



## Organic waste fertiliser to help the developing world

According to a report on the University of Cambridge website, “Food and biofuel crops could be grown and maintained in many places where it wasn’t previously possible, such as deserts, landfills and former mining sites, thanks to an inexpensive, non-chemical soil additive.”

Indeed, the university researchers go on to explain that, “With the help of biofertiliser, biofuel crops can be successfully grown and, more importantly, sustained, even on coal waste highly contaminated with metal residues.” The biofertiliser, which consists of things like chicken manure and zeolite (a porous volcanic rock), also reportedly helps plants develop dense root systems which stabilise the soil against erosion. In addition to the coal waste, the team is also looking at marginal soils, such as those in desert climates, which normally require large amounts of water and chemical fertilisers in order for plants to grow. Control experiments have shown that water held in the zeolite increases the moisture content of soil in desert conditions. Additionally, plants grown with the biofertiliser achieve greater weight, and in the case of fruits and vegetables, a better taste, than those grown with chemical fertilisers.

"This is a whole new approach to plant nutrition," says Dr Peter Leggo of the Department of Earth Sciences at the University of Cambridge, who developed the material. "Previously, you'd douse crops with chemicals, and it's caused a huge reduction in soil microbial diversity. It has reached the stage that in certain parts of North America enormous dust bowls have developed as a consequence. The material we've developed takes less energy to produce, improves soil structure and enables you to grow crops on almost any type of soil." The team has plans to commercialise the product where there are large deposits of zeolite, and export it to other markets. There are also keen to collaborate with charities and social enterprises to create sustainable farmland for smallholding farmers in the developing world.

