

Breakthrough dual fungicide technology could help prevent crop failures

June 16 2015, by Nick King



An expert in environmental toxins at The University of Nottingham has developed a new antifungal technology which has the potential to play a major role in securing future food supplies.

Blocking fungal growth

Professor Simon Avery from the University's Faculty of Medicine and Health Sciences has discovered that two agents, when combined, affect the process of [protein synthesis](#), and have the potential to effectively block [fungal growth](#) in certain types of fungi which cause disease in crops or in humans.

Crop losses due to fungal spoilage each year are equivalent to the amount of food that could feed up to four billion people. In the

developed world, millions of tonnes of crops are ruined each year by fungi and the problem is especially acute in developing countries where access to fungicides is more limited.

One of the problems with fungicides is that in many cases, the fungi adapt to the treatment, which means that most fungicides are only effective for a limited period. The solution developed by the University uses two agents which should make it more difficult for the fungi to acquire resistance to the fungicide.

Field trials

Explaining how the technology works, Professor Avery said: "Protein synthesis is essential to enable organisms to grow. When these two agents are applied it causes errors in the synthesis process that stop the fungus growing."

After making the breakthrough discovery, which is patented by the University, Professor Avery and his team received initial development support through the University's HERMES scheme. This enabled him to secure additional funding from the Biotechnology and Biological Science and Research Council (BBSRC) to further develop the technology. Field trials will take place this summer to study the impact of the fungicides on crops which are subjected to different environmental conditions.

Commercial potential

Dr Susan Huxtable, Director of Intellectual Property and Commercialisation at The University of Nottingham, commented: "This fungicidal technology has real commercial potential. It is one of a number of exciting technologies that we are currently developing within

the agricultural sector, which we believe could play a significant role in the future of farming globally.

"We are particularly keen to hear from any businesses which might be interested in working with us to take Professor Avery's [fungicides](#) to a stage where they can be commercialised."

Provided by University of Nottingham

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