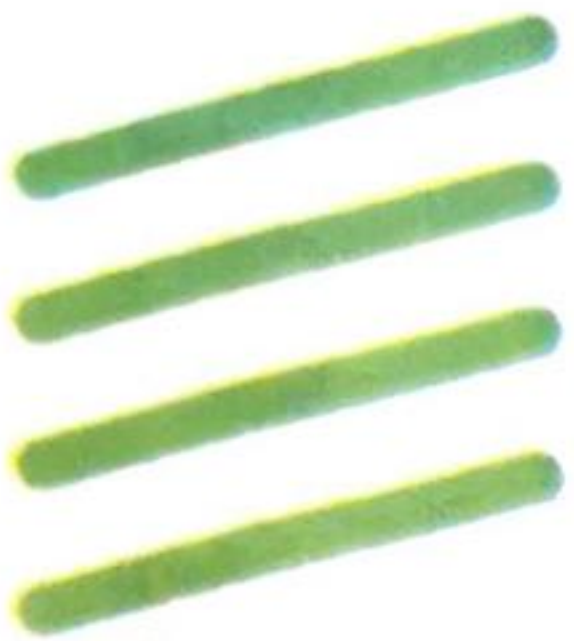




harp renewables



Harp Renewables designs and manufactures thermophilic aerobic digestion equipment that converts organic waste into high-value soil product enhancers. Our **industry leading and innovative technology** in our Harp Bio-Digesters™ use a combination of biological and mechanical processes that **reduce the organic waste's volume and weight by up to 85% in less than twenty-four hours.**

Bio-Digester™ Product Line



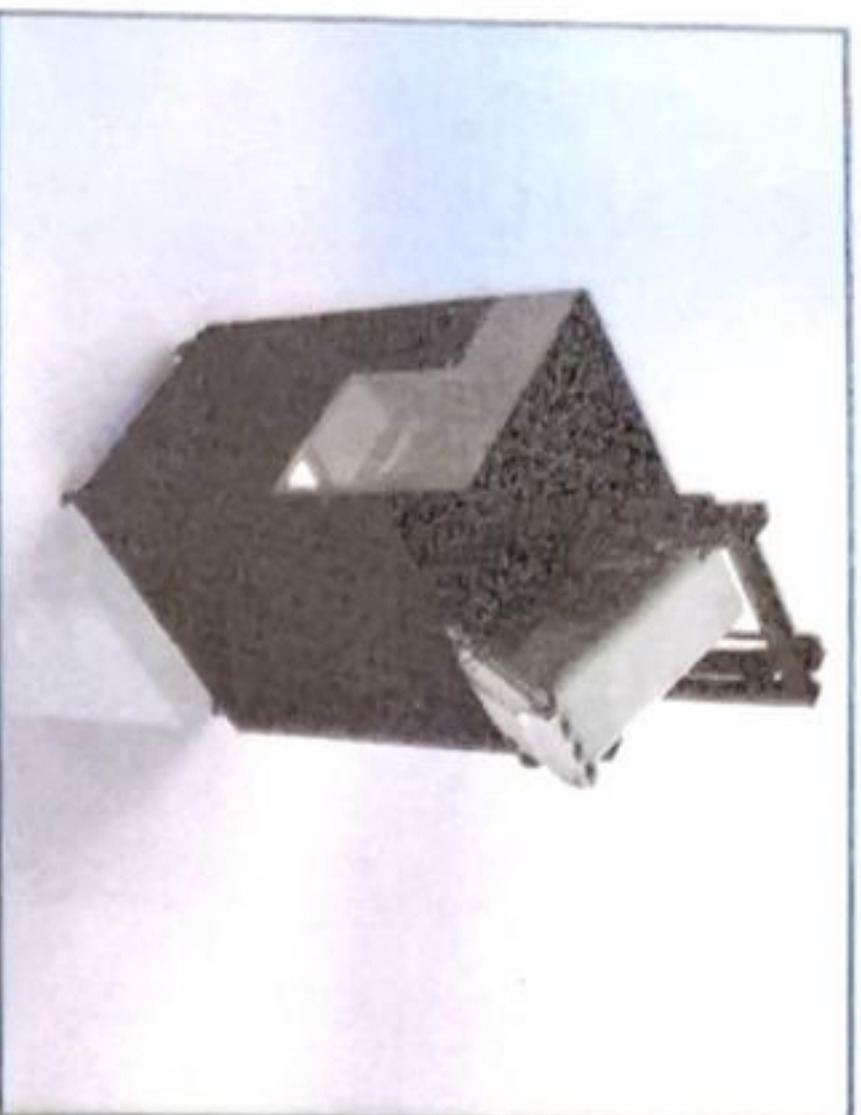
System	CX1	CX2	CX5	CX10	CX20	CX50
Daily Input Capacity (US tons per 24 hrs.)	Up to 102kg (440 lbs.)	Up to 200kg (440 lbs.)	500kg (1,100 lbs.)	1000kg (2,200 lbs.)	2000kg (4,400 lbs.)	5000kg (11,000 lbs.)
Monthly Input Capacity	3T	6T	15.2T	30.4T	60T	125T
Bio-Product Production	1T	1.8T	4.56T	9.12T	18T	45.6T
Equipment Footprint (length/width/height)	1.3 x 1.1 x 1.2 metres	1.9 x 1.3 x 1.2 metres	3.7 x 1.7 x 1.5 metres	5 x 1.78 x 1.88 metres	5.7 x 2.2 x 2.15 metres	8 x 5.2 x 2.5 metres

¹ 30-day month

² Assumes 75% conversion; 25% residual material by weight

Harp Bio Digester Accessories

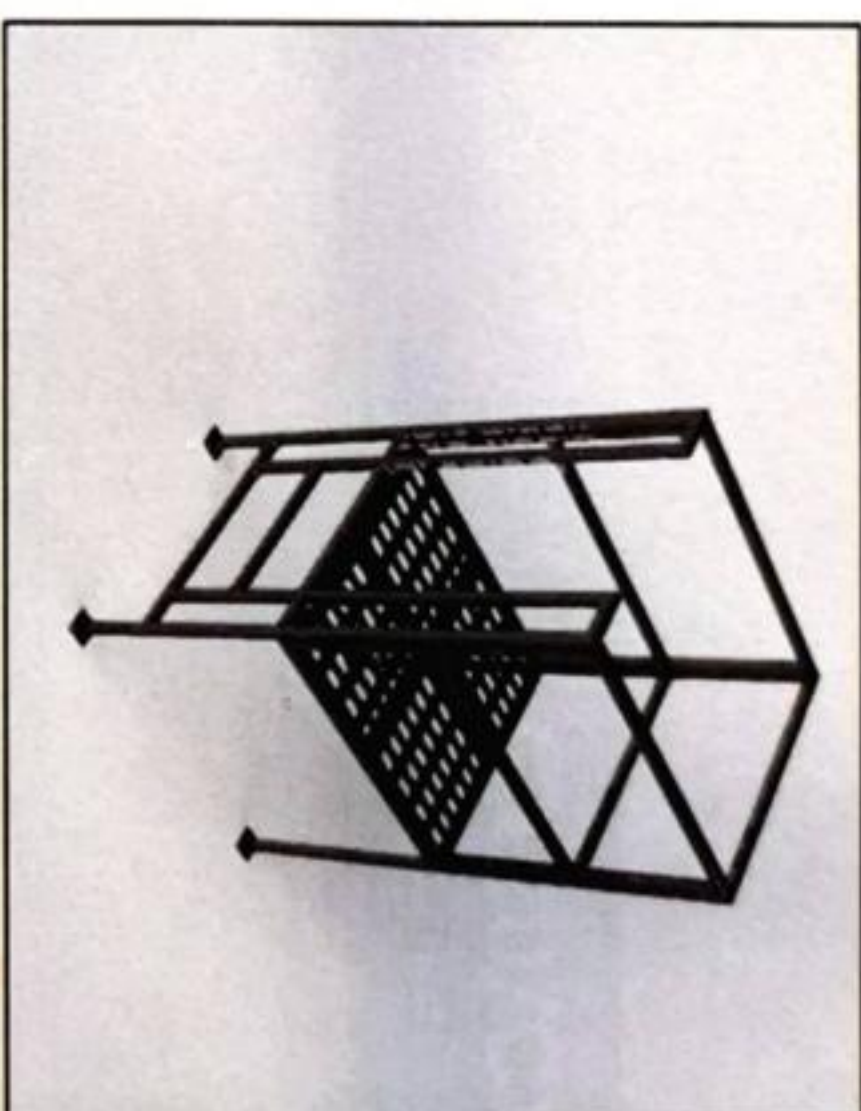
Over 100+ Accessories sold worldwide.



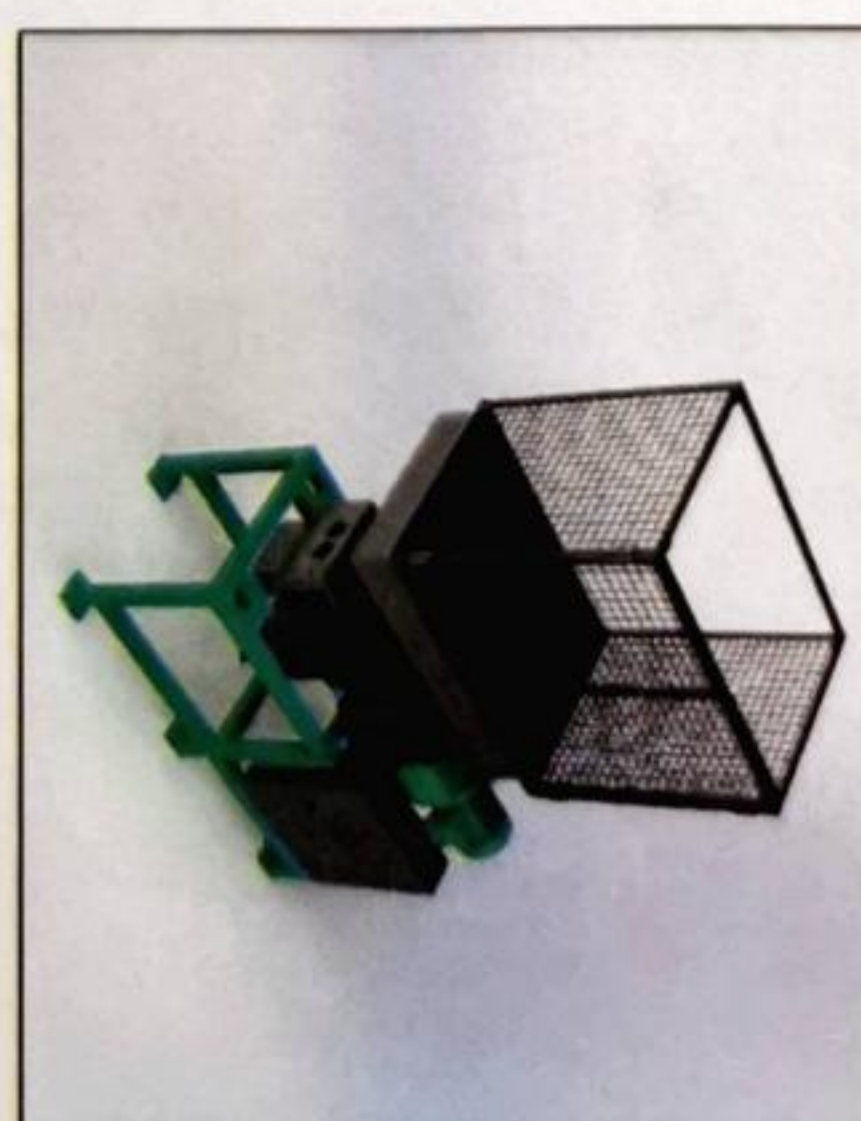
Bin Lifter



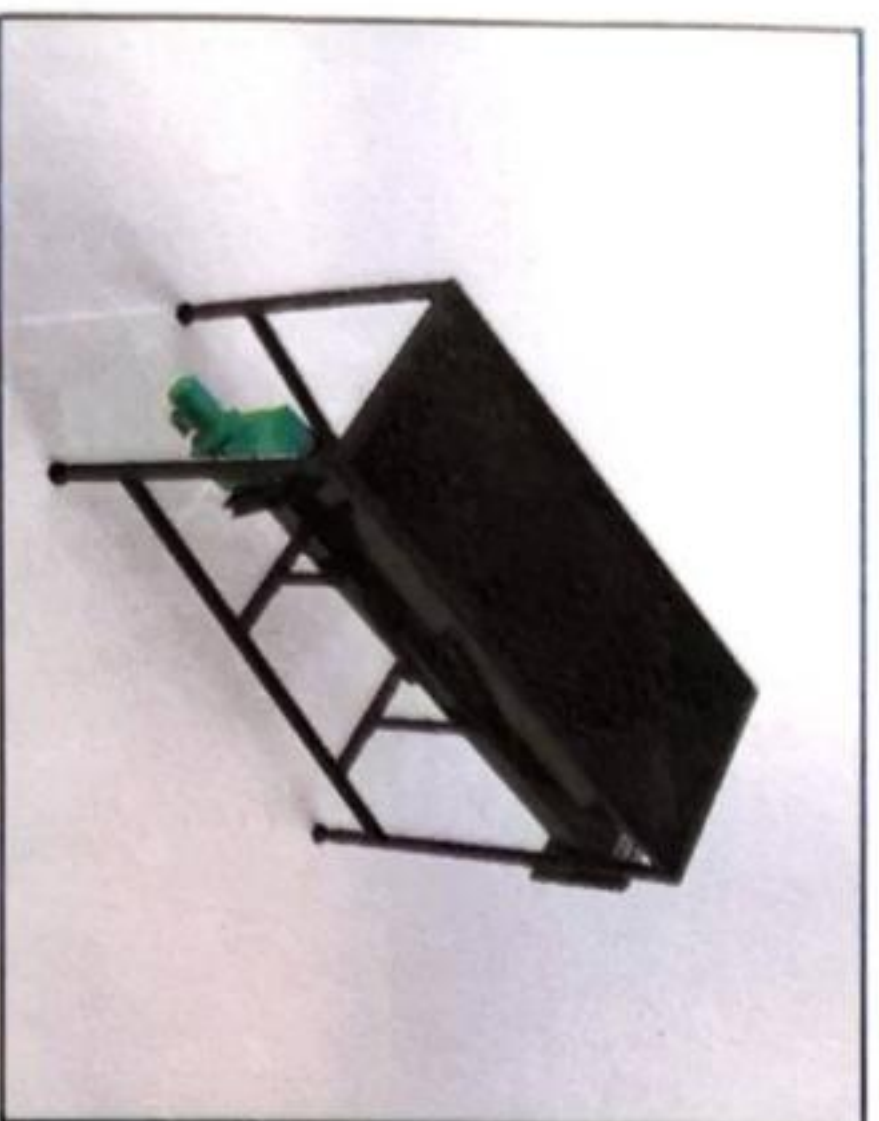
Bin Tipper



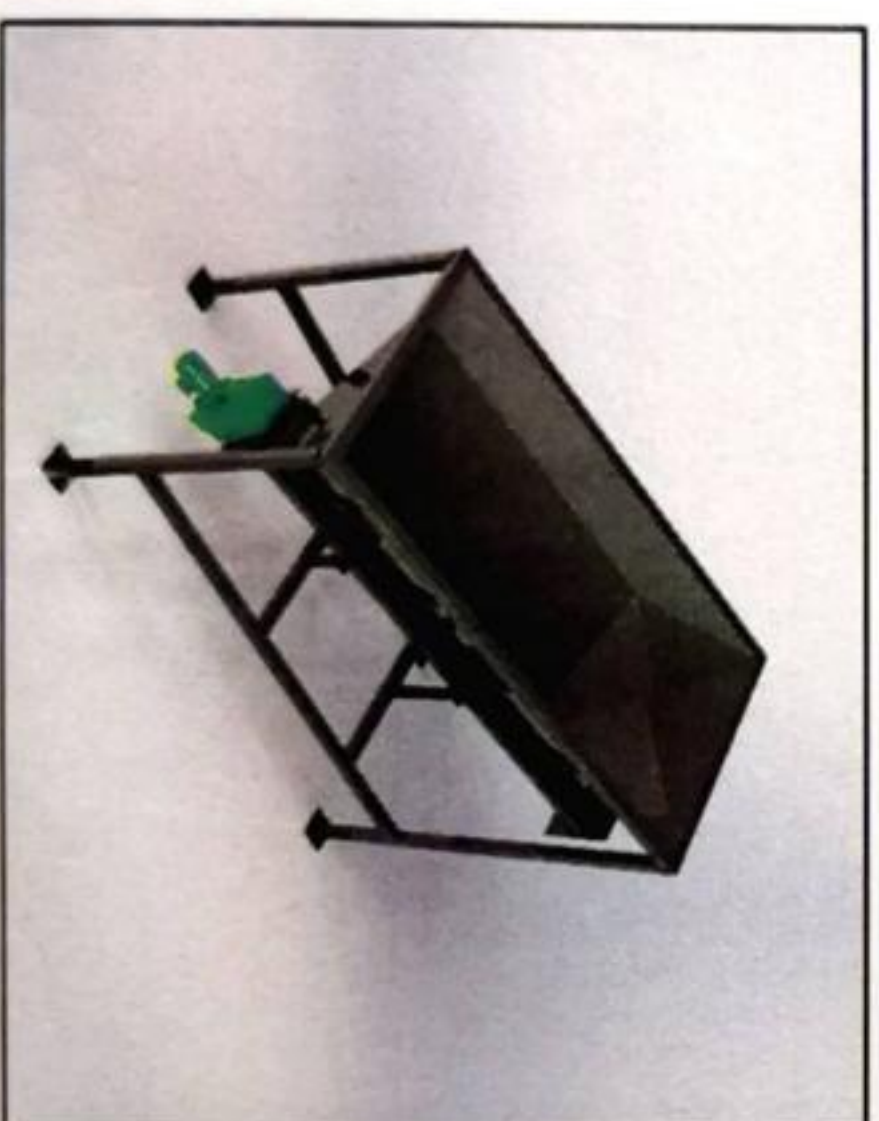
Safety Platform



Shredder with Safety
Cage



CX5 Hopper



CX10 Hopper



CX20/CX50 Hopper

Proprietary Technology

Thermophilic Aerobic Digestion

Speed <24 hours

Reduces waste volume up to 85% in less than 24 hours. Activates waste microflora



Enzymes

Allows constant re-generation of microbes

Heats to 160°F (70°C)

Maintains high temperature to destroy pathogens



Eliminates Odors

Binds ammonia molecules to eliminate offensive odors.

Minimal CO2

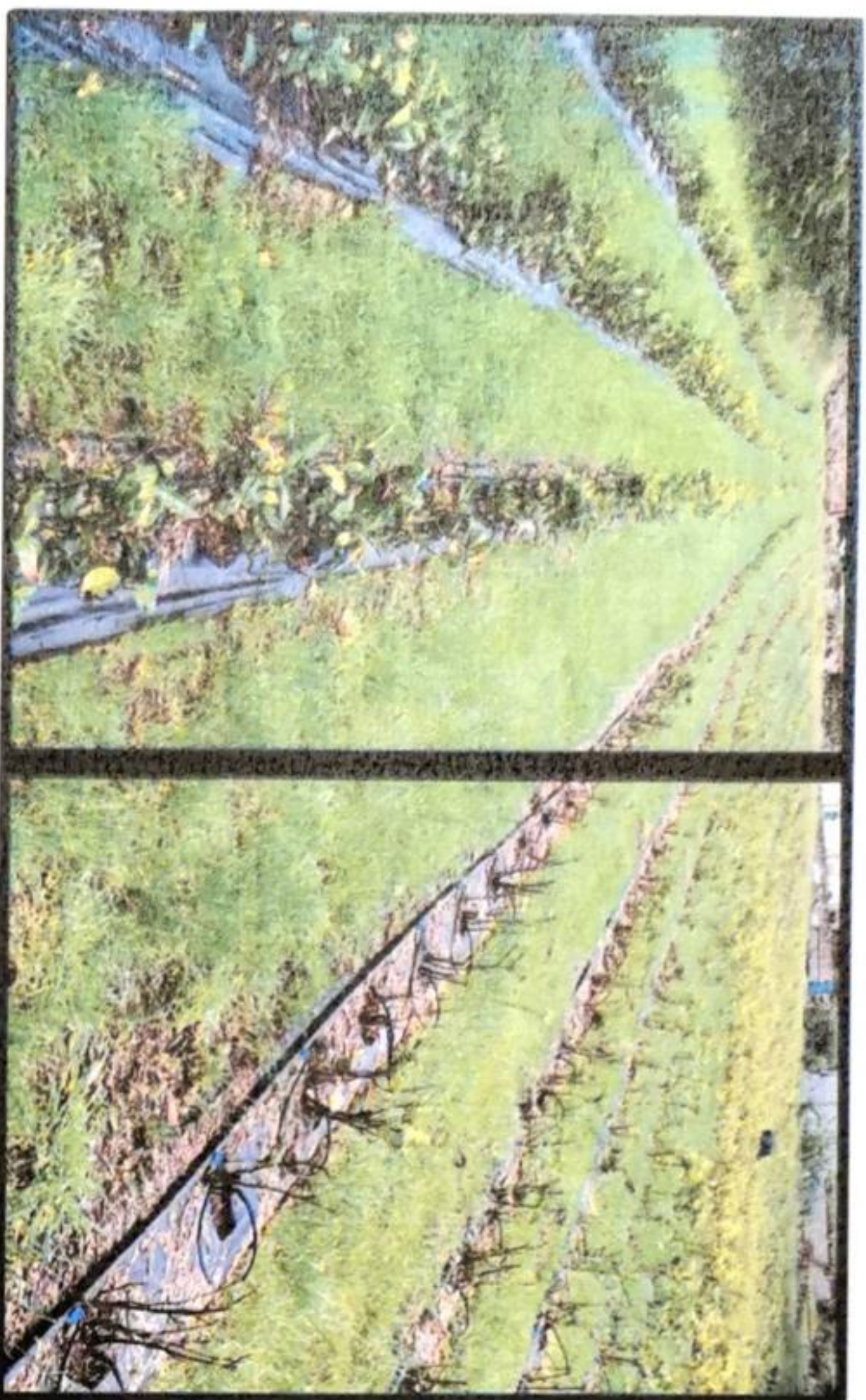
Prevents oxidation of carbon into CO2, no greenhouse gases.

High N/P/K

Produces nutrient-rich soil product enhancer.



Jersey Organic Tea Plantation

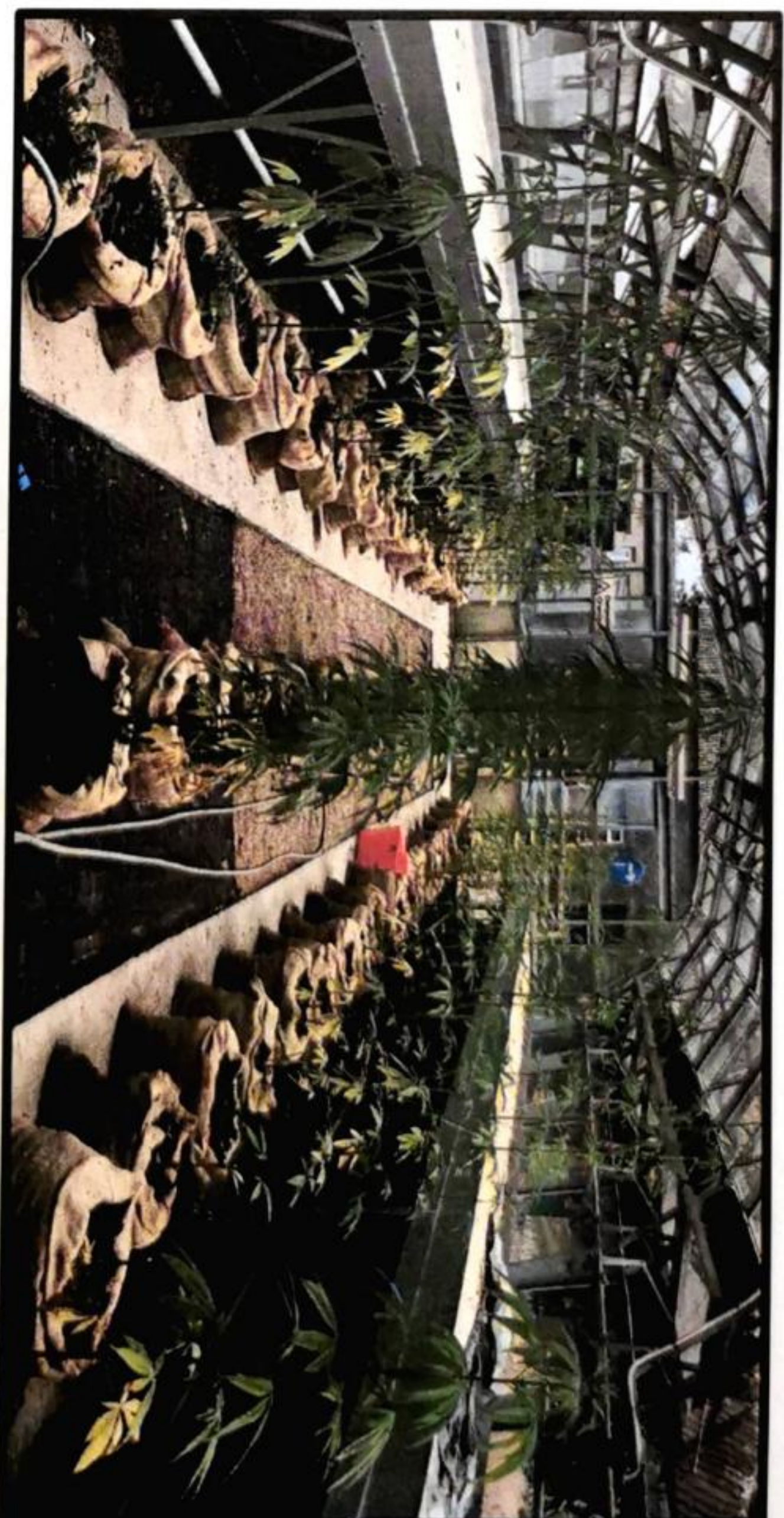


Left is treated with
Harp Renewables
soil Amendment



Right is not
treated

Hemp Plantation



Left treated
with minerals



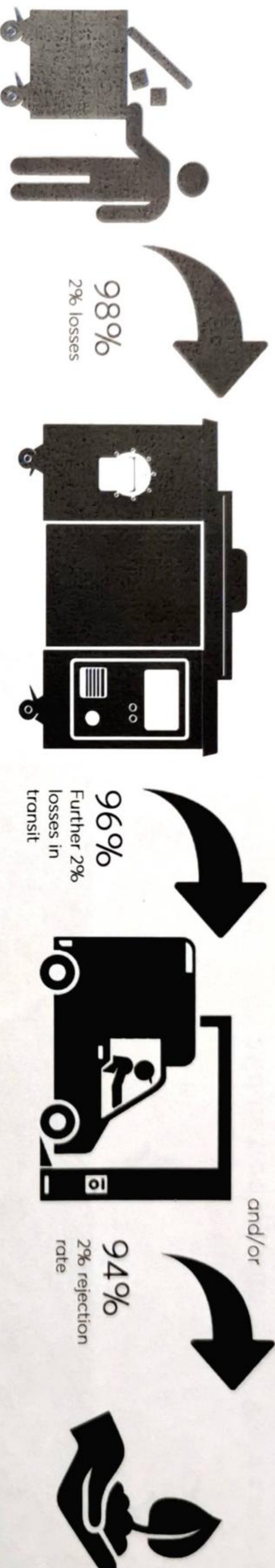
Middle treated with
Harp Renewables
Soil Amendment
and minerals



Right control,
planted in soil

Harp's Organic Waste Supply Chain

On-site processing of waste and collected and processed by Infusion (Harp Subsidiary)



Waste Disposal

- Food Waste is contained and processed on-site. No Brown Bin storage, cleaning
- No potent odours from Rotting food
- Does not attract rodents

Digesting in Harp's Digester

- Harp's computerised digesters ensure perfect digestion conditions with a constantly monitored processing with carefully controlled environmental parameters
- Highly sanitised process
- 100% of organic waste is processed with little contamination due to the closed loop system

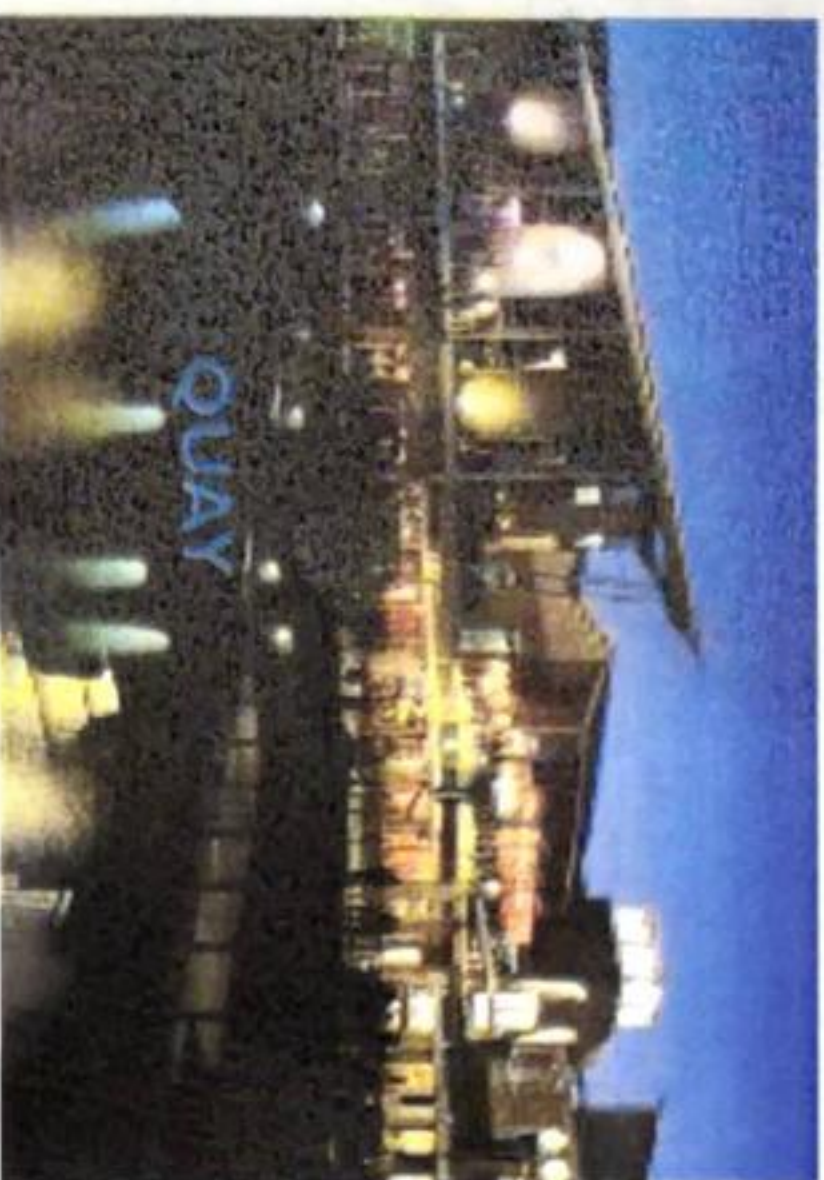
Collection and

- Fertiliser is produced on-site, no artificial fertilisers (ammonia produced from fossil fuels)
- No packaging waste or international transport emissions

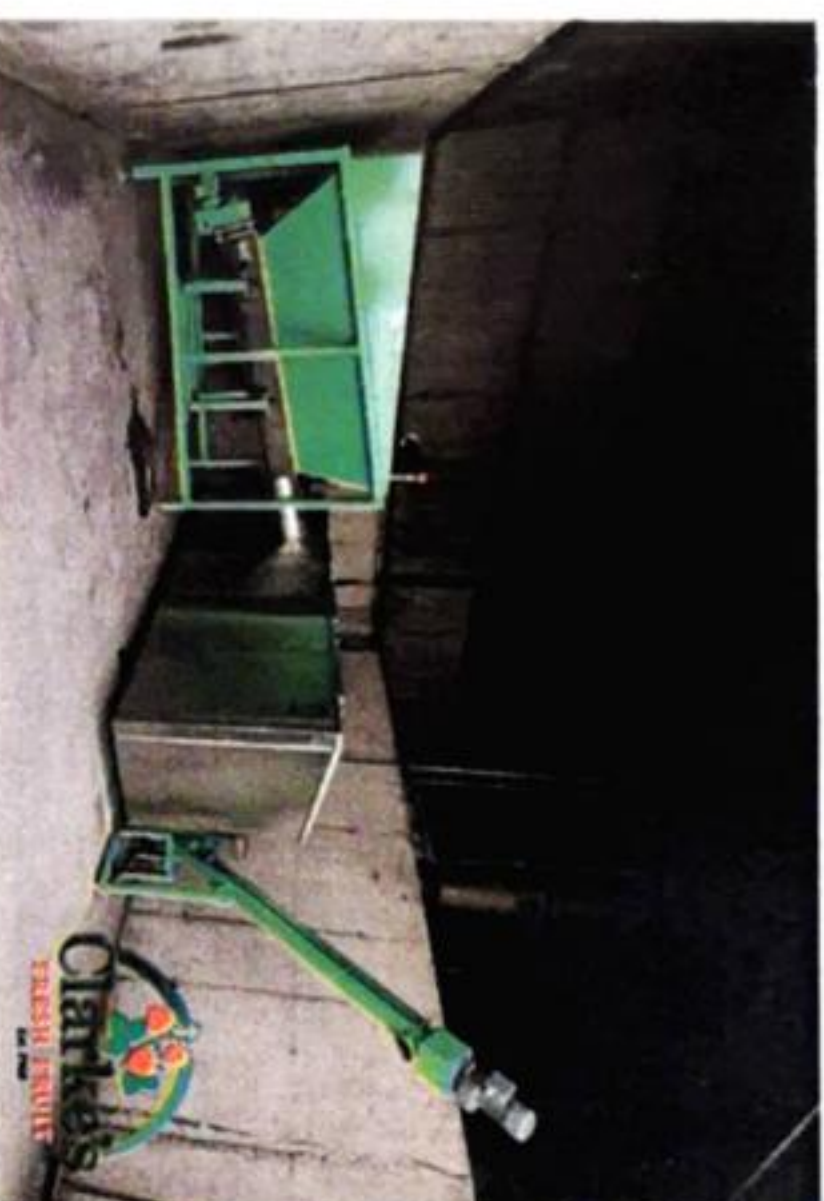
Fertiliser / Soil

- Fertiliser is produced on-site, no artificial fertilisers (ammonia produced from fossil fuels)
- No packaging waste or international transport emissions

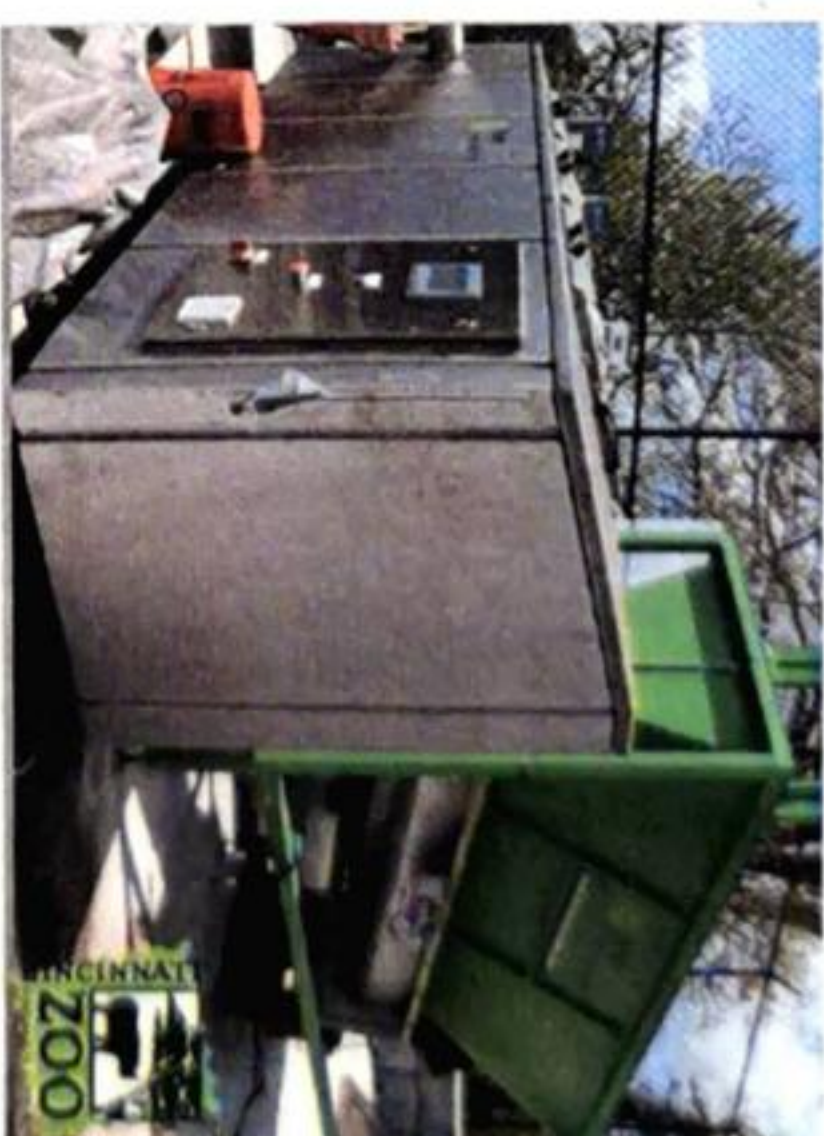
Proven Product Performance



Shopping & Entertainment



Farms



Zoo



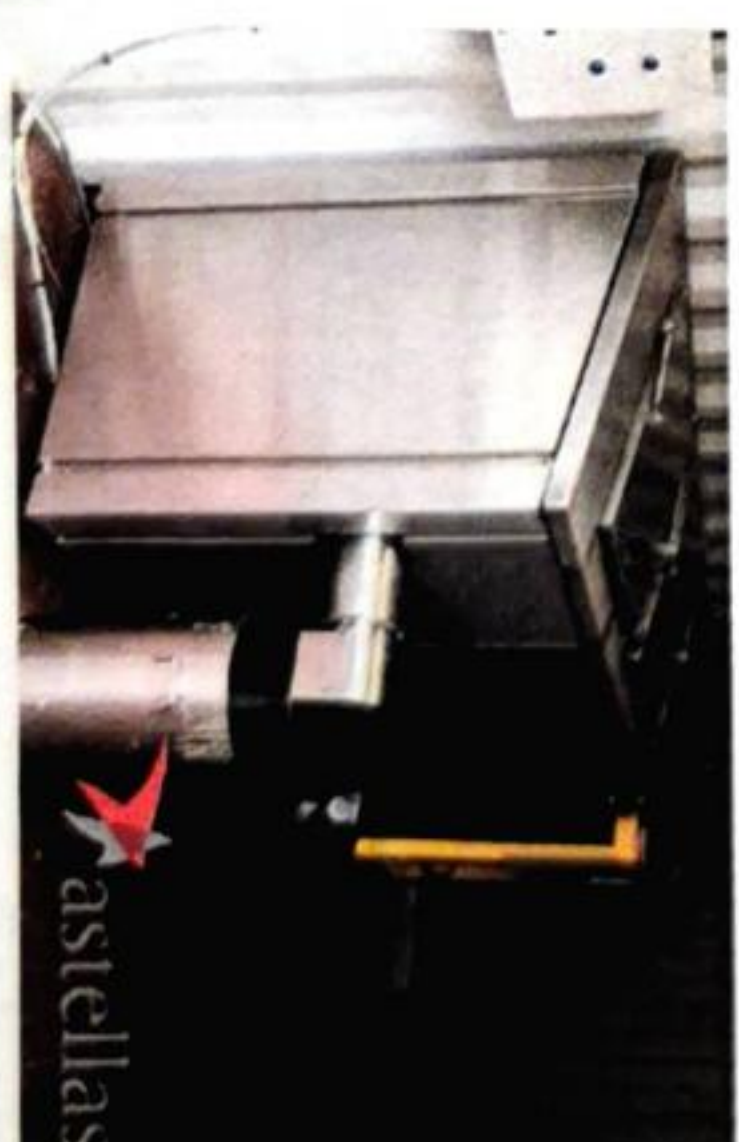
Schools



Hospital Kitchens



Hotels/Resorts



Food Processors



Residential/Corporate

MERMAID QUAY

"Our Harp Bio-digester provides the perfect solution to the source segregated food waste problem we faced arising from 32 catering operations at Mermaid Quay. Our CX5 bio-digester is equipped with a bespoke shredder and is designed for easy loading to run continuously and to process the food wastes with the minimum amount of operator intervention. With cost savings – less operating costs of £15,954 per annum, the benefits to Mermaid Quay speaks volumes – and it will also have a positive environmental impact too, which is extremely important to us."

- **Justin Patel, Managing Director at Mermaid Quay**



aramark

"We haven't sent any waste offsite since we installed the bio-digester in December. The bio-digester makes people think a bit more about what they are doing and keeps everyone focused on 'green' ways to process waste. The process has really been embraced by our tenants. They now unpackage their sent produce. As a result, not only are there no contaminated bins coming through, but we are creating added revenue by bailing our plastic. In preparation for a return to normal operations, we look forward to installing a second Harp bio-digester. We are delighted with this initiative which directly feeds into our People Planet Sustainable Strategy" - **Michael Farrell, Estate Manager at Capital Dock Aramark Properties.**



astellas

"We are delighted to work with an Irish company at the forefront of their field in providing the technology to repurpose our food waste. Harp Renewables was able to provide a solution and the technical backup to enable Astellas to reduce the mass of our food waste by over 70%" - **Eamon Foley, Environmental Coordinator, DPS (on behalf of Astellas) shares "Astellas (Kerry Plant)**



"Our customers are delighted that they now have a solution for food waste and are not contributing to unnecessary environmental damage caused by sending organic matter to landfill. Harp Renewables have been hugely helpful and very responsive to any questions we have had, particularly in the early days while everyone was getting used to using the bio-digester. There has also been a lot of interest in the bio-digester from other Local Authorities and the DCCAE. It would be an ideal solution to any organisation with excess food waste and I would have no hesitation in recommending Harp Renewables to any interested party." - **Bernadine Carry, Environmental Awareness Officer at Meath County Council shares**



"Finnegan's have always endeavored to protect the environment by adapting appropriate farming techniques. Our sustainable approach to farming is economically viable, environmentally sound and socially beneficial making it work for us, the land and the community. Our aim is to produce healthy food without compromising our future generation's ability to do likewise and that is why we invested in a Harp Bio-digester. All of our organic waste is digested on-site and put back into the land, where it belongs - **John Smith, Quality Control Manager and Finnegan's Farm**



"We invested in a Harp CX5 Bio-Digester with a bespoke integrated biomass boiler as a solution to our waste costs. We are saving around £11,000 annually now. With this solution we are also able to use the biomass boiler to heat out facilities which in turn dramatically reduces our heating's CO2 emissions. All the excess digestate is then used as an organic fertilizer in our on-site greenhouses. This is a great educational tool to teach all the students about sustainability so that in the future, students are interested and determined to make this world a greener more environmentally friendly place to live." - **Penair School**