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NATURE BALANCE

ORGANIC WASTE PROCESSING SYSTEM

TURNING ORGANIC WASTE INTO ORGANIC BIO-FERTILIZER

ADOPTING NEW TECHNOLOGY TO MEET ORGANIC WASTE DIVERSION

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

Bioferti 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

Garbage = Fertilizer

WASTE TO ORGANIC FERTILIZER	ELIMINATING A GLOBAL WASTE PROBLEM	LOWERING CARBON $C0_2$ FOOTPRINT GLOBALLY

THE BENEFITS OF ORGANIC WASTE RECYCLING

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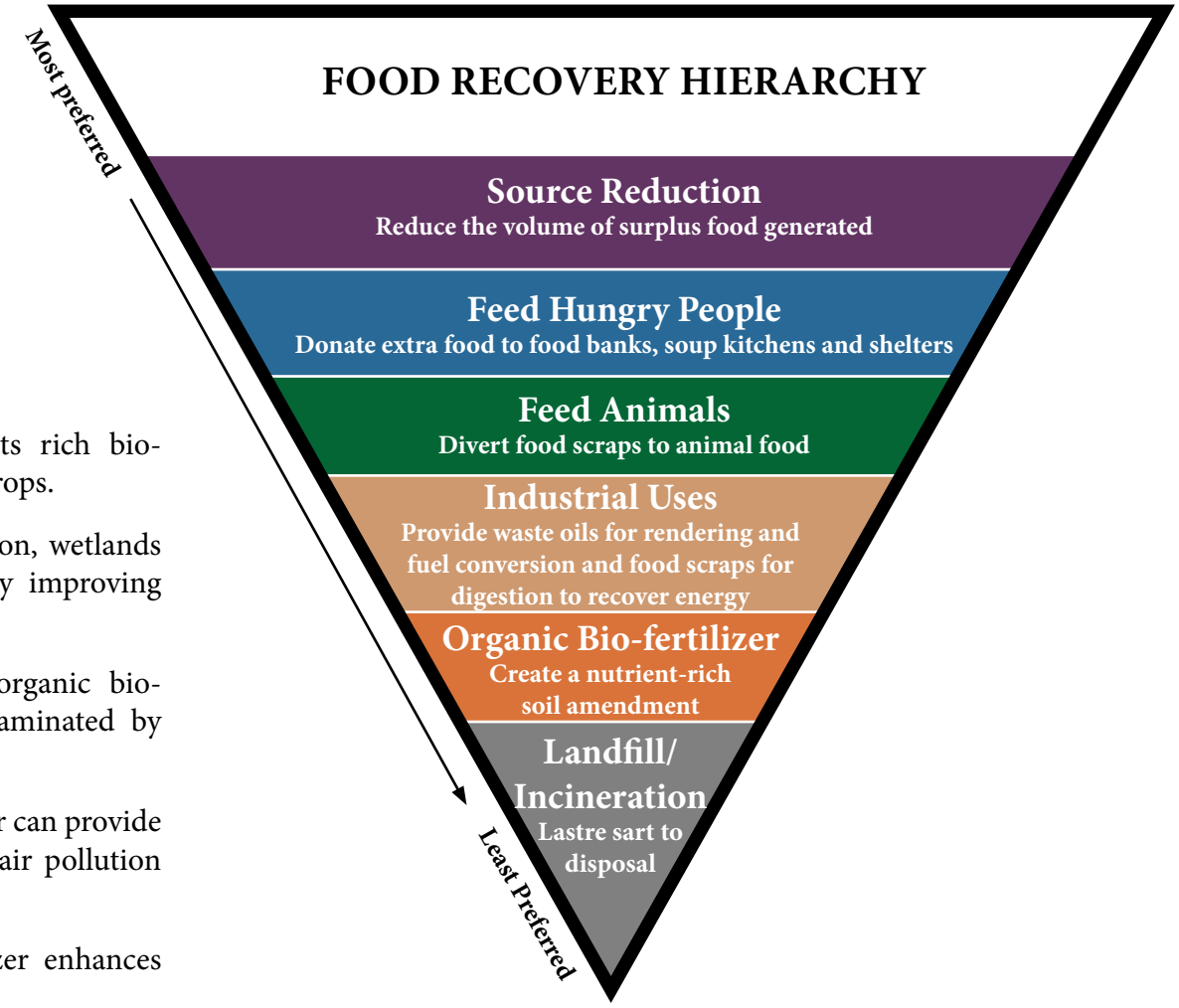
- Organic waste in landfills generates, methane, a potent greenhouse gas. By recycling wasted food and other organics, methane emissions are significantly reduced.
- Organic waste recycling into nutrients rich organic bio-fertilizer reduces and in some cases eliminates the need for chemical fertilizers.
- 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

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MINIMIZING THE IMPACT OF ORGANIC WASTE BY FEEDING THE SOIL

ORGANIC WASTE

ORGANIC WASTE PROCESSING SYSTEM

ORGANIC BIO-FERTILIZER

ORGANIC FERTILIZER VS. SYNTHETIC FERTILIZER

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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.

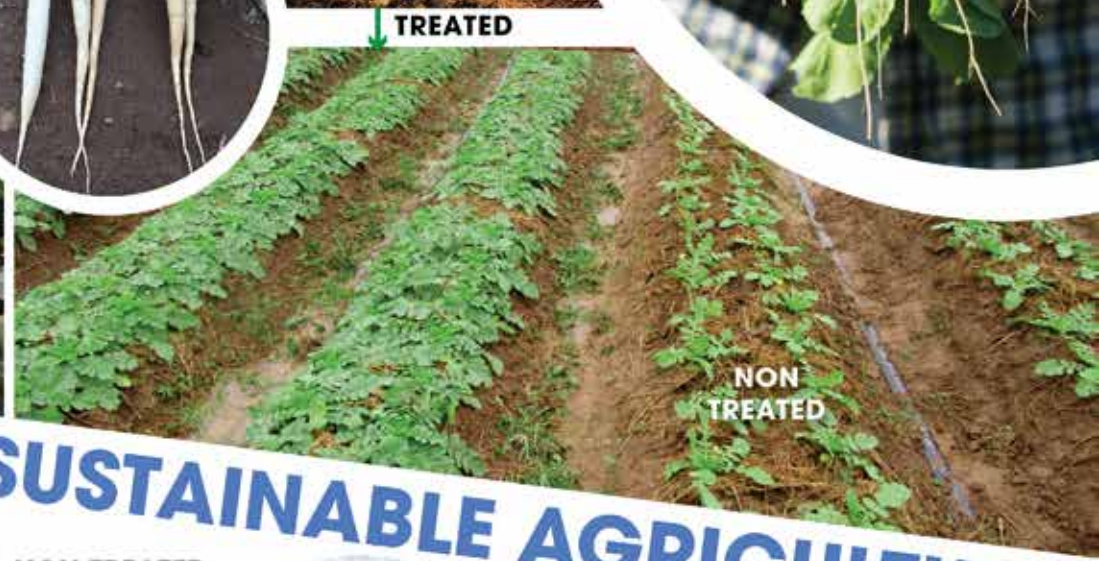
- *Organic bio-fertilizer stimulate biological lives in the soil.* Beneficial soil microbes play a key role in converting organic fertilizers into soluble nutrients that are ready for plant to uptake. Also, organic fertilizer are able to deliver the secondary and micronutrients plants need, usually absent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

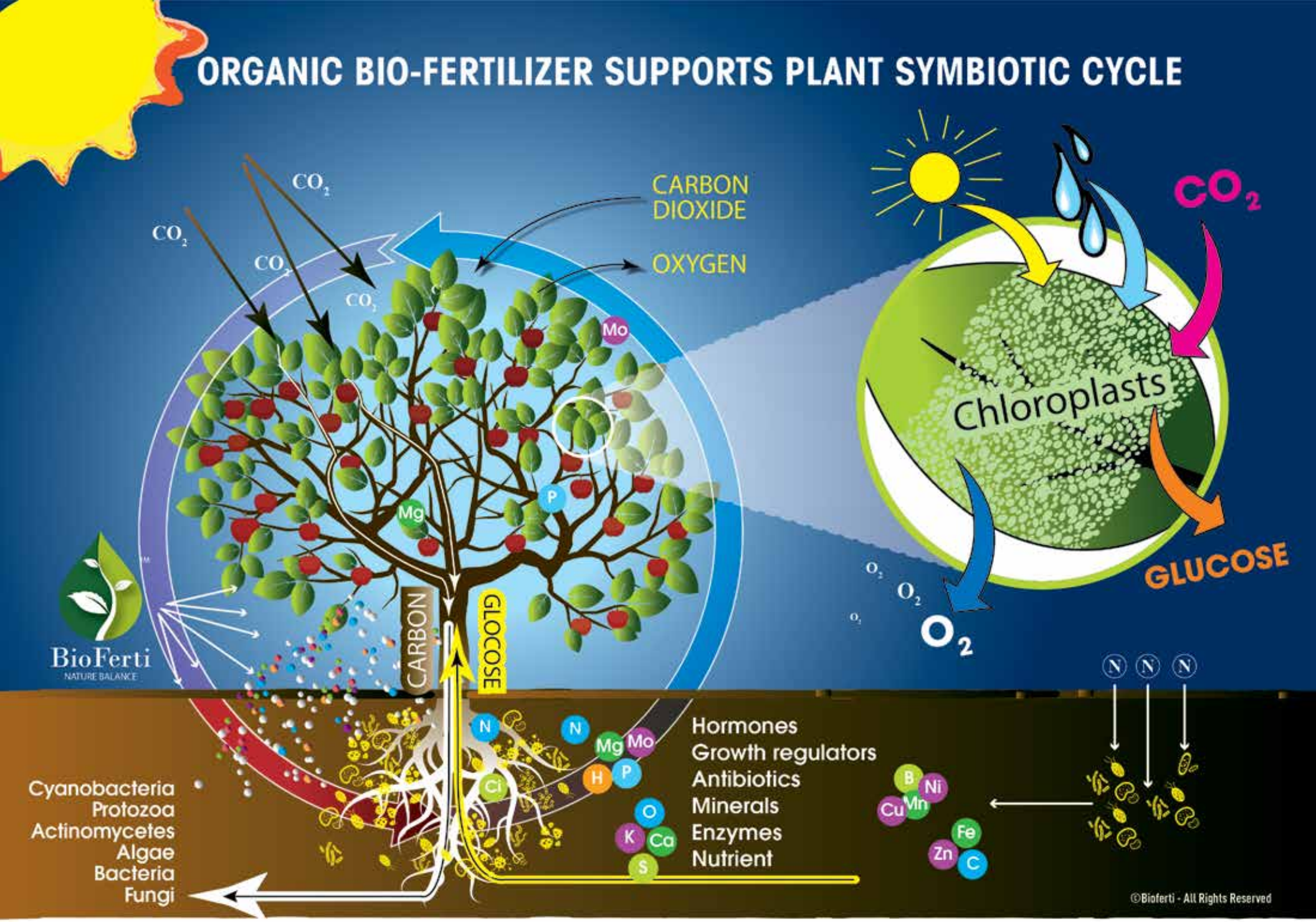
- *Organic bio-fertilizers are easy to use.* Organic products are easy to use as are their synthetic and inorganic analogues. By adding them to the soil or spraying them on the leaves - no matter how you use them - they add countless benefits to your crops while offering the same comfort and convenience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

- Increase quality and yield
- Maximize profits for the farmer
- Revitalize air, water and soil
- Environmentally Friendly
- Enhanced resistance to disease, pest and stress
- Minimal logistic cost
- Decreased irrigation
- Extended shelf life
- Human and pet safe



ORGANIC FERTILIZER = SUSTAINABLE AGRICULTURE



THE PLANT FEED THE SOIL ORGANISMS ▪ SOIL ORGANISMS FEED THE PLANT

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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

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SUPER SIZE

SMALL	LARGE	MEDIUM
		

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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 :	
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 : 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" / Volume % amendment blend with sandy loam
		1 2 3 4 5 6 7 8 / 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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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			

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TURNING ORGANIC WASTE INTO TREASURES

The pellets can also be used as organic livestock feed

ORGANIC WASTE

ORGANIC WASTE PROCESSING SYSTEM

ORGANIC LIVESTOCK FEED

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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.

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NATURE BALANCE

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

ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

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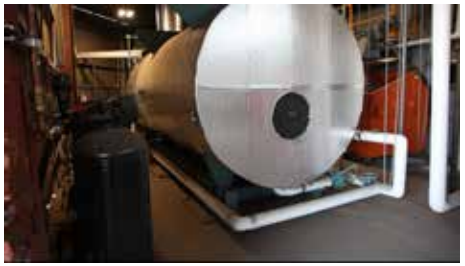
The Organic Waste System is a patented process using proprietary technology to turn organic waste material into organic fertilizer.

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

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



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ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

THE PROCESS

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

ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

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Transferring the pellets

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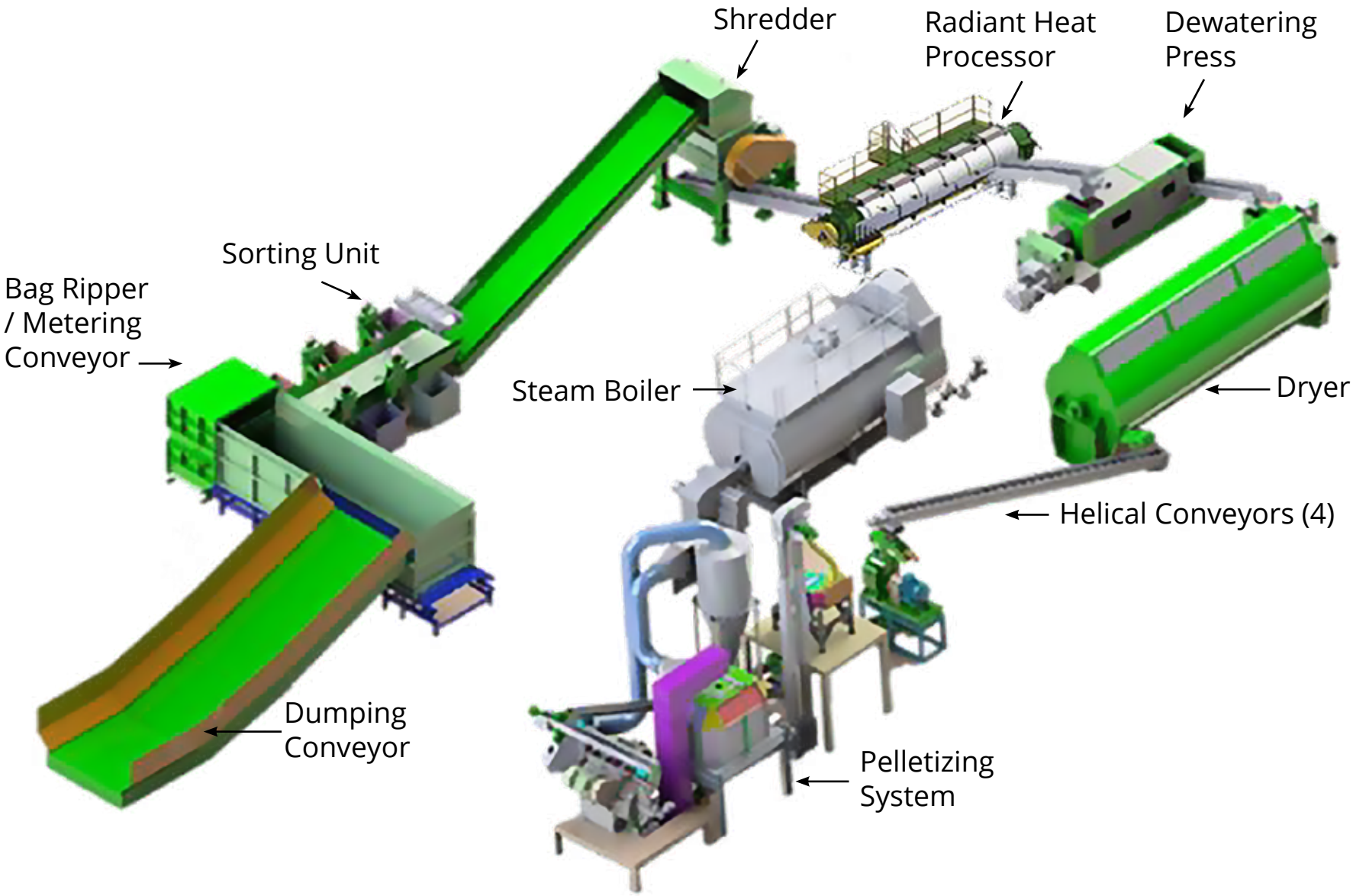
ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

The pellets can also be used as organic livestock feed



ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

The Shredder

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Shredder

All of our processing systems start with shredders featuring an innovative design. All shredders produce uniformly sized material, while generating less heat and lower RPMs. Consistently tested on the toughest materials (palm fronds and plastic sheeting), our shredders are sized to produce 1/2 to 15 tons-per-hour (“TPH”) in uniform sizes of 50 millimeters or less. This is vital to the process as a small uniform size allows our system to quickly kill bacteria, viruses, and odors.

ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

Radiant Heat Processor

Radiant Heat Processor

After shredding, the material goes to the Radiant Heat Processor to eliminate bacteria, viruses and odors with a zero carbon foot print.

ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

Dewatering Press

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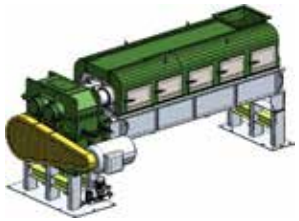
Dewatering Moisture Extracting Press



The material then moves to the Dewatering Press to remove excess liquids. This process is used to reclaim and purify water, removing suspended solids and treating the liquid for reuse as irrigation, dust control, truck cleaning or other on-site or off-site uses.

ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

Indirect Radiant Heat Processing Dryer

Dryer

Capable of handling 85%+ moisture-content material, the Radiant Heat Processing Dryer removes residual moisture while sequestering all carbon and nutrients, producing a low-moisture (5% to15%, as desired) stable material. Animal feed or fertilizer from organics. A coal-substitute from trash.

ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

Indirect Radiant Heat Processing Dryer

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A grinder is used to prepare end products if pellets or soil amendments are desired. The pelletizer and cooling tower create 5% moisture-content pellets, impervious to ambient moisture.

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ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

The 500hp Boiler System

Operating on 87psi of dry steam, produces the encapsulate heat used by our patented process.

500 Gallon water feed tank

500 Horsepower Boiler

Condensate Pumps

ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

Front View

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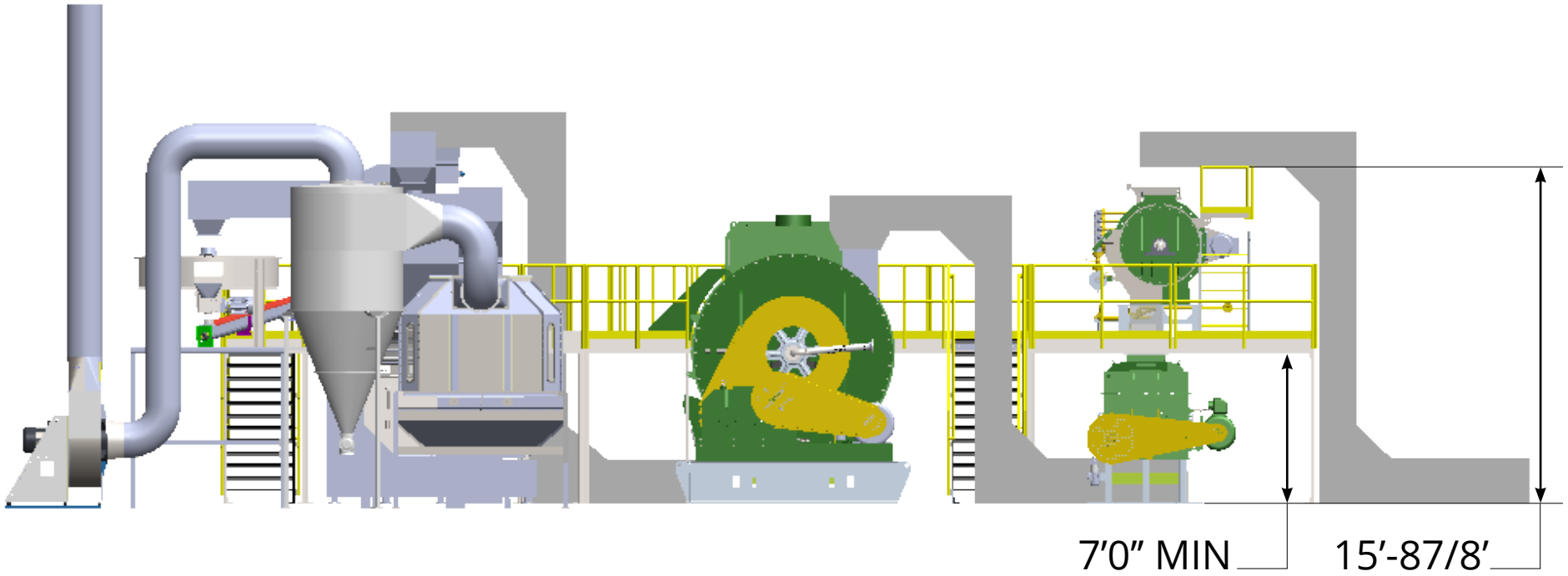

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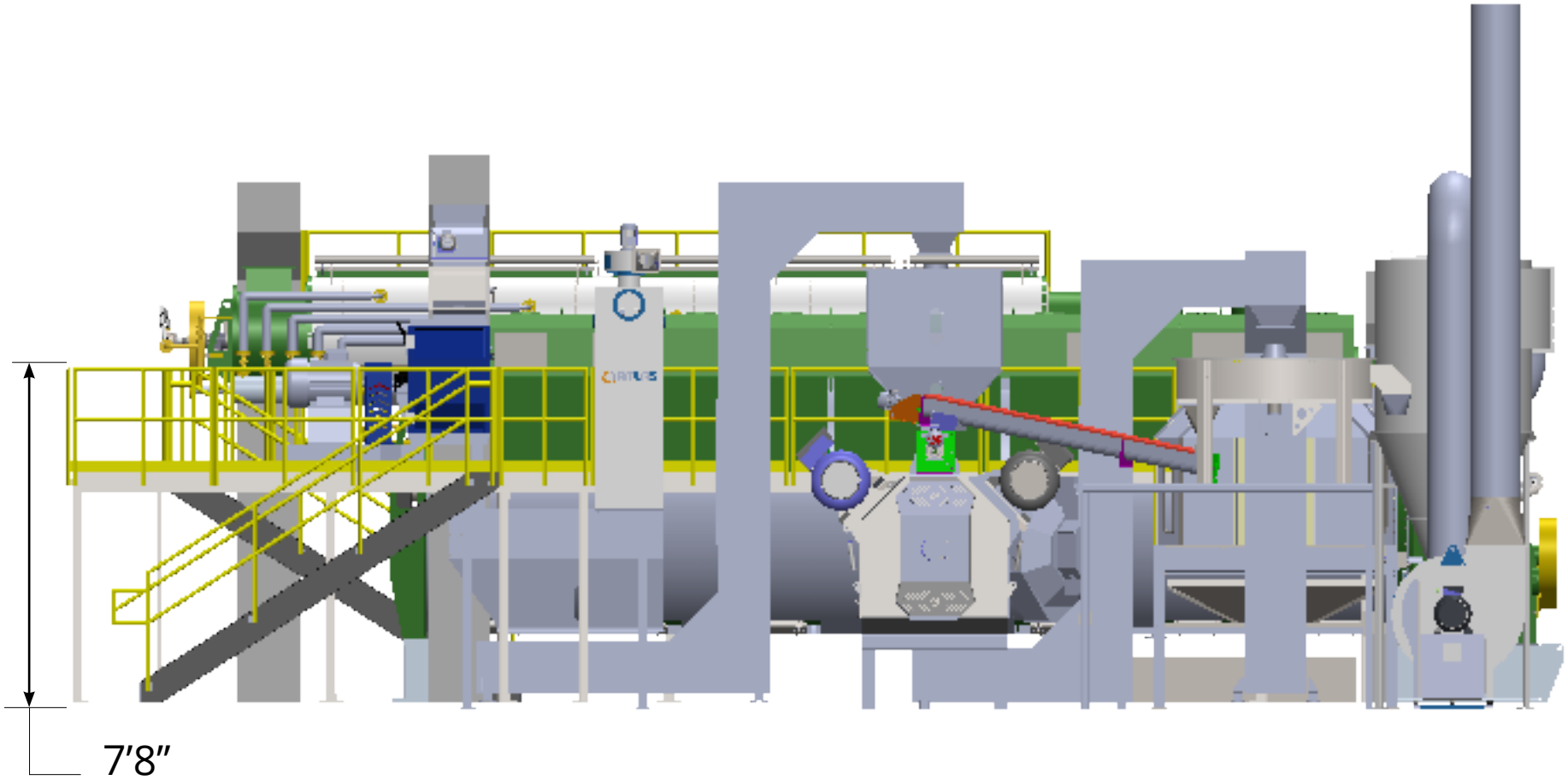
ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

Left Side View



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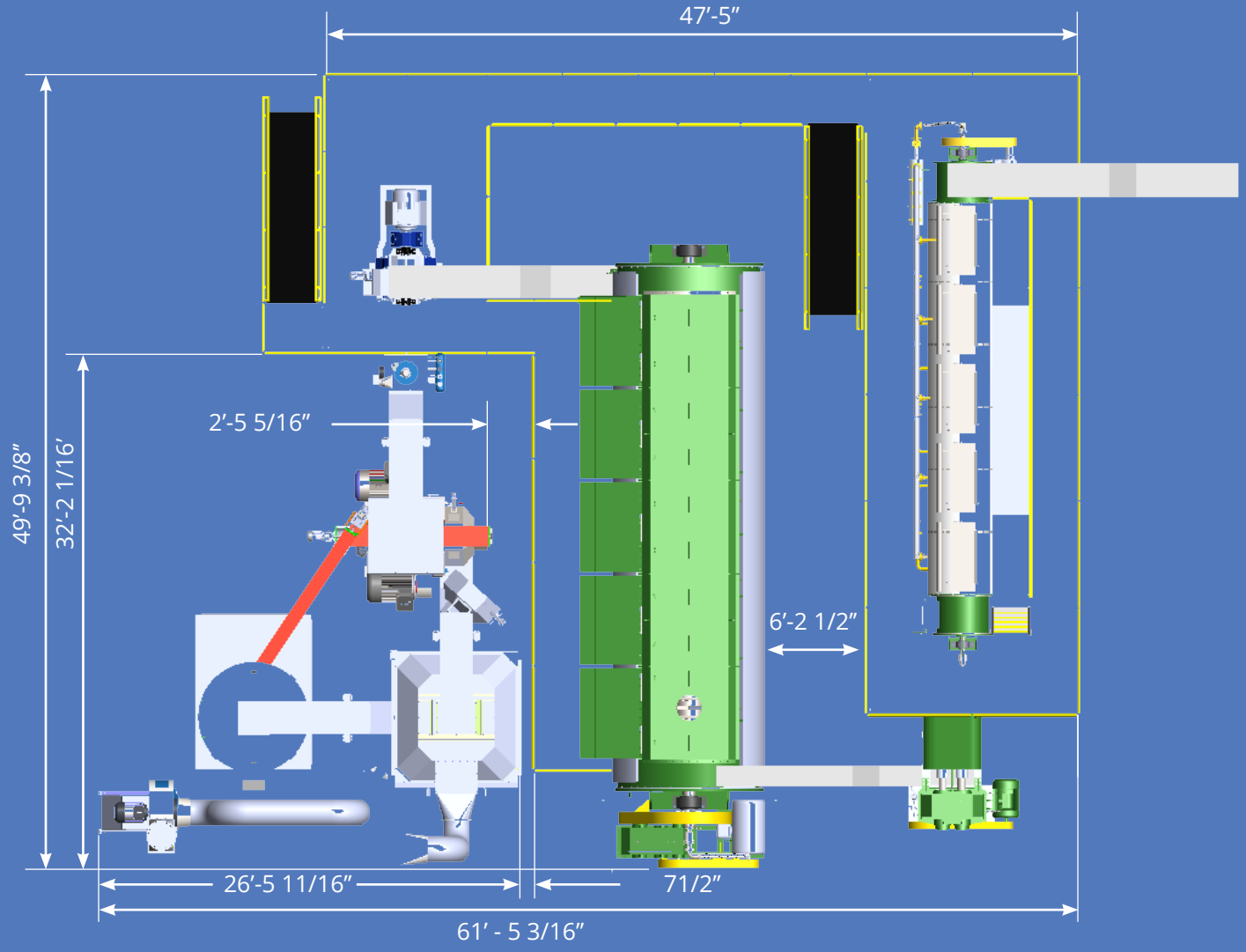
ORGANIC WASTE TO BIO-FERTILIZER SYSTEM

Top View



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