



ReFresh Nebraska

Stop the Rot

Winter 2018

The Future of Composting Food Waste

If questions regarding the seriousness of the issue remained, it's telling that three years after the federal government called for a 50% reduction of U.S. food waste by 2030, EPA and USDA this year rededicated their commitment to the campaign. Through numerous changes, the impact of food waste has not only remained a priority for both agencies, they are looking to expand their efforts, as well as their partnerships. Among this year's developments was USDA's call for a multi-agency collaboration with private sector partners, and EPA's announcement that new national data due out in 2019 is expected to help provide a path forward - promising news to be sure.

Our path in ReFresh over 2018 focused on keeping good food from going to waste, starting with the identification of problem areas along the food supply chain. We then provided tools to assess and reduce food waste in our daily lives, before moving on to a discussion of waste prevention strategies for consumer facing businesses and consumers alike. And after all of that, one might be surprised to find that we haven't even addressed one quarter of the food waste that ends up in U.S. landfills annually. According to ReFED's Roadmap To Reduce U.S. Food Waste "in almost any scenario to reduce food waste (ie. landfill impact) nationwide by 50 percent, recycling will represent the majority

of the volume". In fact, even if we meet all of the reduction and prevention goals discussed in past issues, landfill impact will still need to be reduced by another 28 percent in order to reach the 2030 target. That's not to say that future strategies and technologies won't help us keep more good food from going to waste, or keep more people from going hungry, but it's sobering to note that even after all of these efforts, significant landfill impact and greenhouse gas issues remain.

Encompassing far more than landfill lifespan, EPA data shows that every metric dry ton of food that ends up in the landfill produces 1/4 metric ton of methane as it rots. Twenty-eight times more potent a greenhouse gas than carbon dioxide, they estimate that 18% of all methane emissions in the U.S. are produced there, and food waste is responsible for the majority of it. So how do we keep food out of the landfill in the first place?

The short answer is twofold - composting and anaerobic digestion. How we get there is a little more complicated. As for the latter, groundwork for two different options already exists at some level in Nebraska. Wastewater treatment plants in both Lincoln and Omaha utilize anaerobic digestion in their processes, and it isn't a stretch to imagine food waste being pumped or trucked to these facilities for processing as well. In and around rural com-

munities, the answer may well be found in feedlots where anaerobic digesters are starting to turn manure into energy and fertilizer. Far from the norm as yet, research at UNL and other institutions is promising, and the idea is starting to catch on. Not the type of folks to easily dismiss the proverbial value of two birds and one stone, Nebraskans would be wise to at least consider food waste as a supplemental enhancement to both these processes.

That said, the most practical diversion strategy is most certainly composting - the controlled decomposition of organic waste to form a nutrient rich fertilizer. Much has been said about the proper way to compost, and numerous sophisticated strategies have been developed over the years, but no matter how you treat it, composting is by far the easiest, most scalable solution. From packaging and processing operations, to grocery stores and food service, not to mention the back yard, composting is something we all can take part in.

As with anaerobic digestion, a bit of the infrastructure for centralized processing already exists in Nebraska. Numerous landfill programs collect seasonal yard and lawn waste for compost production, and adding food waste to the mix would only make it better. For those who already subscribe to curbside collection bins much of the year, throwing food waste into the mix would be an easy

and sensible solution.

On an industrial scale, significant operations servicing both the greater Lincoln and Omaha metro areas, have been composting food waste for the production of bagged fertilizer, and even bait worms for several years now. As a measure of their success, three of these companies have been picking up cafeteria waste from Lincoln Public Schools (LPS) since 2015. Starting with 16 schools in that year, and increasing every year since, eight more joined the composting program in 2018 bringing the total to 49 of 55 schools in the district. That's more than 31,000 students and staff engaged in the program daily. Final numbers for the year are eagerly anticipated, especially after more than 440 tons of cafeteria waste was composted last year!

No matter how you treat it, all compost piles are made of three basic ingredients:

- Browns - carbon rich yard waste like branches, twigs and dead leaves
- Greens - nitrogen lled food waste like fruit and vegetable scraps, coffee grounds and grass clippings
- Water - in the presence of oxygen, the moisture needed to help break down organic material

Consistency of product and rate of return depend on a specific ratio of browns to greens and a precise turning schedule. While vital to industrial operations, and achievable in the back yard as well, neither is absolutely essential when time or inclination aren't an issue. In other words, be inspired by others work, but don't let their quest for the perfect compost keep you from composting yourself - it's only as difficult as you want it to be!

The main thing is to place your bin or pile in a dry, shady area near a water supply. Browns and greens can be added as collected, with fruit and vegetable waste occasionally covered with leaves and grass clippings to reduce odor. Twigs, wood chips and plant stalks, interspersed with denser material, promotes the passage of oxygen through the pile. A light watering should accompany dry material, and a tarp over the top can help retain heat and moisture. Turning the material intermittently increases the rate of decomposition but it's also important to give it time to mature. Whether a matter of months or years, success is determined as the dark, rich hummus builds at the bottom of the pile, ready for use in the garden.

In the end, keeping food waste out of the landfill is what really matters most. Whether that means sending it off for others to compost or digest, or doing it yourself, the quality of return will always be beneficial, but only if you keep it from becoming trash.

EPA Composting Basics

What TO Compost & NOT Compost

What TO Compost

- Fruits and vegetables
- Eggshells
- Coffee grounds and filters
- Tea bags
- Nut shells
- Shredded newspaper
- Cardboard
- Paper
- Yard trimmings
- Grass clippings
- Houseplants
- Hay and straw
- Leaves
- Sawdust
- Wood chips
- Cotton and Wool Rags
- Dryer and vacuum cleaner lint
- Hair and fur
- Fireplace ashes

What NOT to Compost & Why

- Black walnut tree leaves or twigs
Contain substances harmful to plants
- Coal or charcoal ash
Might contain substances harmful to plants
- Dairy products & eggs*
Create odor problems and attract pests such as rodents & flies
- Diseased or insect-ridden plants
Diseases or insects might survive and be transferred back to other plants
- Fats, grease, lard, or oils*
Create odor problems and attract pests such as rodents & flies
- Meat or fish bones and scraps
Create odor problems and attract pests such as rodents & flies
- Pet wastes (dog or cat feces, soiled cat litter)*
Might contain harmful parasites, bacteria, germs, pathogens, & viruses
- Yard trimmings treated with pesticides
Might kill beneficial composting organisms

*Check with local composting/recycling coordinator to see if these organics are accepted by community curbside or drop-off composting program



Shopping your fridge first is an important strategy for reducing food waste. Here's a recipe idea that will help you use what you have before buying more!

TURKEY BONE & STUFFING DUMPLING SOUP

Fridge Full of Thanksgiving Leftovers?

Jazz up your leftovers by turning them into a hearty soup. It may sound crazy to simmer all those side dish scraps in your soup, but the key is simmering on low heat for hours. It gives everything time to meld together and the flavors to marry!

SERVINGS:

10

USES UP:

Leftover Turkey, Vegetable Scraps, and Stuffing

INGREDIENTS:

Soup:

- 1 leftover turkey carcass and bones plus 2 pounds leftover turkey meat, divided.
- 4-6 cups leftover assorted raw vegi scraps (peels, ends, & trim from onions, carrots, celery, root vegetables &/or herbs).
- Up to 6 cups assorted scrapings such as mashed potatoes, stuffing, green beans, gravy, vegies, pumpkin pie.

Leftover Stuffing Dumplings:

- 3 cups leftover stuffing
- 1 egg
- 2 teaspoons baking powder
- Chopped fresh parsley, for a garnish

DIRECTIONS:

Make Broth: In a large stockpot, add turkey carcass, raw vegetable scraps & side dish scraps. Cover with water & bring to a boil, then partially cover & simmer on low for at least 12 hours (& up to 24)

Strain: Carefully strain soup through a large fine-mesh strainer or chinois into a large, clean soup pot. Bring to a simmer. Season with salt & pepper as desired.

Shred Turkey: Put turkey in the bowl of a stand mixer with a flat beater attachment (or shred with two forks). On Speed 2, mix turkey until just shredded, about 10 seconds. Stir turkey into soup.

Make Dumplings: In the same mixing bowl on Speed 2, add stuffing, eggs & baking powder. Mix until combined.

Cook Dumplings: Using a spoon, drop 2" balls of dough over the surface of stew. Cover & cook until dumplings have puffed & feel firm - about 15 - 20 minutes

CREDIT: From "Waste Free Kitchen Handbook" by Dana Gunders, Chronicle Books, 2015

For those of you dedicated to the old school card file recipe box, here's the recipe in a 3"x5" format to print

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FOOD STORAGE TIPS FROM SAVETHEFOOD.COM

FRUITS

PEARS

REFRIGERATE: After ripe **AT FRESHEST:** After 5 days in fridge
OPTIMAL STORAGE: Let firm, unripe pears ripen in closed paper bag at room temp - with apples or bananas to hasten even more. Not all pears change color as they ripen, but will give to gentle pressure at the stem. Once ripe, refrigerate loose in low-humidity drawer. For best flavor, bring back to room temp before eating. Wash when ready to use.

FREEZING: Uncooked pears do not freeze well, so peel, core, & boil before cooking in a 40% sugar syrup for 1 to 2 minutes. Drain, cool, cover with syrup & place in airtight container. Leave 1/2" headspace. Crumpled, water-resistant paper will help hold fruit down.

USE IT UP/REVIVAL: Brown spots are natural for some varieties & can be eaten. Browning flesh is oxidation & will not affect taste or quality. To keep from browning, dip in 1/2 water, 1/2 lemon juice solution. Varieties, like Bosc & d'Anjou, remain firm & are better for cooking. Asian pears are susceptible to bruising. Overripe or damaged pears can be used in baked goods & sauces. Pears can be substituted for apples in most recipes.

STONE FRUITS

REFRIGERATE: After ripe **AT FRESHEST:** After 3-7 days in fridge
OPTIMAL STORAGE: Store at room temp out of sunlight, or in closed paper bag to hasten ripening. Once ripe, refrigerate loose in low-humidity drawer or open paper bag. Peaches, nectarines & apricots get mealy if left in fridge too long. Cherries are sold ripe, so refrigerate ASAP. Wash when ready to use.

FREEZING: Stone fruit can be frozen raw or cooked. Remove pits. Blanch to remove skins & dip in lemon juice solution (1 Tbsp lemon juice in 1/4 cup water) to prevent darkening. Then either (1) place on baking sheet & freeze, then transfer to airtight container; (2) place in airtight container, cover with juice or 40% syrup, then seal, leaving 1/2" headspace; or (3) pack into containers, layer with sugar & leave 1/2" headspace.

To freeze cherries, wash, pit, dry, place on a baking sheet & freeze, then transfer to airtight container. To defrost whole fruit, place in cold water until skin slides off. Slice & serve. Cherries frozen whole can be soaked in a bowl of cold water. Defrost cooked fruit in fridge or microwave.

USE IT UP/REVIVAL: Remove bruises & use the rest. To prevent browning, toss with lemon juice after slicing. The outer shell of pits can be used to infuse liquids. Water (for tea or sorbet), dairy (for cakes or ice cream), or liquor—with a mild fruit flavor. To make simple syrup, bring 2 cups water to a boil with 2 cups sugar & 1 cup pits. Let cool & refrigerate up to 3 weeks. Enjoy in cocktails or sauces.

Inside pits are kernels that look like almonds. This "noyau" contains the dangerous chemical hydrogen cyanide, but can be roasted & used to impart a bitter almond flavor. Small amounts can flavor marzipan & amaretto dishes or make crème de noyaux liqueur. If using this part of the fruit, be sure to check recipes from verified sources for safety.

To download the entire Food Storage Guide, go to www.savethefood.com/food-storage

QUICK TRICKS

Food tossed is money lost. Refresh still edible foods, re-purpose leftovers and reuse or "recycle" them in new ways.

DAIRY

1. Freeze Parmesan rinds and add (frozen) to a soup or stew for extra flavor.

2. Use up extra odds and ends of cheese by shredding them with a grater or in a food processor. Mix in your choice of ingredients, cut or chopped into small pieces (i.e. olives, pickles, pimientos, chives, walnuts, peppers, etc.). Add enough mayonnaise (regular or low-fat) to bind the ingredients together. Spread on your favorite bread.

3. Use vanilla and fruit flavored yogurts as a dressing for fruit salads.

For more ideas on how to makeover your leftovers, go to: food.unl.edu/cook-it-quick-documents/makeover-your-leftovers.pdf

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Institute of Agriculture and Natural Resources

NEBRASKA EXTENSION

EAT ME FIRST

Keep a tray with this sign in your fridge for things that need to be used up right away.

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