

Fall Green Gardening Classes

Join us for Virtual Green Gardening Workshops on Wednesdays at noon during October and November!

October 20: **Backyard Composting**

October 27: **Sustainable Landscaping**

November 3: **Tree Selection, Watering and Care (presented by Tree Davis)**

November 17: **Leak Detection and the City's Customer Water Use Portal, AquaHawk**





City of Davis Public Works Utilities and Operations Department

Backyard Composting Class

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Thank you for participating!

We will take questions at the end of each section of the class.

To ask a question:

▶ Click “Raise your hand”

Or

▶ Email DCalciano@CityofDavis.org



City of Davis Composting Class

- ▶ Backyard composting
- ▶ Worm composting
- ▶ In-ground composting
- ▶ Food digesters



What is Compost?

- ▶ The controlled decomposition of organic material
 - ▶ Includes bacteria, fungi, and other macro and micro organisms
- ▶ A soil amendment product that results from proper composting

- ▶ Why should we compost?
 - ▶ Healthy soil
 - ▶ Return nutrients to the soil
 - ▶ Natural fertilizer
 - ▶ Reduce waste





Yolo County Compost

COMPOST AVAILABLE!

Residents can pick up compost
at the Yolo County Central Landfill!



www.YoloCounty.org/Landfill



Grasscycling

- ▶ Leaving lawn clippings on the grass
- ▶ Mulch mower
- ▶ Follow the “1/3 rule”
 - ▶ Never remove more than 1/3 the height of the grass blade in any one mowing.
- ▶ Reduces the need for fertilizer
- ▶ Increases water retention

RAKING LEAVES CAN BE RUFF



**WOULDN'T YOU MULCH
RATHER MOW THEM INSTEAD?**



Backyard Composting

- ▶ The compost bin
 - ▶ Hoop bin
 - ▶ Store-bought bins
 - ▶ Reuse bins
 - ▶ Pallet bin
 - ▶ Chicken wire
 - ▶ Nursery flats
- ▶ Multiple bins
- ▶ Pile composting



Presto Geo Bin

- ▶ Size is adjustable
- ▶ Made from recycled plastic
- ▶ Available for \$10 to Davis residents in single-family homes



Placing your compost bin

- ▶ Must have contact with soil
 - ▶ Do NOT place on concrete
- ▶ Do not place against structures
 - ▶ Wood fencing, buildings, etc.
- ▶ Sun
 - ▶ Helps maintain heat
 - ▶ Dries out faster
- ▶ Shade
 - ▶ Helps maintain moisture
 - ▶ No warming effect



What to compost?



Carbon:	Nitrogen:
"Brown Stuff"	"Green Stuff"
<ul style="list-style-type: none">-dry leaves-sticks-dried grass-hay-sawdust	<ul style="list-style-type: none">-fresh grass clippings-green leaves-coffee grounds-fresh pulled weeds-chicken manure



- ▶ Aim for a 50/50 mix of greens and browns
- ▶ Do not add invasive weeds, diseased plants, or large pieces of wood



Adding Food Scraps

- ▶ Food scraps should never be more than 10% of the total pile volume
- ▶ Bury them deep
- ▶ Chop them up for faster decomposition
- ▶ Plant material only, no animal products
 - ▶ No meat, bones, dairy products, pet feces, fats, oils, or grease
- ▶ **If you add food scraps, you must turn the pile weekly AND keep the material moist**



Adding material to your pile

- ▶ Size matters
 - ▶ Think about the surface area
 - ▶ Small stuff breaks down faster than large pieces
 - ▶ Minimum 3' x 3' x 3' pile
 - ▶ To retain heat in the pile
- ▶ Mix the material
 - ▶ Layer greens and browns
 - ▶ Balanced "diet"
 - ▶ Always make sure food scraps are buried
- ▶ It's OK to continually add material to your pile



Moisture in your compost pile

- ▶ 40% moisture is ideal
- ▶ Test your pile
 - ▶ Pull out material from the center and squeeze
 - ▶ Dripping water = too wet
 - ▶ Dry and prickly = too dry
 - ▶ A few drops of water in your palm = perfect!
- ▶ Rainy season – cover your pile
- ▶ Hot, dry weather – add water



Temperature

- ▶ Evidence of activity – metabolic heat
- ▶ 120° – 140°
- ▶ Maintain the heat for several days
- ▶ Heat kills weed seeds, pathogens
- ▶ Increase temperature
 - ▶ Add water
 - ▶ Turn the pile
 - ▶ Add greens
 - ▶ Keep the pile at least 3' x3' x 3'



Turning your pile

- ▶ Adds oxygen
 - ▶ aerobic decomposition
- ▶ Mixes materials
- ▶ Deters pests
- ▶ Turn every 1 to 2 weeks for maximum aeration
 - ▶ Required if you add food scraps
- ▶ More turning = faster composting



Harvesting your compost

- ▶ Compost should be ready in 3 – 6 months
- ▶ Turn pile – remove the brown “dirt” at the bottom
- ▶ Cure it first!
 - ▶ Lay it out in the sun to dry
- ▶ Using compost
 - ▶ Mulch
 - ▶ Soil amendment
 - ▶ Top dressing or work it into the soil
 - ▶ Potting mix



Troubleshooting

- ▶ Smelly Pile/ Pest Problems
 - ▶ Too much food waste
 - ▶ Stop adding food scraps and greens
 - ▶ Too wet
 - ▶ Add dry, brown material
 - ▶ Anaerobic
 - ▶ Turn your pile
- ▶ No Heat/Slow Decomposition
 - ▶ Too dry
 - ▶ Add moisture
 - ▶ Add green material
 - ▶ Pile too small
 - ▶ Add material



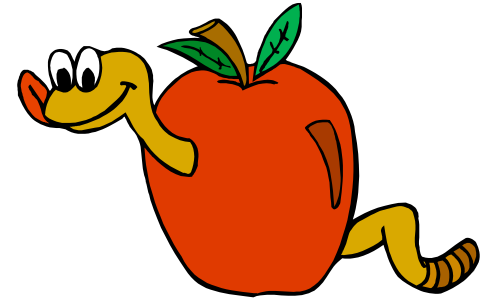
Questions?

- ▶ Click “Raise your hand” to be unmuted and ask your question.
- ▶ Email DCalciano@CityofDavis.org



Food Scrap Composting

- ▶ Vermicomposting (worm composting)
- ▶ Food digester
- ▶ In-ground composting



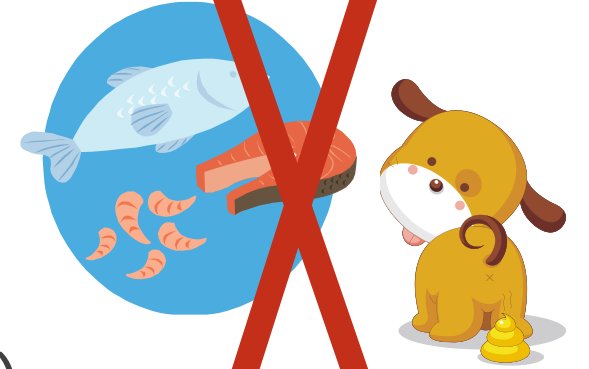
Food Scrap Composting

▶ YES

- ▶ Fruit & vegetables
- ▶ Bread, rice, & pasta
- ▶ Tea bags
- ▶ Coffee grounds & filters

▶ NO

- ▶ Meat & bones
- ▶ Fish
- ▶ Dairy
- ▶ Fats, oils and grease
 - ▶ Salad w/ dressing
- ▶ Pet feces (dogs & cats)



Worm Composting

- ▶ Ideal for apartments, small places
- ▶ Only for food scraps
- ▶ Getting started
 - ▶ Bin
 - ▶ Location
 - ▶ Bedding
 - ▶ Worms
 - ▶ Food scraps
- ▶ Worm castings are highly a nutritious fertilizer
- ▶ Fun method of composting food scraps
- ▶ Pest resistant



A Little Background on Worms..

- ▶ Where do you find worms?
 - ▶ Cool, damp soil
 - ▶ Near the top 2 feet of soil
 - ▶ Soft, aerated soil
 - ▶ Never in the sun
- ▶ Ectotherms (cold-blooded)
 - ▶ Active when warm
- ▶ Hermaphroditic
 - ▶ Each worms creates a cocoon
- ▶ Porous skin
 - ▶ Absorbs moisture
 - ▶ Sensitive to pH



Purchasing a worm bin

- ▶ Different styles
- ▶ Most have spigot to collect leachate
- ▶ Range of prices available

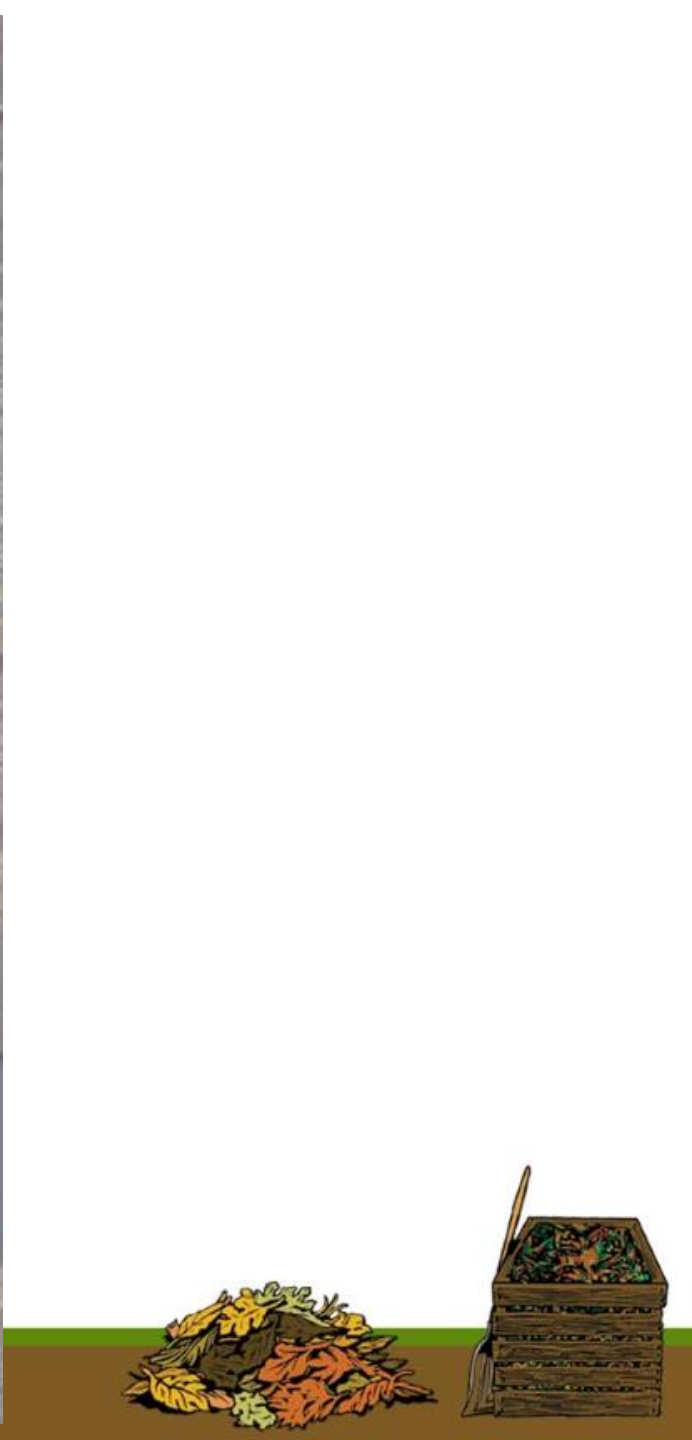


Make your own worm bin

Plastic storage tote with lid

- ▶ Opaque
- ▶ 18 inches deep is best
 - ▶ Deeper—no oxygen
 - ▶ Shallower—no insulation
- ▶ Punch holes
 - ▶ In the bottom & lid
 - ▶ NO LARGER than 1/16"!
- ▶ Will your bin be located indoors?
 - ▶ Buy 2 bins
 - ▶ don't punch holes in one





Location

- ▶ MUST be in complete shade!
- ▶ Be wary of asphalt and concrete
- ▶ Protected area where there is no frost
- ▶ You may need to move the worm bin occasionally
 - ▶ Think about the size of your worm bin
- ▶ Winter: Insulate your bin
 - ▶ Wrap with blanket, straw bales
 - ▶ Bring it indoors to a garage
- ▶ Suggested locations
 - ▶ Against a building in the shade
 - ▶ Under a porch
 - ▶ Garage
 - ▶ Under the sink
 - ▶ Deep shade under a bush or tree



Worm Bedding

- ▶ What is bedding?
 - ▶ Bedding is a food source and an environment
 - ▶ *Think of it as water in the fish bowl*
 - ▶ More bedding = more temperature insulation
- ▶ Shredded newspaper, paper, junk mail
- ▶ How to add bedding
 - ▶ Dampen the bedding FIRST before adding it to the bin
 - ▶ Fill the worm bin up to the top, leaving only 2-3" of space left for air
 - ▶ You will need to continually add bedding materials to your bin (worms will eat it)
- ▶ **Final touch—add a small handful of dirt**



It takes a LOT of paper to fill a bin.



Composting Worms

- ▶ Red wigglers
 - ▶ *Eisenia foetida* or *Lumbricus rubellis*
- ▶ Locally available
 - ▶ City of Davis Public Works (\$5)
 - ▶ *Not currently available*
 - ▶ UC Davis Project Compost
 - ▶ Local hardware stores



Feeding your worms

- ▶ Move back the bedding
- ▶ Place the food scraps in the bin
- ▶ Cover the food scraps with the bedding
 - ▶ Always cover with at least 2 inches of bedding!
- ▶ Don't overfeed your worms!
 - ▶ Feed only once a week
 - ▶ Feed on one side of the bin at a time
- ▶ Chop food up for faster composting
- ▶ Watch the pH level
 - ▶ Citrus, coffee grounds



Harvesting the worm compost

- ▶ Put your worms on a diet for a few weeks
- ▶ Feed on one side of the bin
- ▶ One to two days later, remove the compost from the other side of the bin
- ▶ Spread the remaining compost evenly across the bin
- ▶ Add fresh bedding to refill the bin



Harvesting the worm compost

- ▶ Make a pile of compost
- ▶ Keep removing the upper layer
 - ▶ Worms dig down to avoid light
- ▶ Place worms back in bin
- ▶ Sift out un-composted material



Using worm compost

- ▶ Use it right away, no curing required
- ▶ Caution: seeds remain viable!
- ▶ Use as a fertilizer/ soil amendment
 - ▶ Nutrient content varies depending on diet
- ▶ Worm tea—spread in the garden



Questions?

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In-Ground Composting

- ▶ Choose an empty garden bed or a location outside of tree drip-line
- ▶ Dig a hole or trench at least 12" deep
- ▶ Add 2-3" of food scraps
 - ▶ Chop and mix into the soil
- ▶ Cover with at least 8" of soil



In-Ground Composting

- ▶ Watch for signs of digging animals
 - ▶ Not a good composting method with dogs
- ▶ Food scraps will be composted in 1–6 months
 - ▶ Soil type, season, material added, moisture
- ▶ Seeds can be planted immediately
- ▶ Large transplants—wait for finished compost



In-Ground Composting Tips

- ▶ Best in fall and winter
 - ▶ Prepare soil for spring
- ▶ Great for vegetable garden beds
- ▶ Worms!
 - ▶ If you build it, they will come
- ▶ Challenges
 - ▶ Digging is required
 - ▶ Hard to harvest the compost
 - ▶ There may not be places to dig year round



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Food Digesters



Make your own food digester

- ▶ 32 gallon galvanized garbage can with **tight fitting lid**
- ▶ Drill 1/4"-1/8" holes
 - ▶ Approx. 20 holes in the bottom
 - ▶ Approx. 20 holes in the lower 1/3
- ▶ Find a well-drained area in your yard
- ▶ Dig a hole to fit the digester
 - ▶ 1/2 – 1/3 of digester should be below the ground
 - ▶ NO HOLES should be above ground
- ▶ Add food scraps and replace the lid
 - ▶ Add scraps daily or weekly as needed
- ▶ No need to add worms
- ▶ Should take 4-12 months to fill the digester



Beware!

- ▶ If left too long...a digester may become cockroach breeding grounds.
- ▶ Try using the digester as a densifier, or pretreatment to in-ground composting
 - ▶ Empty every few months
 - ▶ Spray down with vinegar
- ▶ MONITOR the bug population
- ▶ If roaches continue to be a problem...try another method.



Harvesting your compost

- ▶ Shovel out the material
- 1. Harvest the compost
 - ▶ Replace the un-composted material in the digester
 - ▶ Dry the composted material out in the sun
 - ▶ More nutrients in composted food waste—use sparingly
- 2. Move all the material to in-ground composting



Troubleshooting your food digester

- ▶ Smell and fruit flies
 - ▶ Flies and smell *inside* is OK, but not outside
 - ▶ Add sawdust, dry grass, shredded newspaper
 - ▶ Hang strips of flypaper in your digester
- ▶ Pests getting in your digester
 - ▶ Secure the lid—tie it to the handles
 - ▶ No meat, dairy, fish or greasy foods
 - ▶ Roaches? Use only as a densifier or eliminate.



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THANK YOU!

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Conservation Coordinator

City of Davis

Public Works Utilities and Operations

Department

DavisRecycling.org

City Hall » Public Works Utilities and Operations

SOLID WASTE AND RECYCLING

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SB 1383: Organic Waste Regulations

Recycle and compost organic waste

Keep edible food out of landfills

New Statewide Law Begins January 2022

What Goes in the Bin?

[Recycling](#) [Organics](#) [Trash](#)

Other Waste

- Public Works Utilities and Operations
 - Environmental Resources
 - Integrated Pest Management
- Solid Waste and Recycling
 - Solid Waste Rates
 - Organics
 - Recycling
 - Garbage
 - Yard Material Collection
 - Hazardous Waste
 - Single-Family Home
 - Apartments
 - Business Programs
 - Recycling Downloads
 - Recyclopedia
 - Zero Waste Games
 - SB 1383 CalRecycle Organics Regulations
 - Stormwater
 - Streets

City of Davis
Public Works Utilities and Operations
Environmental Resources

Greener Davis

Working together for a Greener Davis

Greener Davis Conservation News - October 2021

In This Issue
Green Gardening Workshops — Fall/Winter Yard Material Pile Collection
Climate Action Workshop — Let's Talk Turkey — Cleaning and Stormwater Protection
Compost Your Pumpkin — Recology Shred Event — Ask Greener Davis

Green Gardening Workshops

Join us for Virtual Green Gardening Workshops on Wednesdays during October and November!

The City is offering free classes on green gardening and water leak detection that you can join from the comfort of your own home or office. They will be offered on select Wednesdays in October and November at noon via Zoom! To register please go to the [Green Gardening Workshops webpage](#) or send an e-mail to PWWeb@CityofDavis.org and you will receive an email confirming your registration along with the link to the Zoom class.

