



Independent coverage of composting, wood recycling and organics management



# Composting News

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## Equipment focus: A look at windrow turners

By Ken McEntee

*Continued from October 2019 issue. This feature about compost turners is not intended to endorse or promote any particular product or manufacturer. All known windrow turner manufacturers who sell machines in the U.S. were invited to participate in this article.*

*Part one of this feature examined the benefits of using a windrow turner, who makes them and how to tell which machine is best for your operation.*

### What size is right?

There are countless reasons why a buyer will choose a particular sized turner, said Todd Dunderdale, senior area manager for Komptech Americas LLC, of Denver, Colo. One reason is to

*(See Windrow turners, page 4)*



Windrow turners demonstrated at Compost2019, in Phoenix. Photo: Composting News

## Biochar gains momentum on Oregon farms

By Tracy Robillard

**I**t started as a backyard hobby fueled by curiosity in rural Southwest Oregon. Just three years later it transformed into a new conservation approach that forest owners all over the country can use with financial assistance from the U.S. Department of Agriculture (USDA).

The benefits of this new approach are incredible—improved soil health, enhanced soil water holding capacity, increased plant growth and vigor, cleaner air quality, and perhaps most importantly, locals say, the ability to sequester carbon forever.

The secret lies in biochar, which returns carbon to the soil in the form of long-lasting charcoal. It's made by baking biomass - such as tree wood, plants, manure and other organic materials - without the oxygen that could cause it to burn completely to ash.



*(See Oregon, page 13)*

## Organic farming can contribute to Ohio's water quality plan

**T**he Ohio Ecological Food and Farm Association (OEFFA) said it applauds the state's proposed H2Ohio plan to address harmful algal blooms in Lake Erie and other critical water quality issues, but said the plan fails to acknowledge how organic farming can provide solutions to the problem.

Ohio Gov. Mike DeWine this month announced the plan, which includes 10 best practices to reduce phosphorus runoff. Phosphorus runoff has created algal blooms in Lake Erie which led, earlier this year to the passage of a Toledo

city law that gives the lake the right to file lawsuits against polluters.

The best practices are:

- Soil testing;
- Variable-rate fertilization;
- Surface nutrient application;

*(See Ohio, page 14)*

### Highlights

- n **Diners' food scrap is key to diversion efforts**
- n **National compost prices**

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Research

# PIRG report assesses direction of recycling

Overall, U.S. PIRG (Public Interest Research Group) said, 2019 was another disappointing year for U.S. recycling efforts. Eight states explored in a new report need to do more not only to promote recycling, but also composting and waste reduction as well, U.S. PIRG concluded.

“Almost two years after East Asian countries began limiting U.S. recycling imports, there is still a severe lack of policies to deal with this massive disruption to our recycling system,” U.S. PIRG said, while releasing a new study

of recycling in eight states. “Towns and counties are still cutting back on what types of material they will collect to recycle, or ending their curbside collection programs, as the cost of collecting and sorting recycling remains higher than the value of some of the recyclables collected.”

The group said the factors that are disrupting U.S. recycling efforts go beyond East Asian nations no longer being willing to buy as much U.S. recyclables as they used to.

“Recycling is also undermined by a lack of corporate responsibility on the part of manufacturers for the products they create, a lack of access to recycling collection for many, limited U.S. domestic demand for recycled materials and the rise of plastic, which raises multiple recycling challenges,” U.S. PIRG said. “China’s National Sword and other East Asian import restrictions on recyclables did not break the U.S.

recycling system, instead they exposed the flaws that have long been growing.”

U.S. PIRG’s new study, *The State Of Recycling U.S. National Survey* looks at programs in Illinois, Maryland, Minnesota, North Carolina, Oregon, Pennsylvania, Virginia and Wisconsin, providing case studies and insight into specific issues that plague recycling efforts nationwide.

“Recycling challenges vary across the country, but, overall, states are failing to both reduce unnecessary waste and adjust to a changing recycling landscape,” the group said. “The survey reflects on how the decision by East Asian countries to reject American waste, has impacted statewide programs. It also shows that this is only part of a larger structural problem — and does not impact each state equally.”

In particular, the study addresses America’s plastics recycling problem.

“The hard truth is that plastics are



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difficult to recycle and aren't worth much," said Faye Park, U.S. PIRG Education Fund president. "This reality means that we could only consistently afford to collect and recycle it when China and its neighbors were willing to buy it. Now that we have to deal with it ourselves, plastic is choking our recycling system as effectively as it chokes ocean life."

The report outlines three different directions recycling programs have gone over the past year:

- Oregon, Virginia and Pennsylvania were all vibrant recycling states that have shown a decline in their combined recycling and composting rates — in part due to less international waste exports.
- North Carolina, Illinois and Wisconsin were not as impacted by Asian countries' policy changes, but those states have never been robust recyclers.
- Maryland and Minnesota continue to be strong recyclers despite shifts in the world market.

Beyond offering case studies from

these states, the report also suggests wide-ranging reforms necessary to reduce the amount of waste that ends up in landfills or incinerators every year. Policies include cutting back on the amount of plastic being created, encouraging the reuse of already existing objects and making sure that products are recycled at the end of their working life.

PIRG's suggested actions to increase waste reduction, reuse and recycling include:

- Ban unnecessary single-use plastics, such as plastic bags and polystyrene foam food containers.
- Require unnecessary single-use plastic accessories, such as straws, utensils and condiment packets, to be given only upon customer request.
- Oppose the creation of new plastic production infrastructure.
- Pass "Pay As You Throw" programs that charge consumers less if they throw

(See PIRG, page 4)



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## Research

### PIRG

From page 3

out less trash.

- Pass Right to Repair laws, to give consumers and independent repair shops the ability to fix their stuff when it breaks.

- Encourage the use of reusable bags and bottles through customer rebates.

- Require sit-down restaurants to use reusable plates and foodware.

- Pass extended producer responsibility laws that make manufacturers responsible for dealing with the waste their products will become.

- Expand curbside recycling and composting efforts.

- Mandate that new products contain a percentage of recycled material.

- Ban food waste from landfills, and encourage the creation of a comprehensive composting system.

Carrie Katan, co-author of the report, said she believes governments lack the sense of urgency to fix the recycling system.

“It’s past time to make sure that recycling, composting and waste reduction each play an important role in the fight against microplastic pollution, climate change and other environmental challenges,” she said.

## Equipment

### Windrow turners

From page 1

accommodate existing equipment.

“For example, in a manure lot you can say you need a smaller machine,” he said. “But when the hauling trucks dump the manure it’s going to spread to 18 feet. So instead of going in and cleaning up and shaping the windrow for a smaller turner, you might want to get a bigger turner.”

According to Stan Brown, owner of

Brown Bear Corp., of Corning, Iowa, “Brown Bear offers some of the smallest windrow attachments for skid and compact track loaders versus very large 400 to 500 horsepower straddle machines other manufactures offer. The buyer takes into consideration what the initial purchase cost will be, the cost per hour to operate, what type of production rate is needed, is there room for windrows and does the site need cover.”

Ted Dirks, applications specialist for recycling and forestry at Vermeer Corp., Pella, Iowa, said the right size turner for a particular operation depends on “an understanding of how much space you have in relationship to how much material you intend to compost, and how quickly you intend to compost it. Will you go through five cycles a year, or six or four? Those things will all dictate what size turner is most appropriate.”

Pat Campbell, of HCL Machine Works, Palo Alto, Calif., said HCL added a 12-foot turner to its inventory when some of its customers started to get green waste

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from the cities on walking floor trucks and the resultant pile was too wide for the 10-foot machine.

The 12-foot turner is not just a mock-up of the 10-foot machine," Campbell said. "A lot of time and research went into finding a drive-line and gear box that could take the increased pressure and torque when the pile went from 10-foot wide and five foot to a 12-foot wide and six-foot tall pile. The rotary tooth action again throws everything from the inside of the pile to the outside of the pile while passing it through the open space behind the machine and placing it back."

Richard Miller, sales manager for Scarab International, White Deer, Tex., said Scarab can custom-design a turner for small sites.

"We can build a machine that will maximize your site by building a taller windrow," he said. "Maybe the site can't expand outward, but it can go up. So we will do a higher windrow. We can do a zero turn with casters wheels in the front."

Dunderdale said Komptech's four machines have basically the same features. The size of turner they buy depends on how much material are they running through that space.

"The middle range size is ideal with 17 foot width by seven to eight feet tall," he said. "When you get bigger than that that you get compaction and you lose porosity. When you go bigger it's to increase volume on limited space. Say you have a three acre pad and you have to put 30,000 tons through it. The only way you can go is up."

### Price range and life expectancy

The price of a windrow turner ranges from around \$20,000 for a skid steer attachment, to the \$30,000 neighborhood for a pull-behind, to as high as around \$800,000 for a large self-propelled machine, manufacturers said.

"We typically include standard options, so the main thing is the size," Dunderdale said. "The cost of the engine

is a factor. In the last year biggest thing has been the Tier 4 Final standard - that has added \$45,000 to each machine."

"A lot depends on the engine," Miller agreed. "We have been using John Deere because they have perfect the Tier 4 Final engine and the price is better."

Brown said the life of the machine depends on a variety of factors, such as how it was built, what components and materials were used, how many hours per year it is operated, what materials it is operated in and how corrosive that material is.

"We have 28- to 30-year-old machines still out there running," Miller said. "Our philosophy is to keep it simple, so we have a basic, manually controlled cab without a lot of electronics. If (the operators) keep up the routine maintenance and do the inspections every day, they will last."

Routine maintenance, manufacturers said, includes changing oils and filters

*(See Windrow turners, page 8)*

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# 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, "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.

- "Food waste" compost: This category refers to compost products that include food waste, regional specialties and other feedstocks not specifically covered in other categories.

- Manures: Chicken manures may include other poultry

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.

## Bulk Retail (yard)

Yard waste compost	Average	High	Low
NE	\$ 32.55	\$ 77.00	\$ 17.50
Chesapeake	\$ 24.50	\$ 30.00	\$ 17.00
SE	\$ 21.88	\$ 29.95	\$ 16.00
Florida	\$ 16.42	\$ 26.00	\$ 10.50
Cleveland	\$ 19.90	\$ 28.00	\$ 12.50
Iowa	\$ 21.57	\$ 53.00	\$ 7.50
Minneapolis	\$ 17.09	\$ 28.00	\$ 8.00
Texas	\$ 29.71	\$ 40.00	\$ 15.00
Denver	\$ 20.31	\$ 31.00	\$ 12.00
Northwest	\$ 24.05	\$ 55.00	\$ 10.00
SF-Bay	\$ 21.92	\$ 30.00	\$ 10.00
SoCal	\$ 14.75	\$ 24.00	\$ 8.00

Food waste compost	Average	High	Low
NE	\$ 39.12	\$ 64.00	\$ 17.50
Chesapeake	\$ 23.00	\$ 30.00	\$ 15.00
SE	\$ 28.11	\$ 35.00	\$ 24.00
Florida	\$ 17.50	\$ 22.00	\$ 13.00
Iowa	\$ 25.00	\$ 65.00	\$ 15.00
Minneapolis	\$ 12.33	\$ 16.00	\$ 9.00
Texas	\$ 30.21	\$ 48.95	\$ 15.00
Denver	\$ 15.00	\$ 15.00	\$ 15.00
Northwest	\$ 20.55	\$ 30.00	\$ 15.00
SF-Bay	\$ 23.61	\$ 38.00	\$ 14.00
SoCal	\$ 30.50	\$ 45.00	\$ 16.00

Leaf humus	Average	High	Low
NE	\$ 24.98	\$ 30.00	\$ 19.95
Chesapeake	\$ 27.49	\$ 30.00	\$ 23.95
Cleveland	\$ 19.27	\$ 26.00	\$ 8.00

Composted biosolids	Average	High	Low
NE	\$ 30.00	\$ 40.00	\$ 20.00
Chesapeake	\$ 24.98	\$ 35.00	\$ 12.00
SE	\$ 12.14	\$ 28.00	\$ 4.00
Florida	\$ 13.14	\$ 22.00	\$ 8.00
Cleveland	\$ 24.77	\$ 30.00	\$ 19.50
Iowa	\$ 12.67	\$ 21.00	\$ 8.00
Texas	\$ 21.28	\$ 30.00	\$ 10.00
Denver	\$ 9.00	\$ 10.00	\$ 7.00
Northwest	\$ 17.91	\$ 26.00	\$ 7.00
SoCal	\$ 13.36	\$ 22.00	\$ 3.50

Composted chicken manure	Average	High	Low
NE	\$ 45.00	\$ 50.00	\$ 40.00
Chesapeake	\$ 25.00	\$ 25.00	\$ 25.00
SE	\$ 42.00	\$ 42.00	\$ 42.00
Minneapolis	\$ 17.00	\$ 17.00	\$ 17.00
Texas	\$ 37.23	\$ 47.50	\$ 26.95
Denver	\$ 25.65	\$ 28.00	\$ 24.00
SF-Bay	\$ 16.00	\$ 16.00	\$ 16.00
SoCal	\$ 44.00	\$ 75.00	\$ 27.00

Composted cow manure	Average	High	Low
NE	\$ 45.50	\$ 46.00	\$ 45.00
SE	\$ 31.33	\$ 45.00	\$ 12.00
Cleveland	\$ 24.00	\$ 24.00	\$ 24.00
Iowa	\$ 42.00	\$ 60.00	\$ 16.00
Minneapolis	\$ 29.33	\$ 32.00	\$ 26.00
Texas	\$ 29.33	\$ 47.50	\$ 15.00
Denver	\$ 21.71	\$ 30.00	\$ 12.00
Phoenix	\$ 20.00	\$ 20.00	\$ 20.00
Northwest	\$ 23.85	\$ 33.75	\$ 17.45

SF-Bay	\$ 26.00	\$ 26.00	\$ 26.00
SoCal	\$ 17.25	\$ 24.00	\$ 12.00

Wood waste mulch	Average	High	Low
NE	\$ 21.35	\$ 38.00	\$ 12.50
Chesapeake	\$ 21.13	\$ 28.00	\$ 12.00
SE	\$ 18.78	\$ 34.95	\$ 12.00
Florida	\$ 17.50	\$ 18.00	\$ 17.00
Cleveland	\$ 25.56	\$ 36.25	\$ 14.00
Iowa	\$ 32.50	\$ 40.00	\$ 25.00
Minneapolis	\$ 26.00	\$ 35.00	\$ 20.00
Texas	\$ 16.19	\$ 27.00	\$ 9.00
Denver	\$ 18.74	\$ 25.00	\$ 12.48
Phoenix	\$ 17.61	\$ 22.95	\$ 10.00
Northwest	\$ 19.00	\$ 35.00	\$ 7.50
SF-Bay	\$ 18.14	\$ 30.00	\$ 8.00
SoCal	\$ 20.50	\$ 50.00	\$ 6.00

Colored wood mulch	Average	High	Low
NE	\$ 28.00	\$ 28.00	\$ 28.00
Chesapeake	\$ 28.67	\$ 33.00	\$ 25.00
SE	\$ 27.13	\$ 42.00	\$ 15.00
Florida	\$ 20.33	\$ 22.00	\$ 19.00
Cleveland	\$ 24.87	\$ 28.99	\$ 21.95
Iowa	\$ 30.00	\$ 30.00	\$ 30.00
Minneapolis	\$ 36.80	\$ 49.00	\$ 30.00
Texas	\$ 26.08	\$ 32.50	\$ 18.00
Denver	\$ 33.28	\$ 33.28	\$ 33.28
Northwest	\$ 35.00	\$ 35.00	\$ 35.00
SF-Bay	\$ 34.00	\$ 36.00	\$ 28.00
SoCal	\$ 32.50	\$ 35.00	\$ 30.00

## Bulk wholesale (yard)

Yard waste compost	Average	High	Low
NE	\$ 21.50	\$ 48.00	\$ 11.00
Chesapeake	\$ 13.39	\$ 16.00	\$ 8.00
SE	\$ 16.66	\$ 25.00	\$ 8.65
Florida	\$ 9.75	\$ 13.00	\$ 8.00
Cleveland	\$ 12.50	\$ 15.00	\$ 10.00
Iowa	\$ 14.00	\$ 19.00	\$ 8.00
Minneapolis	\$ 12.00	\$ 17.00	\$ 7.00
Texas	\$ 17.25	\$ 24.00	\$ 9.00
Denver	\$ 13.05	\$ 14.10	\$ 12.00
Northwest	\$ 14.79	\$ 35.00	\$ 7.50
SF-Bay	\$ 13.71	\$ 22.00	\$ 7.00
SoCal	\$ 7.33	\$ 10.00	\$ 6.00

Food waste compost	Average	High	Low
NE	\$ 25.79	\$ 48.00	\$ 11.00
Chesapeake	\$ 10.50	\$ 15.00	\$ 8.00
SE	\$ 20.65	\$ 30.00	\$ 15.00
Florida	\$ 10.50	\$ 13.00	\$ 8.00
Iowa	\$ 13.40	\$ 20.00	\$ 10.00
Minneapolis	\$ 12.00	\$ 12.00	\$ 12.00
Texas	\$ 17.50	\$ 24.00	\$ 8.50
Denver	\$ 11.33	\$ 15.00	\$ 7.00
Northwest	\$ 17.25	\$ 20.00	\$ 15.00
SF-Bay	\$ 12.67	\$ 26.00	\$ 5.00

Composted biosolids	Average	High	Low
NE	\$ 15.33	\$ 20.00	\$ 10.00
Chesapeake	\$ 9.31	\$ 15.00	\$ 5.00
SE	\$ 10.93	\$ 15.00	\$ 5.00
Florida	\$ 10.50	\$ 13.00	\$ 8.00
Texas	\$ 15.99	\$ 20.00	\$ 9.00

Denver	\$ 13.00	\$ 13.00	\$ 13.00
Northwest	\$ 16.75	\$ 21.00	\$ 12.00
SoCal	\$ 10.50	\$ 17.00	\$ 3.00

Composted cow manure	Average	High	Low
NE	\$ 36.00	\$ 36.00	\$ 36.00
SE	\$ 21.38	\$ 31.50	\$ 7.00
Iowa	\$ 35.00	\$ 35.00	\$ 35.00
Texas	\$ 25.00	\$ 25.00	\$ 25.00
Denver	\$ 12.05	\$ 14.10	\$ 10.00
Northwest	\$ 22.00	\$ 22.00	\$ 22.00
SF-Bay	\$ 34.25	\$ 34.50	\$ 34.00
SoCal	\$ 5.00	\$ 6.00	\$ 4.00

Wood waste mulch	Average	High	Low
NE	\$ 15.75	\$ 33.00	\$ 8.00
Chesapeake	\$ 15.80	\$ 17.00	\$ 13.00
SE	\$ 14.60	\$ 24.95	\$ 5.00
Florida	\$ 14.00	\$ 15.00	\$ 13.00
Iowa	\$ 30.00	\$ 40.00	\$ 20.00
Minneapolis	\$ 18.50	\$ 20.00	\$ 17.00
Texas	\$ 10.83	\$ 14.00	\$ 8.00
Denver	\$ 7.66	\$ 8.32	\$ 7.00
Northwest	\$ 15.00	\$ 15.00	\$ 15.00
SF-Bay	\$ 12.33	\$ 14.00	\$ 9.00
SoCal	\$ 9.25	\$ 15.00	\$ 5.00

Colored wood mulch	Average	High	Low
NE	\$ 22.00	\$ 22.00	\$ 22.00
Chesapeake	\$ 20.50	\$ 22.00	\$ 19.00
SE	\$ 19.00	\$ 25.00	\$ 15.00
Florida	\$ 16.00	\$ 16.00	\$ 16.00
Iowa	\$ 25.00	\$ 25.00	\$ 25.00
Minneapolis	\$ 27.00	\$ 35.00	\$ 19.00
Texas	\$ 20.67	\$ 24.00	\$ 18.00
Denver	\$ 17.66	\$ 21.32	\$ 14.00
Northwest	\$ 22.00	\$ 22.00	\$ 22.00
SF-Bay	\$ 21.00	\$ 22.00	\$ 19.00
SoCal	\$ 22.50	\$ 25.00	\$ 20.00

## Bag Retail

Compost (40# bag)	Average	High	Low
NE	\$ 6.87	\$ 8.00	\$ 4.50
Chesapeake	\$ 3.73	\$ 5.49	\$ 2.15
SE	\$ 4.00	\$ 4.00	\$ 4.00
Iowa	\$ 1.99	\$ 1.99	\$ 1.99
Cleveland	\$ 2.45	\$ 2.99	\$ 2.10
Iowa	\$ 3.12	\$ 7.99	\$ 1.50
Texas	\$ 4.25	\$ 6.99	\$ 1.99
Denver	\$ 3.59	\$ 4.75	\$ 1.73
Phoenix	\$ 4.71	\$ 5.99	\$ 2.77
Northwest	\$ 4.29	\$ 5.99	\$ 2.99
SoCal	\$ 5.39	\$ 6.25	\$ 3.90

Composted cow manure(40#bag)	Average	High	Low
NE	\$ 6.53	\$ 9.87	\$ 3.85
Chesapeake	\$ 5.97	\$ 7.95	\$ 3.99
SE	\$ 5.16	\$ 6.97	\$ 3.34
Florida	\$ 1.98	\$ 1.99	\$ 1.97
Cleveland	\$ 3.27	\$ 3.99	\$ 2.49
Iowa	\$ 2.18	\$ 2.49	\$ 1.75
Minneapolis	\$ 3.70	\$ 7.00	\$ 1.99
Texas	\$ 4.59	\$ 6.99	\$ 1.99
Phoenix	\$ 2.99	\$ 3.99	\$ 2.49
Northwest	\$ 3.99	\$ 3.99	\$ 3.99
SF-Bay	\$ 7.00	\$ 7.00	\$ 7.00

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## Equipment

### Windrow turners

From page 5

according to the manufacturers' guidance and doing daily inspections on belts and wear parts.

"We provide buyers with an operations manual and a maintenance schedule based on hours of operation," Miller said. "It's based on 200, 500, 1,000 and then you get into the 5,000 hour maintenance. It's mainly oils, fluids and belts. And we stress a daily walk-around before they get in and run the machine. If they see something dripping, its not going to stop dripping, so you need to take care of it before you run the machine."

According to Dirkx, "Ninety percent of the routine maintenance is keeping the machine clean of debris that can corrode and cause hoses and things to wear prematurely and greasing all of the critical components. To make the machine last longer I'd say to keep it

clean, but also keeping the material that is being composted clean as well. Contaminants, like chunks of concrete and rock and oversized chunks of wood can add a lot of wear and tear."

According to Dunderdale, "The very first turner (Komptech) brought into the U.S. is still running today. There are some machines out there that are 35 years old. Some people just replace the engines. Useful life is amortized from the financial standpoint at five to 10 years, but they last longer - about 20 years typically. It's just like a car. After maybe 10 years you're dumping money into them and you then decide whether it's more worth it to replace the machine."

Windrow turners, Dunderdale, noted, are used far less on a composting site than a wood grinder or a screen.

Miller said operating conditions also determine the life of the machine and its wear parts.

"Be aware of the ambient temperature and the materials you're turning," he said. "Sand in the manure will wear out

the flails faster than just leaves. If you're in Arizona the heat is going to effect the machine so we put a wrap around the hoses to keep the UV off of it to prevent premature wear."

### Costs of operation

An operator will want to know what it costs to operate a windrow turner in terms of dollars per cubic yard of product. Fuel, Dirkx said, typically makes up the majority of the costs, along with labor costs and wear parts.

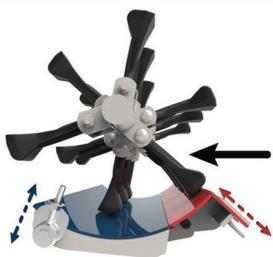
### Optional equipment

Manufacturers of self-propelled turners offer the option of wheels or tracks. Other options generally include telematics packages that allow remote monitoring of operating systems and safety features like back-up and side-view cameras.

"You can see live exactly what the machine is doing, any kinds of errors

*(See Windrow turners, page 13)*

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# Product/Equipment and Services Guide



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## Analytical Laboratory



### Agricultural Analytical Svcs Lab

[www.aasl.psu.edu](http://www.aasl.psu.edu)  
Tower Road  
University Park, PA 16802  
Phone: 814.863.0841  
Fax: 814.863.4540  
YouTube: PennStateAgSciences  
Twitter: agsciences  
Facebook: agsciences  
Contact: Jamie Klaue  
[asaslab@psu.edu](mailto:asaslab@psu.edu)



### Control Laboratories

[www.controllabs.com](http://www.controllabs.com)  
42 Hangar Way  
Watsonville, CA 95076  
Phone: 831.724.5422  
Twitter: Controllabs  
Contact: Assaf Sadeh  
[asadeh@controllabs.com](mailto:asadeh@controllabs.com)

## Anaerobic digestion



### Control Laboratories

[www.controllabs.com](http://www.controllabs.com)  
42 Hangar Way  
Watsonville, CA 95076  
Phone: 831.724.5422  
Twitter: Controllabs  
Contact: Assaf Sadeh  
[asadeh@controllabs.com](mailto:asadeh@controllabs.com)

## Bagging/Packaging Equipment



### GrinderCrusherScreen Inc.

[www.GrinderCrusherScreen.com](http://www.GrinderCrusherScreen.com)  
1772 Corn Road  
Smyrna, GA 30080  
Phone: 770-433-2670  
Fax: 770-433-2669  
Contact: Rick Cohen  
[rick@GrinderCrusherScreen.com](mailto:rick@GrinderCrusherScreen.com)



### Rotochopper

[www.rotochopper.com](http://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](mailto:info@rotochopper.com)

## Consulting Firms



### Kessler Consulting Inc.

[www.kesconsult.com](http://www.kesconsult.com)  
14620 N. Nebraska Ave., Bldg D  
Tampa, FL 33613  
Phone: 813.971.8333  
Fax: 813.971.8582  
Contact: Mitch Kessler  
[info@kesconsult.com](mailto:info@kesconsult.com)

## Education



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YouTube: midwestbiosystems  
Twitter: compostingil  
Contact: Cary Richardson  
[info@midwestbiosystems.com](mailto:info@midwestbiosystems.com)

## In-Vessel Composting



### Ag-Bag Environmental

[www.ag-bagfs.com](http://www.ag-bagfs.com)  
92365 Riekkola Road  
Astoria, OR 97103-6656  
Phone: 503.325.2970  
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Fax: 330.425.4240  
Facebook: ChromaScape  
Contact: Eric Evangelista  
[erice@chromascape.com](mailto:erice@chromascape.com)



### Bandit Industries, Inc.

[www.banditchippers.com](http://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](mailto:sales@banditchippers.com)



### BASF/Colorbiotics

[www.colorbiotics.basf.us](http://www.colorbiotics.basf.us)  
1725 Dayton Avenue, PO Box 647  
Ames, IA 50010  
Phone: 888-663-6980  
YouTube: colorbiotics  
Twitter: Colorbiotics  
Contact: Nick Lincoln  
[nick.lincoln@BASF.com](mailto:nick.lincoln@BASF.com)



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YouTube: midwestbiosystems  
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Contact: Cary Richardson  
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## 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  
Contact: Andrew LaVeine  
sales@actionconveyors.com



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Fax: 720.890.5907  
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Facebook: komptechamericasllc  
Contact: Brandon Lapsys  
b.lapsys@komptechamericas.com



**Screen USA Inc.**  
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Contact: Jay Sarver  
Email: salesinfo@vermeer.com



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Fax: 503.364.1398  
YouTube: West Salem Machinery  
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Contact: Scott Haynes  
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## Shredders



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rick@GrinderCrusherScreen.com



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Twitter: GCS\_Equipment  
Facebook: GrinderCrusherScreen  
Contact: Rick Cohen  
rick@grindercrusherscreen.com

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Fax: 815.438.7028  
YouTube: midwestbiosystems  
Twitter: compostingil  
Contact: Cary Richardson  
info@midwestbiosystems.com



**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

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Twitter: compostingil  
Contact: Cary Richardson  
info@midwestbiosystems.com

# Product/Equipment and Services Guide

## Wear Parts



### ARMORHOG CW Mill Equipment -

www.armorhog.com  
14 Commerce Drive  
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Phone: 800.743.3491  
Phone: 785.284.3454  
Fax: 785.284.2010  
YouTube: CWMillHogZilla  
Facebook: HogZilla Monster Grinders  
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@dynahog.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



### Apollo Equipment.net & Grinder Wear Parts

www.GrinderWearParts.com  
2062 20th Avenue SE  
Largo, FL 33771  
*Oregon Manufacturing*  
2785 N. Front Street  
Woodburn, OR 97071  
Phone: 503.982-0880  
Phone: 800.827.0401  
Fax: 503.982.0881  
YouTube: ApolloEquipmentnet  
Twitter: GrinderWearPrts  
Facebook: GrinderWearPrts  
Contact: Wayne Brown  
info@GrinderWearParts.com



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Fax: 770-433-2669  
Contact: Rick Cohen  
rick@GrinderCrusherScreen.com

## Windrow Turners



### Aeromaster Midwest Bio-Systems

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Twitter: compostingil  
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Contact: Cary Richardson  
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### 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



### HCL Machine Works

www.hclmachineworks.com  
15142 Merrill Ave.  
Dos Palos, CA 93620  
Phone: 209.392.6103  
Fax: 209.392.3000  
Facebook: hclmachineworks  
Contact: Sherrill Campbell  
Contact: Casey Campbell  
sales@hclmachineworks.com



### Komptech Americas LLC

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6345 Downing Street  
Denver, CO 80216  
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Twitter: komptechamericas  
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Contact: Brandon Lapsys  
b.lapsys@komptechamericas.com



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Twitter: vermeerug  
Facebook: vermeerjobs  
Contact: Jay Sarver  
salesinfo@vermeer.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, LLP  
Contact: Richard Miller  
info@scarabmfg.com



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Phone: 770-433-2670  
Fax: 770-433-2669  
Contact: Rick Cohen  
rick@GrinderCrusherScreen.com

## Wood Grinders - Horizontal



### Bandit Industries, Inc.

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



### Diamond Z - A Division of Rule Steel

www.diamondz.com  
11299 Bass Lane  
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Fax: 208.585.2112  
YouTube: Diamond Z  
Contact: Kevin Mayhugh  
kevin.mayhugh@rulesteel.com

# Product/Equipment and Services Guide

## Wood Grinders - Horizontal (cont.)



### DuraTech Industries

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



### GrinderCrusherScreen Inc.

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Fax: 770.433.2669  
YouTube: GrinderCrusherScreen  
Twitter: GCS\_Equipment  
Facebook: GrinderCrusherScreen  
Contact: Rick Cohen  
rick@grindercrusherscreen.com



### Hogzilla Grinders CW Mill Equipment -

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



### Komptech Americas LLC

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Twitter: komptechamericas  
Facebook: komptechamericasllc  
Contact: Brandon Lapsys  
b.lapsys@komptechamericas.com



### Peterson

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Phone: 541.689.6520  
Fax: 541.689.0804  
E. peterson@petersoncorp.com  
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Contact: Michael Spreadbury



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Contact: Jay Sarver  
Email: salesinfo@vermeer.com



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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: Scott Haynes  
info@westsalem.com

## Wood Grinders - Tub



### Hogzilla Grinders CW Mill Equipment -

14 Commerce Drive  
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Fax: 785.284.3601  
Email: hogzilla@cwmill.com  
Web: www.hogzilla.com  
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Contact: Tim Wenger,  
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Twitter: GCS\_Equipment  
Facebook: GrinderCrusherScreen  
Contact: Rick Cohen  
rick@grindercrusherscreen.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](http://compostingnews.com).

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If your business is not listed, please contact [ken@compostingnews.com](mailto:ken@compostingnews.com)

**Equipment**

**Windrow turners**

From page 8

and fuel consumption,” Dunderdale said about Komptech’s Connect System. “Data is updated every two minutes.”

He added that the company’s patented scraper bar feature, situated behind the drum, cleans the compost behind the drum on a concrete pad and ensures that the complete pile is turned.

Vermeer, Dirkx said, features an operator controlled rear curtain to minimize windrow shift and maintain a clean job site.

**Strong future**

Manufacturers generally project strong and steady windrow turner sales over the next five years.

Miller said sales will be pushed by increasing composting of food waste.

“The municipalities need to address food waste going into the landfills,” he

said. “And it has been proven that farmers who use compost on their crops get a stronger yield.”

Because of the long life of compost turners, purchases are generally more common than leases.

Miller said Scarab offers different types of leases geared to a buyer’s preference.

“We have a five- and three-year walk-away and we have a full bore 72-month lease depending on tax purposes,” he said. “I always ask buyers what are you going to be doing in five years. Is their tonnage going to go up? Go down? These are all things that they have to think about when they finance a machine.”

**Biochar**

**Oregon**

From page 1

In Oregon, creating and applying biochar on the farm is gaining momentum, thanks to a Conservation Innovation Grant (CIG) funded by the

Oregon USDA Natural Resources Conservation Service (NRCS). NRCS awarded a grant to the South Umpqua Rural Community Partnership in 2015 for a project called *On-Farm Production and Use of Biochar for Composting with Manure*. CIGs are competitive grants that drive public and private sector innovation in resource conservation. CIG projects inspire creative problem-solving that boosts production on farms, ranches and private forests - ultimately, they improve water quality, soil health and wildlife habitat. NRCS Oregon invests in state-level CIG projects every year.

“CIG is like a down payment on future planning and implementation,” said Jay Gibbs, acting state conservationist for NRCS Oregon. “Projects need to have a line of sight to the landowner, with the goal of making innovative approaches accessible on a larger scale through other NRCS cost-share programs.”

Kelpie Wilson, a consultant with

(See Oregon, page 14)

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## Biochar

### Oregon

From page 1

Wilson Biochar Associates, spearheaded the CIG project and worked with a dozen farmers in Douglas, Josephine and Jackson counties. The project also engaged multiple volunteers, students and partner agencies, including researchers from the USDA Agricultural Research Service (ARS).

“The primary goal of our CIG was to transform two types of farm waste - animal manure and woody debris - into a high-quality compost that will improve farm soils,” Wilson said. “Healthier farm soils high in organic matter will also improve pasture and crop production.”

Forest land in Southern Oregon requires routine thinning and slash treatments to reduce the risk of catastrophic wildfire, and to remove weeds and invasive vegetation that can impact pasturelands. Thinning forests reduces the amount of vegetative “fuel” that can cause a wildfire to burn hotter and rise higher into the canopy to cause catastrophic damage. Having adequate spacing in between trees with less ground fuels significantly reduces the risk of a catastrophic wildfire. It also improves the health and vigor of the trees because they no longer compete as much with neighboring trees for water and sunlight.

After a thinning project, landowners typically pile the woody debris that isn't suitable for commercial timber production and burn it down to ashes in the open air. This practice is common, but it generates considerable smoke pollution.

This woody debris in rural Oregon is considered “stranded biomass” – meaning it's not economical to transport small amounts of material from remote landscapes to a central industrial-sized bioenergy or composting facility.

This CIG project offered farmers and forest owners a practical, affordable solution to reuse waste by burning it to create biochar directly on the farm, using a variety of small-scale kilns. The biochar can then be applied on the farm to

improve soil health.

Animal manure is also a source of on-farm waste that can be challenging to manage, especially when trying to reduce odors. The CIG also experimented with mixing biochar with animal manure to help control nutrient loss through better manure management. The most efficient process they discovered was to use biochar directly in the barn, where it can capture nitrogen from urine and manure as it is generated—a huge help for odor control.

The project also applied different mixes of composted manure mixed with biochar to use as a fertilizer for pastures. Local partners are optimistic that lessons learned from the manure trials can also help farmers improve odor controls and improve soil health.

The project designed and fabricated a variety of kilns used to burn biomass to create biochar. The key to burning is that the flame is on the top of the kiln—which burns particulates in smoke and limits oxygen flow to the char layers below the flame, preventing the char from burning all the way to ash.

Participating landowners designed their own kilns to suit the size of the biomass and the conditions on the farm. Even the local community college got involved. Students in the welding program at Umpqua Community College fabricated kilns for the project.

Participating farmers and forest owners performed field trials using various kiln designs and burning different sizes and types of biomass. They fine-tuned the designs along the way, resulting in several kiln designs that can easily be replicated and fabricated for wide spread use.

Perhaps one of the most valuable takeaways from the CIG project is the development of a new enhancement for the Conservation Stewardship Program (CSP), which allows participants to convert their woody debris into biochar. CSP is the largest voluntary conservation program by acreage in the U.S.

Forest owner Ken Carloni of the non-profit group, Yew Creek Land Alliance, is the first landowner in Oregon to use the new biochar enhancement through

his CSP contract.

The primary objective of Carloni's CSP contract is to thin overcrowded conifer stands on his forest lands to restore oak habitat. Removing excess conifer opens up the canopy for oak trees so they no longer compete with conifers for water and sunlight.

Oak restoration is a goal in this part of Oregon because of its unique habitat value for wildlife. In fact, most of Western Oregon was dominated by oak landscapes before modern day human settlement. Preserving this important part of Oregon's natural history and ecology is a priority for conservationists, Native American tribes and state and local natural resource agencies.

Instead of doing a traditional open pile burn with the woody debris, which generates a lot of smoke, Carloni cleanly burns the material in a kiln that he designed himself, creating biochar.

“The cool thing about this is nobody thinks it's a bad idea—everybody hates to see waste,” Carloni said.

He was most interested in producing biochar because of the implications surrounding climate change.

“That carbon is stored forever in biochar,” Ken said. “And we are improving soil productivity and increasing tree growth.”

For a deeper dive into the science of biochar and the on-farm applications explored through this CIG project, check out these online resources at <http://bit.ly/NRCSbiochar>

The author is a public affairs specialist with the Oregon Natural Resource Conservation Service.

## Organic farming

### Ohio

From page 1

- Manure incorporation;
- Conservation crop rotation;
- Cover crops;
- Drainage water management;
- Two-stage ditch construction;
- Edge-of-field buffers;
- Wetlands

DeWine said the H2Ohio plan will invest substantially to help farmers

reduce phosphorus runoff from commercial fertilizer and manure to prevent harmful algal blooms.

OEFFA, however, said the best practices list misses a critical approach to farming that can reduce phosphorus runoff.

“Organic farming should be at the top of this list,” said OEFFA Executive Director Carol Goland. “Synthetic phosphorus is not used in organic agriculture. What could be more effective than that?”

OEFFA said the National Organic Program (NOP) standards include some of the best practices identified in the DeWine H2Ohio plan, including incorporation of manure, crop rotations and use of cover crops. A voluntary certification program, the NOP is administered by the U.S. Department of Agriculture (USDA), which accredits certification agencies to verify that operations comply with the national standards.

In addition to the environmental benefits, organic farming offers economic opportunities to farmers, OEFFA said. “The prices paid for organic corn and soybeans are typically double or triple that of the non-organic versions of these commodities, with modest or no increase in production cost.

“The market is providing a strong incentive for farmers to transition their acreage to certified organic production,” Goland said. “Little wonder that in just a few years’ time, Ohio has gone from eighth to sixth in the nation in the number of organic farms.”

Ohio is currently second only to California in the number of acres being transitioned from conventional to organic production. Despite this trend, less than 1 percent of Ohio’s farms are organic.

“We look forward to the governor’s leadership in helping farmers transition to organic management practices so that all citizens of our state can reap the benefits of organic agriculture and its positive impacts on water quality,” Goland said.



**Food waste**

## Diners’ food waste is key to diversion efforts

**L**ess than 15 percent of restaurant food waste is collected for composting, and those efforts are primarily focused on kitchen waste, according to a new study about restaurant waste by Eco-Cycle, of Boulder Colo. On average, however, diners leave 17 percent of their meals uneaten, leaving an untapped potential for more food waste recovery, according to the report,

The study suggests that restaurants can play a crucial role in diverting tons more food waste away from the nation’s landfills. One way to accomplish it is by offering durable or compostable plates, cups and utensils, which the study says makes it easier for customers to compost their food scraps and sort their waste into the right bins. The study details the growing problem of food waste in America and identifies ways that restaurants can be part of the solution.

“Restaurants play a critical role in reducing and recovering food scraps, and composting is one of the fastest, most cost-effective solutions for reducing carbon pollution and reducing waste,” said Kate Bailey, policy and research director for Eco-Cycle and one of the study’s authors.

The study notes that restaurants are recovering some food waste — but far too much is still thrown out.

“Less than 15 percent of restaurant

food waste is collected for composting, and these efforts have primarily focused on collecting food scraps from the kitchen,” the study said. “However, on average, diners leave 17% of their meal uneaten, and more than half of these potential leftovers are not taken home. This means there is a large, untapped potential to recover food waste generated by diners through front-of-house composting programs that collect food scraps from customers.”

The study discovered that in order for composting to work well, one of the keys to success is for restaurants to simplify their service ware by using durable plates, glasses and utensils, or using all compostable service ware. Nationwide 85 percent of customers say they are willing to sort their waste after eating out if bins are provided, according to the study.

However, Eco-Cycle said, in order for recycling and composting to succeed,

*(See Diners, page 18)*

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Rotochopper

### Rotochopper hosts ninth annual Demo Day

Rotochopper hosted customers and prospects from around the world at its ninth annual Demo Day event. The event was organized around the theme *Partnership Through Innovation*, which is a key value of the work that Rotochopper does every day, the company said.

“I just love how much effort is put in across the board from everyone at Rotochopper,” said Shawn Matthuis, owner of 815 Mulch It, of Mokena, Ill. “It is a great event and I absolutely love coming.”

The day began with tours of the state-of-the-art manufacturing facility, providing attendees with the opportunity to see the process behind the manufacturing of Rotochopper grinders, from cutting to final inspection and testing. The facility tours provided guests the opportunity to meet the on-site teams who design, build and support their Rotochopper equipment.

Tosh Brinkerhoff, Rotochopper president and CEO, announced a new partnership between Rotochopper and Lindner Recycling to sell and service low speed, high torque shredders.

Equipment demonstrations kicked off with the entrance of the B-66 L-Series track and dolly grinder, showing the versatility and ease of the Rotochopper Gen II Track & Dolly system. Once

tracked to the demo location, the B-66 L-Series grinder worked through green waste, logs, cutoffs and brush with ease. The FP-66 B-Series grinder, enhanced with new featured and design updates, showed off its place as the grinder for those that need a full-feature grinder for high volume, mid-horsepower applications.

The afternoon was filled with additional demos, showcasing a variety of use cases and applications of Rotochopper equipment. Additionally, attendees had the opportunity to attend educational sessions about RotoLink, a remote monitoring system that brings technology and predictive maintenance to Rotochopper’s grinders, improving performance and reducing downtime.

The 75DK shredder from Lindner and the MC-266 horizontal grinder took the stage mid-afternoon, providing attendees with a view of turning stumps and mixed C&D into coarse fiber. The day ended with a head to head grind off between the B-66L and FP-66, each showing their grinding and production capabilities.



Brown Bear R31 aerator

### Brown Bear posts video about R31 compost turner

Brown Bear Corp. has published a an updated video about its R31 skid steer attached yard waste aerator. You can view the view at [compostingnews.com](http://compostingnews.com) or scan this code with your mobile device.



CBI 6400CT

### CBI debuts 6400CT horizontal grinder

Continental Biomass Industries (CBI) premiered its 6400CT horizontal grinder and chipper last month at its 2019 Factory Forum in Newton, N.H. The 6400CT processed steel contaminated railroad ties along with a mix of construction and demolition debris to headline the range of environmental equipment at the show.

“The 6400CT’s cassette-style rotor is a great example of CBI’s customer-driven product development,” said George Wilcox, director of sales and marketing at CBI & Ecotec – Americas. “This is an excellent machine for customers who demand productivity, reliability, and versatility without compromise.”

The CBI Magnum Force 6400CT horizontal grinder is an extreme-duty machine engineered for resilience and high production when grinding contaminated demolition debris, railroad ties, whole trees, pallets, storm debris, shingles, logs, mulch, slash and stumps, CBI said. The revolutionary new “cassette style” clam shell design allows end-users to completely swap out rotors faster than any other grinder in its class. Operators can go from grinding to chipping in half the time as before and accept jobs with various material demands. Four interchangeable rotors give this horizontal grinder the versatility needed to stay on top of changing markets.

The Factory Forum concluded with CBI’s annual Golden Grizzlies awards dinner. Frontline Machinery, Chilliwack, B.C., was named CBI’s 2019 Dealer of the Year and Columbus Equipment Co.,

Columbus, Ohio, was named the Terex Ecotec North American Dealer of the Year.

“Frontline Machinery and Columbus Equipment are exactly who you want representing your products in a territory,” said Wilcox. “Their world-class customer support for sales, service, and parts continues to set them apart as two of North America’s leading industrial heavy equipment dealerships.”



Peterson 5710D horizontal grinder

### Peterson publishes video on 5710D horizontal grinder

Green waste in a lush environment such as Oahu can be a major issue, and it is critical that this is diverted from precious landfill space. In this operation, ~120 loads of municipally sourced green waste are collected every day and are then processed through a Peterson 5710D horizontal grinder.

This material is turned into compost where it is used by the local farming and landscape businesses on the island, increasing the life of the local landfills, and replenishing the soil.

View the video at [compostingnews.com](http://compostingnews.com) or scan this code with your mobile device.



### Vermeer’s Andringa inducted to AEM Hall of Fame

The Association of Equipment Manufacturers (AEM) has inducted Mary Andringa, chair of Vermeer Corp., into the AEM Hall of Fame. The Hall of Fame recognizes individuals whose innovations, ideas and leadership have advanced the off-road equipment

manufacturing industry and contributed to its success in the past and into tomorrow.

“We are very pleased to announce and congratulate Mary Andringa as the latest Andringa “joins an elite group of respected industry leaders whose work and accomplishments inspire the next generation to continue our industry’s legacy of progress enhancing productivity, sustainability and economic and social prosperity,” said Dennis Slater, AEM president.

AEM said:

- Andringa’s commitment and relentless leadership positioned Vermeer Corp. as a strong voice in the industry – for lean manufacturing, for the education of our future workforce, for the legislation of policies having a positive impact on manufacturing, for family-owned and -operated companies and for taking care of the people of Vermeer.

- Andringa’s own investment into lean manufacturing led to organization-wide change for continuous improvement and growth. An example of success: Vermeer’s 12-inch in-feed brush chipper went from raw steel to finished product in two days, rather than 52.

- Starting her career teaching elementary students, Andringa has a passion for education and continuous learning that’s continued throughout her time at Vermeer. This passion prompted Vermeer to expand its education initiatives at all levels – early childhood education with an onsite early learning center, college-age students with an international leadership program and onsite facility at Iowa State University, as well as adults with preparation for retirement.

- Andringa actively communicates and collaborates with legislators on issues that matter to advanced manufacturing, exporters and small- to medium- sized businesses. She served on the President’s Export Council and Ex-Im Bank Advisory Committee, chaired the National Association of Manufacturers (NAM) and was co-chair of the Iowa Governor’s STEM Advisory Council.

- Continuing the legacy her father left, Andringa helped define and promote the

Vermeer 4P Philosophy (principles, people, product and profit), with people being our most important asset. Vermeer initiatives include an onsite primary care clinic and pharmacy for employees and their families.



Andringa

- Andringa is now chair of the board at Vermeer after filling roles as CEO, co-CEO, president and COO. Her level of passion and commitment have made her a voice of change and innovation not only at Vermeer, but in the industry and community.

More than 60 industry leaders have been inducted into the AEM Hall of Fame since its inception in 1993. Nominations for the AEM Hall of Fame are open year-round. An independent panel of industry experts evaluates potential inductees, and honorees are publicly announced and celebrated during special ceremonies at AEM’s annual conference of member companies.

AEM is the North American-based international trade group providing innovative business development resources to advance the off-road equipment manufacturing industry in the global marketplace. AEM membership comprises more than 1,000 companies and more than 200 product lines in the agriculture and construction-related sectors worldwide.

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## Food waste

### Restaurants

From page 15

the sorting has to be done properly.

For the study, waste audits were conducted at 18 businesses across five types of foodservice establishments - corporate cafeterias, grocery store delis, quick service restaurants, coffee shops and full service restaurants. Improvements were then made to the collection bins and signage at 10 of the 18 locations and a second round of waste audits was conducted to observe any improvements in diversion and contamination (no changes were made at full service restaurants and some restaurants were unable to make changes during the project timeline)

Observations in the study found consumers struggled considerably with how to sort materials when there were several different types of food service ware. By contrast, those restaurants that used one primary type of service ware — either durable, reusable plates and utensils or a fully compostable system — had higher rates of success. The result: more of what composters love (food scraps) and less of what composters hate (materials like non-compostable plastic that contaminates the compost).

The quick service restaurants with all compostable food service ware performed well — meaning they captured most of their food scraps with very little contamination — as did the quick service restaurants using all durable food service ware, suggesting both of these approaches can be used successfully to capture food scraps for composting, the study found.

“This report is first of its kind to demonstrate this can be done well and is worth doing,” Bailey said. “Food establishments are capable of very high diversion rates, making them a key partner in moving toward Zero Waste, reducing our carbon emissions and building healthy soils through composting.”

The study, written by Bailey and Dale Ekart of Eco-Cycle, was supported by a

grant from Eco-Products.

Eco-Cycle is a non-profit recycler with a mission to identify, explore and demonstrate the emerging frontiers of sustainable resource management through the concepts and practices of Zero Waste.



• **Philadelphians** dump 400,000 tons of food and yard scraps into the landfill every year. A city community composting pilot is working to put that waste to good use. Eleven community gardens, urban farms and schools across the city are the pioneers of Philadelphia’s pilot Community Composting Network which will help their neighborhoods turn organic waste into nutrient-rich plant food.

Funded by grants from Comcast and the Pennsylvania Department of Agriculture, the program is headed up by the city’s Office of Sustainability and Department of Parks and Recreation. It provides a 12x4x4-foot, three-compartment compost bin, training and ongoing support for each site as it gets set up. Neighbors bring their food and yard scraps to a nearby site and share the responsibility of turning the piles and maintaining the bin. The resulting fertilizer is available to all participants for use in garden beds, window boxes, potted plants at home, or even trees lining streets nearby.

The city’s review committee announced the pilot sites from 22 applications submitted over the summer. The first composters, like Greensgrow Farm, Brewerytown Garden and Urban Tree Connection, have well-established neighborhood networks.

At one time, Philadelphia had a robust curbside food waste operation where 30,000 tons per year of food waste was delivered to pig farmers in New Jersey. The program fizzled out as development in parts of South Jersey put many pig farmers out of business. - *The*

*Philadelphia*

*Citizen,*

*thephiladelphiacitizen.org*

• The cost of trash disposal and recycling is rising and the city of **Phoenix** is exploring options to reduce that cost for residents. Some of these options include ending the city’s recycling and composting programs.

The rate for residents has stayed the same for 10 years. That rate, \$26.80 per household, includes curbside trash and recycling collection, quarterly bulk trash pick up, and one free disposal at the transfer station every month. Now that the costs of these services are rising, the city is exploring options on trying to keep the cost down for residents.

Options include increasing the residential rate to \$33.20 per month for the same services, suspending the compost program by eliminating curbside green organics collection and ending operations for the compost facility for customers, which would result in a rate of \$32.45 per month, Adjust the collection of recycle containers to every other week, resulting in a charge of \$32.30 per month, and suspending the city’s recycling and compost program by eliminating curbside collections and ending operations of the compost facility for all customers, resulting in a monthly charge of \$31.55. - *KPHO/KTVK-TV, azfamily.com*

• In the next decade, **Minneapolis** wants its residents and businesses to recycle or compost 80 percent of its waste. That means getting people to send more food scraps, paper towels and other compostable waste into the organics bin, not the regular trash, according to the city.

Plans for the next three years include going through some garbage to see whether people are sorting it right.

Organic materials make up about 40 percent of the waste generated by the average Minnesotan. Next year, the Public Works Department will study whether it should add more organics drop-off sites across the city. - *Minneapolis Star Tribune, startribune.com*

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