

# ***What if you could convert unused food into a safe, natural biofertiliser? Build soil, not your waste disposal costs, with Bio-Regen®***

## **Why Bio-Regen®?**

- Over 10 years of proven global performance
- Easy and safe to operate
- 100% of organics are used to manufacture end product - no waste, no emissions, no odour
- Compact stainless steel appliance fits seamlessly into restaurant kitchens, school canteens, hotels, aged care facilities and more
- Organics are collected in small buckets - no strain, no heavy lifting - and can be processed in batches or at the end of the day
- Source separation prevents contamination
- The end product of Bio-Regen®, XLR® Bio, is a saleable liquid biofertiliser - a potential additional revenue stream for your business
- Significant cost savings achieved in management of waste and labour
- Combined with Groundswell® for processing bulk and solid organic residues, completes a circular economy loop in generating valuable, natural resources as agricultural inputs to restore soils
- Purchase or leasing options available
- Modular holding tanks allow for tailoring of storage capacity as required



## **Quantifiable Benefits**

- Every 1kg of organic input produces 2.5 L of XLR8® Bio
- Every 1kg of organic input processed reduces CO2-e emissions by 0.9kg through avoiding disposal via landfill
- Every 1kg of organic input is processed in less than 30 seconds (dependant upon material)
- Up to 1 tonne of organic input can be processed daily

# What can be processed through Bio-Regen®?

Soft putrescible organics, including:

- Fruit and vegetables
- Meat and seafood
- Eggs (including shells)
- Bakery items
- Leftovers
- Offcuts
- Out of date food items
- Coffee grounds
- Pulp
- Pet food
- Out of date liquid products, including juices, milk, soft drinks



KEN Bellamy from VRM has donated a scraps muncher to the Hermit Park State School. He shows Kate Bayley and Brock Carnes how to use it  
Picture: JENNY LANGKEN

## Recycler with the munchies

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STUDENTS at Hermit Park State School are helping to reduce the city's carbon footprint by using a locally designed recycling machine.

The Bio-Regen machine at Hermit Park State School is the latest in recycling technology and feeds off anything from carrots to sandwich crusts.

Year Seven teacher, Craig Aisthorpe, said wrappers and scraps were collected in special buckets around the school and fed through the state-of-the-art machine.

"It fits in perfectly with all our other environmental projects," he said.

The scraps are mulched down into a storage chamber, where photosynthesis turns it into a red liquid which is used on the lawns, gardens and in the school's aquaponics system, which grows vegetables from fish waste.

Mr Aisthorpe said the stainless steel machine, which can handle 350kg of scraps a day, was reducing the school's carbon footprint.

"We can actually process every single food scrap from the school, plus scraps from parents and, in the future, nearby restaurants and businesses," he said.

Vital Resource Management principal, Ken Bellamy, who created the machine, said it was one of three in Townsville.


"It actually reduces the cost of waste removal as we offer to buy back most of the liquid rather than the school having to remove it," she said.

"We use it to produce a bio-fertiliser sold to North Queensland farmers and it's less than a third of the price of other waste-processing machines."

Mr Bellamy said another machine was operating at James Cook University. "It's a neat, clean and tidy way for them to participate in recycling," he said.

### What matters to Penang, Malaysia:

A Malaysian secondary school transforms food waste into a soil enhancer to grow more food.



**Overview:** A Food to Food Programme organised by VRM Biologik is diverting fermenting food and avoiding methane at the point of generation.

**Population benefited:** 741,300 people

**Investment:** Public-Private Sector Partnership

**CO<sub>2</sub> reduction:** 200,000 metric tonnes of food waste diverted from landfill and turned into bio-liquid soil enhancers

Penang Island is located on the northwest coast of Peninsular Malaysia. George Town is the capital of the state of Penang and the second largest metropolitan area in the country.



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Food waste on the island is mixed with other municipal waste in garbage containers and collected three times a week to be disposed of at the landfill. Each day this amounts to 40-50% of organic waste going to landfill, some 400 to 600 tonnes for the whole state of Penang. A situation that generates methane and CO<sub>2</sub> and causes problems with vermin, insects, pests and odours.

Heng Ee Secondary School is located in the city and has the highest student enrolment in Penang with a teacher-student population of around 3000. In 2012, it became the first high school in the world to install a locally-manufactured Bio-Regen Food Waste Processing Machine.

The process is simple, safe and user-friendly with low operational costs. Sunlight is used to process the food so the school doesn't face high electricity or water bills. Waste collection and disposal costs are also reduced. Everything is taken care of on site, free from odours, mess or vermin. A highly efficient system than results in a high quality, valuable agricultural product. It's also carbon friendly thanks to eliminating the need for the collection and transportation of waste food.

In phase two of the project, teachers and students will also be encouraged to take their household waste to the unit. As each student represents one household, this should see a significant increase in the total amount of waste diverted to landfill.

Since Heng Ee Secondary School introduced the system, five other secondary schools in Penang have followed suit. Bio-Regen Food Waste Processing Machines have also been installed in other locations including two wet markets, one hawkers centre and two high-rise apartment blocks.

Creates a valuable agricultural product from food waste and turns it into a resource

Significantly reduces the amount of waste sent to landfill, extending landfill lifespan

Reduces CO<sub>2</sub> and methane gas emissions

Reduces leachate and associated containment costs

Reduces compost and fertilizer costs

Improves crop production

Creates a green circular economy.

**The equipment includes:**

- 1 Bio-Regen food conversion unit
- 1 mixing tank
- 1 sledge pump
- Piping and accessories

**Benefits:**

From its inception in February 2012 to April 2014, the school has processed 41,540 kg of food waste, turning it into a useful product at the point of generation. The Bio-Regen Food Waste Processing Machine also:

Unsur food is fed into the unit where it is macerated, homogenised, inoculated with a liquid Bokashi solution and pumped into a storage container. A special fermentation process converts the school's canteen waste into a high quality bio-soil conditioner and enhancer using friendly microbes that do not produce methane.

No time to waste - Join our campaign before its to late: [www.iswa.org](http://www.iswa.org)

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For further information, contact us:

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