Product Information
Urban Compost Tumbler (UCT)

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A. WHAT IS COMPOST?

Compost is composed of organic material ranging from leaves and wood chips to household refuse which, when broken down, becomes one of nature's best garden fertilizers and richest mediums for potted plants. It is made up of waste material that is generally high in either carbon or nitrogen.

For more specific information on composting, there are a number of great books on the market and many good Internet sites to check out. One book we particularly find helpful is Backyard Composting by Harmonious Technologies. If you don't know where to get started on the Internet, we have a number of good web sites and articles listed on our Links page.

B. WHY COMPOST?

Below are just a few of the excellent reasons why so many gardeners and horticulturists are taking advantage of this time-tested practice:

- Easy, convenient way to dispose of garden refuse (often prohibited from city dumps).
- Ideal for growing organic herbs, fruits and vegetables.
- Conserves dwindling landfill space.
- Saves money on fertilizer and other store-bought gardening products.
- A good alternative to chemical fertilizers for parents, pet-owners and others concerned with safety and health.
- Helps wards off pests and weeds without chemical pesticides or herbicides.
- Improves plant growth and quality.
- Reduces erosion and nutrient run-off.
- Restores nutrients back into the soil.
- Helps loosen soil and can be used as mulch.
- Breaks-down clay based soils.

For the first time, the new Urban Compost Tumbler™ (UCT) is making composting practical and easy for gardeners in just about any urban or suburban setting.

C. WHAT MAKES “HIGH QUALITY” COMPOST?

High quality compost is compost that is completely "done" and ready to use. It should resemble soil and have a pleasant, earthy aroma. It should be easily spreadable.

Lower quality compost is more sludge-like and bears a foul odor. It is usually made of materials that have not fully broken down. Sometimes material that has stuck together through insufficient aeration and mixing can result in an unpleasant phenomenon known as "the nitrogen slime ball." Gardeners may want to avoid using poor quality compost as it can leach life-giving nitrogen from plants as well as contribute to environmental problems through the release of excess nitrogen.

D. THE URBAN COMPOST TUMBLER (UCT)

Using the fully enclosed Urban Compost Tumbler (UCT) offers some distinct advantages over compost piles, bins and even other tumblers. There are a number of composters to choose from ranging from bins and boxes, to do-it-yourself chicken wire enclosures. Simply put, the UCT is the fastest, most convenient, easiest, and safest form of composting.

There are "Four" ingredients that are critical for effective composting of all organic materials: 1) carbon, 2) nitrogen, 3) water, and 4) oxygen. The unique patented core aeration system of the UCT provides the essential oxygen for the aerobic microorganisms and tool free mixing of the composting materials. This near odorless, fully enclosed composter is ideal for both yard and kitchen materials. Many cities now ban or are considering banning open compost piles because of pest control (e.g. rats, mice, raccoons and insects) and are turning to fully enclosed composters like the UCT.

Some specific advantages of the UCT include:

- Ease of operation with no special tools or pitchfork required
- Speed of operation
- Avoids pest control problems
- Avoids odor problems even with higher nitrogen ratios
- Aids in moisture control in extra dry or rainy climates
- Provides insulation to aid heating of smaller batches
- Portability, as the UCT can be moved about your yard
- Ascetically fits into a landscaped yard nicely

Ease of operation with no special tools or pitchfork required
Many people simply do not have the time to turn their compost pile with a pitchfork every weekend let alone daily. Many of the compost bins on the market require tools to reach in to turn or remove material. What sets the UCT apart, even from other tumblers, is its central aeration feature. With tumblers without this feature, you soon discover that occasionally you need to open them up, reach inside, and break up the nitrogen slime ball that develops in the center. With baffles on the sides of the barrel, an aeration tube and cross bars in the center of the UCT, you avoid this problem. Not only do you get and maintain more oxygen in your mix, it allows the compost to mix when the tumbler is rotated rather than just slide back and forth. When fully loaded with damp material, some tumblers become unstable when rotated. The UCT has an exceptionally sturdy and stable stand allowing it to be rotated with the heavier loads.

Ease of operation includes **“ease of maintenance.”** The UCT does not have rollers, cranks and gears to become clogged and wear out over time. It is made of primarily food grade and recycled plastic that does not rust when left exposed to the elements.

Speed of operation
A real strength of the UCT and what makes it different than any other tumbler on the market is how it gets oxygen into the mix. The most efficient microorganisms at composting are called aerobes and require oxygen to live. Without good aeration, the aerobes die and the bacteria called anaerobes take over the composting effort. When this occurs, composting can be slowed up to 90%. This is why the UCT with its core aeration tube can produce compost faster than practically anything on the market today. In addition, the UCT allows for higher nitrogen content than a typical pile would because odor is not a problem. NOTE: When properly filled and aerated, the UCT will reach temperatures in excess of 130 degrees. Being a fully enclosed unit, the UCT helps smaller batches reach higher temperatures that are important for speeding the composting process and destroying unwanted seeds and root structures.

Avoids pest control problems
Depending on what you put in your compost and how well you maintain it, it is not uncommon to attract a variety of pests. Pests can include stray dogs, raccoons, rats, mice, opossums and a host of insects. The UCT's lid screws on and the aeration tube in the bottom is closed with a mesh screen/grate to prevent rodents and large insects from entering the barrel. Again depending on the composition of your compost, you can have some forms of active bacteria and fungus you don't want pets or children around. The UCT is a fully enclosed and elevated unit that provides a significant safety margin.

Avoids odor problems even with higher nitrogen ratios
Especially within an urban setting, many neighbors object to having compost piles and bins next to their property due to problems with odors. Even when the mix is Nitrogen rich (green stuff) which often creates an odor problem, by being an enclosed unit, the UCT eliminates the problem.

Aids in moisture control in extra dry or rainy climates
Exposed compost piles and bins can become drowned in rainy weather and dried out in hot climates. Compost exposed to the wind dries quickly slowing composting. Being an enclosed unit, the UCT is impervious to rain, helps to retain moisture content in hot weather while protecting the material from the wind.

Provides insulation to aid heating of smaller batches
When composting in the open, it is recommended you have a minimum 3' x 3' x 3’ pile to produce proper heating. Heating is an important element in composting as it helps break down the material while destroying weed seeds and insect larva. Composting in smaller batches requires more attention to the issue of compost heating. By being a fully enclosed unit, the UCT provides the insulation necessary for smaller batches of compost to heat and retain heat longer. Also by being an enclosed unit, additives such as alfalfa pellets, cotton seed meal, manure, blood meal and other natural ingredients can be added and mixed more easily to aid in the heating and more rapid composting process.

Portability, as the UCT can be moved about your yard
Unlike compost piles and most of the composting units on the market, the UCT (when empty) is portable allowing it to be moved into a shed or onto a patio. Just slip a drip pan under the barrel to protect any surfaces from drips and drops and you can compost year around.

Ascetically fits into a landscaped yard better
In many urban settings, yards have been carefully landscaped and/or neighborhood associations have strongly encouraged ascetics. The UCT is an unobtrusive addition to the yard allowing a full range of composting activities without having a "barnyard" look, feel or smell.

E. COMPOSTING RECIPES

You can use almost any recipe or formula for composting in the UCT you like. However, following some basic rules will help. You need Carbon (brown stuff), Nitrogen (green stuff), Oxygen, Moisture, and Time in the mix. The degree of attention you give to the materials you use, the quality of those materials, their ratios in the mix, particle size and moisture control will all influence the speed of composting and its quality.

What to compost
With only a few exceptions, if it is a plant and grows out of the ground or in the water, you can compost it. All organic material contains carbon and nitrogen to greater or lesser degrees. Materials high in carbon generally are brown in color (autumn leaves, straw, dry grass, etc.) and materials high in nitrogen are frequently green in color (fresh cut green grass, kitchen scraps, etc.).

By weight (not volume), a good rule of thumb is to have roughly equal amounts of "brown" and "green" material. This is known as the 50/50 rule and will tend to balance the carbon to nitrogen ratio to the appropriate level. The optimum ratio by volume is about 30:1 (carbon:nitrogen). Since measuring and weighing all your material can be tedious, the 50/50 by weight rule is simpler and usually accurate enough.

A reason many people recommend a 30:1 ratio is for odor and pest control. While a 20:1 or even a 10:1 ratio will typically provide faster and more nitrogen rich compost, the odor and pests can become a real problem. Also with higher concentrations of nitrogen, compost may heat more rapidly burning off the oxygen quicker. Compost must be turned more frequently to get oxygen back into the mix when using higher nitrogen ratios. A real advantage of the UCT is you no longer need to be quite as concerned with this ratio. Odor and pests are not a problem as the UCT is an enclosed unit and turning the tumbler daily requires very little effort as opposed to turning a compost pile. One caution in using higher nitrogen ratios

is not allowing the compost to become too wet. Frequently, with a very high nitrogen content mix, it can turn into a very unpleasant slug. The moisture content should be equivalent to the dampness of a wrung out sponge.

Another rule of thumb to remember when mixing material for composting is the more varied the materials, the richer the compost. When practical, try using a variety of "greens" and "browns" in the mix. Below is a general guideline of example materials to use and not use in composting. This will vary based on materials available and the individual's experience in composting.

Compost Materials		
Nitrogen-Rich (Green)	**Carbon-Rich (Brown)**	**Not Recommended**
Algae	Buckwheat hulls	Any plant or wood material that has been chemically treated
Bread	Brown Paper bags (shredded)	Bones
Coffee grounds	Cereal boxes	Charcoal or ashes
Egg shells (crushed)	Coffee filters	Cheese or other dairy products
Feathers	Conifer needles	Diseased or insect-infested plants
Flowers (fresh)	Corn cobs	Fish
Fruits or Vegetables	Cotton/wool/silk scraps	Fat (oils, grease, etc.)
Grass clippings (fresh, not chemically treated)	Egg shells (crushed)	Meat
Hair	Dry leaves and grass	Manure from dogs, cats, humans or sick herbivores
Leaves (green)	Hay (dry - chopped)	Rhubarb leaves
Manure (from healthy herbivores *only*)	Newspaper (shredded)	Treated paper (slick or glossy)
Pasta (cooked)	Paper plates (non-coated)	Walnut shells
Rice (cooked)	Peat moss	Weeds that have "gone to seed" or with pervasive root structures
Seaweed	Shredded paper (untreated only)	Non-organic material (plastics, styrofoam shipping "popcorn", etc.)
Tea-bags	Saw-dust	
Weeds (not bearing seeds or with pervasive root structures)	Straw (chopped)	
	Wood chips or shavings (untreated)	
	Wood ash (from untreated wood only)	

F. HOW TO COMPOST USING THE UCT

Collect and prepare the material: Gather together enough "brown" and "green" material to fill your UCT all at once. Using the 50/50 rule, by weight, use approximately half-green and half-brown material. For ideal composting results, prepare the material so the particles are approximately 1/2" to 2" inches or less in size. Cutting up or shredding material increases the surface area of the material thereby increasing the speed of composting. For dry leaves and small yard clippings and trimmings, try laying them out on the lawn and run over them a few times with a lawn mower. For some of the larger items, consider getting a small yard chipper to run them through first. The smaller the partial size, the faster it will compost.

Filling the UCT: It helps to start by leaving a little compost (seasoning) in the barrel from the time before. Begin putting in equal amounts (by weight) of "brown" and "green" material. About every 5" to 8" you may want to add a handful of a natural compost starter, alfalfa pellets, or manure, and then dampen if needed. If you are using over 25% fresh grass or vegetable scraps, you probably will not need to add water. If 50% or more of your material is fresh cut grass, consider letting the grass dry a couple days before putting in the unit to avoid excess water build-up. When you add water, if possible avoid using chemically treated water (i.e. municipal water) but instead use natural rainwater. Your mix should be damp as a wrung out sponge. It should feel wet but you should not be able to squeeze out water. In climates that are very humid, avoid adding any water. Being an enclosed unit, water will collect inside the unit from humidity. It is important to avoid packing the material down too much, as it will impede mixing when the unit is tumbled. It is IMPORTANT to leave a little empty room in the barrel to allow mixing. Also remember that a full barrel will turn easier than when half full. The contents should not exceed about 130 lbs as the unit will be harder to turn.

While not required, you will get the best results by gathering up enough varied material and loading the UCT all at once. Batch composting is the most efficient as it allows for rapid heat build up all at once. It is ok to add material to the UCT as it becomes available, be aware if you do, the overall composting time will take much longer and you will not get the same concentrated heating of the compost batch if you add the material too slowly. Also, continuing to add material to the UCT can be deceptive since the volume of composting materials can drop rapidly. **Be careful not to keep putting material in until it is too heavy to easily turn the barrel.** We recommend not going over 130 lbs in weight. You can usually tell when you are approaching or have exceeded this limit as the top of the barrel starts becoming oval in shape and the lid becomes difficult to get on. Depending on the materials used and particle sizes, it is not uncommon to have a fully loaded UCT weighing 100 lbs or more - compost down to 20 lbs that is about 12" to 15" deep in the bottom of the composter. Empty the compost out and start a new batch.

Composting with the UCT: Once the unit is filled, screw on the lid (be sure the aeration holes are (open/clear) and let it sit. At lease weekly, rotate the tumbler 2 or 3 times in each direction - daily rotation is even better. Remember that oxygen is the key to rapid composting. Especially during the first week or so, check to be sure that the material was not packed so tight that it is not mixing when tumbled. If the material can't move around enough to allow fresh oxygen into the mix, composting will be slower. Remember to keep an eye on moisture content. If the material becomes too dry, add water. If it becomes too wet, remove the lid until it dries some.

Having two or more UCT's works even better. In effect, you double your capacity with two units and cut your composting time in half. Two units allow you to either load twice as much at one time if you have a lot of material, or to load a unit every 1-2 weeks to have a more even flow of finished compost ready for use.

G. Making Compost Tea in the UCT-9 (not for the UCT-7)

Compost Tea, also known as liquid gold by many horticulturists, is used in place of commercial liquid fertilizers for your flowers, herb, vegetables, and practically anything else that grows. Compost tea is used to feed plants, restore plants, enhance soil microflora and can be sprayed onto the foliage to control foliar diseases. For many gardeners, compost tea can be even more valuable than the actual compost.

Compost Tea

- For outdoor and indoor vegetation
- Improves plant growth
- Provides nutrients to plants and soil
- Provides beneficial organisms
- Helps suppress diseases
- Replaces toxic garden chemicals

Making Compost Tea in the UCT-9

We offer a Tea-Catcher option you can purchase for your UCT-9 that has all the parts you need. It has a brass elbow that will self-thread into the drain hole at the bottom of the barrel along with some screening material to prevent the brass elbow from plugging up. To be attached to the brass elbow is a hose butterfly valve and includes a short peace of hose and fitting. You should have a large drip pan under the UCT-9 or place the UCT-9 where a little spillage of liquid will not hurt anything.

In the early stages of composting you may have a dark-colored solution that leaches out of the mix and can be drained out of the bottom of the barrel. This especially occurs if you have a lot of moisture in the barrel to start with. However this is not compost tea but compost leachate and may contain pathogens. Compost leachate usually needs further bioremediation and is not suitable or recommended as a foliar spray. It can still be used as a fertilizer, but with care. Unless you specifically need to reduce the moisture content in the barrel, do not drain it until you have fully matured compost. Compost tea should be obtained from mature compost.

If you have maintained the ideal moisture level in your compost mix (moist but not wet) you will probably have little to no liquid in the bottom of the barrel when the compost is finished. Creating a rich compost tea is actually a “brewing” process. The purpose of this process is to extract beneficial microbes from the compost itself, followed by growing these populations of microbes.

There are several ways compost tea can be made using the UCT-9, but here is one way you can try. Wait until your compost is finished and either remove or add some compost until you have about 5 inches of finished compost in the bottom of the barrel. Then add water (sprinkle evenly over the top of the compost) until the compost is slushy. This can vary based on how wet your compost might already be. If it is reasonably dry you should be able to add 2-4 gallons. Consider mixing a little molasses, kelp powder or fish powder into the water to provide an additional food source for microbial growth. When adding water, remember there is a 2 inch lip around the large hole in the center of the barrel. It will contain 11 quarts of compost and liquid before overflowing this lip. When adding water, you could add it slowly until you see it start to leak over this lip. Try to let the mix brew for at least 3 days but up to 7 days would be optimum. Tumbling the mixture daily is a good idea if you don’t mind a little leakage. Rotate the unit (rather quickly) several times bring it to an upright level position. There will be some seepage here and there on the outside of the barrel from tumbling really wet material. Rinsing it off with a hose before it dries is a good idea. Let the mixture sit quietly for the last 24-hours before draining. After draining, the remaining compost will still be really wet but will be extra rich in microbial growth.

H. ADDING SUPPLEMENTS TO YOUR COMPOST

There are good reasons to consider adding supplements to your compost. The nutrients added to compost… are then added to the soil where you put the compost. For example, we recommend using only all natural organic supplements like a good Compost Activator (4-4-2). A good activator speeds composting while adding nitrogen, phosphorous and potassium to the finished product. Add some Blood-Meal (13-0-0) to your compost and the additional nitrogen will speed composting even more while providing plants with the nutrients to develop a rich, dark green leaf color. Add Prilled Dolomite Lime to the mix to "sweeten" soil when too acidic. Most plants grow best when the soil pH is between 6.0 and 7.0. Dolomite Lime is a good source of calcium and magnesium, two important plant nutrients.

I. POINTERS & CAUTIONS IN USING THE UCT

Setting up the UCT: It is VERY important that the UCT be setup on a level firm footing. If the unit is sitting with a tilt it can become unstable when rotated. If set on the ground or lawn, be sure it is level, firm and dry. If set on a deck, patio, concrete floor, decorative blocks, or similar material, consider using a "drip pan" beneath the unit to catch occasional drips. One suggestion is setting the UCT on firmly positioned patio stones or concrete blocks.

Loading the UCT: The principle behind the UCT is to fill it all at once and produce a compost batch fast… empty and repeat the process. A lot of small batches faster is the key to effectively using just about any tumbling composter. The UCT can do batches gather over time but it will take much longer to compost. The content of the UCT should not exceed 130 lbs. Usually a balanced load of green and brown material weigh does not weigh this much, however when adding large amounts of water, vegetables/fruits, green manure and the like, it could exceed the weight limit. While a little additional weight may not hurt the UCT, it will become more difficult to turn for some people. You can usually tell when you are approaching

or have exceeded this limit as the top of the barrel starts becoming oval in shape and the lid becomes difficult to get on.

Tumbling/Rotating the UCT: Care must be taken when rotating (tumbling) the barrel to avoid possible personal injury or damage to the unit. To rotate, stand to one side and begin "rocking" the barrel back and forth a couple times to build momentum. Then as the barrel swings forward, using the force of the momentum of the barrel, "push down" to complete the rotation. It is important you push down on the barrel and NOT outward or sideways. Pushing outward may cause the unit to tip over and lateral (sideways) movement may cause damage to the stand. The UCT is easier to turn when full rather than when just partially filled. The barrel turns around the center shaft so the more weight you have on both sides of the shaft (top vs. bottom), the more "in balance" the barrel is. However, you do not want to fill the barrel to the very top as you need some space to allow for mixing. Remember after tumbling to be sure the aeration holds are open/clear.

Break-in period: Breaking-in or burning-in your UCT is important. The first couple batches of compost produced by the barrel usually takes a little longer than normal and is of lower quality compost. It seems to take at least a couple good batches of compost to season the barrel. It is a good idea that in your first few compost batches you liberally use a good quality all natural compost starter.

Excess moisture in the unit: Several things can cause excess moisture in the barrel. It means either too much water has been added or too much green material (fresh grass, vegetables or fruit) was in the mix. If you keep getting too much moisture in the mix, you must change your recipe to use more brown (carbon rich) material and avoid adding water. In some humid areas excess moisture can build up in the barrel as the temperature varies between night and day. If the compost becomes too moist, remove the lid until it dries out some. To speed drying, replace the lid periodically and tumble the unit to keep wet compost exposed. Let the barrel rest at an angle to expose as much compost as possible. When the lid is on, remember to keep the vent holes at the top of the barrel clear to allow air circulation.

J. WARRANTY INFORMATION

D&P Industries warrants the Urban Compost Tumbler UCT-7 for 5 years and the UCT-9 for 10 years to the original owner covering materials and workmanship. Damage resulting from improper use or care is not covered. It is important to read and follow the product information contained in this document and the instructions that come with the unit.

K. CONCLUSION

There are many benefits to composting. It provides valuable nutrients and improves the quality of soil. Wet clay soils drain better and sandy soils hold more moisture when amended with compost. Compost encourages the growth of earthworms and other beneficial organisms whose activities help plants grow strong and healthy. Composting can help your garden by improving yields of fruits, vegetables, flowers, and herbs. In addition, composting reduces trash disposal and saves limited landfill space. We hope the UCT will contribute to more people enriching their lives and environment through composting.