

Beneficiation of waste streams

The Department of Science and Technology's Innovation for Poverty Alleviation Programme is supporting two projects targeting the beneficiation of waste streams from primary processing operations to produce a soil ameliorant. The University of Pretoria (www.up.ac.za), Agricultural Research Council (ARC) (www.arc.agric.za), Mintek (www.mintek.co.za) and Eskom are co-developers in these projects. ARC is the principal agricultural research institution in South Africa and Mintek is South Africa's national mineral research organisation.

BIOMIN's aim is to meet the need of a niche market for carefully balanced micro-nutrient and NPK formulations that are safe, registered, affordable and available to plant roots at the right time and with minimal leaching. This would be of value to communities, as well as emerging and small-scale farmers whose land-use is depleting soils of nutrients and therefore reducing productivity. Over-cropping, net harvest of nutrients through crop harvest and poor replenishment of lost nutrients are to blame for this.

Almost R3 million has been set aside for the first year of the BIOMIN project. It aims to establish a demonstration processing facility at Roodeplaat. During the first year of the project a demonstration facility will be established in Marble Hall. Both projects will use technology developed by Mintek to convert waste into a high-value soil ameliorant for better fertility and crop production at more affordable prices than those of conventional fertilizers.

The projects will source Class-F fly ash from coal-fired power stations and household sewage sludge from municipal sewage plants. This will be processed with the addition of lime and nitrogen from commercial sources to produce soil ameliorant.

The projects will create 12 jobs each in the form of community-based enterprises, in addition to contributing to waste management and greater food security.
