3 TON /HOUR
ORGANIC WASTE PROCESSING SYSTEM

TURNING ORGANIC WASTE INTO ORGANIC BIOFERTILIZER

Adopting New Technology to Meet Organic Waste Diversion

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

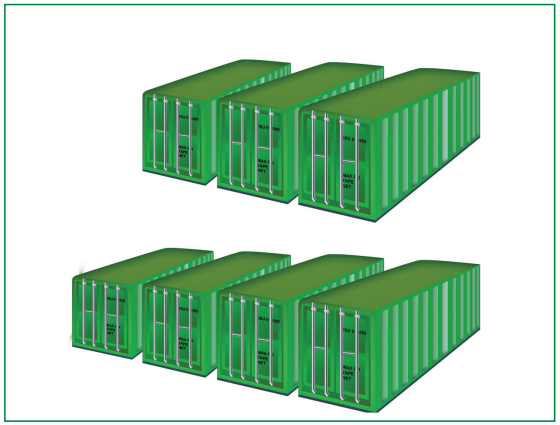
- **ENVIRONMENTAL PROTECTION –** The system is able to eliminate all harmful bacteria and viruses in minutes, through a zero-emission process. Our unique ability to control moisture enables processed material to burn 300% more efficiently that waste-to-incineration systems, thus producing none of the 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.

Recycling Organic Waste

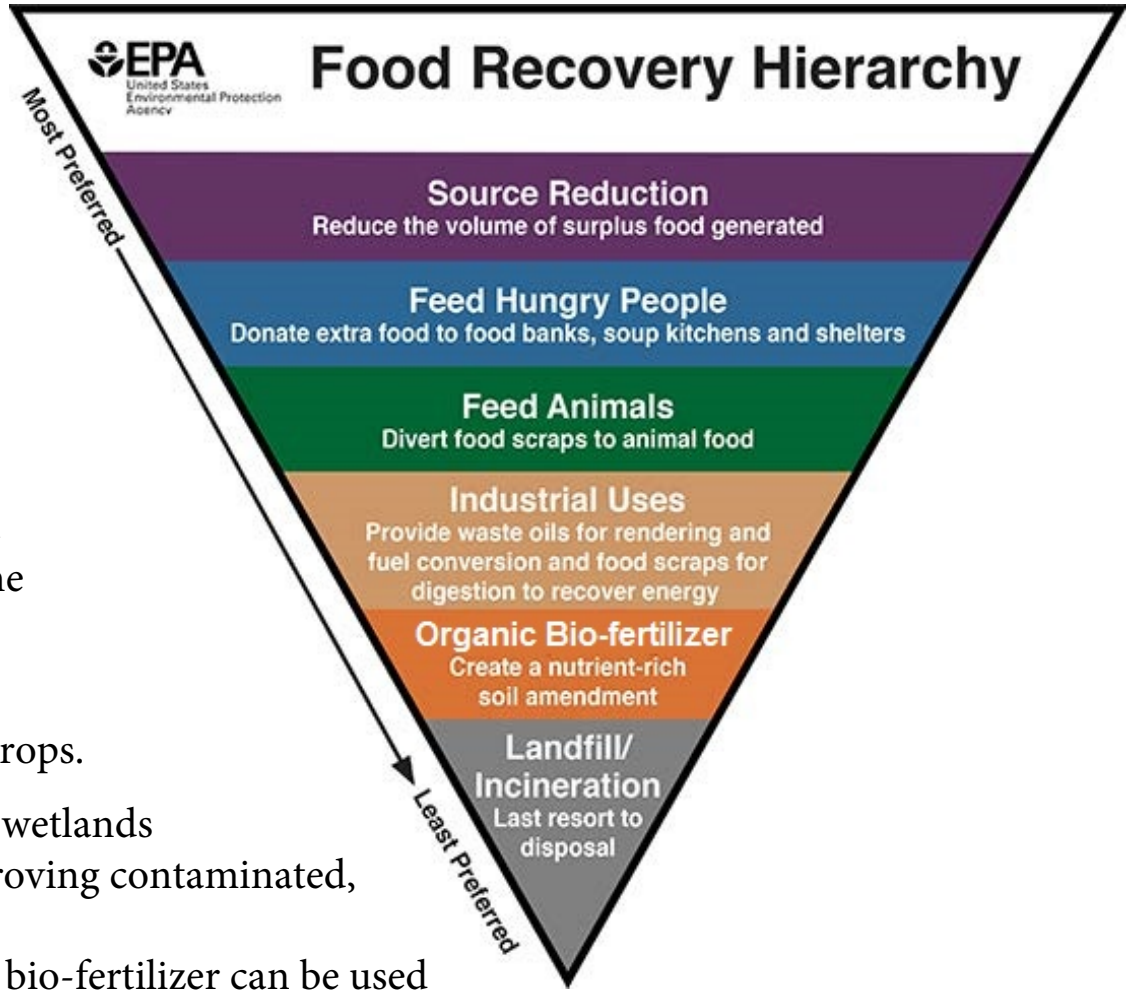
Waste to organic fertilizer

Eliminating a global waste problem

Lowering Carbon $C0_2$ Footprint Globally



THE BENEFITS OF ORGANIC WASTE RECYCLING



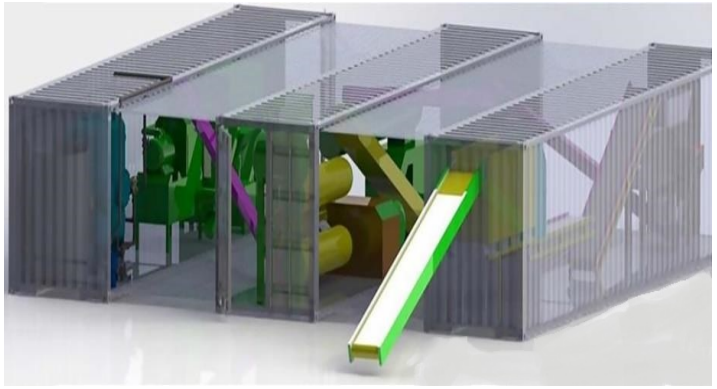
- Organic waste in landfills generates, methane, a potent greenhouse gas. By recycling wasted food and other organics, methane emissions are significantly reduced.
- Organic waste recycling into nutrients rich organic bio-fertilizer reduces and in some cases eliminates the need for chemical fertilizers.
- Organic waste recycling into organic nutrients rich bio-fertilizer promotes higher yields of agricultural crops.
- Organic waste recycling can help aid reforestation, wetlands restoration, and habitat revitalization efforts by improving contaminated, compacted, and marginal soils.
- Organic waste recycling into nutrients rich organic bio-fertilizer can be used to remediate soils contaminated by hazardous waste in a cost-effective manner.
- Organic waste recycling into organic bio-fertilizer can provide cost savings over conventional soil, water, and air pollution remediation technologies, where applicable.
- Turning organic waste into organic bio-fertilizer enhances water retention in soils.
- Organic waste recycling provide carbon sequestration.

Source: *https://www.epa.gov/sustainable-management-food/reducing-impact-wasted-food-feeding-soil-and-composting#benefits*

Minimizing the Impact of Organic Waste by Feeding the Soil

Organic Waste

ORGANIC WASTE PROCESSING SYSTEM



Organic Bio-Fertilizer

Organic Fertilizer VS. Synthetic 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 Fertilizer VS. Synthetic Fertilizer

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.

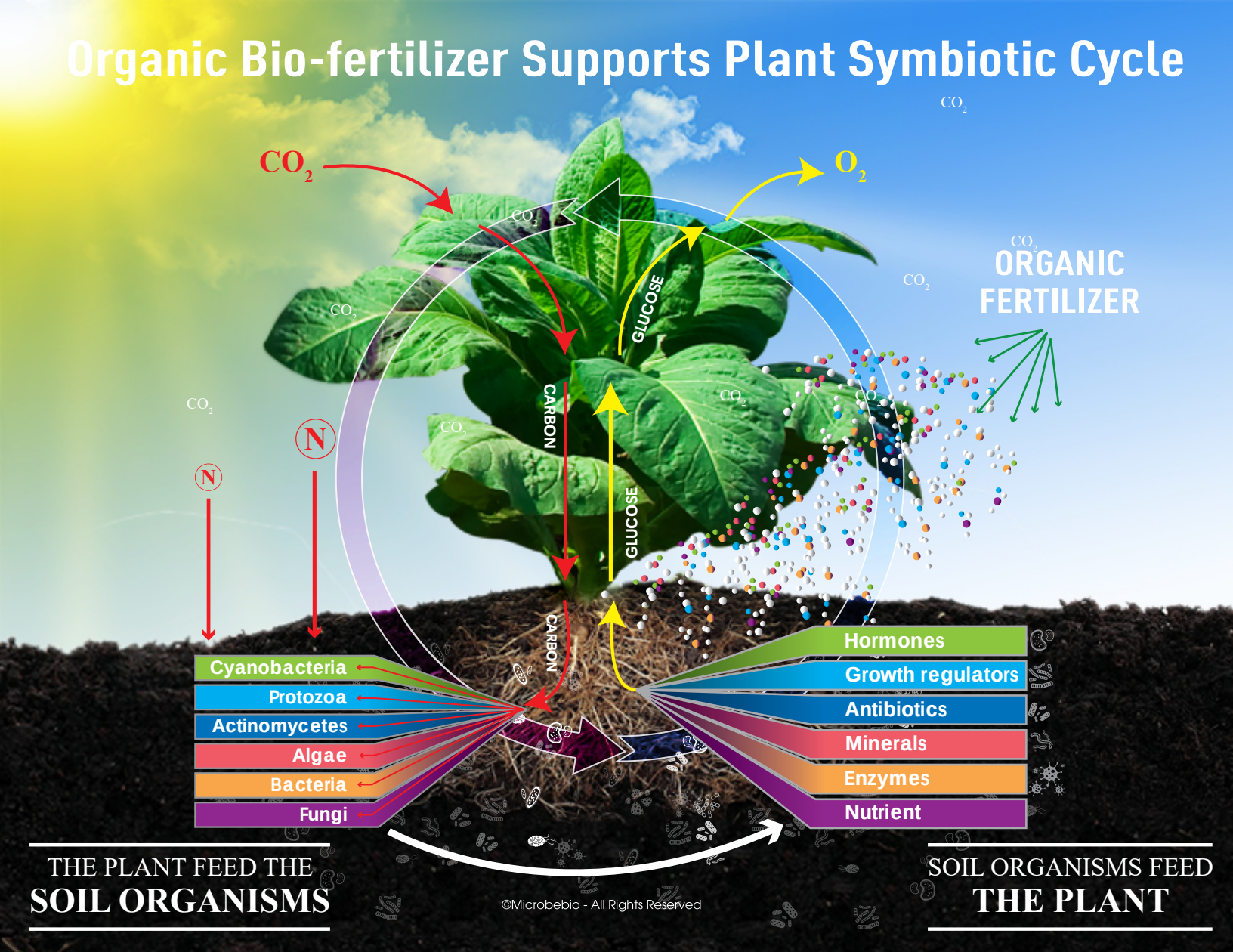
Organic bio-fertilizers naturally enhance crop health. Organic fertilizers also focus on preventive crop protection by strengthen plant resistance to pests, diseases and unfavorable environmental conditions.

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

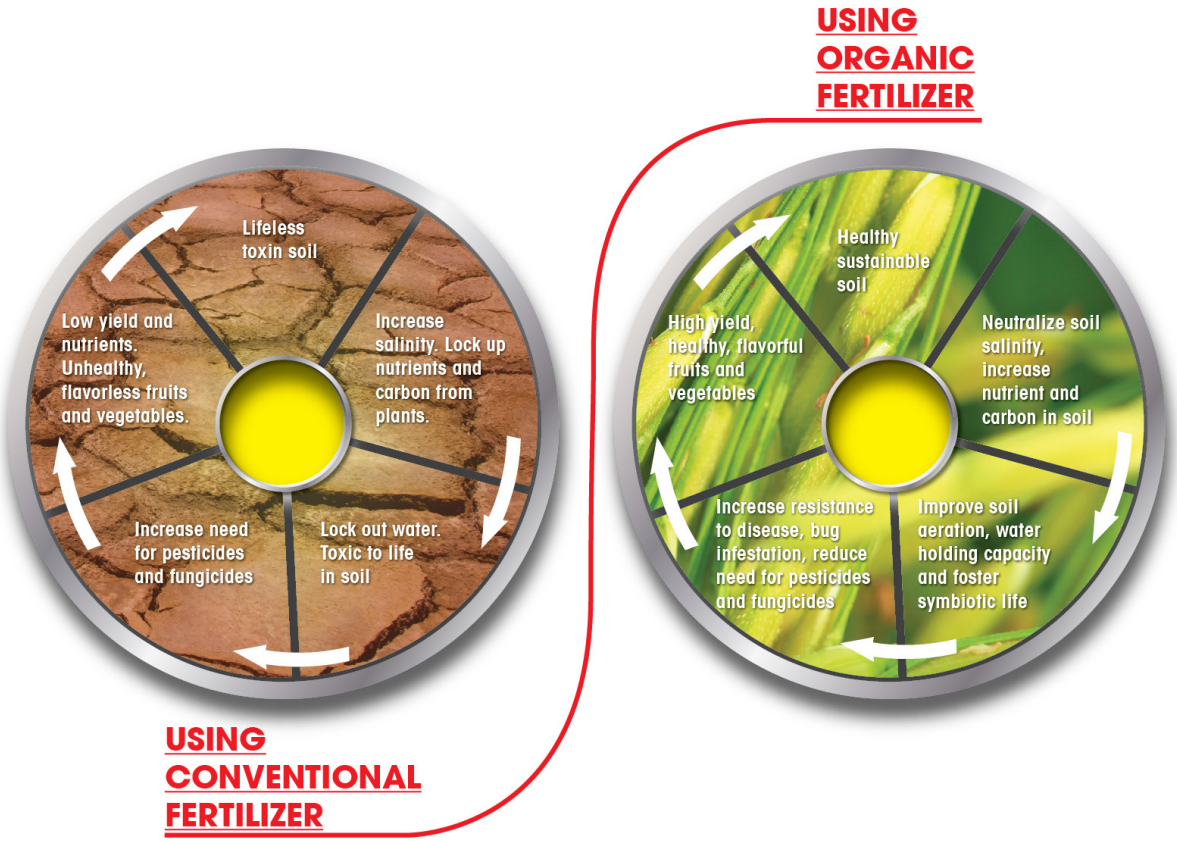


THE PLANT FEED THE
SOIL ORGANISMS

SOIL ORGANISMS FEED
THE PLANT

MicrobeBio®
NATURE PHENOMENON

Cycling organic wastes to create a product that can be used to help improve soils, grow the next generation of crops, and improve water quality.



Organic Bio-Fertilizer Pellets

Recycled from **Organic Waste**

SUPER SIZE

SMALL	LARGE	MEDIUM
		

Lab Reports

Waypoint ANALYTICAL

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

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_4-N	76 %	
Available Nitrogen	86 %	
PO_4P	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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COMPOST / AMENDMENT EVALUATION

Send To :	Project :	
Residuals Recovery Group Inc/Ag Concepts 7325 Edison Ave Ontario CA 91762	Job #: Dried Grocery	Report Number : **17-333-0009** Customer Number : 07327 Date printed : 12/06/2017 Date received : 11/29/2017 Page : 2 of 3 Lab Number : 93421

Sample Id : **Compost**

NUTRIENT SUMMARY

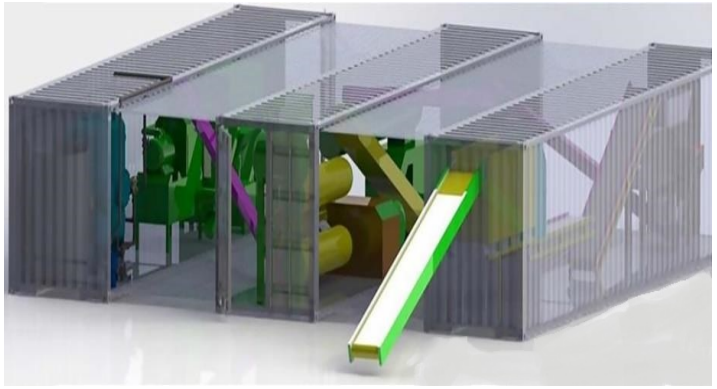
Test	Amount Per Cubic Yard				Amount Per Ton, As Rec'd				Available as a % Of Total
	Total		Available		Total		Available		
Nitrogen	18.62	lbs	0.5	lbs	50.19	lbs	1.35	lbs	3
Phosphorus (P)	2.05	lbs	0.07	lbs	5.54	lbs	0.19	lbs	3
Phosphorus (P_2O_5)	4.7	lbs	0.16	lbs	12.68	lbs	0.43	lbs	3
Potassium (K)	6.22	lbs	4.13	lbs	16.76	lbs	11.14	lbs	66
Potassium (K_2O)	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			

TURNING ORGANIC WASTE INTO TREASURES

The pellets can also be used as organic livestock feed

Organic Waste

ORGANIC WASTE PROCESSING SYSTEM



Organic Livestock Feed

Lab Reports

Feed Analysis Report

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

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

ROCK RIVER LABORATORY, INC.
AGRICULTURAL ANALYSIS

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

Representative:
Nathan deBoom

Nathan DeBoom 2439
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

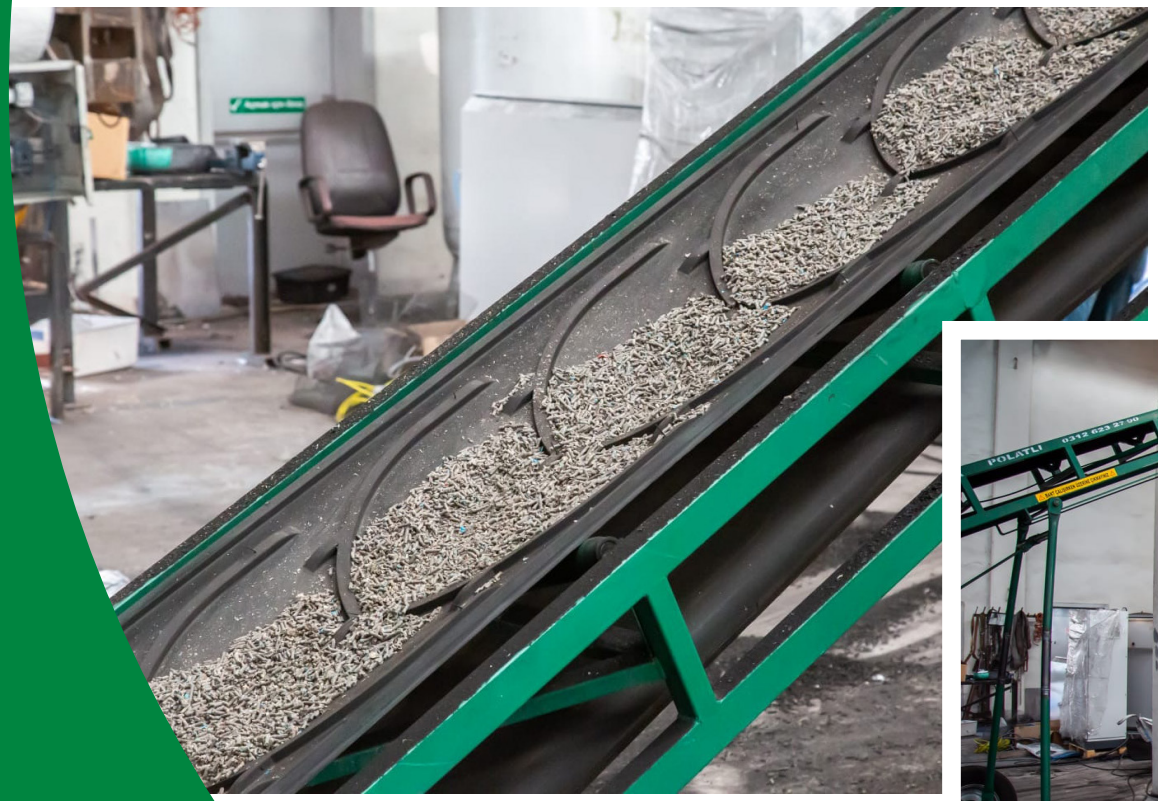
OPENED CONTAINER SHOWING THE 3 TON PER HOUR SYSTEM

THE PROCESS

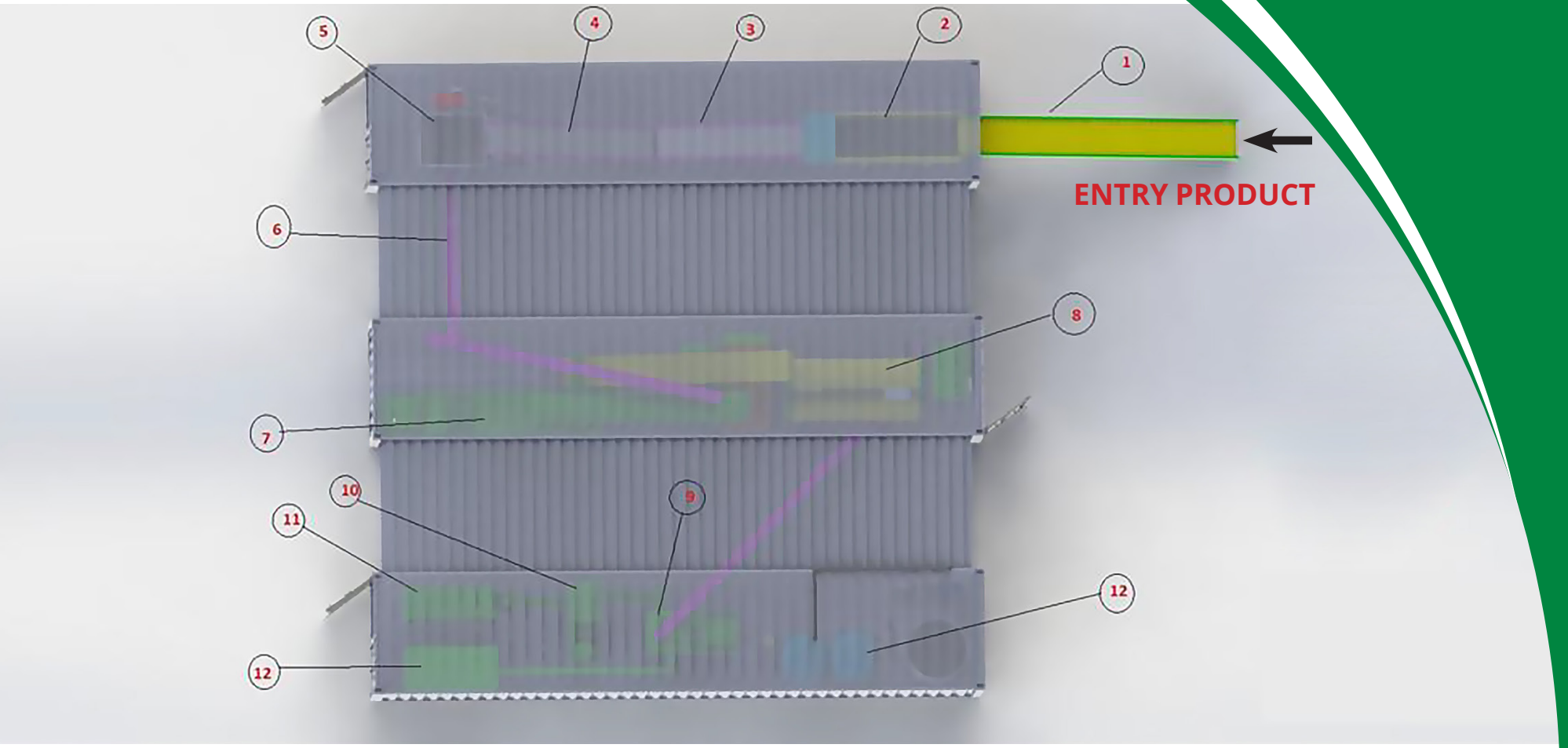
DUMPING CONVEYOR	BAG OPENER
SORTING LINES	MAIN SHREDDER
RADIANT HEAT PROCESSOR	PRESS
FILTRATION	MOISTURE EXTRACTOR
GRINDER	PELLETIZER

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.

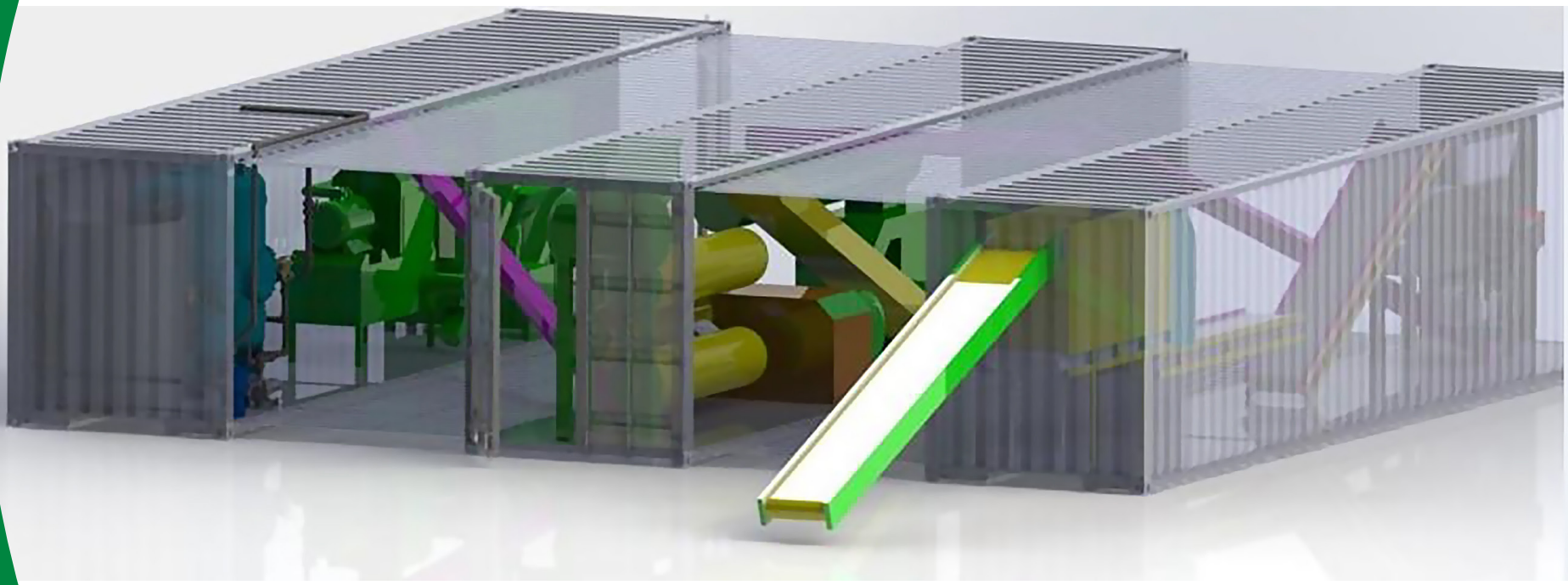
3 Ton/Hour Organic Waste System - Containerized

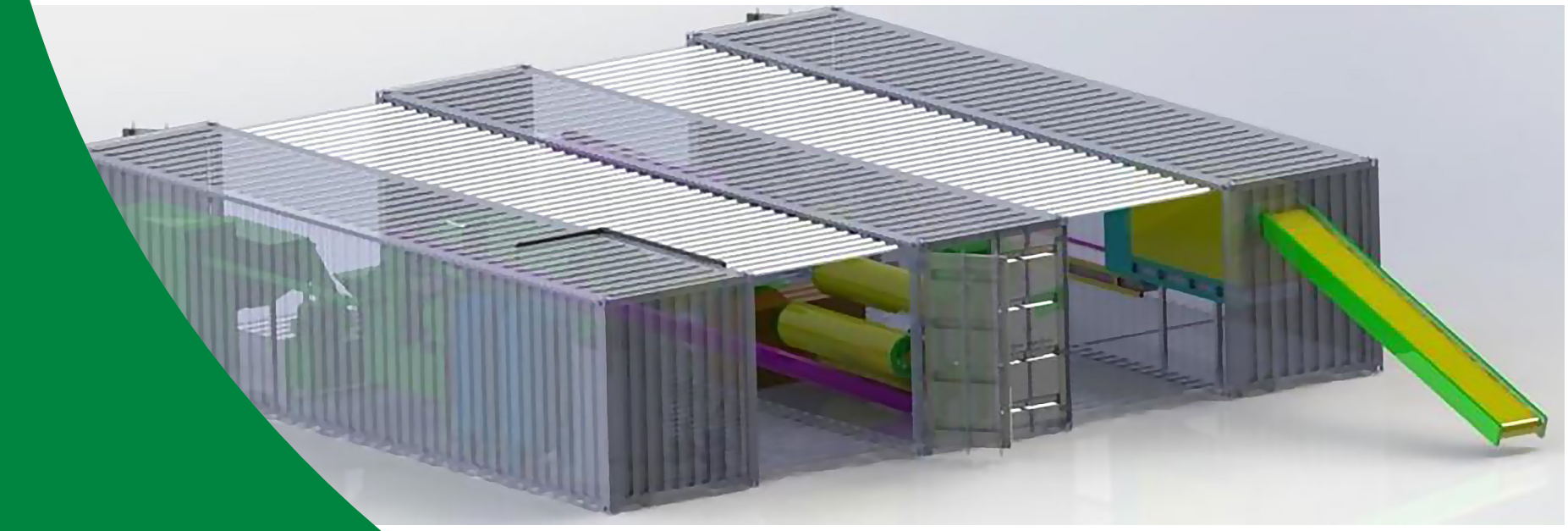


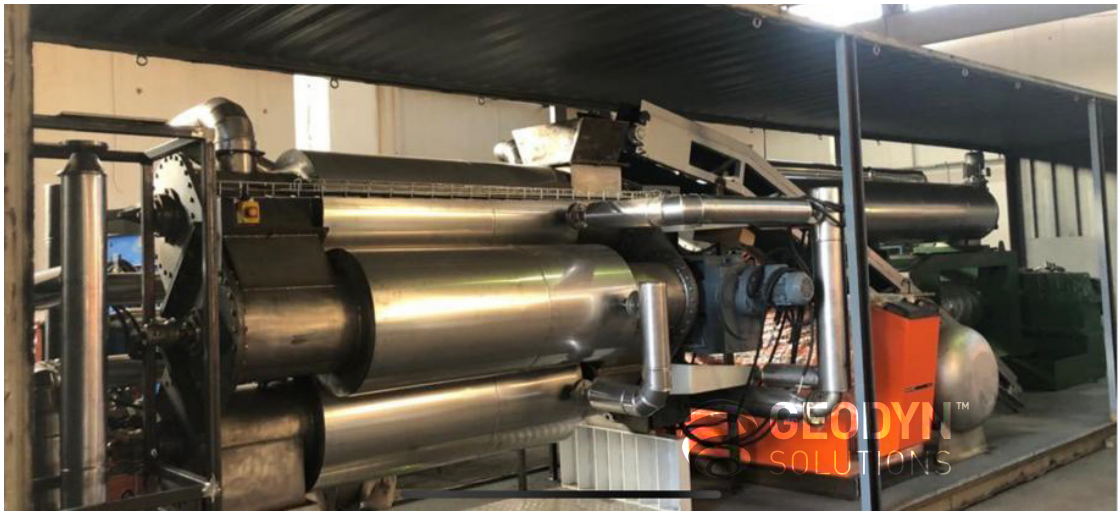
Transferring the pellets

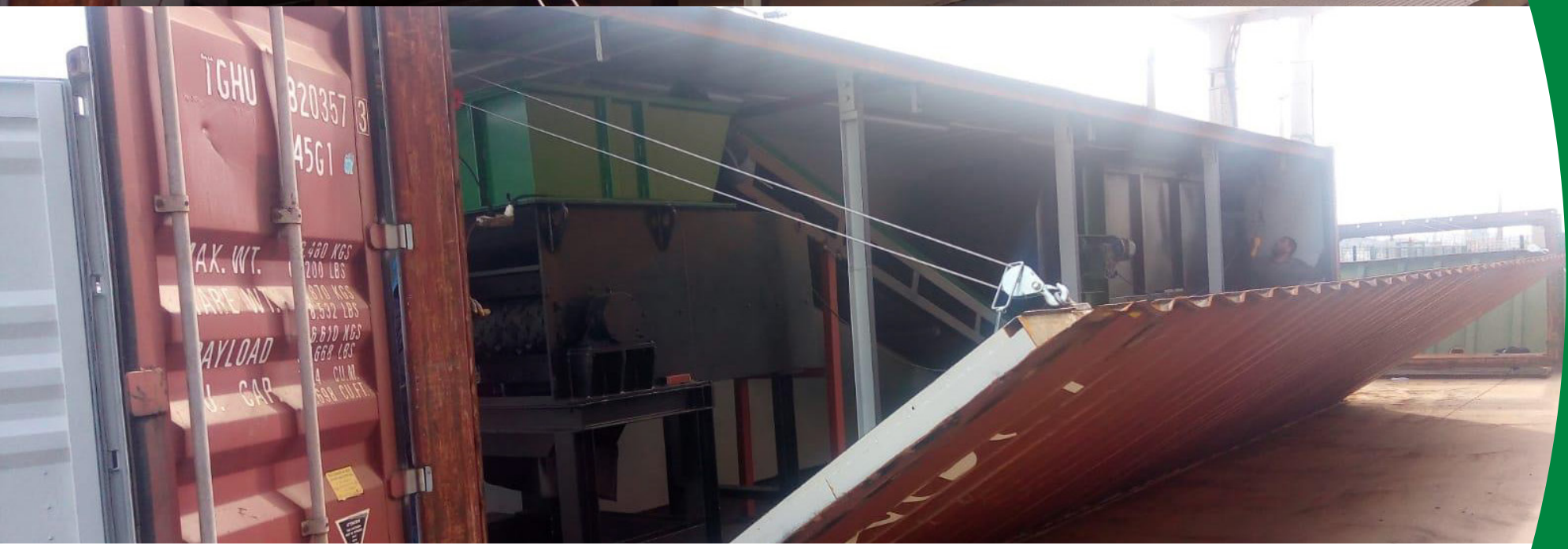


1. Entry Belt Conveyor
2. Bag Opener - Bunker
3. Sorting Belt Conveyor
4. Shredder Feeder Belt Conveyour
5. Single Shaft Shredder
6. Transfer Screw Conveyor
7. Press System
8. Dryer System
9. Hammer Crusher
10. Pellet System
11. Trommel Screen
12. Dust Filter





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AK. WT.
AYLOAD