

- Stimulates healthy root development
- Aids in erosion control
- Reduces chemical inputs
- Composting is easy
- Save time bagging grass and leaves
- Quick and fun way to do part for the environment

Compost Ingredients

Do Compost:

- ✓ Vegetable food scraps
- ✓ Grass clippings
- ✓ Leaves
- ✓ Flowers
- ✓ Weeds
- ✓ Sawdust and wood ash
- ✓ Chopped twigs and branches
- ✓ Coffee grounds w/filters



Don't compost:

- × Meat scraps
- × Diseased or insect infested plants
- × Weeds with seeds
- × Dog and Cat feces
- × Food with grease or soap residues

Composting Methods

Slow Harvest: Ready in 12-18 Months

Made by adding layers of available yard waste over several months.

1. Set compost bin where it will get rain.
2. Put yard waste in bin as it is generated in your yard. The material at the bottom and in the center will compost first.

Fast Harvest: Ready in 5-15 Weeks

Made by mixing equal weights of green and brown materials at once.

1. Add green materials such as grass clippings or vegetable scraps mixed with brown materials such as leaves (no woody-type materials should be included).
2. Add water to pile until it's as wet as a wrung out sponge.
3. Turn pile with a pitch fork or compost aerator tool twice a week for faster compost production (less often in wintertime).

Types of Compost Bins

Compost can be made in open piles. However, to help keep a pile neat and maintain conditions needed for rapid decomposition, consider simple homemade or

store bought bins. See back page for demonstration sites in New Jersey.

Homemade Bins:

- Made from wood pallets
- Made from snow fences



Store Bought:

- Compost Tumbler
- Durable Plastic Bin



Troubleshooting

Here is how to solve problems should they occur:

Symptom	Problem	Solution
Pile has a rotten odor	Not enough air	Turn pile
Pile has ammonia odor	Too many greens	Add brown material like leaves/straw
Pile is dry	Not enough water; too much woody material	Turn and moisten; add fresh greens
Low pile temperature (pile is not composting)	Pile is too small	Add new materials
	Insufficient moisture	Add water
	Poor aeration	Turn pile
	Lack of nitrogen	Mix in greens like grass or food scraps
	Cold weather	Insulate pile with layer of straw or cover with tarp
Pests (rats, raccoons, insects)	Presence of meat or fatty food scraps	Remove from pile

Keys to Good Compost

Water: The microorganisms in the compost pile need water to live. Water pile only as needed, to maintain compost as moist as a wrung out sponge. Don't let your pile dry out completely.

Nutrients: The microorganisms in the pile need carbon for energy and nitrogen for protein in order to survive. A good balance can be achieved by mixing two parts of nitrogen rich green materials such as grass clippings, with one part of carbon rich brown materials such as leaves. However, carbon-rich leaves by themselves will compost.

Aeration: To speed up decomposition, turn the pile frequently using a pitch fork. This provides the microorganisms with enough oxygen to thrive so they can heat up the compost. Placing large branches at the bottom of the pile will also help add air to the pile. Minimal turning would be once per month and less frequently during the year.

Surface area: The more surface area the microorganisms have to work on, the faster materials will decompose. Consider chopping materials, particularly brush or branches which have a diameter of ¼ inch or more. Pile size is also important. For quicker decomposition, pile should be at least 3 feet x 3 feet to hold the heat of microbial activity, but not so large (larger than 5 feet x 5 feet) that air can't reach microbes at the center of the pile.

Use for Compost

Mulch: Spread compost around flower and vegetable plantings, trees, shrubs, and on exposed slopes. This will smother weeds, keep plant roots moist, and prevent soil erosion.

Soil Conditioner: Mix 1-3 inches of compost into vegetable and flower beds before planting. This returns organic matter to the soil in a usable form.

Potting Mix: Make your own mix by using equal parts of compost and sand or soil. Make sure compost is fully decomposed and screened.

Resources

Some books to help you along...

Backyard Composting, Harmonious Technologies,
P.O. Box 1865-100 Ojai, CA 93024

How to Grow More Vegetables, John Jeavons,
Ecology Action, 5798 Ridgewood Rd. Willits, CA
09590

Let it Rot, Stu Campbell, Storey Communications,
Inc., Schoolhouse Rd., RD#1, Box 105, Pownal,
VT 05261

The Rodale Guide to Composting, R.A. Simpson,
Rodale Press, 33 E. Miner St., Emmaus, PA
18098

Worms Eat My Garbage, Mary Appelhof, Flower
Press, 10322 Shaver Rd., Kalamazoo, MI 49002

For additional information on composting or where to get compost materials, call your Rutgers Cooperative Extension county office, found in the telephone directory blue pages, under "County Government" or your county recycling office.

Compost Deconstruction Areas

These areas in New Jersey have various types of compost bins on display. Call ahead for hours and when tours or workshops are given.

Atlantic County

Atlantic County Utilities Authority Geo Garden
6700 Delilah Rd.,
Egg Harbor Township, NJ
Contact: (609) 646-6600

Burlington County

Burlington County Resource Recovery Geo Garden
Complex, Rt 543,
Border of Florence and Mansfield Township
Contact: (609) 499-5210

Mazza & Sons, Inc. Recycling Facility
3230 Shafto Rd.,
Tinton Falls, NJ
Contact: (732) 922-9292

Middlesex County
Davidson's Mill Pond Park, Riva Avenue,
South Brunswick, NJ
Contact: (732) 745-3443

Monmouth County
Deep Cut Park, Red Hill Rd.,
Middletown, NJ
Contact: (732) 842-4000

Morris County
Frelinghuysen Arboretum, 53 E. Hanover Ave.,
Morris Township, NJ
Contact: (973) 326-7600

Passaic County
Passaic County Office of Recycling
1310 Rt. 23 N,
Wayne, NJ
Contact: (973) 305-5734

Photos Courtesy of Lindsay Halladay

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**RUTGERS COOPERATIVE RESEARCH & EXTENSION
N.J. AGRICULTURAL EXPERIMENT STATION
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY
NEW BRUNSWICK**

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Vermicomposting (Worm Composting)

Jonathan H. Forsell, Essex County Agricultural Agent

Kitchen wastes, such as fruits, vegetables, coffee grounds, tea bags, and eggshells, are a part of the solid waste stream. Most of this material is disposed of as garbage at transfer stations, landfills, and incinerators at a high economic and environmental cost to citizens. A positive alternative is to compost kitchen scraps using red worms to make a valuable compost for use as a soil amendment or as a starter mix for house plants or seedlings. **Note:** Avoid meats, oils, and grease in the compost system.

Worm composting is enjoyable, and it demonstrates the natural process of decomposition and the life cycle of the organisms involved.

Materials

- A worm bin can be made from an old dresser drawer, a 5-gallon plastic bucket, or from wood. A wooden box should be approximately 2 ft. X 2 ft. X 8 in. high. Do not use cedar, as it is toxic to the worms.
- Bedding material: shredded, moist newspaper, cardboard, and/or leaf compost.
- Watering can or container to provide water for the system.
- Red worms (*Eisenia foetida*) 1 pound.

They can be ordered from:

Flowerfield Enterprises
10332 Shaver Road
Kalamazoo, MI 49002

Lower East Side Ecological Center
P. O. Box 20488
New York, NY 10009

Procedure

1. Shred newspapers or cardboard or use leaf compost. Moisten this material and place it in the bin loosely to provide for air circulation.
2. Add 1 lb. of red worms to the bin. They will crawl to the bottom of the bedding material to avoid the light.
3. Place food scraps except animal products (meats, greases, etc.) under the bedding. The worms can consume 3 to 3 1/2 lbs. of kitchen waste per week while making vermicompost.
4. Keep the bin covered loosely with plastic or newspaper to retain moisture. The box should be checked every day or two for moisture. When the surface or edges of the bedding begin to dry, add water.



Summary

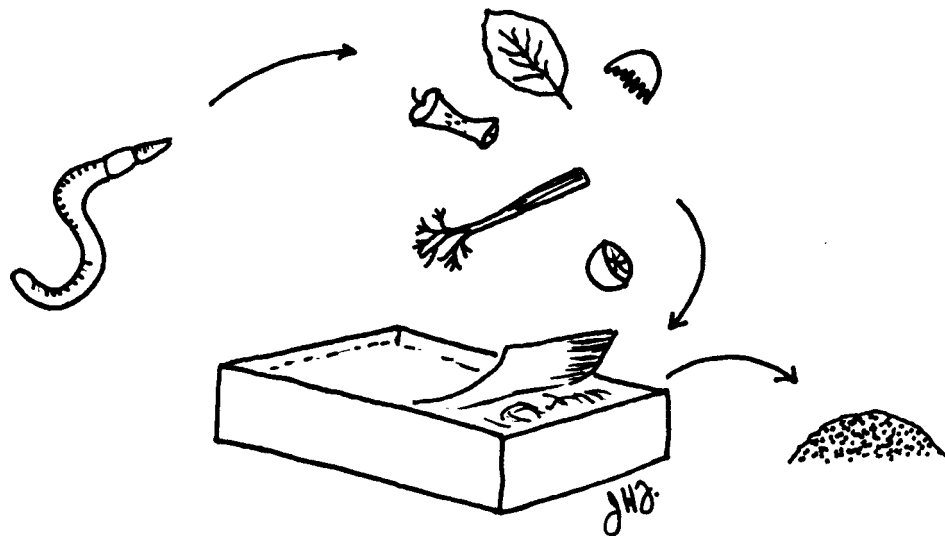
The process takes about 3 to 4 months to produce a finished vermicompost product, which looks like brown coffee grounds. The compost consists of worm castings, partially decomposed kitchen waste, and some undecomposed bedding. The worms eat not only the food, but also the newspaper or other bedding. Vermicompost can be mixed into garden soil to improve structure and to provide nutrients, can be used as mulch, or as a potting soil mix.

To separate the compost, place it on a table under lights. The worms will go to the bottom of

the pile away from the light. Remove the finished compost and start the process over again. Because the worms have reproduced, you can separate out the surplus and start a new box. Always keep the bin at a temperature above freezing and below 95° F. The bin should be kept indoors in winter, but can be placed in the shade in summer. Stop feeding for several days or weeks before ready to use.

References

Appelhof, Mary. 1982. *Worms Eat My Garbage*. Flower Press, Kalamazoo, MI.



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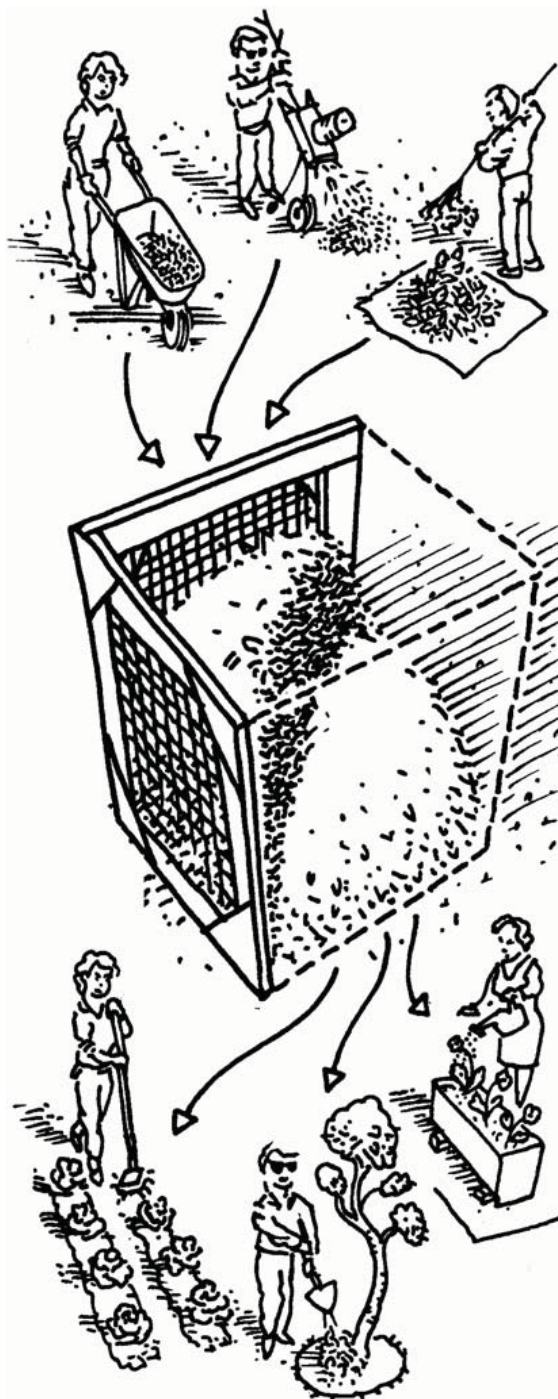
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HOME COMPOSTING



COMPOST FLOW CHART

What is Compost?

Compost is a dark, crumbly, and earthy smelling form of decomposing organic matter.

Why Should I Make Compost?

Composting is the most practical and convenient way to handle your yard wastes. It can be easier and cheaper than bagging these wastes or taking them to the transfer station. Compost also improves your soil and the plants growing in it. If you have a garden, a lawn, trees, shrubs, or even planter boxes, you have a use for compost.

By using compost you return organic matter to the soil in a usable form. Organic matter in the soil improves plant growth by helping to break up heavy clay soils and improving their structure, by adding water and nutrient-holding capacity to sandy soils, and by adding essential nutrients to any soil. Improving your soil is the first step toward improving the health of your plants. Healthy plants help clean our air and conserve our soil, making our communities healthier places in which to live.

What Can I Compost?

Anything that was once alive can be composted. Yard wastes, such as fallen leaves, grass clippings, weeds and the remains of garden plants, make excellent compost. Woody yard wastes can be clipped and sawed down to a size useful for the wood stove or fireplace or they can be run through a shredder for mulching and path-making. Used as a mulch or for paths, they will eventually decompose and become compost.

Care must be taken when composting kitchen scraps. Compost them only by the methods outlined in this brochure. Meat, bones and fatty foods (such as cheese, salad dressing, and leftover cooking oil) should be put in the garbage.

How Can I Use Compost?

Compost can be used to enrich the flower and vegetable garden, to improve the soil around trees and shrubs, as a soil amendment for houseplants and planter boxes and, when screened, as part of a seed-starting mix or lawn top-dressing. Before they decompose, chipped woody wastes make excellent mulch or path material. After they decompose, these same woody wastes will add texture to garden

The Essentials of Composting

With these principles in mind, everyone can make excellent use of their organic wastes.



Biology

The compost pile is really a teeming microbial farm. Bacteria start the process of decaying organic matter. They are the first to break down plant tissue and also the most numerous and effective composters. Fungi and protozoans soon join the bacteria and, somewhat later in the cycle, centipedes, millipedes, beetles and earthworms do their parts.



Materials

Anything growing in your yard is potential food for these tiny decomposers. Carbon and nitrogen, from the cells of dead plants and dead microbes, fuel their activity. The microorganisms use the carbon in leaves or woodier wastes as an energy source. Nitrogen provides the microbes with the raw element of proteins to build their bodies.

Everything organic has a ratio of carbon to nitrogen (C:N) in its tissues, ranging from 500:1 for sawdust, to 15:1 for table scraps. A C:N ratio of 30:1 is ideal for the activity of compost microbes. This balance can be achieved by mixing two parts grass clippings (which have a C:N ratio of 20:1) with one part fallen leaves (60:1) in your compost. Layering can be useful in arriving at these proportions, but a complete mixing of ingredients is preferable for the composting process. Other materials can also be used, such as weeds and garden wastes. Though the C:N ratio of 30:1 is ideal for a fast, hot compost, a higher ratio (i.e., 50:1) will be adequate for a slower compost. Table 1 provides an estimate for the C:N ratio of common materials.



Surface Area

The more surface area the microorganisms have to work on, the faster the materials are decomposed. It's like a block of ice in the sun-slow to melt when it's large, but melting very fast when broken into smaller pieces. Chopping your garden wastes with a shovel or

machete, or running them through a shredding machine or lawnmower will speed their composting.



Volume

A large compost pile will insulate itself and hold the heat of microbial activity. Its center will be warmer than its edges. Piles smaller than 3 feet cubed (27 cu.ft.) will have trouble holding this heat, while piles larger than 5 feet cubed (125 cu.ft.) don't allow enough air to reach the microbes at the center. These proportions are of importance only if your goal is a fast, hot compost.



Moisture & Aeration

All life on Earth needs a certain amount of water and air to sustain itself. The microbes in the compost pile are no different. They function best when the compost materials are about as moist as a wrung-out sponge, and are provided with many air passages. Extremes of sun or rain can adversely affect this moisture balance in your pile.



Time & Temperature

The faster the composting, the hotter the pile. If you use materials with a proper C:N ratio, provide a large amount of surface area and a big enough volume, and see that moisture and aeration are adequate, you will have a hot, fast compost (hot enough to burn your hand!) and will probably want to use the *turning unit* discussed in the next section. If you just want to deal with your yard wastes in an inexpensive, easy, non-polluting way, the *holding unit* (also discussed on the next page) will serve you well.

Material	C:N Ratio
Sawdust	200-750
Peatmoss	50
Straw	50-150
Cow manure	20
Poultry manure	3-15
Horse manure	20-50
Leaves from oak	40-80
Sun-dried grass clippings	20
Fresh grass clippings	15
Fresh garden debris	20
Vegetable wastes	~12
Garbage (food waste)	~15
Hay from legumes	15-20
Hay-general	15-32
Corrugated cardboard	~560
Newsprint	~400-850

Table 1
Some Typical C/N Ratios
(based on dry weight)

Composting Yard Wastes



Holding Units

These simple containers for yard wastes are the least labor and time-consuming way to compost.

Which wastes? Non-woody yard wastes are the most appropriate.

How? Place the holding unit where it is most convenient. As weeds, grass clippings, leaves and harvest remains from garden plants are collected, they can be dropped into the unit. Chopping or shredding wastes, alternating high-carbon and high-nitrogen materials, and keeping up good moisture and aeration will all speed the process.

Advantages & disadvantages For yard wastes this is the simplest method. The units can be portable, moving to wherever needed in the garden. This method can take from 6 months to 2 years to compost organic materials, so you need to be patient. Because it does not get hot, weed seeds (and pathogens if present) may persist in the compost.

Variations Holding units can be made of circles of hardware cloth, old wooden pallets, or wood and wire. Sod can also be composted with or without a holding unit, by turning sections of it over, making sure that there is adequate moisture, and covering it with black plastic.

Turning Units

This is a series of three or more bins that allows wastes to be turned on a regular schedule. Turning units are most appropriate for gardeners with a large volume of yard waste and the desire to make a high-quality compost.

Which wastes? Non-woody yard wastes are appropriate. Kitchen wastes without meat, bones or fatty foods can be added to the center of a pile if it is turned weekly and reaches high temperatures.

How? Alternate the layering of high-carbon and high-nitrogen materials to approximately a 30:1 ratio. These should be moistened to the damp sponge stage. The pile temperature should be checked regularly; when the heat decreases substantially, turn the pile into the next bin. Dampen the materials if they are not moist, and add more high-nitrogen material if heating is not occurring. Then make a new pile in the original bin. Repeat the process each time the pile in the first bin cools. After two weeks in the third bin, the compost should

be ready for garden use. See the *Rodale Guide to Composting* in your library for more information on hot composting.

Advantages & disadvantages This method produces a high-quality compost in a short time utilizing a substantial input of labor.

Variations The unit can be built of wood, a combination of wood and wire, or concrete block. Another type of turning unit is the barrel composter, which tumbles the wastes for aeration.

Sympton	Problem	Solution
The compost has a bad odor	Not enough air.	Turn it. Add coarser materials.
The center of the pile is dry.	Not enough water.	Moisten materials while turning the pile.
The compost is damp & warm in the middle, but nowhere else.	Too small.	Collect more material & mix the old ingredients into a new pile.
The heap is damp and sweet-smelling but still will not heat up.	Lack of nitrogen.	Mix in a nitrogen source like fresh grass clippings, fresh manure, bloodmeal or ammonium sulfate.

Composting Food Wastes



Mulching

Yard wastes can be used for weed control and water retention.

Which wastes? Woody yard wastes, leaves, and grass clippings.

How? You can simply spread leaves or grass clippings beneath plantings. For woody materials up to 1" in diameter, rent or purchase a chipper/shredder. Tree services, if they are in your neighborhood, often will deliver wood chips free.

Advantages & disadvantages All yard wastes will work first as a mulch and then, as decomposition proceeds, as a soil enrichment. A disadvantage of mulching with woody yard wastes is that you may have to buy or rent power equipment or make arrangements with a tree service.

Variations Use chipped materials for informal garden paths.

Soil Incorporation

Burying your organic wastes is the simplest method of composting.

Which wastes? Kitchen scraps without meat, bones or fatty foods.

How? Everything should be buried at least 8 inches below the surface. Holes can be filled and covered, becoming usable garden space the following season.

Advantages & disadvantages This is a simple method, but because of the absence of air, some nutrients will be lost. Rodents and dogs can become a problem with wastes buried less than 6 inches deep.

Variations Using a posthole digger, wastes can be incorporated into the soil near the drip line of trees or shrubs and in small garden spaces.

Earthworm Compost

Feeding earthworms in wooden bins is a good way to make high-quality compost from food scraps.

Which wastes? Kitchen scraps without meat, bones, or fatty foods.

How? Fill a bin with moistened bedding such as peat moss for the worms. Rotate the burying of food wastes throughout the worm bin. Every 3-6 months the worm population should be divided and moved to fresh bedding. Refer to *Worms Eat My Garbage* by Mary Appelhof (available at some library branches) for more information.

Advantages & disadvantages This is an efficient way to convert food wastes into high-quality soil for houseplants, seedling transplants, or general garden use. The worms themselves are a useful product for fishing. However, worm composting is more expensive and complicated than soil incorporation for dealing with food wastes.

Variations A stationary outdoor bin can be used in all but the coldest months, or a portable indoor/outdoor bin can be used year-round.

This brochure is available on our "Small Scale or Backyard Composting" site:

<http://cwmi.css.cornell.edu/smallscale.htm>

For More Information

For more information about composting, contact your county Cooperative Extension Office.



Adapted by the Cornell Waste Management Institute, Dept of Crop and Soil Sciences, Rice Hall, Ithaca NY 14853
<<http://cwmi.css.cornell.edu>>
from the Seattle Tilth Association.



Cornell Waste Management Institute

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by:
Mary Schwarz
Jean Bonhotal

Composting at Home - The Green and Brown Alternative

Sustainability and going green are all the rage. For many, recycling glass, plastic, aluminum, metal cans, cardboard, newspapers and other paper products has become automatic, but what about the rest of our waste? Organics such as food scraps, food preparation residuals, food soiled paper products, leaves, grass clippings, brush and tree trimmings comprise over 60% of our waste stream and are completely recyclable. That's where composting steps in; organic waste can be recycled through composting and the resulting product can be used to improve soil quality and help plants grow. Collecting these organic residuals

for diversion to a municipal composting program or for composting at home conserves energy and natural resources, reduces air and water pollution, and saves landfill space. This fact sheet describes how to separate and collect organic residuals, discusses manufactured and homemade containers designed for composting and gives information on how to make composting work.

Separation and Collection in the Kitchen

There are several kitchen collection containers on the market, but you can also use a recycled container or pail with or without a lid. Containers should allow air to flow through your scraps so that they will not smell before incorporation into the compost bin. Placing your food scraps in layers with crumpled newspaper can also help with odor by absorbing some of the moisture in the food. Some manufactured kitchen collection containers include a charcoal filter or have holes in the bucket to help with potential odors. Some require the use of liners (paper or compostable bags) to hold the scraps inside the bucket. As with fresh fruit sitting on your counter, collection containers may attract fruit flies in warm weather.

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Kitchen container with compostable bag.



Kitchen container with locking lid and aeration holes.



Recycled kitchen container.





Example signage for home separation.

Any food preparation or post plate material, spoiled food, napkins, and degradable serviceware can be composted. Milk and meat products are not generally added to home compost piles, but can be composted by municipalities collecting organics because they compost greater volumes of residuals and reach proper temperatures. Signage can help while learning what to put into the containers and where many people use a shared kitchen.

In a municipal program, the municipality may provide containers for use in your kitchen that would be emptied into a larger container for curbside pickup. Some containers may be targeted to collect both yard waste and food scraps. This is a good way to collect as you can layer carbon and nitrogen right in the container. Whenever you layer wet with dry material there will be little odor, and the municipality may be able to reduce collection frequency. If this is the scenario, stockpile some carbon material for winter food collection as food will smell if not layered with carbon (see sidebar “Stockpile Browns” page 5).

Separation and Collection of Yard Waste

Yard waste includes leaves, evergreen needles, sticks, brush, grass clippings and garden cleanout. If at all possible, compost your yard waste in your back yard or a multi-family (communal) compost unit. With multi-family units, directions and good signage lead to success. Keeping and composting residuals at home is the most sustainable option and provides a great soil amendment. If that is not

possible, check with your municipality to see if they pick-up or if you need to deliver yard waste to their site. Large branches, logs and stumps are collected curbside in some communities. In others, you need to convey these materials to a transfer station for management. Depending on your municipality, containment may be required in plastic, paper or reusable containers. Some municipalities require leaf and yard waste to be left loose at the curbside.

Collection containers for yard waste include:

- ♦ **Plastic bags:** These are made of petroleum products and provide good containment but may cause contamination at the compost facility. It is difficult to debag leaves effectively without a lot of labor and it can be nasty work.

- ♦ **Compostable plastic bags:** These bags are designed to be incorporated into compost windrows with the yard waste and no debagging should be necessary.



Compostable plastic bags.

These bags tend to be more expensive than the petroleum-based bags but may save in labor.

- ♦ **Paper bags:** Paper leaf bags can be a good choice since they have a base that allows them to stand up while loading, and can be incorporated into the compost along with the leaves which avoids the debagging process. However, they can be more expensive to purchase.



Paper leaf bags.



Reusable curbside collection containers.

- ◆ **Reusable containers:** These are generally made of durable plastic or metal with a large capacity and are intended to be used for mixed organics. Feedstock should always be layered in these containers, otherwise you will have a smelly mess and the container will need frequent cleaning.
- ◆ **No containment:** Just rake them to the curb! Some municipalities may want leaf and yard waste to be left at curbside with no containment at all. This generally has to do with the type of collection equipment they use.



Loose leaves curbside .

Balancing Greens and Browns

Composting comes in all shapes and sizes, can take intensive management or can be as simple as you want it to be. Sometimes, composting gets a bad rap...“It smells, attracts critters, looks messy”. If that describes your compost or composting experience, read on:

The process of composting is not just separating and placing all of your food scraps in a heap. The old adage “compost happens” is certainly true, but you can help it happen smoothly by remembering who is actually doing the work in your compost pile. Millions of micro- and macro-organisms are the work force. To process organics into compost, the workers need food, air and moisture. For the organisms to be productive, the system has to be in balance. This is not hard; it just takes some forethought and good management techniques. To compost effectively, you need the right feedstock in the right proportions and space in which to compost. Then, by following a few general procedures, you can easily recycle your food scraps and yard trimmings into a valuable soil amendment.

Feedstock

Compost feedstocks are the organic material you put in your compost pile. The best way to describe these feedstocks is by color: *greens* and *browns*.

**Greens = Nitrogen
Wet Materials**

Food scraps • Grass clippings • Fresh manure • Garden clean out

**Browns = Carbon
Dry Materials**

Brown leaves • Straw • Soiled paper • Saw dust • Woodchips

Greens, the nitrogen source, are colorful and wet. They provide nutrients and moisture for the compost workforce.



*Greens:
Food scraps
and grass
clippings.*



Browns, the carbon source, provide energy, and are also used for absorbing excess moisture and giving structural strength to your pile. They help keep the pile porous, facilitate air-flow and prevent compaction.



Browns: Leaves and wood chips.

Space and Compost Volume

A minimum volume of 1 cubic yard (3'x3'x3') is required for a pile to become sufficiently self-insulating to retain heat. Heat will help reduce pathogens and allow the process to occur more quickly. In hot-dry seasons and cold-wet winters larger piles up to 7'x7'x7' will hold the heat longer, regulate moisture and work more effectively. Larger piles will provide the optimal conditions for thermophilic composting, which promotes rapid decomposition and kills weed seeds and disease-causing organisms. However, composting will still occur in smaller piles, it will just take longer to produce a finished product.

Location of the pile can have an effect on the composting process. It should be located in a level, well-drained area. In cool climates, putting it in a sunny spot can help trap solar heat, while shade in warmer climates may keep it from drying out.

The Three Phases of Thermophilic Composting

Thermophilic composting can be divided into three phases, based on the temperature of the pile:

- (1) mesophilic, or moderate-temperature phase (50-104°F or 10-40°C), which typically lasts for a couple of days;
- (2) thermophilic, or high-temperature phase (104-150°F or 40-65°C), which can last from a few days to several months depending on the size of the system and the composition of the ingredients; and
- (3) several-month mesophilic curing or maturation phase. Monitoring temperatures can assess the process and help determine whether or not to change the feedstocks, turn the pile, add moisture, or put it aside for curing.

Bins, or some sort of containment can be beneficial. They can be either 3 or 4 sided with a removable front to facilitate turning. One can build containers of scrap wood, pallets, fencing, cinderblock or cement. Metal, wood and molded plastic containers can be purchased for use as well. The bottom dimensions should be at least 3' x 3', and the sides as tall as is comfortable. Woodchips or pallets can be placed on the ground as a base to help air flow into the bin and through the organic materials. Another way to facilitate or encourage air-flow in the bottom is to crisscross sticks and stalks to a height of 6-8" before adding nitrogen to the bin. Covering the top of the pile with carbon keeps out flies and other pests and serves as a filter for odor.

Putting it all Together – Layering

Layering and choosing the right organic material creates the right environment for compost to “happen”. Start with a layer of coarse “browns” in contact with the soil. Make a well or depression in this layer and put the “greens” into the well. Keep the food scraps away from the outside edges of the pile (only brown material should be visible). Cover your “greens” with a generous layer of “browns” so that no food is showing. This will keep insect and animal pests out of the pile and filter any odor. Keep adding layers of greens and browns (like making lasagna). Keep layering the feedstock until the mass reaches a height of 3 to



Cross-section of layered browns and greens.

Stockpile Browns

Probably the hardest part about home composting is getting enough “brown” material to be able to continue composting your food scraps year-round. Here are some ideas:

1. Rake leaves in the fall, but instead of bagging them and putting them out at the curb, put them in a loose pile up off the ground (on pallets, or wire mesh or inside a shed) and keep them under cover.
2. Trim brush, then cut it or chip it and keep that in a dry place.
3. Collect excess wood shavings/sawdust from a local woodworker or sawmill. However, be careful not to use any from treated or painted wood.
4. Check with your local highway department or electric company and find out where they are cutting and chipping limbs. You may be able to pick up their wood chips, and sometimes they will even drop them off.
5. Purchase or barter straw from a local farmer; they may also have used animal bedding that works well.
6. Paper and cardboard can be part of the mix; it is generally best to shred or tear before adding.

7 feet. As you are building the pile, management choices can be made. If you have time and space and can wait for a usable product (9 to 15 months after building the pile), let it work passively. Passive composting requires less labor but more time. If processing space is limited and you want



Manufactured on-ground compost units.

a product more quickly, turning will help to speed the process. The pile can be turned with a pitch fork or shovel, which helps to break up material and better homogenize the mass.

Choosing a Compost Unit

So, you’ve decided to compost! You know all about balancing greens and browns and what residuals you can and cannot compost. Containing compost in a bin helps to keep things neater. You can build your own, or you can purchase one. Using multiple containers or piles is a good management strategy. Fill one bin, then while it is processing and curing, start filling the second. An internet search for “compost bins” brings up 810,000+ results and one for “compost bin plans” will net 155,000+. If you’d like some help sorting the results out, read on.

Types of Composters:

◆ **On-ground Compost Units:** These units sit directly on the ground so that worms and other decomposers can come up from the soil to assist in the composting process. Whether homemade or purchased, these types of composters can be used as holding bins or can be



Homemade on-ground compost units.



aerated through turning or mixing. To use an on-ground compost unit, continuously add food scraps and cover with carbon. If desired, stir the mixture with a fork or a tool specifically made for aerating compost, and cover with browns as needed. Open bins or bins with a relatively large lid are desirable for easy loading and turning. Some manufactured bins have a door at the bottom to remove finished compost. After 6 months to a year, remove the bin and harvest the finished compost at the bottom, then begin again with the mixture left at the top of the composter.

◆ **Rotating Drum Compost Units:** These units are off the ground on stands or bases. They are turned either with a handle or by pushing the drum. Most drums are batch compost units in which you add feedstocks as they are generated, but with each green addition, the process is interrupted, lengthening the composting time. For best results, the drum should be full to create a batch; compost activity occurs while you are filling but conditions are not optimal until it is full. To improve processing, 2 drums can be used consecutively, or a holding bin and drum can complement each other. Some are designed with side-by-side drums for this purpose. Once the drum is full, turn it as directed to mix the feedstocks until you have a finished product.



Manufactured rotating drum compost units.



Homemade rotating drum compost units.



Manufactured continuous feed compost units.

◆ **Continuous Feed Compost Units:** These composters are designed to be fed daily. Feedstocks go in one end and compost comes out the other. These include rotating drum and bin composters that are designed specially to push waste through the system, and also include indoor, electric composters.



Indoor worm box.

Manufactured worm compost unit.

♦ **Worm Compost Units:** Worm composting utilizes worms to help process organic material and produce castings. Worm composting is often done in 24” deep beds or trays. Bins are fed from the top and worms move up to the food to process it. Because the worms are sensitive to temperature,

they should be protected from high heat and freezing temperatures. The ideal temperature for composting with worms is between 59-77°F (15-21°C). If it gets too hot worms will migrate to cooler areas. This method can be ideal for apartment dwellers and those with little outdoor space.

Companies that Offer Bulk Bin Sales - updated May 2016

The following companies offer programs for municipalities and non-profits interested in having bin sales or distributing bins to residents.

- Covered Bridge Organic, Inc., Jefferson, OH: <http://www.cboinc.com/programs.htm>
- Earth Machine: <http://www.earthmachine.com/municipal/index.php>
- Nature’s Footprint, Inc. The Municipal Wormcycler Composter for municipal governments and non-profit organizations: <http://naturesfootprintinc.com/products/wormcycler/>

Plans for Compost Systems - updated May 2016

There are many websites where you can get plans for making your own compost unit. Your local County Cooperative Extension Service or local Solid Waste Management Department may have free plans or bins for sale. Look them up on the web or give them a call. The following websites have free plans:

Cornell Waste Management Institute has “Designs for Composting Systems” <http://hdl.handle.net/1813/11729> and “Six easy steps to setting up a worm bin” <http://compost.css.cornell.edu/worms/steps.html>.

Cornell Cooperative Extension of Tompkins County has information on home composting as well as some bin designs: <http://ccetompkins.org/gardening/composting/compost-resources>.

New York City’s Department of Sanitation has a website that gives information on low cost bins and how to build a bin and where to buy worms: <http://www1.nyc.gov/assets/dsny/zerowaste/nonprofitsagencies/food-yard.shtml>

Free plans from “Do-It-Yourself” are available at: <http://www.free-diy-plans.com/plans-compost-bin.html>.

Decisions, Decisions.... Make sure the compost unit meets all of your needs.

1. What type of organic material do you want to compost?

It is recommended that home composters limit their food scrap composting to fruits, vegetables, plant matter and paper products, as most home composting piles do not get hot enough to destroy pathogenic organisms found in meats, fats, oils and cat and dog manures. In addition to pathogens, these items can be odiferous and may attract unwanted pests. Combining yard waste with food waste is the most effective combination.

2. How much organic material (brown and green combined) do you have to compost?

Determine how much you have for composting by estimating the amount of food scrap you generate. Example: how many gallon buckets do you fill each week? Remember, you will need 1 part wet (food scraps): 2-3 parts dry, (carbon) depending upon moisture. Estimate the amount of yard waste you want to compost. When you have determined how much you have to compost, find a container to match the

volumes. For small amounts of organics, it may be more effective to use worm composting, bins in contact with soil or direct incorporation. For larger amounts you may want 1-3 bins or a multi bin unit, and compost in batches. Batches allow for use of compost at different times of year or in different seasons.

3. Do you have enough carbon and a place to store it?

Carbon is essential for composting. It is the energy source for the microorganisms that process feedstock and helps to absorb moisture. In most cases, you will need at least 1 part brown material for every part of green (food scraps, grass clippings). Collect carbon in a holding bin or bags for use when carbon is less available (see Stockpile Browns on page 5).

4. Where are you going to put the bin?

If you have plenty of outdoor space, you can use any bin, but if space is limited, find one with a smaller footprint. Bins should be placed in a convenient location in sunny or shaded areas. In cities, they can be located in trash collection areas as long as they are well labeled. If you are using a bin with a lid, you will need a level area for siting, otherwise the corners of the bin are likely to be stressed and the lid will be difficult to keep in place. Lids can blow off and may need to be weighted down. Place the bin near where finished product will be used.

5. What is the compost bin made of and how will it look in its space?

Some manufactured compost bins are made with 15% (or less) recycled materials while others are made from 100% recycled materials. Some are high density polyethylene, some are polypropylene and others are made from galvanized steel or wood. Most are black, green or brown. If building a compost bin, think about what materials you will use. Compost bins can be made from recycled pallets, old snow fence, used welded wire, old cinder blocks, recycled plastic barrels and many other reusable materials.

6. How fast can organic materials be turned into compost?

Time in all systems depends on mixes, moisture and airflow. With well-balanced mixes, turned or unturned, compost can be produced within 6 months. Creating a good habitat for microorganisms helps the process work better. By balancing your browns and greens and checking your moisture content (see squeeze test pictures below) you can create a mixture that allows air to flow evenly through the pile. This “passive” air flow can produce the same results as turning. Keeping that stockpile of coarse carbon on hand will help achieve this. With less optimum conditions, it will take from 6 months to a year or more to produce finished compost. With rotating drum composters, continuous composters and worm composters, finished compost can be created in a relatively short time of 6 months or less.



Optimum moisture content for compost is 40-60%, damp enough so that a handful feels moist to the touch, but dry enough that a hard squeeze produces no more than a drop or two of liquid.



Troubleshooting Compost Problems

Symptom	Problem	Solution
Pile is wet and smells like a mixture of rancid butter, vinegar and rotten eggs	Not enough air	Turn pile
	Or too much nitrogen	Mix in straw, sawdust or wood chips
	Or too wet	Turn pile and add straw, sawdust, or wood chip; provide drainage
Pile does not heat up	Pile is too small	Make pile larger or provide insulation
	Or pile is too dry	Add water while turning
Pile is damp and sweet smelling but will not heat up	Not enough nitrogen	Mix in grass clippings, food scraps or other sources of nitrogen
Pile is attracting animals	Meat or dairy products have been added	Keep meat and dairy products out of the pile; enclose pile in 1/4" hardware cloth
	Or food scraps are not well covered	Cover food with brown materials such as, wood chips or finished compost

Resources:

- It's Gotten Rotten (video) - <http://hdl.handle.net/1813/11656>
- Composting at Home: the Green and Brown Alternative - <http://hdl.handle.net/1813/29111>
- Composting at Home (slide show) - <http://hdl.handle.net/1813/44789>
- Composting: Wastes to Resources - <http://hdl.handle.net/1813/11729>
- Composting to Reduce the Waste Stream - <http://hdl.handle.net/1813/44736>
- Cornell Cooperative Extension (county offices) - <http://cce.cornell.edu/localoffic>
- Vermicompost: A Living Soil Amendment - <http://cwmi.css.cornell.edu/vermicompost.htm>.

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On-Ground Compost Units (cost ranges \$30-\$270) The following table provides only a few of the many manufactured compost units available and may be helpful when choosing a compost unit. Cornell Waste Management Institute does make any endorsements of these products.

Name	Material & Recycled content	Length (in)	Width (in)	Height (in)	Weight (lb)	Capacity	Other Information
Biostack	Polyethylene 60%	28	28	34		12 ft ³	Stackable bin will make more batches at a time. Unstack to start new batch while waiting for first to finish composting.
Compost Wizard Standing Bin	Polyethylene	25	29	37		12 ft ³	Door on bottom for unloading
Earth Machine	HDPE 50% min	33	33	33	15	10.5 ft ³	Base plate can be purchased; door on bottom for unloading.
Eco Composter	Canadian Spruce	26.25	26.25	30	34.5	90 gal	Slatted box. No doors, but sides unbolt.
FeelGood Composter	Plastic resin 100%	30	30		19	90 gal	All 4 sides have sliding panels.
Garden Gourmet	Black plastic 100%	24	24	36	29	11 ft ³	One sliding bottom door. Additional panels can be added to increase capacity.
Garden Wise Compost Bin	Polypropylene 100%	28.5	28.5	33		12 ft ³	4 sliding panels for unloading.
GeoBin	Plastic mesh	36	36	36	8	14 bu	Adjustable “fencing” to hold feedstocks.
Juwel Compost Bin:	Polypropylene up to 40%	28.4	28.4	31.5	22	77 gal	2 side doors for removal of compost. Base plates included with larger models.
AeroQuick Small		31.5	31.5	42	30	110 gal	
AeroQuick Medium		37	37	43	49	187 gal	
AeroQuick Large		42	42	43		235 gal	
Soilsaver	Polyethylene 75%	28	28	32	30	11.4 ft ³	2 sliding sides for unloading and turning if desired.
WIBO Composter	Polycarbonate 100%	30	30	34	19	110 gal	All 4 sides have sliding panels.

Pictures?

Rotating Drum Compost Units (cost ranges \$70-\$500) The following table provides only a few of the many manufactured compost units available and may be helpful when choosing a compost unit. Cornell Waste Management Institute does make any endorsement of these products.

Name	Material & Recycled content	Length (in)	Width (in)	Height (in)	Weight (lb)	Capacity	Other Information
Black and Blue	Plastic - 99%					7 ft ³	Wheeled base for turning and twist lid.
Compost Wizard, Jr.	Resin - 100%	25	29	37	27	7 ft ³	2 models; the Hybrid base is a 47 gal rain barrel so compost tea is combined with rain water.
Compost Wizard Hybrid							
ComposTumbler							
BackPorch	HDPE	31	26	37		5 ft ³	
Compact	Galvanized metal	42	33	43		12 ft ³	
Original	Galvanized metal	50	40	68		22 ft ³	
ComposTumbler2	Galvanized metal	50	40	68		22 ft ³	
Envirocycle	Plastic 50%	25.5	20	25.5		7 ft ³	
Joracomposter							
JK125	Galvanized steel	36	27	33	64	33 gal	
JK270	Galvanized steel	44	28	52	84	70 gal	
Mantis ComposT-Twin		65	41	66		25 ft ³	2-12.5 ft ³ compartments for continuous composting.
Suncast Tumbling Composter	Resin composter galvanized steel frame	41	31.5	42.5		6.5 ft ³	
Tumbleweed Compost Maker	UV protected polypropylene	34	26	46	22	60 gal	Vertical tumbler on stand.

Continuous Compost Units (cost ranges \$140-\$450) The following table provides only a few of the many manufactured compost units available and may be helpful when choosing a compost unit. Cornell Waste Management Institute does make any endorsements of these products.

Name	Material & Recycled content	Length (in)	Width (in)	Height (in)	Weight (lb)	Capacity	Other Information
Aerobin 400 Aerobin 600		29	29	47		113 gal 160 gal	Includes base with leachate collection tank; door for compost removal. Uses a lung or aeration core inside the sealed bin to add oxygen and moisture.
Earthmaker	UV stabilized polypropylene – 15%	30	30	47	27	120 gal	Door for unloading. Material moves vertically through the composter.
NatureMill The Classic Plux XE Pro XE	Housing: recycled polypropylene. Internal components: stainless steel.	12	20	20	17	80 – 120 lb/month	Drawer to remove compost. Indoor use; requires electricity. Accepts all food including meat, milk and oils.
Sun-Mar Sun-Mar 200 Sun-Mar 400		33.5 42	24 28	31 36	38 60	50 gal 100 gal	Continuous flow composting using a double drum design. Compost is removed by opening the output port, rotating the drum and allowing compost to fall from the inner drum into a container.

Worm Compost Units (cost ranges \$45-\$120) The following table provides only a few of the many manufactured compost units available and may be helpful when choosing a compost unit. Cornell Waste Management Institute does make any endorsements of these products.

Name	Material & Recycled content	Length (in)	Width (in)	Height (in)	Weight (lb)	Capacity	Other Information
Tumbleweed	UV treated high impact polypropylene	23	15	10	10		1,000 worms required to start off the farm.
Vermihut Vermihut – 2T Vermihut – 3T Vermihut – 4T Vermihut – 5T	HDPE 100%	16 16 16 16	16 16 16 16	19 20 21 22	10.4 11.7 13 14	2 lb/day 3 lb/day 4 lb/day 5 lb/day	Has 2-5 trays depending on model; each can hold up to 2 lbs of worms. Worms migrate upward to food source leaving the bottom tray full of compost.
Worm Factory 3-tray system 4-tray system 5-tray system Worm Factory 360	Recycled HDPE	16 16 16 18	16 16 16 18	21 24.5 28 28	11 12 13 13	4-5 lbs food/wk per tray	Has 3-5 trays depending on model. Worms migrate upward. 360 model comes with bedding, accessory kit, DVD and illustrated guide.



Preventing Animal Nuisances in Small Scale Composting

Nuisance Proof ng Your Compost

Rodents, racoons and even house pets can be a concern associated with backyard composting. They can be attracted to compost piles both as a source of food and a place to live. A central New York study reported that pests, including rats, were the third most common composting obstacle following lack of space and lack of knowledge.¹ Pest problems should not be underestimated, but they are not insurmountable. A few simple measures can help to evict current squatters or discourage animals from moving in on your compost pile.

Compost Management

Good compost management can deter pests while also accelerating the composting process. By considering what you put in your compost bin and how you manage it, you may prevent unwanted visitors. Do not add meat, chicken, fish, oils, cheese, or leftovers containing excessive oil or seasoning. Some people find eggshells to be a particular attractant while others have had no problems with eggshells. Where a problem persists, it may be necessary to avoid food scraps altogether. You may want to consider indoor vermicomposting for food waste. (See *Worm Composting Basics* for more information at: <http://compost.css.cornell.edu/worms/basics.html>). Do not add feces of carnivorous pets, including cat litter, to your compost pile. By following that advice you will also reduce the probability of adding parasites which can be present in the feces.

Taking care to avoid exposed food scraps can also help. The “dump and run” composter is liable to have more problems. When adding appropriate food scraps, first add yard waste around the inner wall of the bin. Add food scraps to the center of the pile and cover them with layering material such as grass, leaves, wood chips, soil or sawdust. (See *Lasagna Composting* for more information at: <http://cctompkins.org/>



Securing wire mesh over vents discourages nuisance visitors.

compost/downloads/lasagnacomposting.pdf.) Turning your pile and keeping it moist will increase the temperature and speed up decomposition. It will also discourage animals that are looking for a dry, undisturbed bed. Be watchful for food that becomes exposed when you turn the compost. Carefully observe the vents and other open areas of the bin. Good “Binkeeping” including covering all food scraps is your best defense againts all problems including attracting undesirable insects and other pests and keeping leachate under control.

Bin Location

Often animals are attracted by other food sources such as bird feeders, outside pet food bowls, garbage cans, fruit trees or berry bushes and use a nearby compost bin as a cozy bed. Or they may be snoozing in your stacked woodpile, carport, shed, or brush pile by day and munching on your compost pile by night. If possible, eliminate existing attractors. Locate your compost bin away from other nest locations or food sources.

FACT SHEET 2005

<http://cwmi.css.cornell.edu/nuisance.pdf>

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Thanks to Tompkins County Cooperative Extension for providing information for this fact sheet.

Rodent-Proofing Your Bin

Vectors are able to burrow under and into your compost bin. Rats are able to chew through plastic bins, usually starting with the vents. Taking measures to prevent them from getting into your bin may discourage them. The way to do this will depend on your bin's construction. Some possible solutions include:

- Constructing your bin out of half inch hardware cloth or welded wire. (For instructions on building a welded wire bin see: <http://ccetompkins.org/compost/downloads/weldedwirebin.pdf>.)
- Wrapping your entire bin in 1/4" to 1/2" inch wire mesh. If your compost bin has vents, it may be necessary to cover them with wire mesh.
- Lining your bin with wire mesh. If your compost bin has vents, it may be necessary to cover them with wire mesh.
- A secure, tight-fitting lid is essential.
- Covering a wooden pallet with 1/4" to 1/2" wire mesh, then placing and securing your bin on top of the pallet.
- Digging out the soil below your bin and laying 3 to 4 inches of coarse gravel and 1/4" to 1/2" galvanized hardware cloth.
- Laying a solid foundation of concrete or patio stones underneath your bin. Be aware that this method may not provide adequate drainage for your compost pile.



Wood and wire bin



Hot box

Other Tips

An often-repeated bit of advice is to sprinkle cayenne pepper liberally around the compost pile. Or employ cats or dogs to patrol the area. If your problem is serious, call a professional service to catch and remove the animals. Then follow the advice above to prevent new unwelcome guests from moving in.

¹ 2001. Tompkins County Compost Study. Prepared by: Cornell Cooperative Extension's Compost Education Program.



Two-bin system

SMALL SCALE OR BACKYARD COMPOSTING RESOURCES

Small Scale or Backyard Composting web site - <http://cwmi.css.cornell.edu/smallscale.htm>

Health and Safety Guidance for Small Scale Composting fact sheet - <http://cwmi.css.cornell.edu/smallscaleguidance.pdf>

Home Composting fact sheet - <http://cwmi.css.cornell.edu/compostbrochure.pdf>

NYS Small Scale Compost Demonstration Sites - http://compost.css.cornell.edu/maps.html#Holds_Demos=Yes

Compost: Truth or Consequences video - <http://hdl.handle.net/1813/11313>

Additional Resources

<https://www.co.ocean.nj.us/solidwaste/frmComposting.aspx>

Ocean County Department of Solid Waste Management Composting website.

<https://www.jerseyyards.org/>

Jersey-Friendly Yards website

<https://njaes.rutgers.edu/soil-testing-lab/>

Rutgers Soil Testing Laboratory

[https://njaes.rutgers.edu/soil-testing-lab/pdfs/home/Home_and_Landscape -
_Soil Test Questionnaire.pdf](https://njaes.rutgers.edu/soil-testing-lab/pdfs/home/Home_and_Landscape_-_Soil_Test_Questionnaire.pdf)

Soil Testing Questionnaire

[https://njaes.rutgers.edu/soil-testing-lab/pdfs/greenhouse/Greenhouse or Compost -
_Organic Media Questionnaire.pdf](https://njaes.rutgers.edu/soil-testing-lab/pdfs/greenhouse/Greenhouse_or_Compost_-_Organic_Media_Questionnaire.pdf)

Compost/Potting Soil Questionnaire

[https://www.homedepot.com/c/ab/soil-buying-
guide/9ba683603be9fa5395fab9017d314c59](https://www.homedepot.com/c/ab/soil-buying-guide/9ba683603be9fa5395fab9017d314c59)

Home Depot Soil Buying Guide