

Green pesticide

Research at Swansea University identified the potential of a fungus as an environmentally friendly pesticide. This has since been licensed by a biotechnology firm and is on sale in the UK.

Use of the fungus could save £millions in damaged crops and prevent environmental damage from chemical pesticides.

Partners:

Novozymes BioAg, Fargro, Swansea University

The collaboration

Many chemical pesticides are being phased out because of their harmful effects on the wider environment. Regulators are trying to promote biodiversity and encourage non-chemical pest control.

Green muscardine fungus *Metarhizium anisopliae* occurs naturally in soils worldwide. Work at Swansea University had shown the fungus is deadly to certain insects but leaves others alone. Each strain of *Metarhizium* affects a different range of pests so can be targeted to use on specific crops.

A NERC follow-on fund grant helped establish which strains were worth commercializing; one is especially effective at controlling pests such as the black vine weevil, which costs nursery growers around £30m pa.

A second follow-on fund grant supported work to increase yields while maintaining quality and extending shelf life – an area where many potential natural pesticides often fail.

The follow-on work helped reduce R&D costs and accelerate the development of commercial products.

Currently Swansea University is assisting Welsh SME Myco Solutions to improve the mass production of entomopathogenic fungi. In 2011 biotechnology firm



Novozymes BioAg launched a pest-control product based on the Swansea findings; horticultural products company Fargro sells the product in the UK and Ireland as Met52.

Fargro's Dr Paul Sopp says: 'Met52 has been welcomed by the industry, replacing chemical products that have been withdrawn, and is now being used by more than 100 nurseries across the UK.'

With pressure growing to cut pesticide use, *Metarhizium* offers more sustainable and environmentally acceptable alternative for agriculture and horticulture. The product has the potential to reduce chemical pesticide use by up to 99 per cent.

Contact: innovation@nerc.ac.uk

Professor Tariq Butt, Swansea University email: t.butt@swan.ac.uk