



Paulee's system could eliminate the need for messy, polluting waste lagoons | Photo source [Annie Spratt on Unsplash](#)

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DEVICE TRANSFORMS MOUNTAIN OF MANURE INTO POWDERED, ODOURLESS FERTILISER

 AGRICULTURE & ENERGY

A device originally designed to transform dog waste into odourless powder is being repurposed to help farms

Spotted: As the population grows, so does the consumption of meat and dairy, which requires livestock. In the US alone, it is estimated that farms produce more than 335 million tons of “dry matter” waste (e.g. cow pats) each year, representing almost a third of the total waste produced. If properly treated, however, this animal waste could be a valuable resource. Now, a device originally designed to transform dog waste into odourless powder is being repurposed to tackle this mountain of cow pats.

Israeli company Paulee CleanTec got its start in 2008 after its founder, entrepreneur Oded Halperin, was fined for not picking up after his dog. Halperin enlisted his friend, serial inventor Prof. Oded Shoseyov, to help him find a greener way to dispose of the dog's waste. Their solution was a low-cost chemical process that converts human and animal waste into an odour-free, organic, potassium-rich fertiliser. The powdered fertiliser is free of pathogens such as salmonella and E. coli, and is safe to use on crops.

To convert the waste into fertiliser, it is first mixed with an oxidiser in a reactor chamber at a high speed raising. This results in a raised temperature, which vaporises the liquids in the waste, leaving behind a dry ash-like powder, which makes an excellent, nutrient-rich fertiliser.

Although initially developed to solve the problem of dog fouling, the company is now focusing on the much-larger agricultural market. Ilan Levy, who heads a kibbutz where the system is in use, [points out](#)

that the system could eliminate the issue of pollution and contamination from livestock farming. “When huge amounts of waste are produced in one concentrated area, there is no safe and cost-effective way to use it efficiently or get rid of it. [...] In the near future, we can eliminate the current practice of on-farm storage of fresh animal manure.”

Waste disposal is a hot topic right now, as the world wakes up to the many ways that all types of waste are leading to increased CO2 emissions and many other types of pollution. This is why we have seen an increase in the number of innovations that aim to reduce or eliminate this waste. Recent ideas have included a process to [recycle plastic](#) into super-strong bricks and an AI-managed [waste-sorting](#) process that can turn waste into new materials.

Written By: Lisa Magloff

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Takeaway:

Animals drop manure all year, but this can only be applied on fields during certain seasons. This means that farms must store manure – in huge, smelly, dangerous lagoons that can spill over and contaminate drinking water. Being able to eliminate these lagoons, as well as gaining a source of fertiliser, could transform farming. Moreover, the tech could help humans in other ways. In 2012, Paulee CleanTec was awarded a grant by The Bill & Melinda Gates Foundation as part of the foundation’s search for safe and sustainable sanitation technologies for the approximately 2 billion people lacking toilet facilities. The technology could also be used on airplanes and cruise ships.