

Best Practices in Resource Recovery

Keep Organic Materials Out of Landfills



Keeping organic materials out of landfills, such as leftover food, grass clippings, leaves, and non-recyclable paper, is the one of the best practices a community can take to reduce carbon pollution, restore the quality of our soils, support our agricultural economy, extend landfill life and create jobs.

MYTH: It's okay to throw apples, grass clippings and other biodegradable materials in the landfill because they break down.

FACT: Biodegradable materials cause serious problems when landfilled. Because there is no oxygen available in a landfill once it's covered, biodegradable materials decompose anaerobically. This process creates methane, a powerful greenhouse gas (GHG) that traps 84 times more heat in our atmosphere than carbon dioxide in the short term. Landfills are the third largest source of methane emissions in the U.S. and methane is recognized globally as one of the most important greenhouse gases to reduce in the next decade.¹



Successful Models of Organics Diversion across Nebraska

- Soil Dynamics collects yard waste from residents and food scraps from businesses and schools to create a high-quality compost.
- Big Red Worms uses worms to break down leftover food scraps from residents, businesses and schools.
- Prairieland Gold collects food scraps from businesses and schools and mixes it with the dairy's manure to create a high-quality compost.
- Bio-Ag Solutions collects yard and wood waste from the City of North Platte and adds it to manure at a nearby feedlot, saving the City money.

Keeping organics out of landfills prevents carbon pollution and saves landfill space. Compost restores soils and compost operations boost local economies.

FEED SOILS, NOT LANDFILLS

Agriculture is at the heart of Nebraska's economy, and agriculture depends upon the health of our soils. In Nebraska and around the world, we are rapidly losing our topsoil through intensive farming and urban development. An estimated 28 percent of U.S. cropland is losing soil faster than it can regenerate.³

One of the easiest ways to build healthier soils is to add compost. Composting is the actively managed aerobic decomposition of organic materials by microorganisms—it turns food scraps, manure, grass clippings and leaves into a valuable soil amendment.



25-40%

of Nebraska's waste is organic materials that could have been composted, including leftover food, non-recyclable paper and yard debris such as leaves and branches.²

Adding compost to soils:

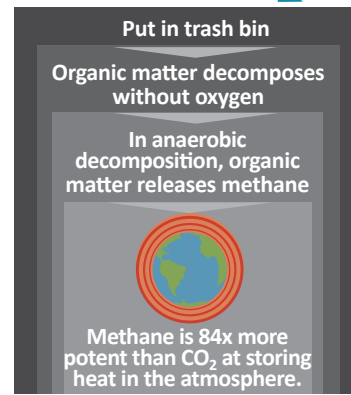
- Adds organic matter and increases microbial activity
- Helps make nutrients more available to plants, promoting higher yields
- Suppresses plant diseases and pests
- Reduces dependence on chemical fertilizers
- Conserves water, increases water holding capacity and reduces runoff
- Improves soil drainage and permeability
- Helps mitigate the effects of a changing climate by building more resilient soil.⁴

WHY LANDFILL GAS COLLECTION IS NOT A PREFERRED SOLUTION

Modern landfills are required to capture methane emissions and many landfills use this gas to produce energy. In 1994, Nebraska was one of 20 states that banned yard debris from landfills, extending their useful life by many years.⁵ Unfortunately, this policy was weakened, allowing some landfills to accept yard debris to generate more gas for energy. This might sound like a good idea, but it has significant problems:

1. Landfill gas collection systems vary widely in how well they capture methane. Estimates range from 20% - 90%, depending on the system used and age of the landfill.⁶
2. Landfills need a constant inflow of organic materials to continue producing gas. Some landfill operators have actively fought against programs that keep organics out of landfills to ensure they have enough organic material to produce gas.⁷
3. Landfill gas includes hazardous air pollutants and volatile organic compounds, including known carcinogens harmful to human health.⁸

Where you choose to put your food scraps, yard debris, and other organic matter has a big impact on our climate:



METHANE AND OTHER SHORT-LIVED CLIMATE POLLUTANTS HAVE CAUSED UP TO 40% OF GLOBAL WARMING.



WHEN APPLIED TO SOILS, COMPOST PULLS CARBON OUT OF THE ATMOSPHERE AND STORES IT IN THE GROUND.



MORE BENEFITS TO KEEPING ORGANICS OUT OF LANDFILLS

Reduce waste and extend landfill capacity

As the largest source of material going to landfills (25 – 40%), organic materials, including leftover food, non-recyclable paper, and yard debris such as leaves and branches, represent the largest single opportunity to extend the life of Nebraska's landfills and reduce waste disposal costs.



Create local jobs

Composting and compost use can sustain up to five times more jobs than landfills, which keeps more money circulating in the local economy.⁹



Creating energy from anaerobic digestion

Organic materials can be mixed with manure and other feedstocks to generate renewable fuel or electricity in facilities called anaerobic digesters. Unlike landfills, these facilities are carefully controlled and capture all the methane gas that is produced from decomposition.

Turn organic wastes from a problem to solution

Find local composting providers, model programs, and more resources from the Nebraska Recycling Council to keep your organics out of the landfill at www.nrcne.org/resources/organics or call (402) 436-2384.

Funded by



- 1 U.S. EPA, 2019. [Understanding Global Warming Potentials](#). U.S. EPA, 2019. [Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2017](#). U.S. Climate Alliance, 2019. [Short-Lived Climate Pollutants](#).
- 2 Engineering Solutions & Design, 2009. [State of Nebraska Waste Characterization Study](#). U.S. EPA, 2018, [National Overview: Facts and Figures on Materials, Wastes and Recycling](#).
- 3 Institute for Local Self-Reliance, 2014. [State of Composting in the U.S.](#)
- 4 Institute for Local Self-Reliance, 2014. [State of Composting in the U.S.](#)
- 5 U.S. Composting Council, 2014. [States that Ban Organics or Mandate Organics Recycling](#).
- 6 IPCC, 2006. [IPCC Guidelines for National Greenhouse Gas Inventories](#).
- 7 Biocycle, 2010. [Putting the Landfill Energy Myth to Rest](#).
- 8 U.S. EPA, 1999. [Landfill Gas to Energy Projects, Public Health, Safety and the Environment](#).
- 9 Institute for Local Self-Reliance, 2013. [Pay Dirt](#).