Backyard Composting Class
City of Davis Composting Class

- Backyard composting
- Worm composting
- In-ground composting
- Food digesters
- Prize giveaways!
ORGANICS

Food scraps are:
- Fruits and vegetables
- Nuts
- Eggs
- Rice, beans, and pasta
- Meat, poultry, and seafood
- Dairy products (no liquids)
- Milk cartons, ice cream cartons, and other cartons found in the refrigerated section of stores
- Greasy pizza boxes
- Waxed paper
- Tea bags
- Coffee grounds and filters
- Paper napkins and paper towels
- Facial tissue
- Paper plates
- Paper take-out food packaging
- Plants and flowers
- Yard trimmings

YES
- plastics
- glass
- dirt, rock, and concrete
- cat litter
- non-compostable material

NO
- plastics
- glass
- dirt, rock, and concrete
- cat litter
- non-compostable material

Place food scraps in paper bags, compostable bags, or compostable containers BEFORE placing them in the organics cart.

PLACE ALL FOOD SCRAPS IN PAPER OR COMPOSTABLE BAGS OR CONTAINERS

NO PLASTIC, GLASS OR METALS

ORIGINALLY CREATED BY THE CITY OF DAVIS WASTE MANAGEMENT DEPT

CITY OF DAVIS 2019 BACKYARD COMPOSTING CLASSES
What is compost?

- Nature's own way of recycling
- The controlled decomposition of organic material
  - The process 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
- Are you composting already?
  - Yard materials on the street
  - Backyard composting
  - Worm bin
  - Food bin
- What are you composting?
  - Yard materials
  - Backyard composting
  - Food scraps
    - Backyard composting?
    - Worm composting
    - Food digester
    - In-ground composting
Grasscycling

- Leaving lawn clippings on the grass
- Mulch mower
- Reduces the need for fertilizer
- Increases water retention
Backyard Composting

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

Free pallets are available from the City of Davis Stores Services. Call 757-5657 on Mondays or Wednesdays to request pallets. Bring gloves!
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
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**What to compost?**

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>- dry leaves</td>
<td>- fresh grass clippings</td>
</tr>
<tr>
<td>- sticks</td>
<td>- green leaves</td>
</tr>
<tr>
<td>- bread</td>
<td>- coffee grounds</td>
</tr>
<tr>
<td>- coffee filters</td>
<td>- fresh pulled weeds</td>
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<tr>
<td>- dried grass</td>
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</table>

- 50/50 mix of greens and browns
- Do NOT compost
  - meat, bones, grease, fat, oil, pet feces, invasive weeds, diseased plants, large pieces of wood

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Adding Food Scraps?

- No more than 10% of the pile
- Bury them deep
- Chop them up for faster decomposition
Adding material to your pile

- **Size matters**
  - Small stuff breaks down faster than large pieces
  - Surface area
  - Min 3’ x 3’ x 3’ pile

- **Mix the material**
  - Layer greens and browns
  - Balanced “diet”
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
  - 3’ x3’ x 3’
  - Insulate in cold weather
Turning your pile

- Adds oxygen
  - aerobic decomposition
- Mixes materials
- Turn every 1 to 2 weeks for max aeration
- More turning = faster composting
- Not in a hurry?
  - Turn when you need compost
Harvesting your compost

► Compost 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
  ► Fertilizer
  ► 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
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)
- Horse, cow, rabbit OK in backyard compost pile
Worm Composting

- Ideal for apartments, small places
- Only for food scraps
- Getting started
  - Bin
  - Location
  - Bedding
  - Worms
  - Food scraps
Why Worms?

- Compost is highly nutritious fertilizer
- Worm tea?
- Fun method of composting food scraps
- Pest resistant
“Concerning 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 worm creates a cocoon
- Porous skin
  - Absorbs moisture
  - Sensitive to pH
Purchasing a worm bin

- Different styles
- Most have spigot to collect leachate
- $$$
Make your own worm bin

Plastic storage tote with lid

- Opaque
- 12 - 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
  - Bury in ground or compost pile
- Suggested locations
  - Against a building in the shade
  - Under a porch
  - Garage
  - Under the sink
  - Deep shade under a bush or tree
Worm Bedding

- Bedding is a food source and an environment
- Suggested bedding materials
  - Shredded newspaper
    - this is the best!
  - Shredded paper
  - Coconut hulls
  - Peat moss
- Dampen the bedding FIRST

It takes a LOT of paper to fill a bin.
How much bedding?

- Bedding is for worms like water is for goldfish
- At least 6 inches
- More bedding = more insulation
- Leave 2-3” of air
- Add more bedding as needed
  - Worms will eat it
- Add some dirt
Composting Worms

- Red wigglers
  - *Eisenia fetida* or *Lumbricus rubellis*
- Locally available
  - City of Davis Public Works ($5)
    - Call first—talk to Jennifer G. directly
    - Arrange a time
    - Bring your worm bin!
      - Bedding, holes prepared
  - 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!!
Feeding your worms

- Don’t overfeed your worms!
- Feed only once a week
- Chop food up for faster composting
- Watch the pH level
  - Citrus, coffee grounds
- Feed one side of the bin at a time
When can I harvest the compost?
Harvesting the worm compost

- Put your worms on a diet for a few weeks
- Feed on one side of the bin
- Remove the compost from the other side
  - Only remove ½ of the compost
    - Worms
    - Cocoons
- Spread remaining compost evenly in 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

- Dry it out in the sun and cure it first
- Caution: seeds remain viable!
- Use as a fertilizer, not a mulch
  - Nutrient content varies depending on diet
- Worm tea?
**In-Ground Composting**

- Find a well-drained area in your garden
  - Garden bed or 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
- Hard to harvest the compost
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
Make your own food digester

- 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
Using your food digester

▶ Add food scraps and replace the lid
  ▶ Add scraps daily or weekly as needed
▶ Tight fitting lid!!!
▶ 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
   ► Dry the composted material out in the sun
     ► More nutrients in composted food waste—use sparingly
   ► Replace the un-composted material in the digester

2. Move 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.
Compost & Mulch Giveaway

Saturday, April 27
from 9AM - 2PM
THANK YOU!

Jennifer Gilbert
JGilbert@CityofDavis.org
Conservation Coordinator
City of Davis Public Works Department
DavisRecycling.org

SOLID WASTE AND RECYCLING

RECYCLE, REUSE, REDUCE, REBUY, ROT

The City of Davis Recycling Program is responsible for recycling outreach to 44,000 residents within the city. The City has an exclusive franchise waste agreement with Recycle Davis (formerly Davis Waste Removal) to collect trash, recyclables, organics, yard material, paper, and perform street sweeping within the city limits. The Davis Recycling Program encourages the 5 Rs: Reduce, Reuse, Recycle, Repair, and Refurbish.

Contact Information

April City of Davis Conservation News

Water Softener Usage Survey

Do you have a water softener?
Since the city introduced surface water in June 2016, the average level of hardness in the water has decreased, so softener water is naturally softer than local groundwater.
The purpose of this survey is to receive feedback from the City’s community on the cost of water softeners and any adjustments that may be necessary. The survey will be open from April 1 to May 31.