

# King County's 2020 Organics Stakeholder Meeting



**King County**

Department of  
Natural Resources and Parks  
**Solid Waste Division**

Waste  
Prevention

Resource  
Recovery

Waste  
Disposal

# Agenda:

9.00-11.20am

- **King County SWD Updates (30 mins)**
  - Josh Marx, Andy Smith & Karen May - KC SWD, Emily Coleman KC SWD/Exec Services, and Amanda Goodwin (C+C),
- **Managing Organics in the Time of COVID (30 mins)**
  - Lewis Griffith - City of Tacoma
  - Hans Van Dusen - Seattle Public Utilities
  - Glynda Steiner - King County
- **A Regulator's Perspective (20 mins)**
  - Yolanda Pon - Seattle King County Department of Public Health
- **Break (10 mins)**
- **King County Biosolids (20 mins)**
  - Ashley Mihle - King County's Wastewater Treatment Division
- **Engaging with the Community (30 mins)**
  - Reingard Rieger - Tilth Alliance



1

# King County SWD Updates

Emily Coleman – King County

Amanda Goodwin – C+C

Karen May – King County

Andy Smith – King County



- Universal Contract
- Technical Assistance
  - Trainings
  - Guides
  - On-call consulting



**King County**

Quick Guide



CompostWise

GUIDANCE ON PROCURING  
AND APPLYING COMPOST

 **King County**  
Department of  
Natural Resources and Parks  
Solid Waste Division



- Parks' Projects
- Sustainable infrastructure scorecard



King County



# Farm Compost Pilot

- Demonstrate compost benefits to farmers to encourage its use
- Focus on small farmers from culturally diverse backgrounds as part of King County's commitment to ESJ
- Partnering with WLRD staff that have established connections with farmers and can serve as language liaison with farmers that speak little to no English
- Working with the Black Farmers Collective initially – with other farmers interested in participation in 2021.



# Food: Too Good to Waste




- Food waste prevention outreach campaign with focus on residents
- This year: Social media campaign due to COVID (replaces usual direct outreach at community events)
- Facebook and Instagram posts encourage residents to store food for maximum freshness and practice other tips to reduce food waste and save money.

# Food: Too Good to Waste Social Media Posts

 **King County Solid Waste Division**  
September 22 · 🌐

Don't toss that stale loaf of bread! 🍞 Save yourself money and a trip to the store by simply running it under water and baking it in the oven -- amazingly enough, it is fresh as new!



 **King County Solid Waste Division**  
September 22 · 🌐

Did you know bananas are bad neighbors? 🍌 They cause other fruits to spoil more quickly! So, keep your bananas away from other produce to help everything last longer.





# Compost Right

## 2019 Audience Research Findings

- People want to do the right thing and think composting is important, but need help making good decisions
- They view composting holistically, as part of the overall system for their home - “which bin should I put this in?” **not**, “Is this compostable?”
- Plastics are confusing
- They have guilt for throwing things out, so are more likely to put item in the compost (or recycling) cart if they are unsure

**Plastics are a top contaminant for processing facilities**

**Result: *Compost Right* education campaign**



**Food in,  
plastic out.**

That's how you  
**Compost Right.**



**King County**

[Learn More](#)



**Comida dentro,  
plástico fuera.**

¡Así sea  
**hace el compost!**



**King County**

[Más información](#)

# Compost Right Campaign – Oct/Nov



- Campaign focus
  - Rigid plastic containers (yogurt)
  - Plastic wrap/netting/bags
  - Shipping boxes with tape/labels
- Promotion in English + Spanish
  - Facebook/Instagram
  - Digital video
  - Digital audio (Spotify, Pandora, etc.)
  - Partner toolkit
  - Website landing page

# Preliminary results

## Five-week campaign:

- As of third week, 2.5 million impressions and 1,384 clicks to the landing page.
- Videos have been watched to completion 1,373,107 times (83% completion rate compared to industry average of 65%).
- Digital audio ads have 701,000 impressions. While the audio is not typically used for clicks, the ads did generate 165 clicks.



**Food in, plastic out.**

That's how you  
**Compost Right.**

[kingcounty.gov/compost-right](http://kingcounty.gov/compost-right)



**King County**

## Don't contaminate your compost, keep plastic out!

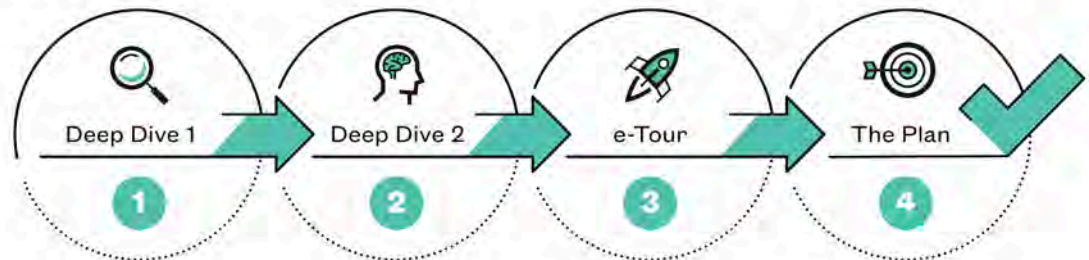
Empty, clean and dry



- 1.** Put food scraps and food-soiled cardboard and uncoated paper in your curbside compost cart.
- 2.** Plastic bags, wrap and netting go in the garbage.
- 3.** Cardboard, paper and containers made of plastic, metal and glass can be recycled.

# Task Force Update

- King County set up the Zero Waste of Resources and Rate Restructure Task Force to support the regional action to deliver zero waste of resources.
- Regional collaboration is vital for a more regional system, that supports designing out waste, keeping materials in use for longer and regenerating natural systems.
- On organics, the Task Force had two deep dives – one focusing on the data and one exploring potential options.
- Following the successful showcase of processing technologies, the Task Force will work with County staff to develop options for a regional plan, expected in Q1 & Q2 2021.



# Poll Question

Has the ongoing pandemic affected your organics operations or programs?



2

# Managing Organics in the Time of COVID

Glynda Steiner - King County

Hans Van Dusen - Seattle Public Utilities

Lewis Griffith - City of Tacoma

- Did you stay open for business? Why or why not? How long?
- What were the factors you considered that led you to stay open or not?
- What reaction did you receive from the community and your customers with your decision?
- What steps have you taken since to be able to provide service?
- Are you planning anything different in the face of a new outbreak in our region?
- Any other COVID related issues you would like to share?

**Questions**

3

# A Regulator's Perspective

Yolanda Pon - Seattle King County  
Department of Public Health



# A King County Public Health Regulator's Perspective on Managing Organics

**Presenter: Yolanda Pon**

**Email: [yolanda.pon@kingcounty.gov](mailto:yolanda.pon@kingcounty.gov)**

**Public Health - Seattle & King County  
Environmental Health Services Division  
Solid Waste, Rodent and Zoonotic Disease Program**



**2020 November Organic Stakeholder Meeting**

**Date: November 9, 2020**



# Roles of King County Public Health

**1) Ensure compliance with  
WAC 173-350-220 Composting  
facilities**

---





# Permit Requirements and Operating Standards

- Volume capacities – processing and on-site composting and storage
- Meet pathogen reduction activities
- Follow approved plan of operation
- Finished product movement to minimize extended time periods of storage
- Control nuisance odors beyond property boundaries
- Prevent attraction of vectors
- Control leachate and stormwater
- Meet Table 220-B testing parameters

**Table 220-B  
Testing Parameters**

Metals and other testing parameters	Limit (mg/kg dry weight), unless otherwise specified
Arsenic	≤ 20 ppm
Cadmium	≤ 10 ppm
Copper	≤ 750 ppm
Lead	≤ 150 ppm
Mercury	≤ 8 ppm
Molybdenum	≤ 9 ppm
Nickel	≤ 210 ppm
Selenium	≤ 18 ppm
Zinc	≤ 1400 ppm
Physical contaminants	≤ 1 percent by weight total, not to exceed .25 percent film plastic by weight
Sharps	0
pH	5 - 10 (range)
Biological stability	Moderately unstable to very stable
Fecal coliform or Salmonella	< 1,000 Most Probable Number per gram of total solids (dry weight)
Salmonella	< 3 Most Probable Number per 4 grams of total solids (dry weight)

# Roles of King County Public Health

**2) Ensure compliance with  
WAC 173-350-250 Anaerobic  
digesters and WAC 173-350-  
225 Other organic materials  
handling activities**



# Permit requirement or exempt from permit

Note: Other technologies have been exempt not only from permit, but also notification meeting the exempt table parameters in the regulations such as organic feedstocks no more than 5000 gallons or 25 cubic yards of material on-site at any one time.

Here is an example of an exempt facility: Bioenergy from a tofu factory



**Residual soybean processing**



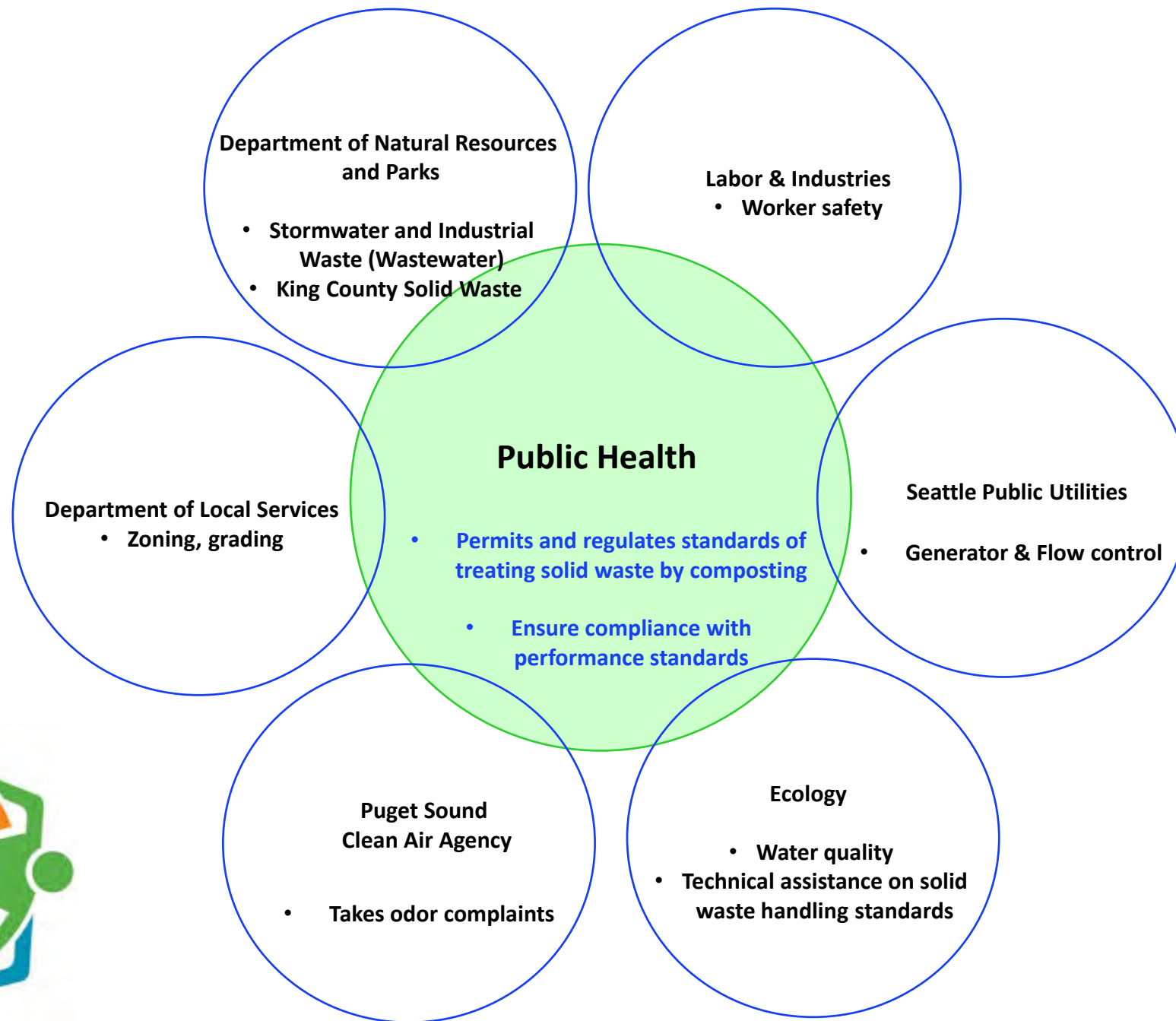
**Renewable natural gas and a certified organic, liquid soil amendment**

# Roles of King County Public Health

**3) Collaboration with other  
regulatory entities related to  
compost facilities**

---



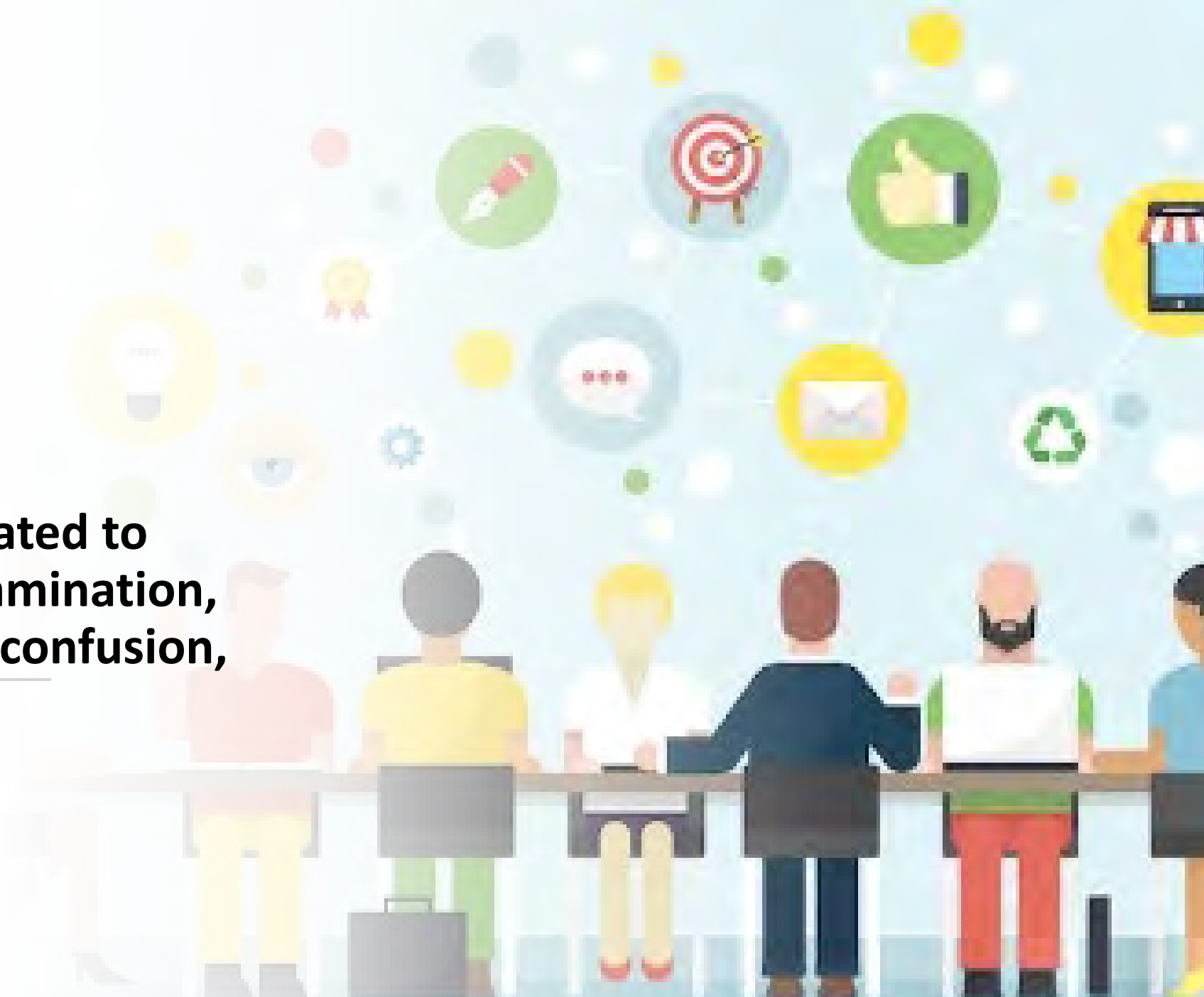






# Roles of King County Public Health

**4) General concerns related to  
compost facilities: contamination,  
compostable packaging confusion,  
and odors**



# Contamination source: Organics not separated appropriately at the point of generation

Where do contaminants go?

- Use as landfill cover



- Bury @ landfill
- Sort recyclable

How long does it take to degrade?



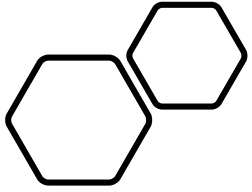
Plastic cling film  
500 - 1000 years



Plastic Bag  
10-20 years



Plastic Bottles  
450 years



# Contaminants



Tipping building, reject any loads of contaminants > 5% by volume



Plastic removal machine  
(before curing stage)



**Final composted material:**  
**Physical contaminants  $\leq 1\%$  by weight**  
**Film plastic  $\leq 0.25\%$  by weight** (WAC 173-350-220)



# Packaging Confusion (Compostable or Not?) - It depends...

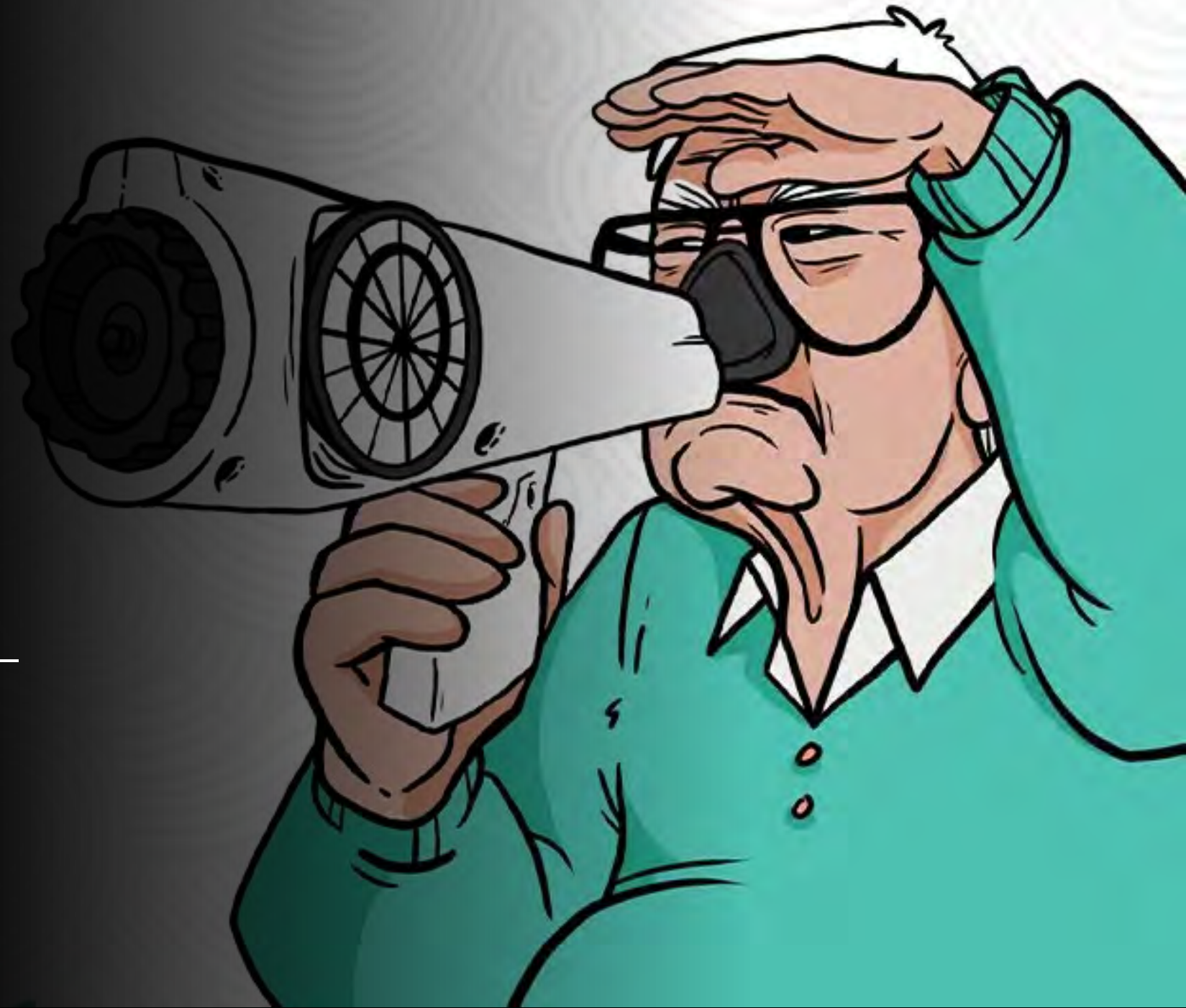
There is a need to educate business owners as to which compostable products to purchase to ensure they are compatible with where the products will go once it is used. Difficult in Seattle; their organics go to two compost facilities.





# Nuisance odors

---



# Public Health's Regulatory Authority Regarding Odor Control at Facilities

A plan of operation consists of the following odor control-related components:

- ❖ A description of how facility personnel will document and respond to nuisance odor complaints.
- ❖ A description of the facility and its operational features designed to prevent nuisance odors beyond the facility's property boundary, including descriptions of the receiving, composting, curing, and storage areas of the facility.
- ❖ A description of the facility's maintenance activities that include prevention and control of nuisance odors, with examples such as scheduled changing of biofilter media and cleaning of leachate ponds as appropriate.
- ❖ A description of how composting feedstocks with high moisture or the potential for high odors will be managed to reduce nuisance odors upon receipt at the facility and throughout the composting process.
- ❖ A description of how facility staff will receive appropriate training in the operation of the facility, including how they will be trained to identify nuisance odors and how to correct them.
- ❖ The facility must minimize odor by maintaining the porosity and moisture levels in composted material piles, not to exceed sixty percent moisture.
- ❖ Operation and maintenance of leachate ponds.

# Sources of odors

Prolonged storage of finished compost can be a contributing factor to odor in addition to stormwater runoff issues. (upper right corner picture)

**Solution:** Help develop markets by buying back the volumes that are being sent from your municipalities to the compost facility to close the loop and promote sustainability.







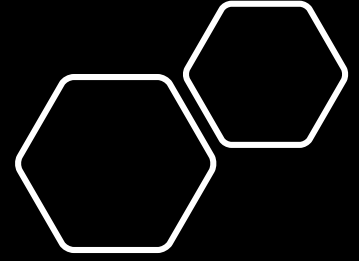
# Roles of King County Public Health

## 5) Public outreach

- Meeting with public at Community Service Area meetings in unincorporated KC
- Responding to complaints and concerns



# Questions?



Yolanda Pon  
(206) 263-8459  
yolanda.pon@kingcounty.gov  
Public Health – Seattle & King County

4

# King County Biosolids Program

Ashley Mihle – King County's  
Wastewater Treatment Division



# King County Biosolids Program

Loop<sup>®</sup> biosolids

Ashley Mihle  
Loop<sup>®</sup> Compost Project Manager,  
King County



# King County Wastewater Treatment Division

Population served: 1.8 million residents

- 5 treatment plants serve 425 square miles
- 4 CSO wet weather treatment facilities
- 200 million gallons of wastewater treated daily
- 34 local agencies



South  
Plant



West  
Point



Brightwater



A close-up photograph of several small green seedlings growing in a black plastic seedling tray. The soil is dark and rich, and the seedlings are in various stages of growth. The text "Soil gives us life" is overlaid on the right side of the image.

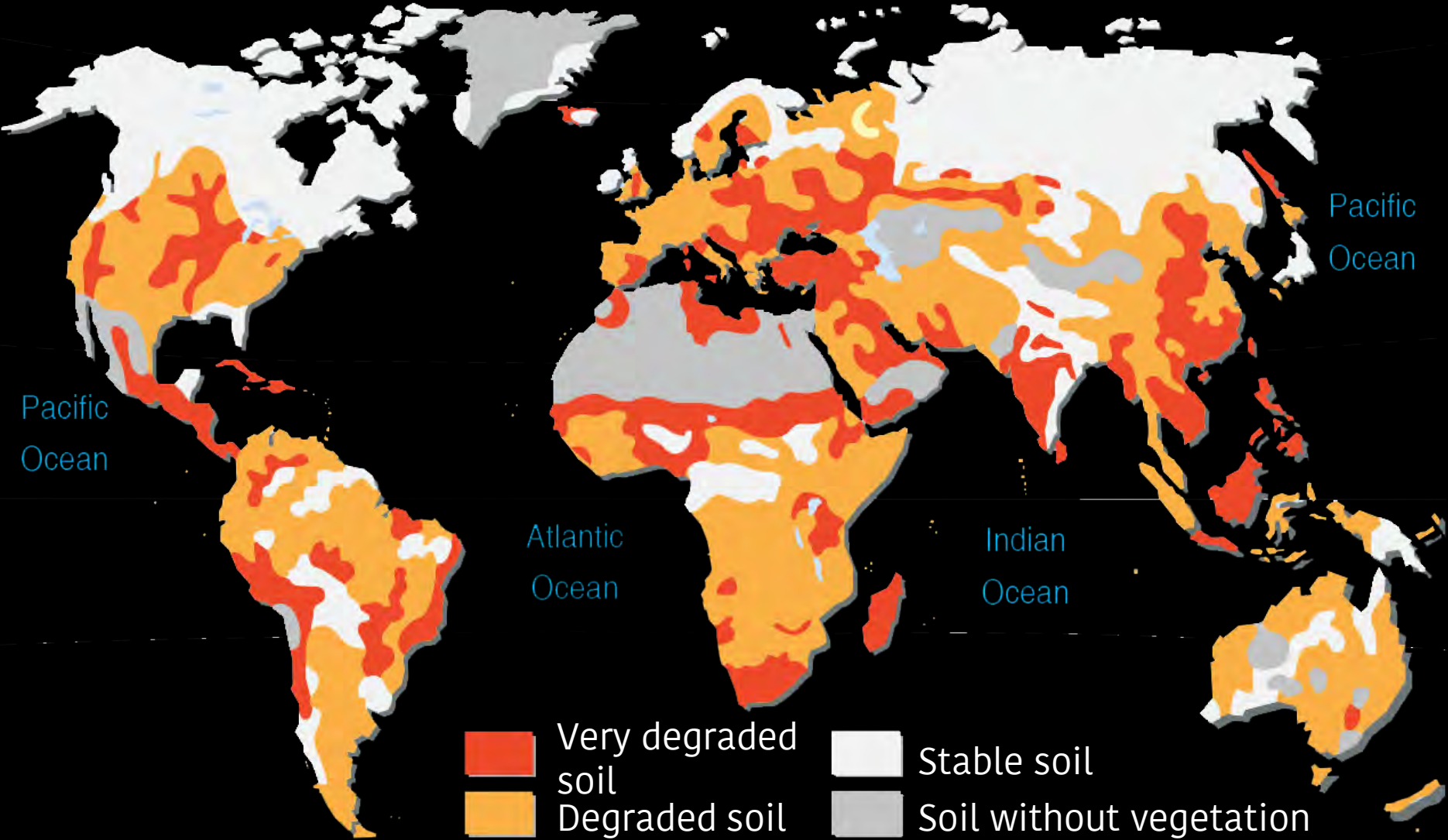
**Soil gives  
us life**



**Unsustainable  
practices hurt  
the soil**



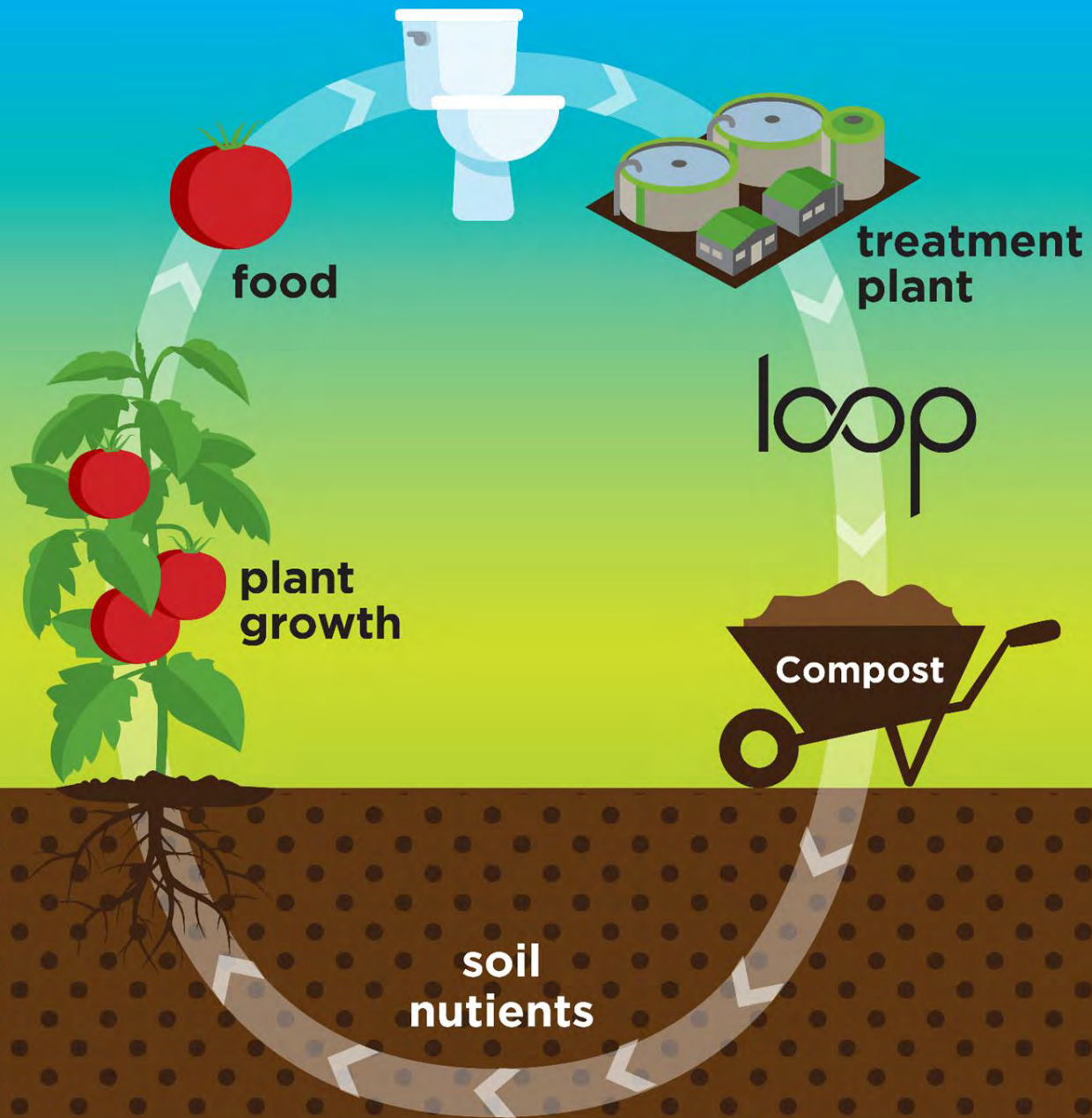
# Global Soil Degradation



Source: UNEP, International Soil Reference and Information Centre (ISRIC), World Atlas of Desertification, 1997.

Philippe Rekacewicz, UNEP/GRID-Arendal





## What is Loop?

loop

Loop is used on forests, farms, and is turned into a compost for gardens and landscapes

# How we got started King County Biosolids Program

## 1970s:

- Explored forestry application with UW
- Composting partnership begins

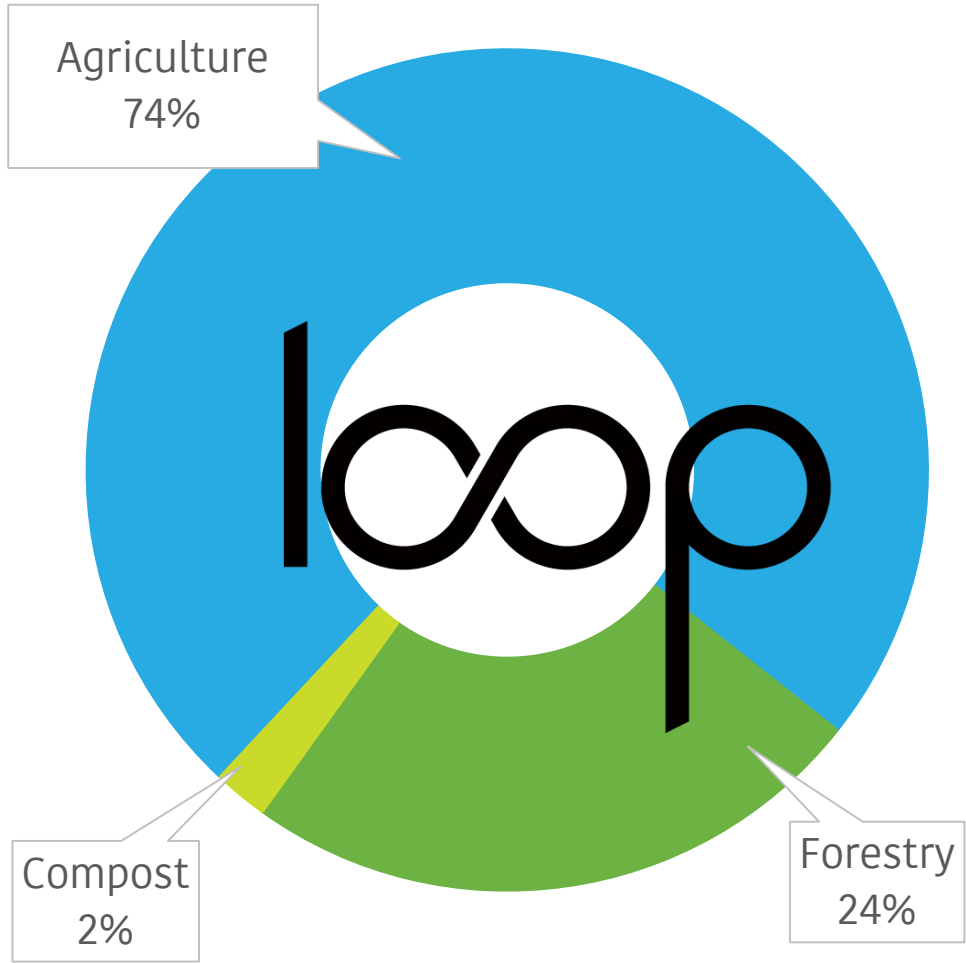
## 1980s:

- Forestry partnerships with
  - Mountains to Sound Greenway Trust
  - Working forest companies

## 1990s - Present:

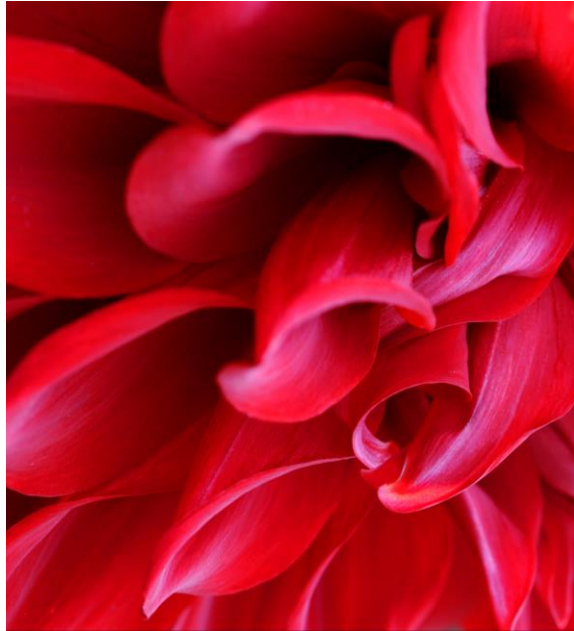
- Ag partnership begins





130,000 wet tons / year biosolids

In 2020, King County's compost partner sold their property and closed.

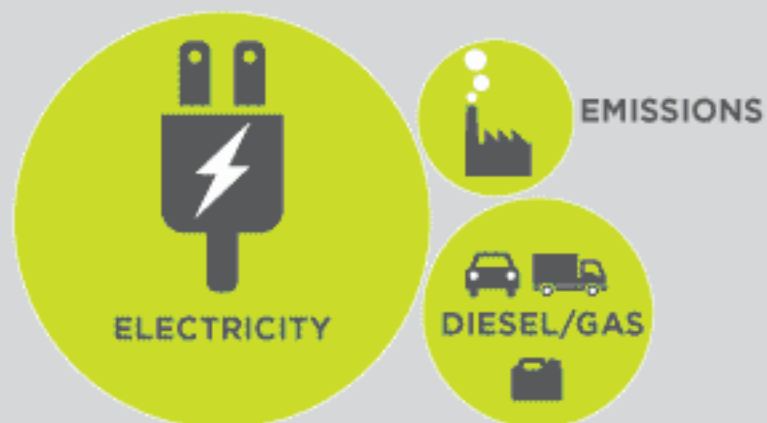




# REDUCING OUR CLIMATE IMPACT

We balance our greenhouse gas emissions with actions that offset emissions, reducing our climate change impact to zero.

## WASTEWATER TREATMENT DIVISION (WTD) OPERATION'S GREENHOUSE GAS EMISSIONS SOURCES



## WTD OPERATION'S GREENHOUSE GAS EMISSIONS OFFSETS



Note: The data for this graphic are from 2017.



# The problem

01

Loop is for commercial use only



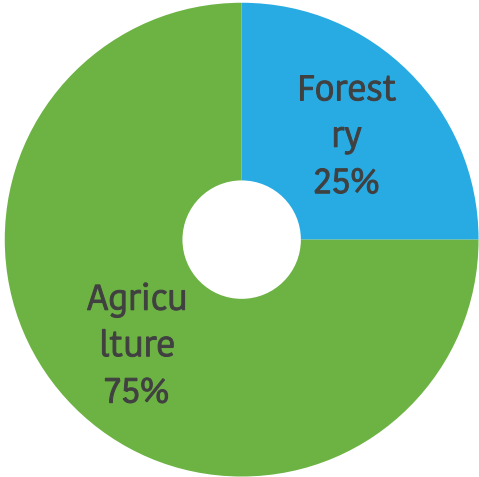
02

Compost partner closed



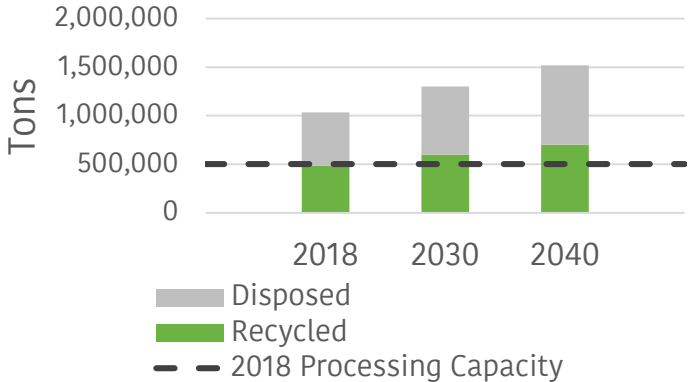
03

All eggs in one basket



04

King County organics processing capacity projections





# Strategic program objectives



Accurate information,  
data driven, research



Diversify product line  
and customers to  
improve program  
resiliency



Increase public  
awareness and  
support for  
wastewater  
treatment and  
resource recovery  
values



Build trust and  
collaboration with  
regulators and partners

# The future



New research projects



Planning for retail and commercial biosolids products

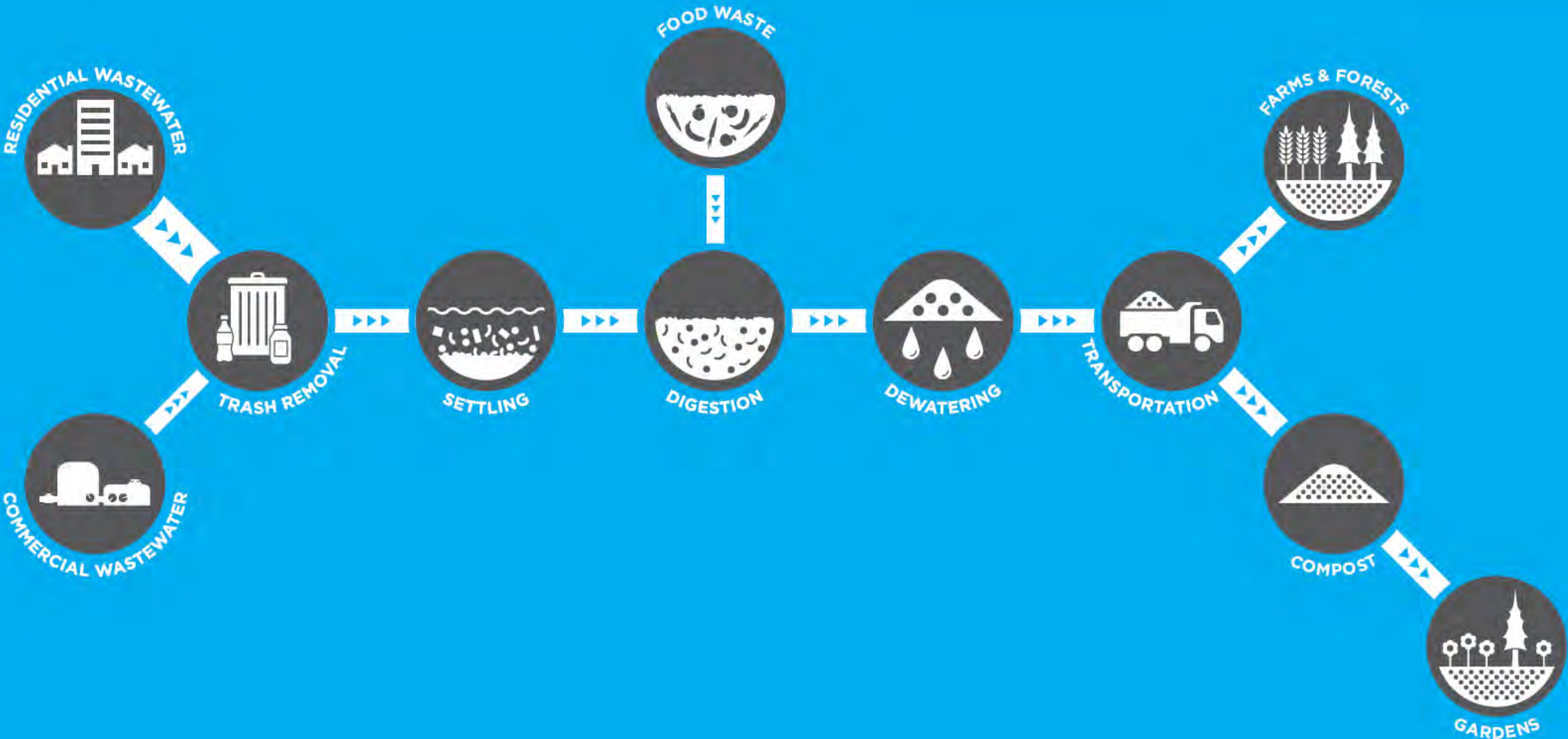
Looking at alternative processes for food waste, such as codigestion











Expanded education and outreach with community partners



Expand interagency partnerships for regional organics management



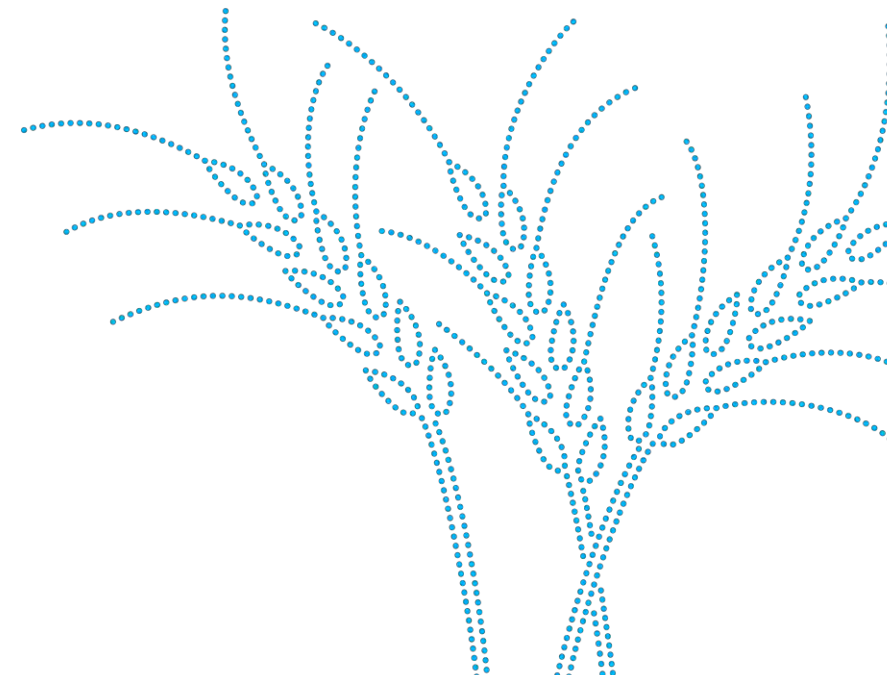
# What are the alternatives?

	Cost	Environmental benefit	Climate change solution	Social benefit
Farms, forests & land reclamation	\$			
Compost	\$			
Waste to energy incineration*	\$\$\$\$	Environmental cost		
Landfill*	\$\$\$	Environmental cost	Environmental cost	Social cost



Things that support our program and product

## **RESEARCH AND TESTING**



# Research



## School of Environmental and Forest Sciences

UNIVERSITY of WASHINGTON

College of the Environment



WASHINGTON STATE  
UNIVERSITY



THE  
Water  
Research  
FOUNDATION



**NORTHWEST  
BIOSOLIDS**  
Unearthing Sustainable Solutions

COMMERCIAL  
FERTILIZER

BIO  
2 dry tons / acre

OLIDS  
3 dry tons / acre

## Regular Testing

Fecal Coliform  
Salmonella  
Nutrients  
pH

**19** metals

**3** viruses

**7** parasites

**128** priority pollutants

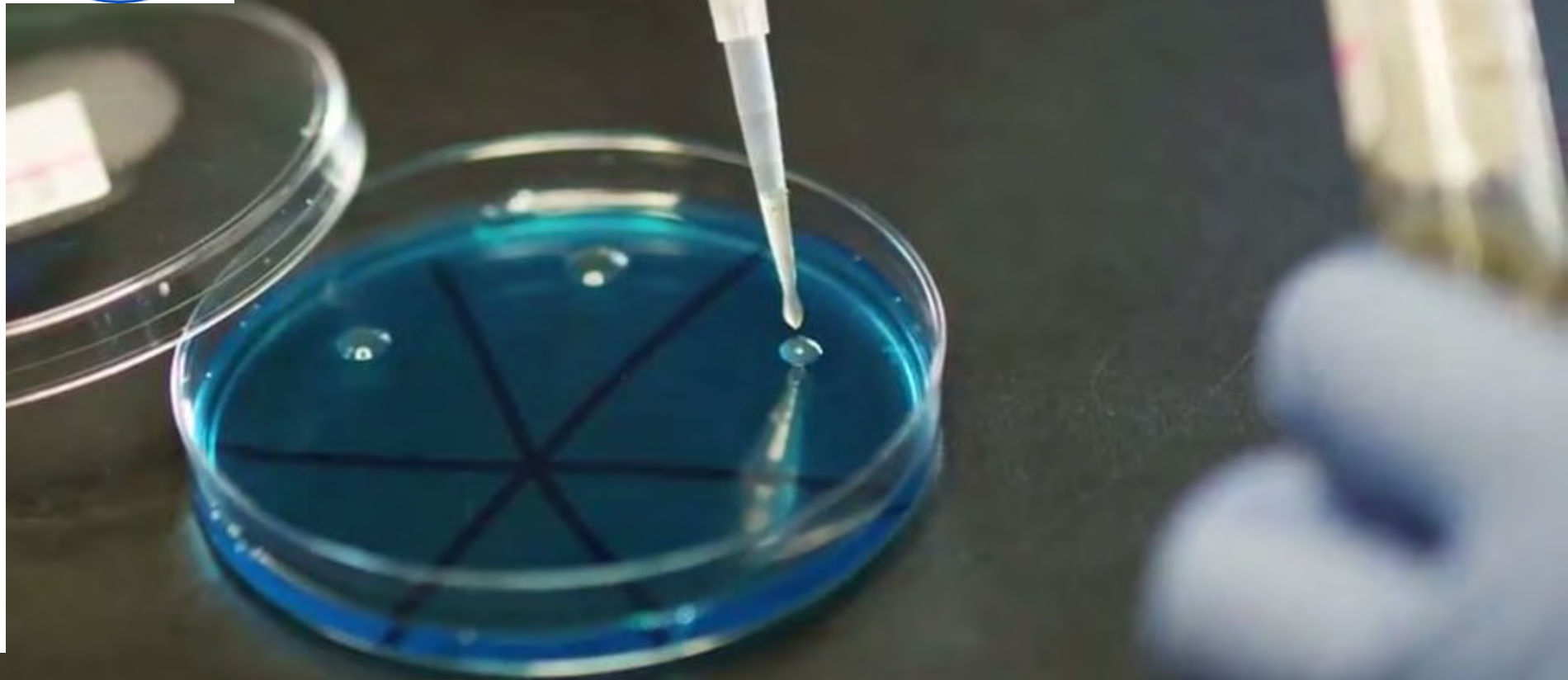
In 2016 we tested for:

**58** pharmaceuticals

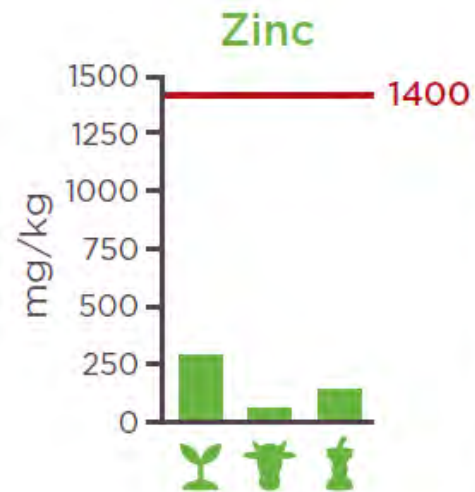
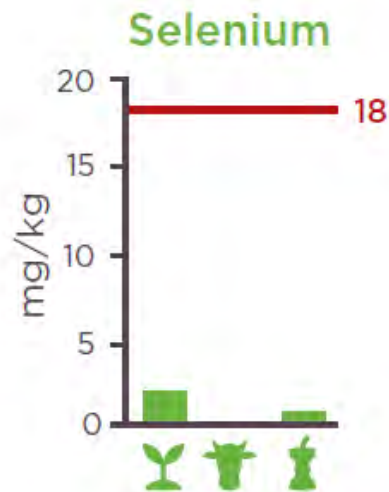
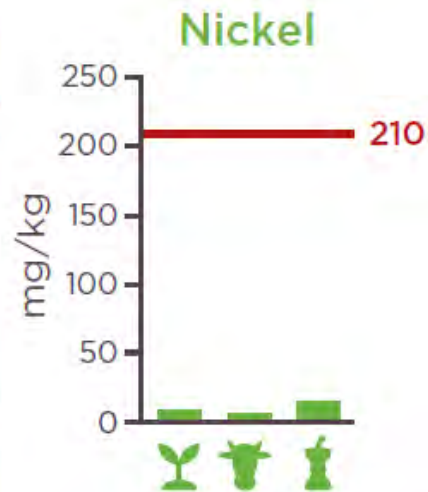
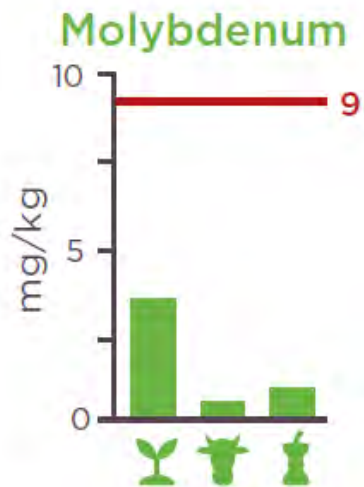
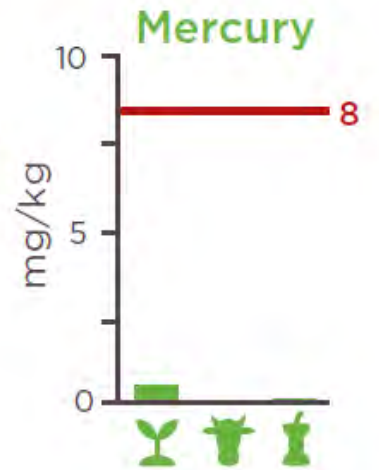
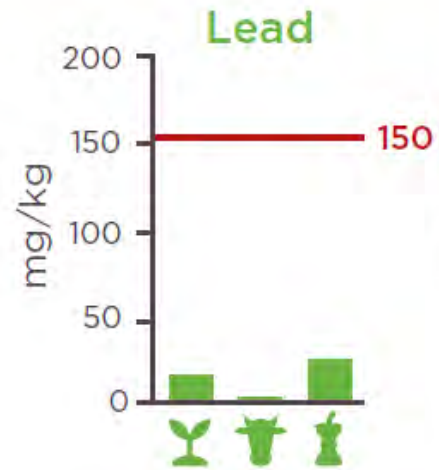
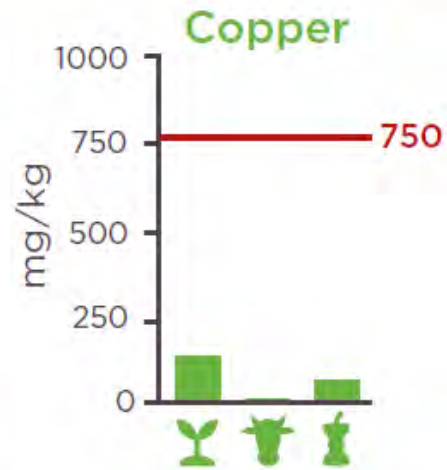
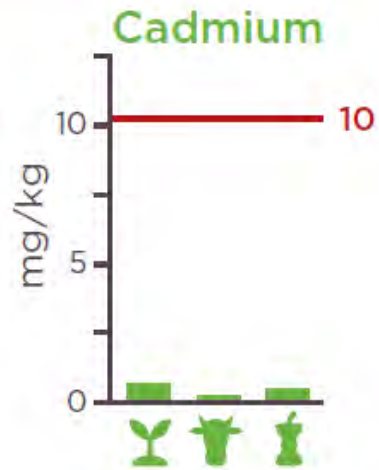
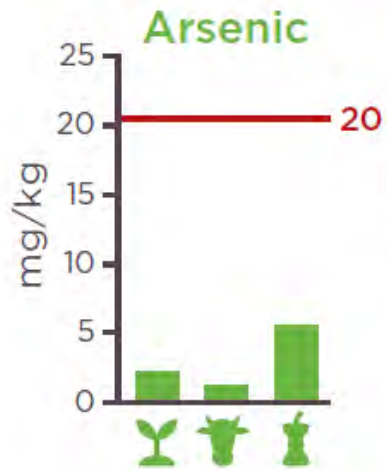
**50** PBDEs



DEPARTMENT OF  
**ECOLOGY**  
State of Washington



# Metals in Compost Compared to the WA State Safety Limit



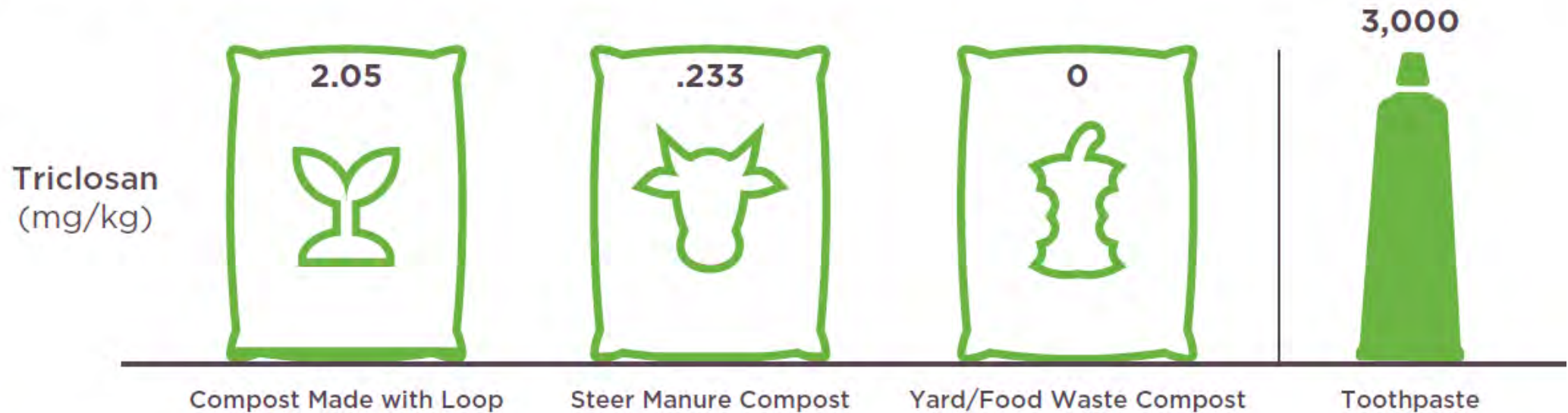
One pound of swordfish contains more mercury than 1 pound of Loop!

Legend: Compost Made with Loop Steer Manure Compost Yard/Food Waste Compost WA State Limit



## Triclosan

Triclosan, a common ingredient in soap and toothpaste, easily goes down the drain, so it ends up in compost made with Loop. On the other hand, it wouldn't make sense to see triclosan in yard waste compost, since not many people are putting their toothpaste in the yard waste bin!



*An important factor to keep in mind is that the tiny amount of these compounds in any sort of compost is practically microscopic compared to the amount in the original sources. **Everything in compost comes from something else, much of which we interact with safely every day.***

# PFAS

---

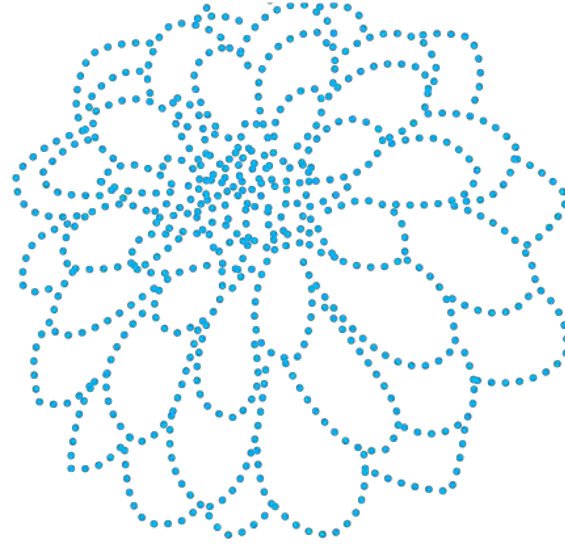
**PFAS are found commonly in every American household, and in products as diverse as non-stick cookware, stain resistant furniture and carpets, wrinkle free and water repellent clothing, cosmetics, lubricants, paint, pizza boxes, popcorn bags, and many other everyday products.**

1. PFAS is the broader class of chemicals that includes PFOA, PFOS, and many others.



<https://casaweb.org/renewable-resources/pfas-1/>

<https://www.wef.org/pfas>

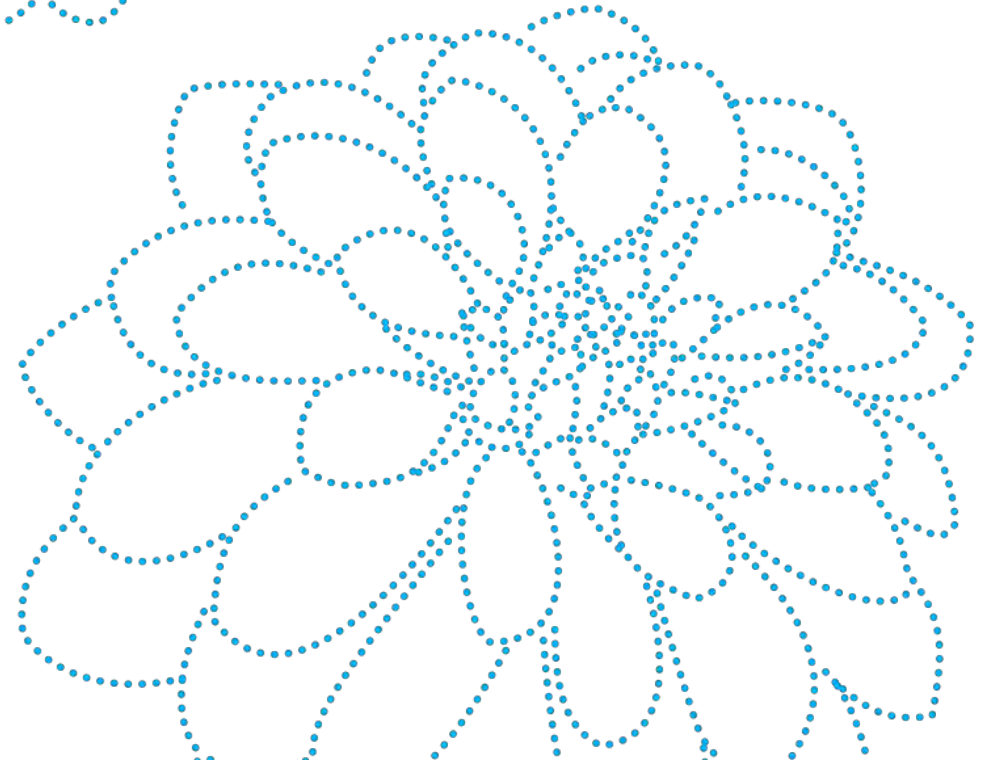


Ashley Mihle

[Ashley.Mihle@kingcounty.gov](mailto:Ashley.Mihle@kingcounty.gov)

[www.kingcounty.gov/biosolids](http://www.kingcounty.gov/biosolids)

[www.kingcounty.gov/loop](http://www.kingcounty.gov/loop)



5

# Engaging with the Community

Reingard Rieger - Tilth Alliance

**Master Composter  
Sustainability Steward**



**Engaging with Community**  
How we talk about topics like compost, soil health and gardening

# Tilth Alliance, Master Composter Sustainability Stewards, and Garden Hotline



**Tilth Alliance works in community with Washington farmers, gardeners and eaters to build a sustainable, healthy and equitable food future.**

- Garden Hotline offers individualized solutions to garden problems that are practical, safe, effective, and natural - **FREE** to home gardeners and landscape professionals throughout Seattle and King County.
- The Master Composter/Sustainability Steward (MC/SS) volunteer program is a partnership between Seattle Public Utilities and Tilth Alliance to support Seattle's waste reduction and recycling efforts.

[tilthalliance.org](http://tilthalliance.org)

[gardenhotline.org](http://gardenhotline.org)

# Our Outreach Goal: Promote Behavior Change

## What motivates people to...

- ...waste less food
- ...compost their yard waste
- ...keep yard and food waste out of the garbage bin
- ...put compost on their garden
- ...conserve water in the garden
- ...reduce pesticide use in the garden

**Saving time, saving resources, saving money**



**Master Composter  
Sustainability Steward**



# We move Residents toward Positive Change

## Residents...

Vary in their knowledge and interest:

- May know about food waste, soil health, and composting
- May not be aware of how to reduce their own food waste, how to help improve soil health or the benefits of compost
- May know about pesticides
- May know about water quality

**Saving time, saving resources, saving money**





We make it easy  
for People to  
change their  
Habits

SPU provides tools that  
directly incentivize the  
intended behavior

- Free content online
- Free brochures
- Food waste - buckets

Save time, save resources,  
save money



# Natural Yard Care

*Five steps to make your piece of the planet a healthier place to live.*



# Our Staff and Volunteers

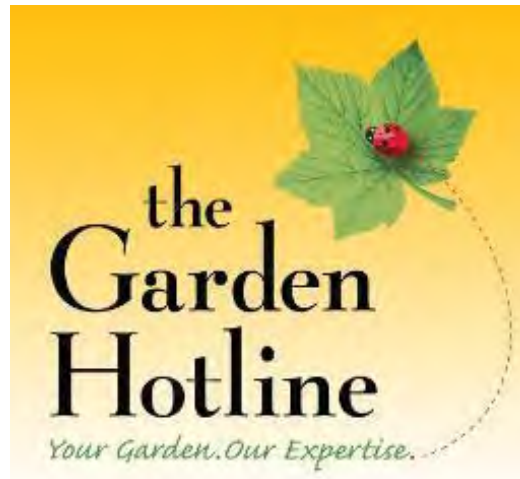
## We train our staff and volunteers to

- Encourage people to use what they learn and do the right thing
- Inform, motivate, and support people to adopt new behaviors
- Listen for and understand barriers or motivators to get customers to change



# Our Messages

Simple  
Encouraging  
Positive



**1** Build healthy soil



**2** Plant right for your site



**3** Practice smart watering



**4** Think twice before using pesticides


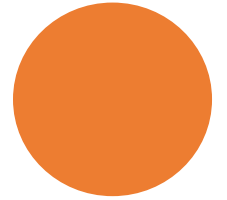


**5** Practice natural lawn care

# Master Compost Sustainability Stew

## What we offer

- Formal Presentations and Classes  
(now via Zoom, of course)
- Gardening Workshops – hands on (pre-covid)
- Event Outreach - tabling (pre-covid)
- Continuing Education for adults and schools
- Garden Hotline Phone and Email Support
- Increased Facebook and Social Media Outreach
- Gardening Q and A, Newsletter, Articles for local publications
- Growing plant starts to share with community partners



the  
**Garden  
Hotline**

*Your Garden. Our Expertise.*

# Formal Presentations and Classes

Hands-on Demonstration of common Composting Systems for Homeowners

**Master Composter  
Sustainability Steward**



# Building Workshops

## How to build worm bins

Plans available at [tilthalliance.org](http://tilthalliance.org)

Classes in-person and online





# Gardening with Communities



Container Gardening Workshop with World Relief in Kent

Camp Unity – Tent City Container Gardens

Namaste Community Garden in Tukwila

The Heights Apartments in Burien

# Paradise Parking Plots Community Garden World Relief

## PARADISE PARKING PLOTS | OUR COMMUNITY-GROWN GARDEN

**Step 1:** Volunteers removed 59,000 SF of asphalt from the parking lot.  
*Photo by World Relief Seattle*

**Step 2:** Volunteers installed cisterns to capture rain water for irrigation from the church roof.  
*Photo by Sabrina Martin*

**Step 3:** Community design meetings helped to illustrate the community vision.  
*Photo by Ash Knepper*

**Step 4:** Volunteers built 44 in-ground garden plots & 6 ADA plots that now serve over 40 families each year.  
*Photo by Jared Knutzen*

**Step 5:** A neglected parking lot has now grown into a community center.  
*Photo by Yuchi Arano*

From parking lot to garden, this space has transformed! Paradise Parking Plots will continue to evolve and serve the immigrant and refugee community for many years to come.

**Site Plan Callouts:**  
Rain Garden  
Garden Plot  
Rain Garden  
Rain Garden  
Rain Garden  
Rain Garden

**PROJECT OF:**  
world relief SEATTLE

**FUNDING PROVIDED BY:**  
King County  
Department of Natural Resources and Parks  
Wastewater Treatment Division  
KING COUNTY FLOOD CONTROL DISTRICT





# Paradise Parking Plots Community Garden



## Classes and Workshops

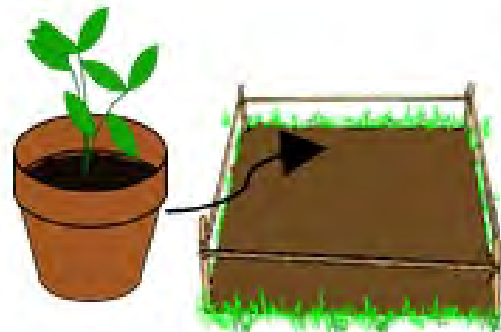
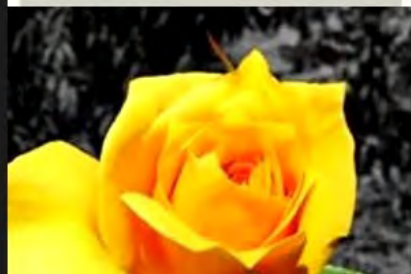
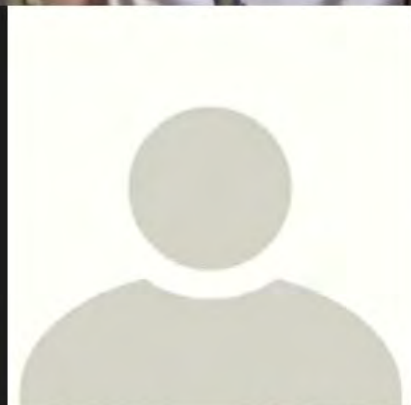
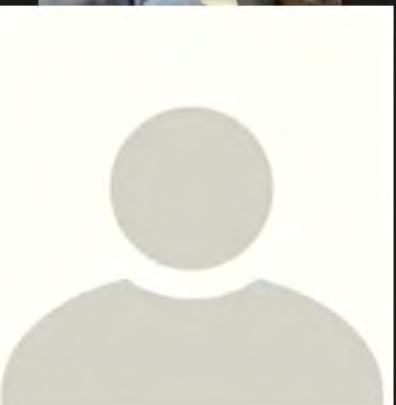
Fall and Winter Gardening

Increasing Garden Yields

Pest Management

Planting Calendar

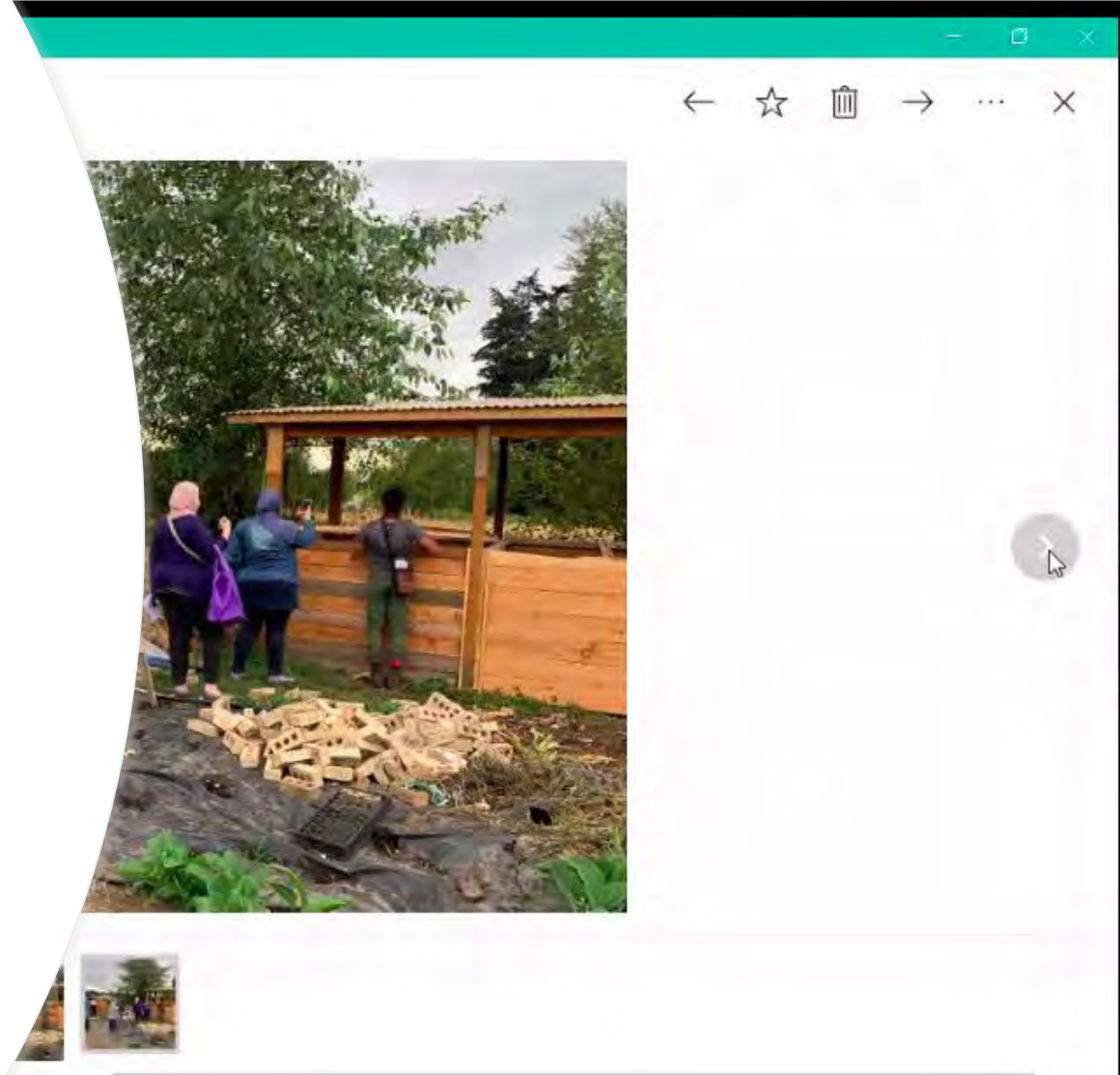
# Paradise Parking Plots Community Garden 2020



# Troubleshooting

## Compost pile troubleshooting at a community garden

In-person and online



# Natural Yard Care Classes

Get it FREE!

- Use materials you already have on site
- Store fall leaves in plastic bags for spring use
- Help your neighbor rake their unwanted leaves
- Get free wood chips from arborists
- [getchipdrop.com](http://getchipdrop.com)
- Use your late fall grass clippings
- Coffee grounds and burlap from coffee roasters



# Natural Yard Care Classes

## Topics change with the seasons

Putting Garden to Bed in Fall – great time to talk compost!

Holiday Wreaths – the importance of evergreen plants

Spring Garden Activities – improving soil, setting up the garden

Pest Management questions – pesticide reduction



**Master Composter**  
**Sustainability Steward**





**Master Composter  
Sustainability Steward**



# How Do We Connect with Communities?

- Build relationships and staying in touch
- Meet people where they are at
  - Consider culture
  - Language interpretation available
  - Address people's concerns
- Support community leaders – they have a lot on their plate, we can help them
- Stick around, proactive, listen
- Adjust to needs – actively pivoted to help grow more food in the city by supplying starts and hands-on support



**Master Composter  
Sustainability Steward**



# Our Community Partners

Currently 73 community groups we actively collaborate with:

- Seattle's P-Patch program and other community gardens
- Multi-family housing, student housing, assisted living facilities, senior centers
- Immigrant and refugee support organizations such as World Relief, IRC, Re WA
- Homeless encampments, supportive housing, behavioral health groups, diabetes awareness groups
- Local tribes
- Schools, YMCA student groups
- Natural Yard Care programming - Kirkland, Bothell, Shoreline - soil health, resource conservation, pesticide reduction, stormwater management.



# People reach out to us

Questions about pests or other gardening challenges

Great way to connect and, as appropriate, suggest approaches that increase soil health

Meet people where they are at







# Our Volunteers

## Recruiting for diversity

- Race and ethnic background
- Gender identity
- Neighborhoods
- Abilities

Our volunteers have stepped it up this year! Despite lack of large events, almost as many volunteer hours as in 'normal years'

Growing plant starts for community garden

Connect  
with us

Gardenhotline.org

**MCSS** projects in City of Seattle –  
[reingardrieger@tilthalliance.org](mailto:reingardrieger@tilthalliance.org) FREE

**Garden Hotline** education - community gardening  
project support – [lauramatter@tilthalliance.org](mailto:lauramatter@tilthalliance.org) FREE

**Natural Yard Care** for cities to offer classes or class  
series to their residents. Fee based - invoiced with pre-  
determined cost - or contract with up to amount  
billed. - [lauramatter@tilthalliance.org](mailto:lauramatter@tilthalliance.org)

**Food Plant Starts** - Groups that benefit from FREE plant  
starts? Looking to financially support a food growing  
program? Let us know! [lauramatter@tilthalliance.org](mailto:lauramatter@tilthalliance.org)

**Any gardening questions**, call or email [Garden Hotline](#)  
FREE



# Contact Us

General Organics Inbox  
[compost@kingcounty.gov](mailto:compost@kingcounty.gov)

Karen May  
[karen.may@kingcounty.gov](mailto:karen.may@kingcounty.gov)

Josh Marx  
[josh.marx@kingcounty.gov](mailto:josh.marx@kingcounty.gov)

Emily Coleman  
[ecoleman@kingcounty.gov](mailto:ecoleman@kingcounty.gov)

Andy Smith  
[andysmith@kingcounty.gov](mailto:andysmith@kingcounty.gov)

Amanda Goodwin  
[agodwin@cplusc.com](mailto:agodwin@cplusc.com)