

Independent coverage of composting, wood recycling and organics management

Composting Mews

March 2021

McCatee Media

Volume 30 Number 1

Colorado county withdraws composting proposal

By Ken McEntee

Boulder County (Colo.) commissioners have accepted a staff recommendation to withdraw a special use land application for a central composting facility that has drawn at least two lawsuits from residents.

Commissioners said the withdrawal doesn't necessarily mean that the project will not go forward, but that more time is needed to look at all options as the county seeks solutions to divert more waste from landfills in pursuit of its "zero waste" goals.

However, other comments made by commissioners appeared to create doubt that the project will go forward.

The project had earlier been put on hold after design development cost estimates for constructing the facility far exceeded preliminary estimates.

The regional Boulder County Compost Processing Facility is proposed on the 40 acre site of a former nursery in Longmont, Colo. The site would be designed to accept up to 50,000 tons of compostable feedstock - including yard trimmings, food scraps, animal manure and biosolids - annually.

(See Colorado, page 13)

HOA fines result in proposed compost legislation in Maryland

omeowners association fines over a resident's food scrap bucket have led to proposed changes in Maryland law, according to the sponsor of a bill before

by Del. Emily Shetty, would prohibit condominiums and homeowners associations from unreasonably restricting a property owner from contracting for the collection of compostable materials or composting food scraps within certain requirements.

"A constituent contacted me a few months ago to let me know that their HOA (homeowners association) was restricting him from placing a sealed, food scrap collection bucket on his patio that was no larger than the size of a large paint bucket," Shetty said. "They have now begun to fine him for engaging in composting that is otherwise legal and not harming any of the



surrounding properties. I was proud to work with him and other composting advocates to craft this legislation to help address this issue and encourage a greater

(See Maryland, page 14)

Manure improves soil and microbe community

n the dry air and soil of Texas' Southern High Plains, improving soil health can be tough. We usually think of healthy soil as moist and loose with lots of organic matter. But this can be hard to achieve in this arid area of Texas.

Lindsey Slaughter, a member of the Soil Science Society of America and assistant professor at Texas Tech University, set out with her fellow researchers to test a solution that kills two birds with one stone. They put excess cow manure on these soils to see if they

could make them healthier.

The team recently published their research in the Soil Science Society of America Journal.

"We know that planting perennial grasslands for cattle production can help

(See Maryland, page 14)

Highlights

- n Growing Missouri Organics adds third tub grinder
- n National compost prices

Growing Missouri Organics adds third tub grinder

By Ken McEntee

fter a severe ice storm struck Missouri and surrounding states at the end of January 2002, seven tub grinders - six of them Hogzillas were positioned at Kansas City's Arrowhead Stadium to process the storm debris.

"We ground more than three million yards of mulch in about four months," recalled Jason Anderson, of Missouri Organic Recycling, which coordinated the effort. "It was a spectacle. The NFL had to give us permission to do it. We had truck after truck after truck bringing brush in there and we were responsible to grind and process it, and then also make sure that material went to a good end use."

At that time, Missouri Organic owned a single tub grinder and had to recruit other companies to help with the massive job.

"We contacted a couple local people, then called Hogzilla (based in Sabetha, Kan. - about 120 miles away) and asked who all owned their grinders," Anderson said. "They were a big help. People came from as far away as Texas. They were willing to pack up and make the trip because they knew they would be busy grinding for a while."

Tub grinder is essential

Last month, 19 years later, Missouri Organic took delivery of its third Hogzilla tub grinder - a 1462T - Missouri Organics' first tracked model.



Hogzilla 1462T tracked tub grinder. Photo: Hogzilla (CW Mill Equipment).

"When we bought our first Hogzilla in 2000 we were a lot smaller company and the people at Hogzilla thought we'd only run it a couple days a week," Anderson said. "It turned out that we needed it for daily usage, but it's still going strong with probably about 23,000 hours on it. We grew so much that we had to add a second machine - a used Hogzilla - in 2018, and now we hired them to build us our brand new tracked machine."





Bulk Mulch / Compost Loading System

For Customer Self-Loading of:

Compost

Mulch

Soil Products

Additional Equipment & Systems Customized to Your Specifications:

Bagging, Palletizing & Soil Blending Systems Flow Feeders, Hammermills, Disc Separators & Conveyors

For more information, visit www.amadas.com or call 757-539-0231

Missouri Organic, based in Kansas City, operates a main composting yard and a mulching facility, along with four satellite yards with drop-off sites. The company transports its tub grinders to its satellite yards where they do a coarse, primary grind of all of the material onsite before it is hauled in walking floor trucks to its main mulch and composting sites.

"Everything that comes into the dropoff sites, whether it's big chunks of wood or leafy, grassy or brushy material, goes through the tub grinder," Anderson said. "The tub grinder is the start of the process. Without the tub grinder, we don't have compost."

Ground woody material is routed to the mulching facility, where it is double ground through a Peterson horizontal grinder.

"If I'm selling it to a bagging company or for my own mulch that I sell, I will typically grind it once through the tub grinder, then I'll grind it the second time through the horizontal, which shoots it right onto a (BM&M) twin screen deck that screens the one-inch to 3/8-inch material. We then color it red, brown or black or sell it as a natural mulch that we call our Premium 1 mulch," Anderson said. "We also sell a lot of double-ground mulch that we grind through the tubs with smaller screens."

Fines under 3/8-inch are used as bulking agents for compost production.

Likewise, brushier material at the drop-off sites is ground and taken to the company's composting facility where it is used as a bulking agent and mixed with food waste to make compost products.

Along with about 300,000 cubic yards of mulch annually, Missouri Organic sells about 60,000 yards of straight compost and about 25,000 yards of soil mixes that contain compost - like garden soil and raised bed mix. The company also is an authorized blender for Rooflite green roof media products.

(See Missouri, page 4)



9815 Hazelwood Avenue Cleveland, OH 44149-2305 Phone: 440.238.6603 Fax: 440.238.6712 www.compostingnews.com Facebook: CompostingNews Twitter: CompostingNews

Publisher/Editor:
Ken McEntee
ken@compostingnews.com
Office Manager:
Amy McEntee

Copyright 2021 McEntee Media Corp. All rights reserved. Reproduction or transmission of Composting News, in whole in part, without written permission of publisher, is prohibited. Composting News (ISSN 1064-1440) is published 12 times a year. Subscription price is \$83 per year; \$90 (U.S. funds) in Canada and Mexico; \$105 (U.S. funds)Overseas airmail. Single-issue: \$12.

McEntee Media C

Composting News The Paper Stock Report Recycled Paper News Paper Recycling Online The Write Company PR & Marketing





COLORTROM 400

VOLUME Production Has Come to the Yard



Introducing the new ColorTrom 400 Capable of 400+ Yards per Hour

VOLUME producers can learn more at chromascape.com/colortrom.



service@chromascape.com • 888.421.0010

Missouri

From page 3

When the time came to add a third tub grinder, Missouri Organic decided on the Hogzilla tracked machine to supplement its two wheeled machines.

"We don't do much land clearing, so hauling our wheeled machines to our own sites - and some other municipal drop-off sites that we handle - has worked fine for us," Anderson said. "But we decided that the tracked version would make it easier for cleanup. What we've found is that material builds up around these grinders and makes it harder to move them. If I hook my truck up to move a grinder after a full day of grinding, there are logs that have gotten underneath the grinder and mulch and debris builds up in front of the tires. So, to move them and pull them forward can damage your truck. Putting the machine on tracks takes care of that issue."



Photo: Missouri Organic Recycling

Choosing a tub grinder

Anderson said the company's nearby location was a big factor in choosing its first Hogzilla tub grinder, but Missouri Organic also has become sold on Hogzilla's durability.

"Hogzilla is two hours away, and we like to be close to our support," he said. "If I need a part, or if I'm down and can't figure something out, those guys will get in a truck and will be here in two hours and have me up and running within hours. Their service is amazing. But then on top of that, these grinders are built stronger than anything else in the

market."

Missouri Organics' first tub grinder was from another manufacturer, Anderson said.

"It wasn't built as strong," he said. "We wore it out. We don't expect to have that issue with our Hogzilla grinders."

A family business

Dave Anderson, Jason's father, founded Missouri Organics in 1992 after Missouri banned yard waste from landfill disposal. The company now has 83 employees - many of whom are family members.

"It started with my dad and me and my brother, Kevin," Anderson said. "I have uncles, aunts, cousins, nephews, in-laws and friends from high school working here. We now have our third generation working here, who will hopefully be taking over the business in the future."

Dave Anderson, Jason said, was a

(See Missouri, page 8)



National Compost Prices

The prices listed below are intended to indicate the value of mature compost products sold by compost producers and retailers in noted regions. Prices listed are based on surveys and publicly posted prices.

Your input on published prices is encouraged. Contact Ken McEntee, editor, at (440) 238-6603. Fax: (440) 238-6712. EMail: ken@recycle.cc. Address: 9815 Hazelwood Avenue, Cleveland, OH 44149. Notes on listings.
• Each listing includes a high price obtained, a low price

- obtained and an average of all prices obtained within a particular market.
- Market areas: Thirteen market areas have been targeted to provide a cross section of compost product markets in

the U.S. Where regions are not identified by a specific city, the U.S. Where regions are not identified by a specific city, "Chesapeake" refers to the region stretching between Norfolk, Va. to Baltimore, Md. "Texas" incorporates several major cities in the state. "Northwest" represents the Seattle and Portland, Ore areas. "SF-Bay" refers to the San Francisco Bay area. SoCal is Southern California, including the Los Angeles and San Diego areas. Denver includes Colorado, Wyoming and Montana.

• "Fond waste" compost: This category refers to compost

- "Food waste" compost: This category refers to compost products that include food waste, regional specialities and other feedstocks not specifically covered in other categories.
- Manures: Chicken manures may include other poultry

\$ 26.00

\$ 17.25

\$ 26.00

\$ 24.00

\$ 26.00

\$ 12.00

\$ 12.50 \$ 12.00 \$ 12.00 \$ 17.00 \$ 14.00 \$ 25.00 \$ 20.00 \$ 9.00 \$ 12.48 \$ 10.00 \$ 7.50 8.00 \$ 6.00 Low \$ 28.00 \$ 25.00 \$ 15.00 \$ 19.00 \$ 21.95 \$ 30.00 \$ 30.00 \$ 18.00

\$ 33.28 \$ 35.00 \$ 28.00

\$ 30.00

Low \$ 11.00 \$ 8.00 \$ 8.65 \$ 8.00 \$ 10.00 \$ 8.00 \$ 7.00 \$ 9.00 \$ 12.00 \$ 7.50 \$ 7.00 \$ 6.00 Low \$ 11.00 \$ 8.00 \$ 15.00 \$ 8.00 \$ 10.00 \$ 12.00

\$ 8.50

\$ 15.00

\$ 5.00

\$ 10.00

\$ \$ 5.00

\$ \$

Low

5.00

8 00

9.00

7.00

Chesapeake

SE

Florida

lowa

Texas

Phoenix

SF-Bay

Northwest

Cleveland

Minneapolis

I ow

Denver

SF-Bay

SoCal

manures, such as turkey and duck manure. Cow manures may include manures marketed as steer and dairy manure. Horse manure is included in this category as well.

- Absence of a regional listing within a given category indicates not enough information for a valid listing. Additional data will be added as more information is obtained.
- · Bulk retail prices do not include municipal operations that give compost away for free.

\$ 13.00

\$ 13.00

\$ 13.00

Bulk Retail (yard)

| Yard waste compost | Average | High | Low | Wood waste mulch | Average | High |
|--|--|---|--|---|--|---|
| NE . | \$ 32.55 | \$ 77.00 | \$ 17.50 | NE | \$ 21.35 | \$ 38.00 |
| Chesapeake SE | \$ 24.50 \$ 21.88 | \$ 30.00 \$ 29.95 | \$ 17.00 \$ 16.00 | Chesapeake SE | \$ 21.13 \$ 18.78 | \$ 28.00 \$ 34.95 |
| Florida | \$ 16.42 | \$ 26.00 | \$ 10.50 | Florida | \$ 17.50 | \$ 18.00 |
| Cleveland | \$ 19.90 | \$ 28.00 | \$ 12.50 | Cleveland | \$ 25.56 | \$ 36.25 |
| lowa | \$ 21.57 | \$ 53.00 | \$ 7.50 | lowa | \$ 32.50 | \$ 40.00 |
| Minneapolis Texas | \$ 17.09 \$ 29.71 | \$ 28.00 \$ 40.00 | \$ 8.00 \$ 15.00 | Minneapolis Texas | \$ 26.00 \$ 16.19 | \$ 35.00 \$ 27.00 |
| Denver | \$ 29.71 | \$ 40.00 | \$ 13.00 | Denver | \$ 10.17 \$ 18.74 | \$ 27.00 |
| Northwest | \$ 24.05 | \$ 55.00 | \$ 10.00 | Phoenix | \$ 17.61 | \$ 22.95 |
| SF-Bay | \$ 21.92 | \$ 30.00 | \$ 10.00 | Northwest | \$ 19.00 | \$ 35.00 |
| SoCal | \$ 14.75 | \$ 24.00 | \$ 8.00 | SF-Bay SoCal | \$ 18.14 \$ 20.50 | \$ 30.00 \$ 50.00 |
| Food waste compost | | High | Low | Calanadad mudah | | |
| NE Chesapeake | \$ 39.12 \$ 23.00 | \$ 64.00 \$ 30.00 | \$ 17.50 \$ 15.00 | Colored wood mulch NE | Average \$ 28.00 | High \$ 28.00 |
| SE | \$ 28.11 | \$ 35.00 | \$ 24.00 | Chesapeake | \$ 28.67 | \$ 33.00 |
| Florida | \$ 17.50 | \$ 22.00 | \$ 13.00 | SE . | \$ 27.13 | \$ 42.00 |
| lowa | \$ 25.00 | \$ 65.00 | \$ 15.00 | Florida | \$ 20.33 | \$ 22.00 |
| Minneapolis Texas | \$ 12.33 | \$ 16.00 | \$ 9.00 | Cleveland Iowa | \$ 24.87 \$ 30.00 | \$ 28.99 \$ 30.00 |
| Denver | \$ 30.21 \$ 15.00 | \$ 48.95 \$ 15.00 | \$ 15.00 \$ 15.00 | Minneapolis | \$ 30.00 \$ 36.80 | \$ 30.00 \$ 49.00 |
| Northwest | \$ 20.55 | \$ 30.00 | \$ 15.00 | Texas | \$ 26.08 | \$ 32.50 |
| SF-Bay | \$ 23.61 | \$ 38.00 | \$ 14.00 | Denver | \$ 33.28 | \$ 33.28 |
| SoCal | \$ 30.50 | \$ 45.00 | \$ 16.00 | Northwest | \$ 35.00 | \$ 35.00 |
| Leaf humus | Average | High | Low | SF-Bay SoCal | \$ 34.00 \$ 32.50 | \$ 36.00 \$ 35.00 |
| NE | \$ 24.98 | \$ 30.00 | \$ 19.95 | 0000. | ¥ 02.00 | ¥ 00.00 |
| Chesapeake | \$ 27.49 | \$ 30.00 | \$ 23.95 | Bulk wholesa | ile (var | d) |
| Cleveland | \$ 19.27 | \$ 26.00 | \$ 8.00 | Daik Wholese | iic Gui | u) |
| | | | | | | |
| Composted biosolids | | High | Low | Yard waste compost | Average | High |
| NE . | \$ 30.00 | \$ 40.00 | \$ 20.00 | Yard waste compost NE Chesapeake | \$ 21.50 | \$ 48.00 |
| | | | | Yard waste compost NE Chesapeake SE | | High \$ 48.00 \$ 16.00 \$ 25.00 |
| NE Chesapeake SE Florida | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 | NE Chesapeake SE Florida | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 |
| NE Chesapeake SE Florida Cleveland | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 | NE Chesapeake SE Florida Cleveland | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 |
| NE Chesapeake SE Florida Cleveland lowa | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 | NE Chesapeake SE Florida Cleveland Iowa | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 19.00 |
| NE Chesapeake SE Florida Cleveland | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 | NE Chesapeake SE Florida Cleveland | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 10.00 \$ 26.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 10.00 \$ 7.00 | NE Chesapeake SE Florida Cleveland Iowa Minneapolis | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 12.00 \$ 17.25 \$ 13.05 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 19.00 \$ 17.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 10.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 10.00 \$ 7.00 | NE Chesapeake SE Florida Cleveland Iowa Minneapolis Texas Denver Northwest | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 |
| NE Chesapeake SE Florida Cleveland Iowa Texas Denver Northwest SoCal | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 10.00 \$ 26.00 \$ 22.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 10.00 \$ 7.00 \$ 7.00 \$ 3.50 | NE Chesapeake SE Florida Cleveland Iowa Minneapolis Texas Denver Northwest SF-Bay | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 nanure Avera | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 10.00 \$ 26.00 \$ 22.00 ge High | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 10.00 \$ 7.00 \$ 7.00 \$ 3.50 Low | NE Chesapeake SE Florida Cleveland Iowa Minneapolis Texas Denver Northwest | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken in NE Chesapeake | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 nanure Avera \$ 45.00 \$ 25.00 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 10.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 25.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 10.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 25.00 | NE Chesapeake SE Florida Cleveland Iowa Minneapolis Texas Denver Northwest SF-Bay | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 19.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 manure Avera \$ 45.00 \$ 25.00 \$ 42.00 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 10.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 25.00 \$ 42.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 25.00 \$ 42.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE Minneapolis | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 manure Avera \$ 45.00 \$ 25.00 \$ 42.00 \$ 17.00 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 10.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 25.00 \$ 42.00 \$ 17.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 10.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 25.00 \$ 42.00 \$ 17.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 15.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE Minneapolis Texas | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 nanure Avera \$ 45.00 \$ 25.00 \$ 17.00 \$ 37.23 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 10.00 \$ 26.00 \$ 22.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 25.00 \$ 17.00 \$ 26.95 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 20.65 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 30.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE Minneapolis | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 manure Avera \$ 45.00 \$ 25.00 \$ 42.00 \$ 17.00 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 10.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 25.00 \$ 42.00 \$ 17.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 25.00 \$ 25.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 15.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE Minneapolis Texas Denver | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 nanure Avera \$ 45.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 37.23 \$ 25.65 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 25.00 \$ 25.00 \$ 25.00 \$ 25.00 \$ 27.50 \$ 28.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 25.00 \$ 17.00 \$ 26.95 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE Florida lowa Minneapolis | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 20.65 \$ 13.40 \$ 12.00 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 15.00 \$ 30.00 \$ 13.00 \$ 20.00 \$ 12.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE Minneapolis Texas Denver SF-Bay SoCal | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 manure Avera \$ 45.00 \$ 25.00 \$ 17.00 \$ 37.23 \$ 25.65 \$ 16.00 \$ 44.00 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 10.00 \$ 22.00 \$ 22.00 \$ 25.00 \$ 47.50 \$ 47.50 \$ 28.00 \$ 16.00 \$ 75.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 42.00 \$ 17.00 \$ 26.95 \$ 24.00 \$ 16.00 \$ 27.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE Florida lowa Minneapolis Texas | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 20.65 \$ 10.50 \$ 12.00 \$ 17.50 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 15.00 \$ 30.00 \$ 13.00 \$ 20.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 24.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken n NE Chesapeake SE Minneapolis Texas Denver SF-Bay | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 manure Avera \$ 45.00 \$ 25.00 \$ 17.00 \$ 37.23 \$ 25.65 \$ 16.00 \$ 44.00 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 17.00 \$ 16.00 \$ 75.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 3.50 \$ 40.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 26.95 \$ 24.00 \$ 16.00 \$ 27.00 \$ 27.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE Florida lowa Minneapolis | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 20.65 \$ 13.40 \$ 12.00 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 19.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 15.00 \$ 30.00 \$ 12.00 \$ 12.00 \$ 15.00 \$ 12.00 \$ 15.00 \$ 15 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE Minneapolis Texas Denver SF-Bay SoCal Composted cow manual | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 21.267 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 nanure Avera \$ 45.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 37.23 \$ 25.65 \$ 16.00 \$ 44.00 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 42.00 \$ 17.00 \$ 47.50 \$ 28.00 \$ 16.00 \$ 75.00 High \$ 46.00 \$ 45.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 42.00 \$ 17.00 \$ 26.95 \$ 24.00 \$ 16.00 \$ 27.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE Florida lowa Minneapolis Texas Denver | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 10.50 \$ 12.00 \$ 17.50 \$ 11.33 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 15.00 \$ 30.00 \$ 13.00 \$ 20.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 22.00 \$ 24.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE Minneapolis Texas Denver SF-Bay SoCal Composted cow mani NE Chesapeake SE Cleveland | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 manure Avera \$ 45.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 37.23 \$ 25.65 \$ 16.00 \$ 44.00 ure Average \$ 45.50 \$ 31.33 \$ 24.00 | \$ 40.00 \$ 35.00 \$ 22.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 10.00 \$ 22.00 ge High \$ 55.00 \$ 25.00 \$ 47.50 \$ 47.50 \$ 28.00 \$ 16.00 \$ 75.00 High \$ 46.00 \$ 45.00 \$ 24.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 10.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 17.00 \$ 26.95 \$ 24.00 \$ 16.00 \$ 27.00 Low \$ 45.00 \$ 12.00 \$ 24.00 \$ 12.00 \$ 24.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE Florida lowa Minneapolis Texas Denver Northwest SF-Bay | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 20.65 \$ 10.50 \$ 11.33 \$ 17.25 \$ 12.67 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 15.00 \$ 30.00 \$ 12.00 \$ 24.00 \$ 20.00 \$ 22.00 \$ 24.00 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE Minneapolis Texas Denver SF-Bay SoCal Composted cow manual | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 nanure Avera \$ 45.00 \$ 25.00 \$ 42.00 \$ 37.23 \$ 25.65 \$ 16.00 \$ 44.00 ure Average \$ 45.50 \$ 31.33 \$ 24.00 \$ 42.00 | \$ 40.00 \$ 35.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 25.00 \$ 47.50 \$ 28.00 \$ 16.00 \$ 75.00 High \$ 46.00 \$ 44.00 \$ 24.00 \$ 46.00 \$ 46.00 \$ 46.00 \$ 24.00 \$ 60.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 3.50 \$ 40.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 26.95 \$ 24.00 \$ 16.00 \$ 27.00 \$ 45.00 \$ 24.00 \$ 16.00 \$ 24.00 \$ 16.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE Florida lowa Minneapolis Texas Denver Northwest SF-Bay Composted biosolids | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 12.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 10.50 \$ 10.50 \$ 11.30 \$ 12.00 \$ 17.50 \$ 11.33 \$ 17.25 \$ 12.67 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 19.00 \$ 17.00 \$ 24.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 15.00 \$ 20.00 \$ 12.00 \$ 24.00 \$ 15.00 \$ 24.00 \$ 15.00 \$ 15.00 \$ 16.00 \$ 16.00 \$ 17.00 \$ 17.00 \$ 18.00 \$ 18.00 \$ 19.00 \$ 19 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken n NE Chesapeake SE Minneapolis Texas Denver SF-Bay SoCal Composted cow man NE Chesapeake SE Minneapolis Texas Denver SF-Bay SoCal | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 nanure Avera \$ 45.00 \$ 25.00 \$ 42.00 \$ 37.23 \$ 25.65 \$ 16.00 \$ 44.00 ure Average \$ 45.50 \$ 31.33 \$ 24.00 \$ 29.33 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 310.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 42.00 \$ 17.00 \$ 47.50 \$ 28.00 \$ 16.00 \$ 75.00 High \$ 46.00 \$ 45.00 \$ 24.00 \$ 32.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 3.50 \$ 40.00 \$ 25.00 \$ 42.00 \$ 16.00 \$ 27.00 \$ 24.00 \$ 16.00 \$ 24.00 \$ 16.00 \$ 24.00 \$ 24.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE Florida lowa Minneapolis Texas Denver Northwest SF-Bay Composted biosolids NE | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 20.65 \$ 10.50 \$ 11.33 \$ 17.25 \$ 12.67 Average \$ 15.33 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 19.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 13.00 \$ 20.00 \$ 12.00 \$ 24.00 \$ 15.00 \$ 20.00 \$ 15.00 \$ 20.00 \$ 15.00 \$ 20.00 \$ 15.00 \$ 20.00 \$ 20 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken r NE Chesapeake SE Minneapolis Texas Denver SF-Bay SoCal Composted cow manual | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 nanure Avera \$ 45.00 \$ 25.00 \$ 42.00 \$ 37.23 \$ 25.65 \$ 16.00 \$ 44.00 ure Average \$ 45.50 \$ 31.33 \$ 24.00 \$ 42.00 | \$ 40.00 \$ 35.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 25.00 \$ 47.50 \$ 28.00 \$ 16.00 \$ 75.00 High \$ 46.00 \$ 44.00 \$ 24.00 \$ 46.00 \$ 46.00 \$ 46.00 \$ 24.00 \$ 60.00 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 7.00 \$ 3.50 Low \$ 40.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 26.95 \$ 24.00 \$ 16.00 \$ 27.00 Low \$ 45.00 \$ 24.00 \$ 16.00 \$ 24.00 \$ 26.00 \$ 15.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE Florida lowa Minneapolis Texas Denver Northwest SF-Bay Composted biosolids | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 20.65 \$ 10.50 \$ 11.33 \$ 17.25 \$ 12.00 \$ 17.50 \$ 11.33 \$ 17.50 \$ 11.33 \$ 17.50 \$ 11.33 \$ 17.50 \$ 11.33 \$ 17.50 \$ 11.33 \$ 17.50 \$ 11.33 \$ 17.50 \$ 17. | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 17.00 \$ 24.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 15.00 \$ 24.00 \$ 15.00 \$ 24.00 \$ 15.00 \$ 12.00 \$ 12 |
| NE Chesapeake SE Florida Cleveland lowa Texas Denver Northwest SoCal Composted chicken in NE Chesapeake SE Minneapolis Texas Denver SF-Bay SoCal Composted cow maning NE Chesapeake SE Minneapolis Texas Denver SF-Bay SoCal | \$ 30.00 \$ 24.98 \$ 12.14 \$ 13.14 \$ 24.77 \$ 12.67 \$ 21.28 \$ 9.00 \$ 17.91 \$ 13.36 nanure Avera \$ 45.00 \$ 25.00 \$ 42.00 \$ 17.00 \$ 37.23 \$ 25.65 \$ 16.00 \$ 44.00 ure Average \$ 45.50 \$ 31.33 \$ 24.00 \$ 29.33 \$ 29.33 | \$ 40.00 \$ 35.00 \$ 28.00 \$ 22.00 \$ 30.00 \$ 21.00 \$ 30.00 \$ 26.00 \$ 22.00 ge High \$ 50.00 \$ 42.00 \$ 17.00 \$ 47.50 High \$ 46.00 \$ 45.00 \$ 45.00 \$ 45.00 \$ 45.00 \$ 45.00 \$ 47.50 | \$ 20.00 \$ 12.00 \$ 4.00 \$ 8.00 \$ 19.50 \$ 8.00 \$ 7.00 \$ 7.00 \$ 3.50 \$ 40.00 \$ 25.00 \$ 42.00 \$ 16.00 \$ 27.00 \$ 24.00 \$ 16.00 \$ 24.00 \$ 16.00 \$ 24.00 \$ 24.00 | NE Chesapeake SE Florida Cleveland lowa Minneapolis Texas Denver Northwest SF-Bay SoCal Food waste compost NE Chesapeake SE Florida lowa Minneapolis Texas Denver Northwest SF-Bay Composted biosolids NE Chesapeake | \$ 21.50 \$ 13.39 \$ 16.66 \$ 9.75 \$ 12.50 \$ 14.00 \$ 17.25 \$ 13.05 \$ 14.79 \$ 13.71 \$ 7.33 Average \$ 25.79 \$ 10.50 \$ 20.65 \$ 10.50 \$ 11.33 \$ 17.25 \$ 12.67 Average \$ 15.33 | \$ 48.00 \$ 16.00 \$ 25.00 \$ 13.00 \$ 15.00 \$ 19.00 \$ 14.10 \$ 35.00 \$ 22.00 \$ 10.00 High \$ 48.00 \$ 13.00 \$ 20.00 \$ 12.00 \$ 24.00 \$ 15.00 \$ 20.00 \$ 15.00 \$ 20.00 \$ 15.00 \$ 20.00 \$ 15.00 \$ 20.00 \$ 20 |

| Northwest SoCal | \$ 16.75 \$ 10.50 | \$ 21.00 \$ 17.00 | \$ 12.00 \$ 3.00 | | | | |
|---|--|--|--|--|--|--|--|
| Composted cow manur NE SE Iowa Texas Denver Northwest SF-Bay SoCal | e Average \$ 35.00 \$ 21.38 \$ 35.00 \$ 25.00 \$ 12.05 \$ 22.00 \$ 34.25 \$ 5.00 | High \$ 36.00 \$ 31.50 \$ 35.00 \$ 25.00 \$ 14.10 \$ 22.00 \$ 34.50 \$ 6.00 | | | | | |
| Wood waste mulch NE Chesapeake SE Florida Iowa Minneapolis Texas Denver Northwest SF-Bay SoCal | Average \$15.75 \$15.80 \$14.60 \$14.00 \$30.00 \$18.50 \$10.83 \$7.66 \$15.00 \$12.33 \$9.25 | \$ 17.00 \$ 24.95 \$ 15.00 \$ 40.00 \$ 20.00 \$ 14.00 \$ 8.32 \$ 15.00 | \$ 13.00 \$ 5.00 \$ 13.00 \$ 20.00 \$ 17.00 \$ 8.00 \$ 7.00 \$ 15.00 \$ 9.00 | | | | |
| Colored wood mulch NE Chesapeake SE Florida Iowa Minneapolis Texas Denver Northwest SF-Bay SoCal | Average \$ 22.00 \$ 20.50 \$ 19.00 \$ 16.00 \$ 27.00 \$ 20.67 \$ 17.66 \$ 22.00 \$ 21.00 \$ 22.50 | High \$ 22.00 \$ 22.00 \$ 25.00 \$ 16.00 \$ 25.00 \$ 35.00 \$ 24.00 \$ 21.32 \$ 22.00 \$ 25.00 | \$ 22.00 \$ 19.00 \$ 15.00 \$ 16.00 \$ 25.00 \$ 19.00 \$ 14.00 \$ 22.00 \$ 19.00 | | | | |
| Bag Retail | | | | | | | |
| Compost (40# bag) NE Chesapeake SE lorida Cleveland lowa Texas Denver Phoenix Northwest SoCal Composted cow manual | \$ 6.87 \$ 3.73 \$ 4.00 \$ 1,99 \$ 2.45 \$ 3.12 \$ 4.25 \$ 3.59 \$ 4.71 \$ 4.29 \$ 5.39 \$ 10,000 \$ 1,000 \$ 1,000 | High \$ 8.00 \$ 5.49 \$ 4.00 \$ 1.99 \$ 7.99 \$ 6.99 \$ 4.75 \$ 5.99 \$ 6.25 Average | \$ 3.90 | | | | |

\$ 9.87 \$ 7.95

\$ 6.97

1.99 3.99

2.49 7.00

6.99

3.99

3.99 7.00

\$ \$ \$

\$ \$

\$ 6.53

\$ 5.97

\$ 5.16

\$ 1.98

\$ 3.27

\$ 2.18 \$ 3.70

\$ 4.59

\$ 2.99

\$ 3.99 \$ 7.00

3.85 3.99

3.34

1.97

2.49

1.75

1.99

1.99

2.49 3.99 7.00

\$

\$ \$ \$ \$ \$ \$ \$

\$ \$



AT PETERSON WE NEVER STOP DEVELOPING THE ULTIMATE INDUSTRY LEADING EQUIPMENT.

For over 35 years, we've built our business around building the most productive mobile chipping and grinding machines in the industry. Day after day, we partner with our customers by giving them the best tools for the job and exceptional support when they need us.

Visit us at **www.petersoncorp.com** today and see why Peterson is the industry leader for disc and drum chippers, horizontal grinders, blower trucks, screens and stacking conveyors.

Get the right sized product, sort it out, and stack it higher with Peterson!

Let us know how we can help grow your business!







Missouri

From page 5

chimney sweep who started the company so he could sell firewood to his clients.

"From there we started to take in yard waste to make compost and mulch," he said. "We provided an outlet for people to dump their yard waste, but we also developed good quality products to close the loop. People not only can dump their stuff with us, but they also want to buy materials back from us."

Later, the company began to accept food waste for composting. Last year, Missouri Organic processed 37 million pounds of food waste, Anderson said.

"We have food waste collection routes," he said. "We take packaged food waste from grocery stores like Walmart and Kroger."

Packaged organics are extracted with a Tiger depackaging machine. The emptied packages are sent to a waste-to-



Hogzilla 1462T tracked tub grinder. Photo: Missouri Organic Recycling

energy plant that provides heat to a cement factory. About 1,200 gallons of organic waste are mixed with about 35 yards of yard waste and placed in windrows on the company's 20 acre composting site.

Along with the compost and mulch business, the on-site Urban Lumber Co., recovers usable wood to create custom tables and other products.

"My grinder crews are trained, if they see a unique species or a log that's 15 inches in diameter by six foot long, to throw it aside so my sawmill guys can decide whether they want it or not," Anderson said. "If they do, it's transferred down to our sawmill. They make a rough cut lumber or you can hire them to make you a finished conference table or a countertop or anything like that."

Poised for growth

With the purchase of its third Hogzilla tub grinder, Anderson said Missouri Organic is poised for further growth.

"Our goal is to take care of all the yard waste in this region," he said. "We have contracts with Kansas City and other cities. If there is ice storm or tornado or any kind of tree damage, I'm responsible to take care of that material. So things like that are what we have to prepare for and we need to make sure that we have our equipment ready and available in case something like that happens. Because it's the first step in everything we do, our grinder needs to be up and running every day with as few

(See Missouri, page 13)





Featuring the industry's leading vendors. This listing of the industry's leading vendors of products, equipment and services essential to the compost manufacturing, wood recycling and organics management business also is available online at compostingnews.com. Scan the QR code with your mobile device to go there. If your business is not listed, please contact ken@compostingnews.com.

Analytical Laboratory



Control Laboratories

www.controllabs.com 42 Hangar Way Watsonville, CA 95076 Phone: 831.724.5422 Twitter: Controllabs Contact: Assaf Sadeh asadeh@controllabs.com

Anaerobic digestion



Control Laboratories

www.controllabs.com 42 Hangar Way Watsonville, CA 95076 Phone: 831.724.5422 Twitter: Controllabs Contact: Assaf Sadeh asadeh@controllabs.com

Bagging/Packaging Equipment





Rotochopper

www.rotochopper.com 217 West Street St. Martin, MN 56376 Phone: 320.548.3586 Fax: 320.548.3372 YouTube: rotochoppervideos

rotochoppervideos Twitter:rotochopper Facebook: Rotochopper Contact: Nicole Klein info@rotochopper.com

In-Vessel Composting



Ag-Bag Environmental

www.ag-bagfs.com 92365 Riekkola Road Astoria, OR 97103-6656 Phone: 503.325.2970 Fax: 503.325.2985

Facebook:

ag-bag Forage Solutions Contact: Debbie Linder dlinder@ag-bagfs.com

Mulch Coloring Systems



Bandit Industries, Inc.

www.banditchippers.com 6750 Millbrook Road Remus, MI 49340 Phone: 989.561.2270, Phone: 800.952.0178 Fax: 989.561.2273 YouTube: banditchippers Twitter: banditchippers Facebook: banditiindustries Contact:

Regional Sales Manager sales@banditchippers.com

Colorbiotics

www.colorbiotics.basf.us 1725 Dayton Avenue Ames, IA 50010 Phone: 888-663-6980 YouTube: colorbiotics Linked In: Colorbiotics Twitter: Colorbiotics Contact: Nick Lincoln nick.lincoln@colorbiotics.com





Rotochopper

www.rotochopper.com 217 West Street St. Martin, MN 56376 Phone: 320.548.3586 Fax: 320.548.3372

YouTube:

rotochoppervideos Twitter:rotochopper Facebook: Rotochopper Contact: Nicole Klein info@rotochopper.com

Screening Systems & Trommels



Action Equipment Company Inc.

www.actionconveyors.com 2800 Hayes Street Newberg, OR 97132 Phone: 503-537-1111 Fax: 503-537-1117

YouTube:

Action Conveyors

LinkedIn:

Action-Equipment-Company-

Inc.

Contact: Andrew LaVeine sales@actionconveyors.com



Bandit Industries, Inc.

www.banditchippers.com 6750 Millbrook Road Remus, MI 49340 Ph: 989.561.2270, 800.952.0178 Fax: 989.561.2273 YouTube: banditchippers Twitter: banditchippers

Facebook: banditiindustries

Contact:

Regional Sales Mgr. sales@banditchippers.com

Screening Systems & Trommels (cont.)



GrinderCrusherScreen Inc.

www.grindercrusherscreen.com 1772 Corn Road Smyrna, GA 30080 Phone: 770.433.2440 Fax: 770.433.2669

YouTube: GrinderCrusherScreen Twitter: GCS_Equipment Facebook: Grinder Crusher Screen Contact: Rick Cohen

rick@grindercrusherscreen.com



Screen USA Inc.

www.screenusa.net 1772 Corn Road Smyrna, GA 30080 Phone: 770.433.2670 Fax: 770.433.2669 Contact: Rick Cohen rick@screenusa.net



West Salem **Machinery**

www.westsalem.com P.O. Box 5288 665 Murlark Ave. NW Salem, OR 97304 Phone: 800.722.3530 Phone: 503.364.2213 Fax: 503.364.1398

YouTube:

West Salem Machinery

Facebook:

West Salem Machinery

Twitter:

West Salem Machinery Contact: Patrick Lorenz info@westsalem.com

Shredders



GrinderCrusherScreen Inc.

www.grindercrusherscreen.com 1772 Corn Road Smyrna, GA 30080 Phone: 770.433.2440 Fax: 770.433.2669

YouTube:

GrinderCrusherScreen Twitter: GCS_Equipment Facebook: Grinder Crusher Screen Contact: Rick Cohen rick@grindercrusherscreen.com



West Salem **Machinery**

www.westsalem.com P.O. Box 5288 665 Murlark Ave. NW Salem, OR 97304 Phone: 800.722.3530 Phone: 503.364.2213 Fax: 503.364.1398 YouTube:

West Salem Machinery

Facebook:

West Salem Machinery

Twitter:

West Salem Machinery Contact: Patrick Lorenz info@westsalem.com

Thermometers & Monitoring Equipment



REOTEMP Instruments

https:// reotempcompost.com 10656 Roselle Street San Diego, CA 92121 Phone: 858.225.1889 Fax: 858.784.0720

YouTube: reotemp compost

Twitter:

reotempcompost Facebook: reotemp Contact: Nathan O'Connor compost@reotemp.com

Replacement **Parts**





Agrisolutions Corp.

Trinity Hardware Extended Life Solutions www.agrisolutionscorp.com 2984 AĂA Court Bettendorf, IA 52722 Phone: 563-459-6341 Contact: Dan Zehnder dzehnder@agrisolutionscorp.com



ARMORHOG CW Mill **Equipment -**

www.armorhog.com 14 Commerce Drive Sabetha, KS 66534 Phone: 800.743.3491 Phone: 785.284.3454 Fax: 785.284.2010

YouTube: CWMillHogZilla

Facebook: HogZilla Monster

Contact: Brian Bergman sales@armorhog.com



DynaHog CW Mill **Equipment -**

www.dynahog.com 14 Commerce Drive Sabetha, KS 66534 Phone: 800-743-3491, Phone: 785-284-3454 Fax: 785-284-2010 Contact: Jason Haug sales@dynahoq.com



GrinderCrusherScreen Inc.

www.grindercrusherscreen.com 1772 Corn Road Smyrna, GA 30080 Phone: 770.433.2440 Fax: 770.433.2669

YouTube:

GrinderCrusherScreen Twitter: GCS_Equipment Facebook: Grinder Crusher Screen Contact: Rick Cohen

rick@grindercrusherscreen.com



Hogzilla Grinders CW Mill Equipment -

www.hogzilla.com
14 Commerce Drive
Sabetha, KS 66534
Phone: 800.743.3491
Phone: 785.284.3454
Fax: 785.284.3601
YouTube:
CWMillHogZilla
Facebook:
HogZillaMonsterGrinders
Contact:
Tim Wenger, VP, Sales Mgr.
hogzilla@cwmill.com

Windrow Turners



Aeromaster Midwest Bio-Systems

www.aeromasterequipment.com www.midwestbiosystems.com 28933 35 E Street Tampico, IL 61283 Phone: 800.689.0714 Fax: 815.438.7028 YouTube: midwestbiosystems Twitter: compostingil Facebook: Contact: Cary Richardson info@midwestbiosystems.com



Brown Bear Corp.

www.brownbearcorp.com PO Box 29, 2248 Avenue of Industry Corning, IA 50841 Phone: 641.322.4220 Fax: 641.322.3527 YouTube: Brown Bear Corp Contact: Stan Brown sales@brownbearcorp.com



SCARAB International LLP

www.scarabmfg.com
1475 County Road W
White Deer, TX 79097
Phone: 806.883.7621
Fax: 806.883.6804
YouTube: Scarab
Manufacturing
Twitter: Scarabmfg
Facebook: Scarab
International, LLLP
Contact: Richard Miller
info@scarabmfg.com

Wood Grinders -Horizontal



Bandit Industries, Inc.

www.banditchippers.com 6750 Millbrook Road Remus, MI 49340 Ph: 989.561.2270, 800.952.0178 Fax: 989.561.2273 YouTube: banditchippers Twitter: banditchippers Facebook: banditiindustries Contact: Regional Sales Mgr. sales@banditchippers.com



Diamond Z

www.diamondz.com 11299 Bass Lane Caldwell, ID 83605 Phone: 208.585.2929 Fax: 208.585.2112 YouTube: Diamond Z Contact: Marcus Buntjer MBuntjer@DiamondZ.com



DuraTech Industries

www.duratechindustries.net Box 1940 Jamestown, ND 58401 Phone: 701.252.4601 Fax: 701.252.0502 YouTube: Duratechindustries Contact: Bob Strahm



ind.sales@duratechindustries.net

GrinderCrusherScreen Inc.

www.grindercrusherscreen.com 1772 Corn Road Smyrna, GA 30080 Phone: 770.433.2440 Fax: 770.433.2669 YouTube: GrinderCrusherScreen Twitter: GCS_Equipment Facebook:GrinderCrusherScreen Contact: Rick Cohen rick@grindercrusherscreen.com



Hogzilla Grinders CW Mill Equipment -

www.hogzilla.com
14 Commerce Drive
Sabetha, KS 66534
Phone: 800.743.3491 or
785.284.3454
Fax: 785.284.3601
YouTube:
CWMillHogZilla
Facebook:
HogZillaMonsterGrinders
Contact: Tim Wenger,
Vice President & Sales
Manager
hogzilla@cwmill.com





Rotochopper

www.rotochopper.com 217 West Street St. Martin, MN 56376 Phone: 320.548.3586 Fax: 320.548.3372 YouTube: rotochoppervideos Twitter:rotochopper Facebook: Rotochopper Contact: Nicole Klein info@rotochopper.com



West Salem Machinery

www.westsalem.com
P.O. Box 5288
665 Murlark Ave. NW
Salem, OR 97304
Phone: 800.722.3530
Phone: 503.364.2213
Fax: 503.364.1398
YouTube:
West Salem Machinery
Facebook:
West Salem Machinery
Twitter:
West Salem Machinery
Twitter:

West Salem Machinery Contact: Patrick Lorenz info@westsalem.com



Morbark, LLC

www.morbark.com 8507 S. Winn Rd. Winn, MI 48896 Phone: 800.831-0042 Phone 989.866.2381 Fax: 989.866.2280 YouTube: morbarkinc Facebook: morbarkllc Twitter: morbark Contact:

Territory Sales Manager inquire@morbark.com



Featuring the industry's leading vendors. This listing of the industry's leading vendors of products, equipment and services essential to the compost manufacturing, wood recycling and organics management business also is available online at compostingnews.com. Scan the QR code with your mobile device to go there. If your business is not listed, please contact ken@compostingnews.com.

Wood Grinders -Tub



DuraTech Industries

www.duratechindustries.net Box 1940

Jamestown, ND 58401 Phone: 701.252.4601 Fax: 701.252.0502

YouTube:

Duratechindustries Contact: Bob Strahm ind.sales@duratechindustries.net



GrinderCrusherScreen Inc.

www.grindercrusherscreen.com 1772 Corn Road Smyrna, GA 30080 Phone: 770.433.2440 Fax: 770.433.2669

YouTube: GrinderCri

GrinderCrusherScreen
Twitter: GCS_Equipment
Facebook:GrinderCrusherScreen
Contact: Rick Cohon

Contact: Rick Cohen

rick@grindercrusherscreen.com



Hogzilla Grinders CW Mill Equipment -

www.hogzilla.com 14 Commerce Drive Sabetha, KS 66534 Phone: 800.743.3491 Phone: 785.284.3454 Fax: 785.284.3601 YouTube:

CWMillHogZilla Facebook:

HogZillaMonsterGrinders Contact: Tim Wenger, VP, Sales Mgr.

hogzilla@cwmill.com



Morbark, LLC

www.morbark.com 8507 S. Winn Rd. Winn, MI 48896 Phone: 800.831-0042 Phone 989.866.2381 Fax: 989.866.2280 YouTube: morbarkinc Facebook: morbarkllc Twitter: morbark

Contact:

Territory Sales Manager inquire@morbark.com

Wear Parts





Agrisolutions Corp.

Trinity Hardware
Extended Life Solutions
www.agrisolutionscorp.com
2984 AAA Court
Bettendorf, IA 52722
Phone: 563-459-6341
Contact: Dan Zehnder
dzehnder@agrisolutionscorp.com



GrinderCrusherScreen Inc.

www.grindercrusherscreen.com 1772 Corn Road Smyrna, GA 30080 Phone: 770.433.2440 Fax: 770.433.2669

YouTube:

GrinderCrusherScreen Twitter: GCS_Equipment Facebook:GrinderCrusherScreen Contact: Rick Cohen

rick@grindercrusherscreen.com



Morbark, LLC

www.morbark.com 8507 S. Winn Rd. Winn, MI 48896 Phone: 800.831-0042 Phone 989.866.2381 Fax: 989.866.2280 YouTube: morbarkinc Facebook: morbarkllc Twitter: morbark

Contact:

Territory Sales Manager inquire@morbark.com

Industry information

Composting News

www.compostingnews.com Contact: Ken McEntee ken@compostingnews.com Composting News offers coverage of industry news and trends via a monthly print publication and real-time news online.

Inquire about subscription prices and advertising opportunities in print and

online.

The Paper Stock Report

www.paperstockreport.com Contact: Ken McEntee ken@paperstockreport.com The Paper Stock Report offers coverage of paper recycling prices, markets and trends. Inquire about subscription prices.

If your business is not listed in this directory, please contact ken@compostingnews

Missouri

From page 5

breakdowns as possible. We know that we can rely on the Hogzilla grinders. They are heavy duty and are built to last longer than anything we've seen out there."

The Hogzilla 1462T tub grinder with a standard Cat 860 HP engine, is designed to maximize transportability while offering production rates of 100 to 150 tons of yard waste, 50 to 100 tons of stumps and logs and 35 to 120 tons of pallets and construction waste per hour. You can get more information at hogzilla.com. You can learn more about Missouri Organic Recycling at missouriorganic.com

Facilities

Colorado

From page 1

Three county residents filed suit to stop construction of the site, alleging that the project violates county policy and state tax law. The suit also seeks a permanent injunction to preserve a conservation easement previously placed on the property. The county purchased the easement for the property in 1994 and purchased the property and its water rights in 2018. The suit alleges that conservation easement should be terminated due to existing property restrictions.

However, one of the plaintiffs in the lawsuit told local media that she is concerned about the facility's potential on water quality, air pollution and the surrounding properties.

During a special meeting on March 4, Jeff Maxwell, Boulder County public works director, said the county has received more than 500 comments - both in favor and opposed to the facility - from the public. While reviewing comments in December, the Public Works Department announced that it was not ready to proceed to a Planning Commission public hearing for consideration of the project.

"The project team will continue to analyze the construction and operation of the proposed facility and will refine plans, if warranted, to ensure that, if built, the location, buildings and operations are environmentally sound and will operate with the original intent of the scope of the project," the Public Works Department said.

The March 4 commissioners meeting was held to consider Public Work's recommendation to withdraw its special land use application, which was necessary to merge three parcels into one for the composting facility. During the meeting, all three commissioners agreed with Maxwell's recommendation to withdraw the special use application. They further directed staff to continue to look for opportunities to support the county's waste diversion and climate action goals, including composting solutions, and to seek public input along the way.

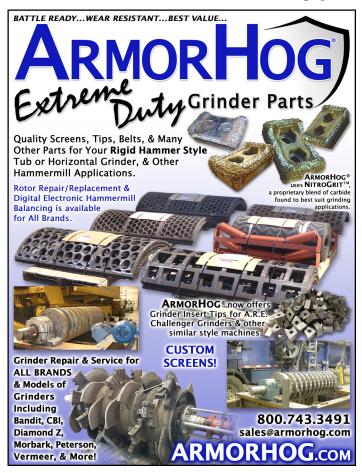
"We absolutely need composting options in Boulder County that help meet our waste diversion goals, improve soil health and fight climate change, and I also strongly believe we should not use open space for a composting facility," said Commissioner Matt Jones. "We need to continue our work with our waste diversion partners, farmers and county residents to find effective and innovative answers to this pressing issue. I support the county's taking a step back, re-envisioning solutions and getting public input along the way."

Commissioner Claire Levy said she appreciates the support for the proposal by zero waste leaders who feel that a composting option is vital to the county's overall plan for sustainability and waste diversion.

"In looking at this proposal, I had questions about whether a single facility is the best way to make progress towards our goal of diverting waste from landfills and reducing greenhouse gas emissions," Levy said. "I would like to better understand whether the compost will be usable by our Boulder County farmers. Ending this application is the best way for us to get this information and be able to engage with the community in the way we commissioners would like to. I am committed to achieving our environmental goals but we need to make sure that any decision we commit to is one that will truly make progress towards those goals and is responsive to the interests and needs of our residents."

Commissioner Marta Loachamin said that after hearing

(See Colorado, page 14)



Facilities

Colorado

From page 1

from Boulder County staff about unexpected changes during the design process that began in 2019, "I feel that we need to reset the conversation and focus on an answer that will work for everyone — our neighbors, our farmers, our waste haulers and the community at large. The status of a quasi-judicial case has been difficult for us as county commissioners as it immediately limited our ability to speak freely, as a new board in January 2021, with the community about finding an approach that we can agree will meet our sustainability and climate action goals. I look forward to collaborating with the community in a transparent, open and inclusive conversation as we look together to alternative opportunities for diverting organic waste from the landfill."

Plans for site, developed by PEH Architects, of Boulder, along with A-1 Organics and SCS Engineers, would include a 17,500 square foot tipping building that would accept and mix feedstock before the material is transferred to a covered aerated static pile (CASP) composting system that utilizes a Gore cover.

Compost would be fully cured in eight to 12 weeks, compared to up to six months in an open windrow system, according to a project description. Feedstock would be blended to the following characteristics:

- Target Mix Bulk Density: 800 to 1000 pounds per square yard;
- Target Mix Moisture Content: 50 to 65 percent

• C:N ratio: 25:1 to 35:1 • Porosity: 35 to 50 percent

Legislation/Regulation

Maryland

From page 1

adoption of composting."

Shetty said she hopes that the House of Delegates will pass the bill in the coming days, after which she would present it to the state senate.

The bill was introduced to the house on March 2 and passed on second reading. Three readings are required for adoption.

The legislation would prohibit a recorded covenant or restriction, a provision in a declaration or a provision in the bylaws or rules of a condominium or a homeowners association from:

Prohibiting or unreasonably restricting a unit owner from contracting with a private entity to collect organic waste materials for composting; and

Prohibiting or unreasonably restricting a lot owner from composting organic waste materials for the lot owner's personal or household use as long as the lot owner owns or has the right to exclusive use of the composting area and observes all local and state laws, ordinances and regulations that pertain to composting.

Amendments to Shetty's original bill changed "restricting or prohibiting" to "prohibiting or unreasonably restricting."

Research

Microbes

From page 1

protect and restore soil in semi-arid lands that are likely to erode and degrade from intense farming," Slaughter said. "But producers need additional ways to increase soil carbon and nutrient stores."

Slaughter described soil health as the ability of a living soil ecosystem to perform a variety of important functions.

These include cycling nutrients, storing and purifying water and helping plants and animals. This "living" part is made up of various microorganisms that help a soil be healthy. They, for example, help break down materials like manure so that it and its nutrients become part of the soil.

"Improving the soil's ability to perform these roles and support plant and animal life is our target for soil health," Slaughter said. "Adding the manure can provide a boost of material that can be incorporated into soil organic matter. This helps provide a stronger foundation for more microbial activity and nutrient cycling."

That's why in their study they applied a low one-time amount of manure to two types of pastures to look into this.

The pastures they put the manure on had either grass only that was fertilized occasionally or were a mix of grass and legumes that was not fertilized.

Manure helps, but results take time Overall, they did find that manure helped increase soil organic carbon and the number of microbes in the soil.

These are two important characteristics of a healthy soil. It took almost a year and a half to see these changes, although they say this is not totally surprising.

"This tells us that it can take a long time for even a little added compost to become incorporated into the soil organic matter of semi-arid grasslands, but it definitely helps," Slaughter said. "We think this is mostly due to the dry climate at our study site. We commonly get little rainfall per year. The microbial community was not able to work quickly or efficiently to decompose the manure without water."

Their results also showed that the pastures receiving fertilizer responded better to the manure. They believe this is because the nitrogen in the fertilizer helped the microbes decompose the manure better.

"Microbes help directly with releasing nutrients from organic material in a form that plants can use, as well as decomposing those residues to build soil organic matter," Slaughter said. "A lot of work has been done on how this can help improve cropping systems. However, we wanted to also test this on forage pastures."

Slaughter added that the next steps in this work include whether more manure or multiple applications would get faster results. In addition, they hope to investigate if irrigation or fertilizer would help incorporate the manure faster.

Funding for the work was provided by the Southern Sustainable Agriculture Research and Education and the USDA's National Institute of Food and Agriculture.

Compost product news

Composting News publishes Product News as a service to its readers and is not responsible for the accuracy of information or claims made by manufacturers of products included. Manufacturers and distributors: Send your product news to ken@compostingnews.com (preferred) or mail to Composting News, 9815 Hazelwood Avenue, Strongsville, OH 44149; Fax: (440) 238-6712.

Webster acquires Action Equipment

Webster Industries Inc., of Tiffin, Ohio, a provider of conveyor chain, sprockets, vibrating conveyors and specialty castings, has acquired Action Equipment Co., a Newberg, Ore. provider of vibratory conveying and process equipment.

The Action team will remain the same and the organization will continue to brand and market itself as Action Vibratory Equipment.

"It is an exciting merger, one in which both companies strategically complement one another," said Andrew LaVeine, president of Action. "Action's team is passionate about its core competence and strengths, vibratory technology and look forward to continued marketplace growth alongside Webster."

Since 1972, Action has been dedicated to the design, manufacture and installation support of vibratory equipment. Action employs more than 35 skilled and technical team members including leadership from LaVeine and his brother, Dan. They have built a strong reputation through their design expertise, innovation engineering, reliable manufacturing and excellent customer service, Webster said.

Webster said Action's highly customized and premium quality equipment compliments Webster's leadership position in the power transmission industry, and will allow Webster to widen its global offerings of conveyor components.

"We are excited to join the Webster and Action employee-owned teams as we are powerfully aligned in purpose, mission and culture," said Andrew J Felter, Webster's president and CEO. "While we are each best-in-class in premium customer value, we also

complement one another to offer our combined customer base added products and service solutions. The blend of the Webster operating system with Action's strong technical abilities will create significant value potential for vendor partners, customers and communities where we operate. The move underscores our focus on growth in diverse markets, along with enhanced quality, innovation and service excellence."

For decades, Webster has operated as an employee-owned company. This organizational structure provides employees with tangible benefits for their knowledge, skill and hard work. Webster and Action will operate as a team of owners with each person bringing their abilities, talents, expertise and experiences.

For more information, visit actionconveyors.com

Morbark introduces new Vtection system

Morbark recently introduced a new, patent-pending Vtection system option for its 3000, 3400 and 6400 series Wood Hog horizontal grinders. The Vtection system monitors rotor vibration to reduce damage from contact with contaminates or other causes of damaging vibration like an out-of-balance rotor, broken insert, defective bearing or extremely hard wood.

When coupled with Morbark's Break-Away Torque Limiter, these devices provide customers with the best solution in the industry for hammermill protection, the company said.

To use the Vtection system, the operator sets an acceptable operating vibration level through the electronic controller. Since different feedstocks produce different vibration levels, the operator can quickly fine-tune the trip point to match the grinding application.

Adjusting the trip point based on the feedstock can help avoid unnecessary stopping of the infeed from normal operating vibration. If a contaminant object enters the grinding chamber while in grinding protection mode, the Vtection system will sense the spike in vibration or trip point and instantly stop and reverse the infeed conveyor. By reversing the infeed conveyor, the Vtection system lowers the rotor's chance of repeatedly striking the foreign object.

Once the Vtection system is triggered, Morbark's Integrated Control System (MICS) initiates several actions to remove the tramp material out of the rotor area. The sequence of these actions includes reversing and stopping the infeed, bringing the engine speed to idle, disengaging the clutch and a warning message is displayed on the MICS screen.

At this time, the operator can inspect the grinder and remove the object that caused the trip point before resuming operation.

For more information, visit morbark.com.



Compost Windrow Turner

Built To Last



Custom Designs Lease Options

1475 County Rd W White Deer, TX 79097 1-806-883-7621

salesmgr@scarabmfg.com

www.scarabmfg.com



McEntee Media Corporation 9815 Hazelwood Avenue, Strongsville, OH 44149-2305 Phone: 440.238.6603 www.compostingnews.com

ADDRESS SERVICE REQUESTED

PRSRT STD U.S. POSTAGE PAID CLEVELAND, OH PERMIT NO. 78

