

Using biotech to turn plants into ‘antifungal factories’ could protect against disease

Researchers [at the Centre for Research in Agricultural Genomics (CRAG) in Spain] [have developed](#) a biotechnological tool to produce antifungal proteins in the leaves of the plant *Nicotiana benthamiana*. These proteins are promising biomolecules that could be used to develop new antifungals which can be applied in diverse fields, including crop and post harvest protection and animal and human health.

Disease-causing fungi that infect plants, animals and humans pose a serious threat to human and animal health, food security and ecosystem resilience [F]ungi are a challenge to food security because they destroy major crops globally and contaminate food and feed with mycotoxins that are detrimental to animal and human health.

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Through genetic engineering [researchers] managed to modify the tobacco mosaic virus (TMV) so that, instead of producing its own pathogenic proteins, it produced other proteins of interest. [T]he team implemented this tool to produce antifungal proteins in leaves of the *Nicotiana benthamiana* plant discovering that these leaves produced large quantities of these new antifungals.

In addition, the researchers demonstrated that extracts recovered from the *N. benthamiana* plants are active against pathogenic fungi, being able to protect the tomato plant from the infection by the fungus *Botrytis cinerea*, better known as grey mold.

Read full, original article: [Plants as antifungal factories](#)