

Dust control the natural way

By Jacqueline Ong

IT IS not always easy to find a simple and cost-effective solution that meets your operational challenges, so when Dial-a-Dump Industries (DaDI) chief executive officer Ian Malouf tried Polo Citrus' biodegradable dust suppression to tackle an intractable dust issue, he quickly knew he was onto something.

DaDI owns and operates Alexandria Landfill in inner city Sydney and Genesis in the city's west, the biggest landfill and recycling facility in the southern hemisphere with a whopping two million tonne capacity.

Dust, as at most waste facilities, was a perennial problem on its indoor and outdoor activities, including shredding.

DaDI was on the hunt for a dust control solution to replace its misting fans. It considered exhaust fans for internal use but then Malouf remembered a foam he had seen sprayed onto waste at a Hanson Landfill Services site several years before.

What particularly impresses Malouf about Polo BDS is it uses far less water than a misting system. This has two benefits: it cuts inputs and avoids saturating the waste material, which otherwise tends to stick to the screens, blinding them.

Although the Polo Citrus solution has been on the market for some years in the mining and quarry industries, it has only been used on a handful of landfill and recycling sites.

"We trialled the system and it worked really well," Malouf said.

"It's a good and simple solution that doesn't use much water and is cost-effective. Operationally, it's improved our screening. Without using a lot of water, the dust is still kept down significantly better than the other systems we've tried."

The core of the product is a concentrated biodegradable solution that when mixed with air and water turns into a foam of shaving cream consistency.

It is stored in a 1,000-litre intermediate bulk container (IBC) above the conveyor and mixed through the Polo Citrus Foaming Unit, then sprayed onto the material before it goes into the shredder.

Polo Citrus business development manager Adam Gelly explains how Polo BDS works.

"The foam and material are shredded together so instead of going airborne, the dust sticks to the foam," he said.

"And the foam is comprised of naturally derived chemicals so it is biodegradable and safe for the environment."



Polo BDS being sprayed onto waste material before it enters the shredder.

The foam does not interfere with the shredding and then evaporates afterwards, leaving the dust particles behind.

At Genesis the Polo BDS is installed on top of the hopper, rather than above the conveyor. Malouf said the foam still had sufficient contact with the waste to work effectively. DaDI has two systems and is about to purchase a third for its Alexandria site.

Malouf is clearly sold. While he has not done a cost analysis, the system is seemingly cost-effective and the natural solution, which is purchased in 1000L blocks at a time, goes a long way. Gelly provided the rough numbers.

"The equipment is priced at the \$8000 mark and it can use approximately 2.5 litres of concentrate per hour treating at a waste volume of 300 tonnes an hour," he said.

"While a lot depends on each facility's usage, a 1000 litre IBC can last for about two to three months."

He added it was a far cry from similar equipment used in the mining sector, which can cost upwards of \$70,000.

Malouf is so impressed with Polo BDS that he is rolling out another Polo Citrus product in the coming months.

"There is a product for road stabilisation to keep dust on the road. It's a solution you can apply to a loose gravel road to bind the material to the ground. It sounds like this will solve one of our other problems, again in a simple and cost-effective way," he said. **IW**

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