

# Turning Trash to Treasure (#2): The New Circular Economy of Waste

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## Zero Waste is Zero Problem with Regreen Machines



*Processes all food waste and green waste.*

*5' by 6' footprint can handle up to 2 tons per hour.*

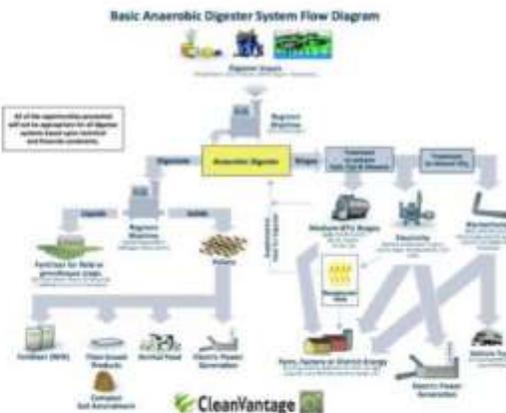
*Renders material odor and bacteria free in minutes.*

*Fertilizer, animal feed, or clean coal alternative.*

*Industrial units process all organic waste at rates of 5 to 42 tons per-hour.*



*Makes any Anaerobic Digester more Efficient*  
*Enriches Compost with Stable Nutrient-Rich Material*



Time is money. Our machines process 2 to over 42 tons per-hour, continuously, on a 17-minute cycle. Typical anaerobic digestion systems take 14 to 20 days!

As the saying goes: “One man’s trash is another man’s treasure”. In our last [post](#), we started to explore how a new economy is forming around the things we throw away. We looked at how emerging “smart” waste technologies can quickly transform organic waste into compost, creating savings for waste producers while forming a loop that takes **food from farm to fork and back to farm again**.

Compost isn’t the only recycled waste product that completes the food loop. In this post, we’ll explore how animal feed created from food scraps and plant-based materials (biomass) offers another innovative and profitable solution to the problem of organic waste filling up our landfills.

### Turning Food Waste Into Animal Feed:

Feeding food scraps to animals isn’t a new practice. Food factories that produce anything from tomato sauce to oatmeal have long been involved in selling the byproducts of their operations to the livestock industry. In Nebraska feedlots, you can find cattle that are fed dehydrated bakery leftovers (yes, donuts).

For farmers, it makes a lot of economic sense to use the cast-off scraps of industrial food producers in place of corn and soybeans, particularly when prices for these commodities continue to rise as the drought affects their harvests. And food producers benefit from this relationship by profiting on the food waste

they would otherwise have to pay trash haulers to take away.

So what's been stopping local food businesses (i.e. restaurants) and municipal waste haulers from entering this market? One word: regulations. Agencies like the Food and Drug Administration (FDA) and the Department of Agriculture require all animal feed be inspected to meet strict safety regulations. In addition, a number of states possess laws that require food waste to be cooked before it's given to animals. And for good reason. Uncooked food waste can be contaminated with dangerous bacteria and viruses.

This is where technological innovations in the waste recycling industry can have a huge impact. They can break down the barriers that send municipal food waste to landfills instead of allowing it be safely processed for feed. **At Regreen, we've developed a machine that permanently kills all bacteria capable of harming animals and creates an odorless, nutrient-rich pellet feed.** Existing processes attempt to kill bacteria by using direct heat to cook food waste, but this only disables microbes temporarily OR costs too much for extended pasteurization. Without quick and repeated exposure to hot and cold temperatures, bacteria will develop a protective membrane that shields them from these conditions. The Regreen Organic Waste Recycling Processor kills bacteria once and for all using steam as an indirect heat source to shock **bacteria several times with super-heated steam,** leaving food bacteria-free and nutrient-complete within 5 minutes. **This is how you turn waste into a circular commodity: by retaining the value of what was once thrown away and closing the food loop once and for all.**

### Turning Green Waste Into Animal Feed:

In addition to food waste, green waste from landscaping and agricultural operations has enormous potential to be converted into animal feed and bedding. In the last few years, Malaysia has explored the creation of animal feed from oil palm fronds,

which amass as a result of fruit harvesting and pruning activities in the country's many oil palm plantations. Of the more than 164 million tons of oil palm fronds produced every year in the world according the Food and Agriculture Organization of the United Nations (2011 report), 36 million tons are produced in Malaysia! Shredded and pelletized oil palm fronds have provided farmers in this country with a low cost, nutrient-rich and readily-available alternative to grass for feeding their herbivore livestock. Since discarded oil palm fronds used to be burned, using this biomass has not only promoted the growth of the country's livestock industry but also aided in cleaning the environment.

In California, palm fronds and other landscaping debris gets sent to landfills, where they contribute to greenhouse gas emissions. Processing this green waste for use in animal diets instead of throwing it away could reduce feeding costs and move the livestock industry's dependence away from corn and soy. In the U.S., approximately 88% of corn production is used for animal feed! More than price fluctuations, the environmental cost of corn is high. Growing it speeds up soil erosion and requires chemical inputs of fertilizers, herbicides and pesticides that pollute ground water.

Regreen Processors allow **construction waste** to be mixed with green waste in order to produce nutritious animal feed. This is similar to farmers using corn plants and mixing them with lime, soybean, and bonemeal to create organic pig feed. The number of recipes is endless.

Up until now, **shredding through tough, fibrous biomass like palm fronds and corn cobs has been a major challenge** for those interested in recycling green waste for animal feed and other products. Blades wear down quickly (sometimes after only a few weeks) and are expensive to replace. **Regreen shredders are designed to solve this problem. With blades that are an inch thick, they easily tear through**

**the toughest materials without ever requiring replacement.**

**Conclusion:**

There is so much untapped potential to convert food and green waste into beneficial products for the livestock industry. As we become more and more savvy at finding ways to recycle the things we throw away, we will build new market segments that are both profitable and sustainable for all.

Tune in NEXT time to learn how food waste is fueling new developments in renewable energy.

References:

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- [www.fda.gov](http://www.fda.gov)

[Regreen manufactures various machines to convert waste (food, organic, medical, and dirty municipal waste) into dry odorless and germ-free products. This can be further pelletized for fuel, or used for animal feed, compost or fertilizer. These patented and patent-pending machines are available for purchase or lease. The manufacturer is willing to place machines and share the tipping fees and revenue from pellets etc. Please contact [Robin@Regreenus.com](mailto:Robin@Regreenus.com) for details]