Spider venom and fungi: The next generation of ‘eco-friendly’ biopesticides

The global population is predicted to reach 9.77 billion people by the end of 2050, before peaking at more than 11 billion in 2100.

The consequences of this population boom will directly affect food availability, supply, and distribution. As agricultural landmass is limited, crop yields need to be greatly increased in order to sustain population growth.

Arthropods are invertebrate animals that …. are a natural enemy of crops in the agricultural world. Arthropods are currently controlled by means of agrochemical pesticides, but these methods are no longer as effective as they were decades ago.

Furthermore, agrochemical pesticides …. have contributed to the appearance of resistant insect strains, such as fruit flies resistant to malathion.

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Between 2005 and 2009, tens of approved chemical pesticides were deregistered by the US Environmental Protection Agency (US EPA) as a consequence of stricter legislation. This has created a need for alternative solutions.

Over the past years, there has been a renewed interest in the use of natural products as substitutes for the conventional chemicals. Focus has shifted towards environmentally friendly pest management methods, such as biopesticides.

As the name indicates, biopesticides are naturally produced compounds, or entire microorganisms, used for insect management [and] aim to be eco-friendly ….

Read full, original article: From lethal spider toxins to eco-friendly pesticides