Turning plants into alternative products

Maize is a sustainable food crop grown in Uganda and the 'stover' (stalks, leaves and husks) that remains after the harvest are already used as fuel and fertiliser, but the material does not tend to rot down very well in the soil which can limits its use.

Adam and his team from the Biocomposites Centre at Bangor University and Makerere University in Uganda have taken this 'stover' and turned it into products that replace single-use plastics, such as fruit packaging.

Bangor University are now collaborating with the Mount Elgon Tree Growing Enterprise and the National Agricultural Research Organisation to produce biologically-based seedling wraps, which aren't produced from fossil fuel derived plastics.

Funded by Welsh Government, the wraps will be used in their ambitious tree nursery programme, which provides trees to local communities.

The intention is that the tree-seedling wraps will be manufactured from local plant matter. At the end of their life the wraps will simply rot down into the earth and improve the soils.

The hope is to transfer the technology developed during the project to Uganda in order to manufacture commercial products in partnership with farmers, equipment suppliers and packaging companies.

The environment stands to benefit from the reduction in both plastic creation and pollution.

The local people stand to benefit from employment in local schemes of manufacture, which expand on their traditional farming outputs.

#SmallNationBigIdeas

Wales – Africa tackling climate change

Viable opposition to single-use plastics

> "The aim is to produce commercial bioplastic products, within Uganda, to help reduce the amount of single-use waste plastic generated by current farming methods"

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> "The biodegradable seedling wraps will revolutionize the way we plant our trees by providing environmentally sound seedling potting material that is sustainable, reducing plastic load and reducing damage to the ecosystem"