



**MicrobeBio<sup>®</sup>**

**3 TON / HOUR**  
*ORGANIC WASTE PROCESSING SYSTEM*

**TURNING ORGANIC WASTE INTO ORGANIC BIOFERTILIZER**

# INTRODUCTION

*Landfilling produces greenhouse gas emissions and creates potentially deadly health risks to groundwater and surrounding environments.*

**MICROBEBIO** started this project with a simple goal - eliminates the need for trash incineration and landfilling by turning organic waste into organic bio-fertilizer

- **ENVIRONMENTAL PROTECTION** – The system is able to eliminate all harmful bacteria and viruses in minutes, through a zero-emission process. Our unique ability to control moisture enables processed material to burn 300% more efficiently than waste-to-incineration systems, thus producing none of the harmful toxins associated with incineration
- **QUALITY OF FINISHED PRODUCTS** – Organic waste (food waste, green waste and crop residue) can be quickly processed into soil amendments, eliminating the time and space required by composting. This system produces an odor free product, while extracting and purifying liquids for irrigation. Thus it also eliminates the odors and water use inherent to composting.

*Waste to  
organic  
fertilizer*

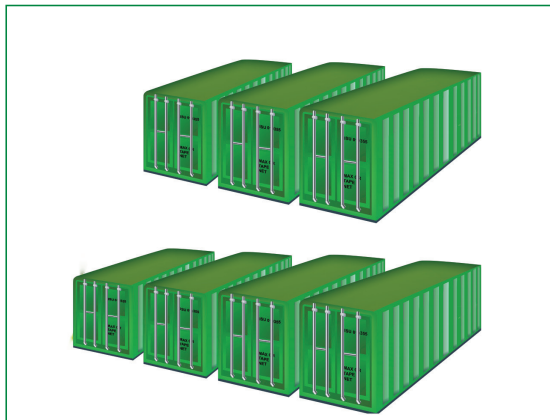
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*Eliminating a  
global waste  
problem*

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*Lowering  
Carbon CO<sub>2</sub>  
Footprint  
Globally*

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**Garbage = Fertilizer**

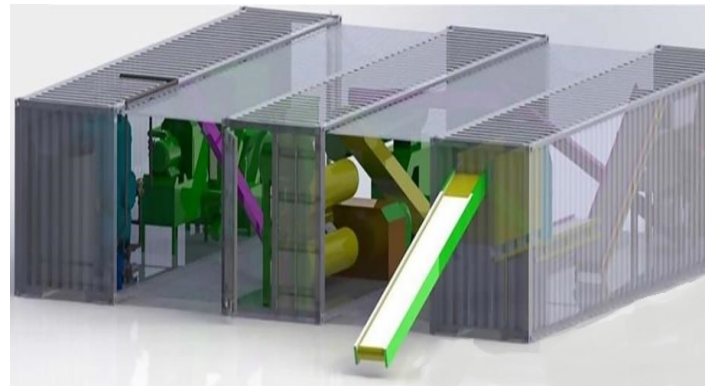
# TURNING WASTE INTO TREASURES



**Organic Waste**



**ORGANIC WASTE PROCESSING SYSTEM**



**Organic Bio-Fertilizer**

**Synthetic fertilizers** are fertilizers made from inorganic elements that promote plant growth. They consist of chemical nutrients extracted artificially. Synthetic fertilizers are constant in composition and work faster than organic fertilizers because they dissolve in water almost instantly. However, their effects only last for a short time. Therefore, they are unable to provide plants with the necessary nutrients gradually as plant needed. In addition, no organic matter is added to the soil, so soil life is not enriched or stimulated. Synthetic fertilizers also has salty compounds that tend to remove moisture from the soil.

**Organic fertilizers** are contains 100% natural ingredients derived from animal or vegetable materials. They plays an important role in making farming more sustainable. Organic fertilizers deliver several benefits that outweigh synthetic fertilizers:

**Organic bio-fertilizers feed plants gradually.** For organic fertilizers to work, the soil must first break it down. That allows both the soil and the plants in it get the nutrients they need when they need it. Although fast in delivery, synthetic fertilizers often feed crops only, not the soil, and might even burn the crops if overfed.

**Organic bio-fertilizers regenerate the soil.** Organic fertilizer not only assist your plants, they also nourish your soil. Organic materials and fertilizers enhance soil fertility, increase organic contents, improve water-holding ability, and create an airy soil structure that promote effective nutrients delivery. Synthetic fertilizers, on the other hand, deplete the soil of its nutrients, making it unproductive.

**Organic bio-fertilizer stimulate biological lives in the soil.** Beneficial soil microbes play a key role in converting organic fertilizers into soluble nutrients that are ready for plant to uptake. Also, organic fertilizer are able to deliver the secondary and micronutrients plants need, usually absent in synthetic fertilizers.

**Organic bio-fertilizers are safe.** You can rest assured that the organic fertilizer is safe for the environment, your family and your pets. Synthetic fertilizers require a large amount of fossil fuels to manufacture, and are runoff into nearby waterway.

**Organic bio-fertilizers are easy to use.** Organic products are easy to use as are their synthetic and inorganic analogues. By adding them to the soil or spraying them on the leaves - no matter how you use them - they add countless benefits to your crops while offering the same comfort and convenience as synthetic fertilizers.

**Organic bio-fertilizers naturally enhance crop health.** Organic fertilizers also focus on preventive crop protection by strengthen plant resistance to pests, diseases and unfavorable environmental conditions.

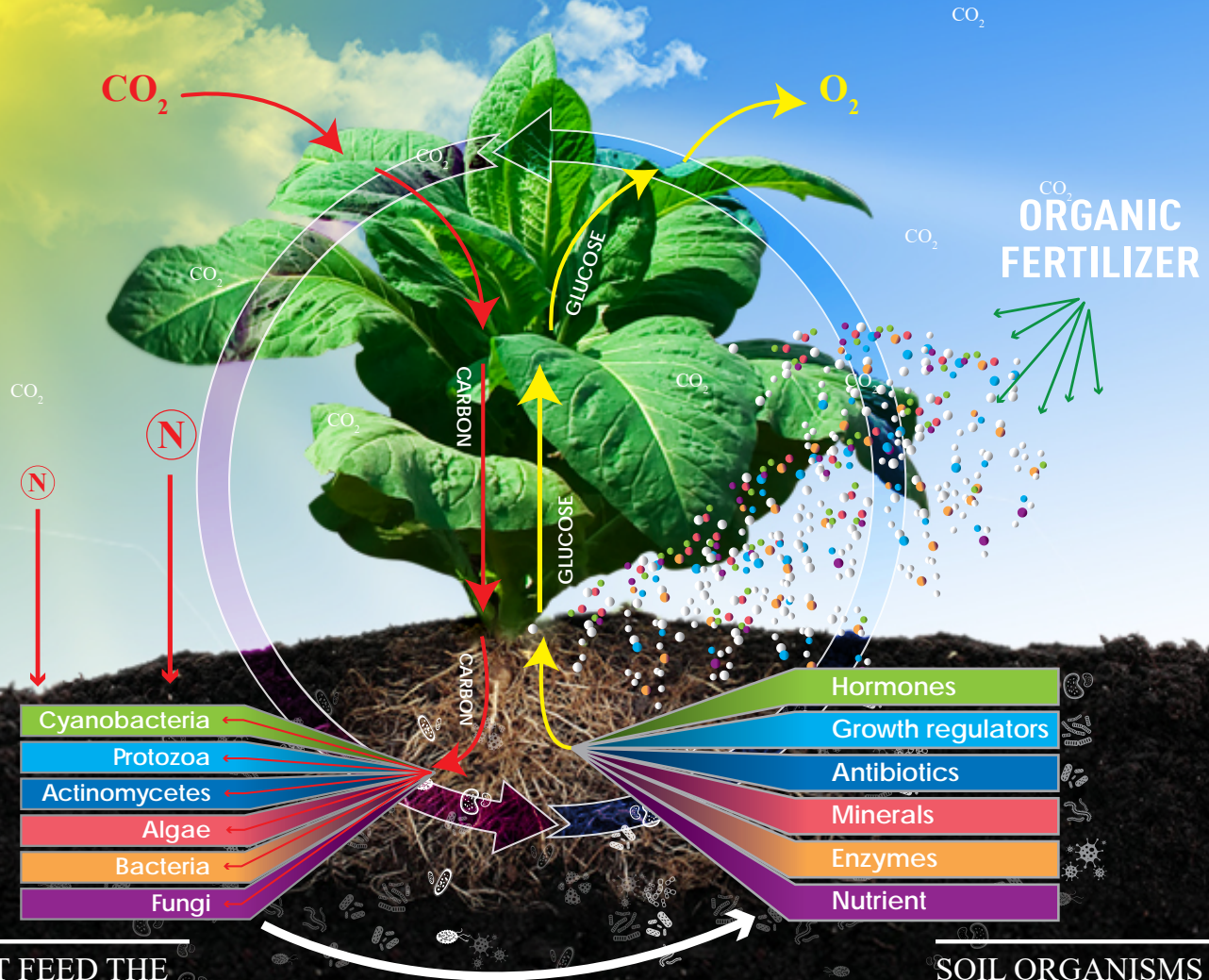
# ORGANIC FERTILIZER ↓ SUSTAINABLE AGRICULTURE

- INCREASE QUALITY AND YIELD
- ENHANCED RESISTANCE TO DISEASE, PEST AND STRESS
- MAXIMIZE PROFITS FOR THE FARMER
- REVITALIZE AIR, WATER AND SOIL
- ENVIRONMENTALLY FRIENDLY
- MINIMAL LOGISTIC COST
- DECREASED IRRIGATION
- EXTENDED SHELF LIFE
- HUMAN AND PET SAFE

**100%  
ORGANIC**



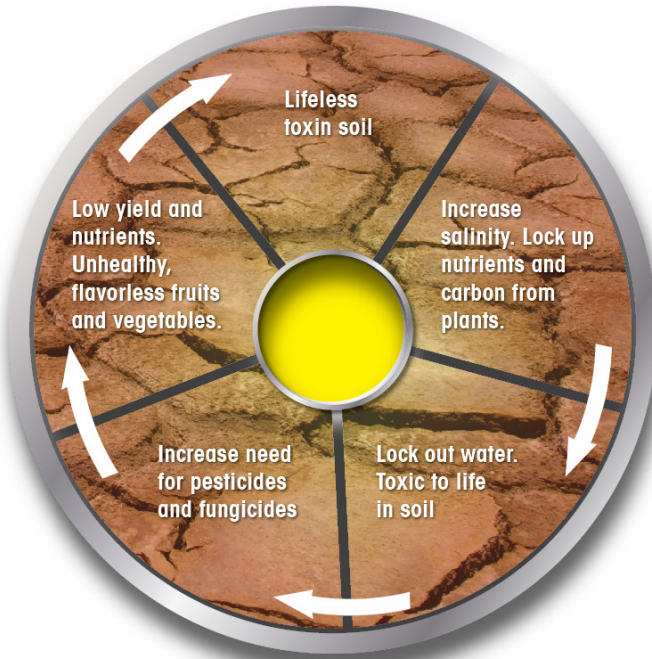
# Organic Bio-fertilizer Supports Plant Symbiotic Cycle



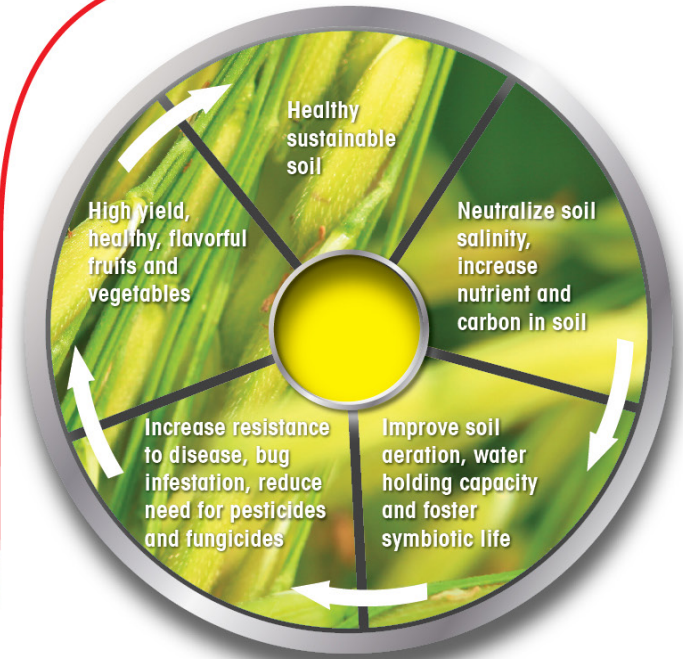
THE PLANT FEED THE  
SOIL ORGANISMS

SOIL ORGANISMS FEED  
THE PLANT

**USING**  
**ORGANIC**  
**FERTILIZER**



**USING**  
**CONVENTIONAL**  
**FERTILIZER**



# Bio-Fertilizer Pellets

from Organic Waste

**SUPER SIZE**



SMALL	LARGE	MEDIUM
		

# Lab Reports



4741 East Hunter Ave. Suite A  
 Anaheim, CA 92807  
 Main 714-282-8777 \* Fax 714-282-8575  
 www.waypointanalytical.com

## COMPOST / AMENDMENT EVALUATION

Send To : Residuals Recovery Group Inc/Ag Concepts 7325 Edison Ave Ontario CA 91762	Project : Job # : Dried Grocery	Report Number : 17-333-0009 Customer Number : 07327 Date printed : 12/06/2017 Date received : 11/29/2017 Page : 3 of 3 Lab Number : 93421
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Sample Id : **Compost**

### POTENTIAL RATE LIMIT FACTORS

Test	% Volume rate limit	Cubic yard amendment per 1000 sf to 6"							
		1	2	3	4	5	6	7	8
		Volume % amendment blend with sandy loam							
		5	11	16	22	27	32	38	43
EC sat. ext.	56 %								
Sodium sol.	72 %								
Chloride sol.	64 %								
Boron sol.	No Limit								
NH <sub>4</sub> -N	76 %								
Available Nitrogen	86 %								
PO <sub>4</sub> P	No Limit								
Copper	No Limit								
Zinc	No Limit								

Rate limit estimates based on amending a non-problematic sandy loam

### RELATIVE IMMEDIATE NUTRIENT AND ORGANIC VALUE

* Example Rate 16 %	Slight	Moderate	Abundant
Nitrogen			
Phosphorus			
Potassium			
Calcium			
Magnesium			
Copper			
Zinc			
Manganese			
Iron			
Sulfate			
Organic Matter			

\* If no chemical characteristics are rate limiting, the example rate is based on organic content of the amendment (up to a max of 43%).

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Sample Id : **Compost**

### NUTRIENT SUMMARY

Test	Amount Per Cubic Yard		Amount Per Ton, As Rec'd		Available as a % Of Total
	Total	Available	Total	Available	
Nitrogen	18.62 lbs	0.5 lbs	50.19 lbs	1.35 lbs	3
Phosphorus (P)	2.05 lbs	0.07 lbs	5.54 lbs	0.19 lbs	3
Phosphorus (P <sub>2</sub> O <sub>5</sub> )	4.7 lbs	0.16 lbs	12.68 lbs	0.43 lbs	3
Potassium (K)	6.22 lbs	4.13 lbs	16.76 lbs	11.14 lbs	66
Potassium (K <sub>2</sub> O)	7.52 lbs	5 lbs	20.28 lbs	13.48 lbs	66
Calcium	5.63 lbs	1.58 lbs	15.19 lbs	4.25 lbs	28
Magnesium	0.9 lbs	0.39 lbs	2.43 lbs	1.05 lbs	43
Sulfur	1.54 lbs	0.04 lbs	4.15 lbs	0.11 lbs	3
Copper	0.27 ozs	0.02 ozs	0.74 ozs	0.05 ozs	7
Zinc	0.57 ozs	0.11 ozs	1.54 ozs	0.29 ozs	19
Manganese	0.51 ozs	0.08 ozs	1.36 ozs	0.21 ozs	15
Iron	39.02 ozs	1 ozs	105.19 ozs	2.7 ozs	3
Boron	0.18 ozs	0.01 ozs	0.47 ozs	0.02 ozs	4
Organic Matter	627 lbs		1689 lbs		

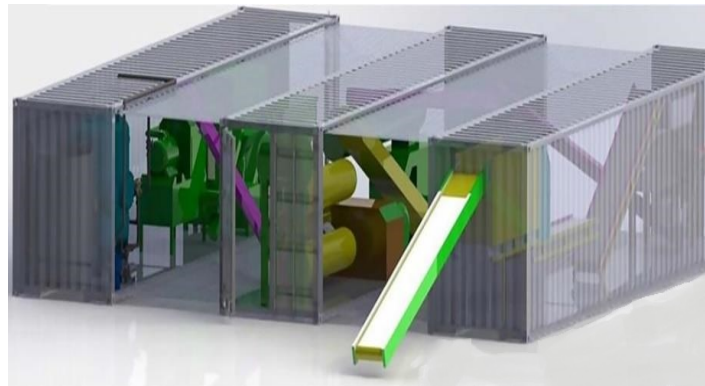
*The pellets can also be used as organic livestock feed*



**Organic Waste**



**ORGANIC WASTE PROCESSING SYSTEM**



**Organic Livestock Feed**

## Lab Reports

### Feed Analysis Report



920-261-0446  
office@rockriverlab.com  
www.rockriverlab.com

Representative:  
Jeremy

Resource Buyers 9271  
4274 S. K St.  
Tulare, CA 93274  
559.679.7586

1 Veggie & Meat

Dry Matter 95.34% Moisture 4.66%

Description (%DM unless specified)	Dry Matter Basis	Miscellaneous	
		60 dy Avg	4 yr Avg
Crude Protein	19.31		
ADF	28.43		
aNDF	35.64		
Calcium	1.30		
Phosphorus	0.48		
Magnesium	0.24		
Potassium	1.03		
Sulfur	0.27		
Ash	12.10		
Starch	7.33		
Calculations			
TDN (California, 90% DM Basis)	54.91		
TDN (ADF Calc)	66.67		
Net energy lactation (ADF Calc), Mcal/lb	0.694		
Net energy of gain (ADF Calc), Mcal/lb	0.462		
Net energy maint. (ADF Calc), Mcal/lb	0.736		
NFC	21.82		

For analysis guidelines, please visit <http://www.rockriverlab.com>

#### Comments

Minerals by ICP  
Analyzed by wet chemical methods.

# Lab Reports

## Feed Analysis Report



920-261-0446  
office@rockriverlab.com  
www.rockriverlab.com

Representative: Nathan DeBoom 2439  
Nathan deBoom PO Box 41346  
Pasadena, CA 91114  
951.542.1148

1 Dried Produce Waste  
N/A

Dry Matter 96.04%    Moisture 3.96%

Description (%DM unless specified)	Dry Matter Basis	Miscellaneous	
		60 dy Avg	4 yr Avg
Crude Protein	16.41		
Avail. Crude Protein	11.99		
ADICP	4.42		
NDICP	5.02		
ADICP %CP	26.93		
ADF	20.57		
aNDF	23.26		
Calcium	0.87		
Phosphorus	0.29		
Magnesium	0.10		
Potassium	0.80		
Sulfur	0.18		
Fat (EE)	15.45		
Ash	8.82		
Lignin	10.95		
Calculations			
TDN (California, 90% DM Basis)	60.23		
NFC	41.08		
NRC 2001 Energy calculations (Lignin)			
TDN 1X	79.22		
NEL 3x, Mcal/lb	0.824		
NEG, Mcal/lb	0.648		
NEM, Mcal/lb	0.951		

For analysis guidelines, please visit <http://www.rockriverlab.com>

Comments

Analyzed by wet chemical methods.

Minerals by ICP

## 3 Ton/Hour Organic Waste System - Containerized



*All 3 ton triple deck Organic Waste Systems are housed in four parallel transport ready containers 40' x 8' (12.2M x 2.4M).*

The Organic Waste System is a patented process using proprietary technology to turn organic waste material into organic fertilizer.

Recovery facilities normally have to remove recyclable materials from the sorting line and the remaining waste must be landfilled.

Not anymore, thanks to Microbebio and the Organic Waste System.

# 3 Ton/Hour Organic Waste System - Containerized

OPENED CONTAINER SHOWING THE 3 TON PER HOUR SYSTEM

## THE PROCESS

DUMPING  
CONVEYOR

BAG  
OPENER

SORTING  
LINES

MAIN  
SHREDDER

RADIANT HEAT  
PROCESSOR

PRESS

FILTRATION

MOISTURE  
EXTRACTOR

GRINDER

PELLETIZER



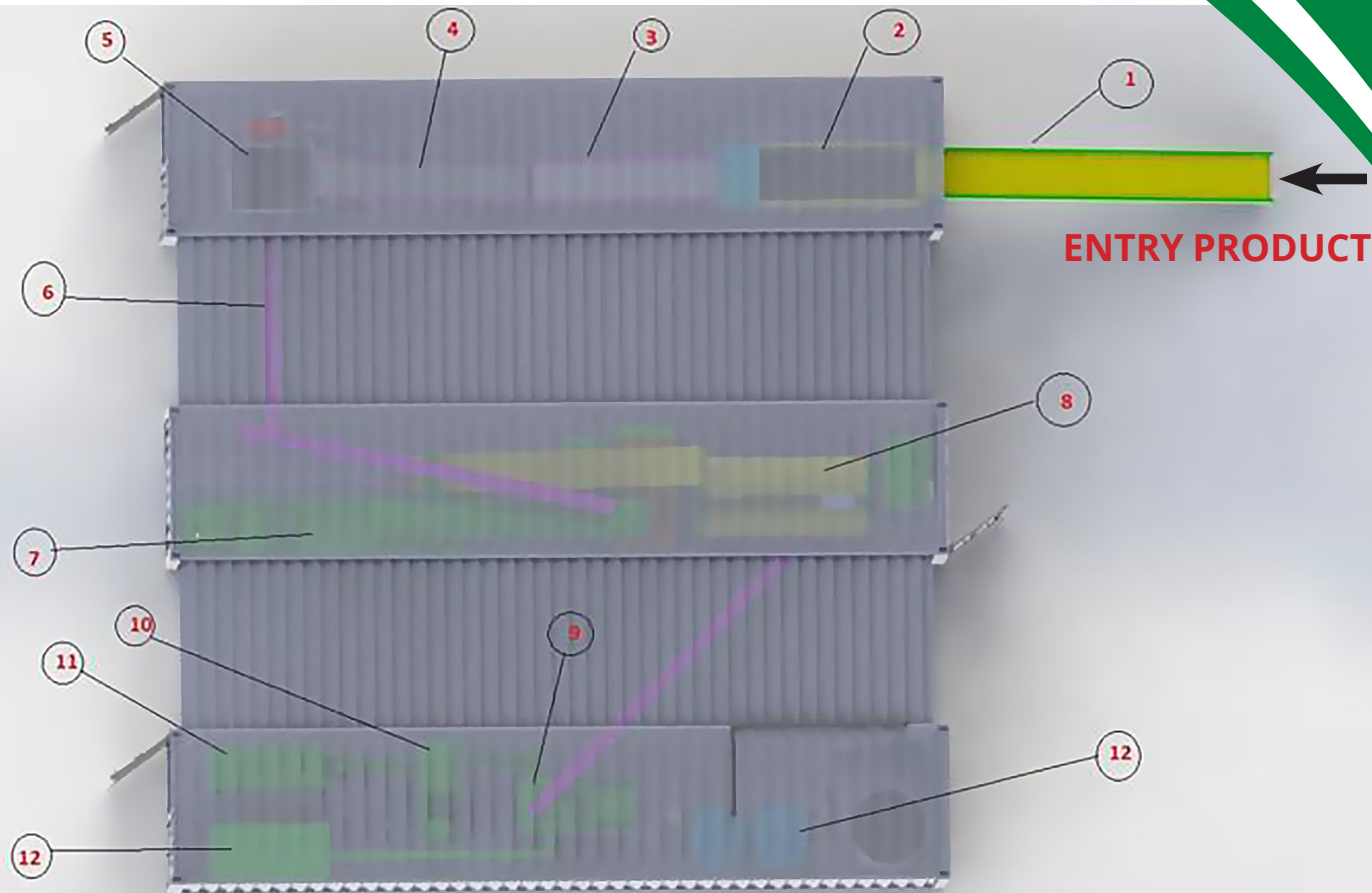
*This container houses the radiant heat processor which eliminates pathogens and eliminates odor. Next, the press will remove the liquid and transfer fluids to the filtration system.*

## 3 Ton/Hour Organic Waste System - Containerized



*Transferring the pellets*





1. Entry Belt Conveyor
2. Bag Opener - Bunker
3. Sorting Belt Conveyor
4. Shredder Feeder Belt Conveyour
5. Single Shaft Shredder
6. Transfer Screw Conveyor

7. Press System
8. Dryer System
9. Hammer Crusher
10. Pellet System
11. Trommel Screen
12. Dust Filter

