Converting Food Waste into Organic Fertilizer

WISErg Corporation
15459 NE 95th St
Redmond, Washington 98052
WISErg’s mission is to rethink food waste, converting an urban resource into a nutrient dense fertilizer to grow nutrient rich foods.

- Generates a highly productive organic fertilizer from food waste
- Mitigates the food waste problem
- Reduce emissions relative to alternative options (50% CO$_2$, 100% CH$_4$ + N$_2$O)
- Expansive Market with increasing food safety concerns
FOOD WASTE

is the single largest contributor of solid waste in the nation’s landfills.

National Resources Defense Council

23% of landfills are food scraps

-EPA
WISErg Turns Food Waste into a Valuable Resource

WISErg Organic Fertilizers for Agriculture

WISErg HUB™ Regional Bio-Refinery

WISErg Harvester™

Industrial pre-processed food streams

Food Waste from Grocery Stores, Restaurants, Corporate Cafeterias, Schools
WISErg Captures the Best Use of Energy in Food Waste

**WISErg:**
Uses microbes to process food while it is still fresh, maintaining nutritional value, generating a nutrient dense fertilizer to build up healthy soils which grow nutrient rich food

**Other Methods:**
- Composting breaks down nutrients into fiber and greenhouse gases
- Anaerobic digestion burns nutrients up
**WISErg delivers:**

- 50% reduction in CO₂ compared to current disposal methods
- 100% CH₄ + N₂O reduction
- WISErganic fertilizer is 3x more productive than compost

### Calories (Energy) Per Pound

<table>
<thead>
<tr>
<th>Method</th>
<th>Energy</th>
<th>CO₂ + CH₄ + N₂O</th>
<th>CO₂</th>
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<tbody>
<tr>
<td>Anaerobic Digestion</td>
<td>Energy</td>
<td></td>
<td></td>
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<tr>
<td>Compost</td>
<td>Energy</td>
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<tr>
<td>WISErganic Fertilizer</td>
<td>Energy</td>
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<tr>
<td>Pound of Food</td>
<td>Energy</td>
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Restating the Problem: Turning Food Waste into a Resource

133 Billion Pounds of food wasted in the U.S. in 2014.

WisErg current raw material supply opportunity

Source: Popular Science, Aug 2014
Additionally, Food Production Must Improve, Inputs Needed!

Future of Food Need

- Food production must double by 2050 to account for the additional 2 billion in population growth
- The increase in middle class population increases further demand on food production

Future of Current Food Production

- Crops yield growth is unsustainable with current farming practices, USDA anticipating crop yields falling in some states by up to 15%
- Our current agricultural soils are depleted of nutrients yet soil health is critical to increase food production

WISErg Fertilizer Solution to Address Food Production Gap

- WISErg’s nutrients dense fertilizer regenerates depleted soils, generating healthy soil necessary to grow healthy food
The Harvester Solution

WISErg’s Harvester
• Converts food waste into a nutrient stable liquid processed at WISErg’s Bio-Refinery

Customer Gains
• Data to prevent waste
• Elimination of odor and pests
• Certainty of regulatory compliance

Finances
• Equipment provided free
• Monthly subscription lower then existing disposal rates
Our secret: Feed the soil, the soil feeds the plant

- Consistent increases in yield greater than 12%
- Enables hydroponics growing of organic crops
- Unrestricted application during growing cycle
- Replenish soil nutrients, recharging soil health
- Application via irrigation lowers labor costs, no clogging of lines
- Introducing additional fertilizer products in 2016, extending to conventional growers
  - High carbon for specific soil types
  - Micronutrients dense for soil health
  - Finely filtered for specialty hydroponics
  - pH adjusted for specific water types
Visible Impact on Crop Yield
Example: Potatoes

42% increase in total yield
65% increase in 6-10 oz tuber size
116% increase in >10 oz tuber size

Ideal size for french fries!!
Grower Results and Testimonials

“These are the sweetest tomatoes our customer have ever eaten. There’s no doubt it is the nutrients!” — Big Willy’s Farm Market Manager (former chef)

Organic Corn
Grower 1 – “35 acre pivot, most weed free organic pivot this year yielded 11.27 ton/acre, phenomenal!”
Grower 2 – “A big win (10+ ton/acre) PLUS...3” of additional plant height and leaf length in first 10 days”

Organic Russet Potatoes
13.6% increase in Yield
• 500 sacks harvested per acre WISErg Fertilizer
• 440 sacks under competitive fertilizer (fish base)

Organic Sweet Peas
Outcome- 14% yield increase relative to check field
WISErg Progress to Date

2010-2014

• Developed Harvester technology, microbiology, reduced COGS
• All necessary state and national certifications by WSDA, CDFA, and OMRI
• University testing and first agricultural trials with private growers

2015-2016

• Harvesters installed at grocers, schools, and businesses in PNW
• 45 grower trials in progress; 40+ additional scheduled for Q1 of 2016
• New commercial facility (9,000 gallon daily capacity) online Q1 2016
• Fertilizer trails expanding into No Cal, So Cal, Arizona, N. Mexico, PNW
• Harvester and production capacity expanding toward California markets
Current Expansion Plans

Now through 2016

• Build out Bio-Refinery capacity in Redmond, WA
• Trials, trials, trials by leading growers 100+
• California/Northern Mexico sales expansion in advance of Harvesters and product capacity
• Grow production capacity with demand
• Regulatory changes create 2016 imperative to address food waste
• Scientific studies to back results
• Adding resources to coordinate expansion of harvesters, production, and increase of demand
Questions?
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