

WHAT HAPPENS TO ADELAIDE'S GREEN WASTE?

Millions of tonnes of green waste are collected by local councils each year ... but what happens to it? *Courier* journalist **Elisa Rose** toured the Peats Soil facility near Langhorne Creek during an open day last week to see

how the company turns household garden waste into a valuable product. And if anyone needs more proof of its worth – a tour of the company's lush vegetable garden in poor quality mallee soil is all that is needed.

Soil is not a dirty word



Peats Soil and Garden Supplies production manager Ian North helps to produce a range of products.

Australians discard millions of tonnes of organic waste every year, much of which is destined for landfill.

But Peats Soil and Garden Supplies, which has sites at Willunga, Langhorne Creek and Dublin, is putting the waste to good use, turning out more than 2.5 million bags of product every year.

The company receives around a third of Adelaide's kerbside green waste and subjects it to rigorous processing in order to recycle the nutrients.

The end product is a range of garden products from basic compost to pellets. All of Peats products aim to improve soil quality with their basic compost improving soil nutrients and moisture retention while the other products can be tailored to the specific needs of customers.

The end result is an increase in the availability of soil nutrients, regulated soil pH and the suppression of plant diseases.

Peats commercial manager John Hogarth said recycling green matter played an important part in caring for the environment.

"By recycling organic matter we're producing the best environmental outcome by the reuse of organic materials, as opposed to it being lost



LEFT: Dr Ash Martin shared his knowledge about different types of soil and how microbes impacted the ground. With the right nutrients and microbes even the worst soil, like the sand and limestone earth at the Peats site in Langhorne Creek, can produce thriving crops.

into landfill which creates significant levels of methane and loses a lot of organic nutrients," he said.

Mr Hogarth said it took six to eight months to produce their pellets with other products such as compost and potting mix taking three to four months.

Further processed

The process involves manually removing large non-organic matter, coarse grinding the organic matter, windrow turning – during which it is pasteurised and composted – and finally screening and further removal of contaminants.

After it's screened any particles that are too large are re-processed, while the finished product is either sold as part of their bagged or bulk product range or further processed to create other products.

Much of the 700ha property at Langhorne Creek, which Mr Hogarth said consisted of sand over limestone, received only 400mm of rain a year and has "terrible" carbon levels, is allocated to testing the products.

Despite the poor soil conditions employees have created a thriving vegetable garden which Mr Hogarth said had a little help from Peats' compost and Peats Blend 437.

Turning waste oil into fuel



Dr Ted McMurchie, left, and Mike Jureidini can turn the fatty waste from restaurants across SA into energy-rich bio-diesel.

Burgers and chips are not usually associated with recycling, but that's exactly what Peats is doing with the waste that comes from restaurants that make such tasty treats.

The bio-diesel plant at Peats Soil and Garden Supplies in Langhorne Creek produces around a megalitre of bio-diesel every year – all from the waste that comes from the fat-traps of restaurants and fast-food chains across the state.

The waste, which is delivered to the Langhorne Creek site, is put through a process which isolates the fats and removes the water before breaking down the fats and binding them with ethanol to create bio-diesel.

Peats bio-diesel project manager Assoc Professor Ted McMurchie, who owns consulting business PhDeX, said the end product had the same energy levels as mineral diesel and was also biodegradable.

He said using a waste product to create the fuel provided a good return.

"It's a second generation process to what's been used before, making bio-diesel out of seed oils," he said.

"Essentially what we're doing is using a waste product to make a useful product."

Peats Soil and Garden Supplies commercial manager John Hogarth said he hoped the bio-diesel produced from the plant would one day be enough to fuel all of the vehicles at the Langhorne Creek site, but the bio-diesel plant was not the only self-sustainability project at the site.

In addition to their own desalination plant – which desalinates 40,000 litres water from their bores every day – they hope to one day generate all of their own power through an anaerobic digester that converts organic matter to methane, which is combusted to make power.



Peats Soil and Garden Supplies turns out more than 2.5 million bags of bagged product every year.



John Pitt, left, from OTM Civil Construction travelled all the way from Clare for the presentation, while Paul Erkelenz from Astrebla Agribusiness and NRM Consulting travelled from Goolwa.

Tiny microbes play a huge role in improving soil

Every day countless tiny microbes are hard at work helping to keep our ground healthy and soil nutrients plentiful.

While most people are oblivious to the habits of the invisible organisms, soil microbiologist Dr Ash Martin is very familiar with them and last week shared his knowledge at a field day at Peats Soil and Garden Supplies in Langhorne Creek.

Dr Martin presented to around two dozen people at the field day, explaining how the different types of microbes – from bacteria to fungus – benefited soil, ranging from improving soil structure to suppressing disease and increasing nutrient supply.

He also explained how different types of soils affected the populations of the organisms and the role microbes could have in improving soil by helping to bind it together and creating pores in the soil to allow nutrients and water to enter.

The event, which included a tour of Peats' Langhorne Creek site, was organised by the Goolwa to Wellington Local Action Planning Association with funding from Natural Resources SA Murray-Darling Basin and the Federal Government.



It takes around three to four months to produce compost while pellets take about twice as long. **INSET:** Peats Soil and Garden Supplies commercial manager John Hogarth said recycling organic matter played a role in salvaging organic nutrients.