

Advance in the battle against 'gray mold'

December 15 2008



Scientists have identified the cluster of genes responsible for "gray mold," a common, devastating plant disease. Credit: American Chemical Society

Scientists are reporting identification of the cluster of genes responsible for the toxins produced by "gray mold," a devastating plant disease that kills almost 200 different food and ornamental plants including tomatoes, strawberries and roses. Their findings could lead to genetically engineered crops or new fungicides to fight this disease, which frustrates backyard gardeners and commercial farmers alike, the researchers say. The study is in the current online issue of *ACS Chemical Biology*.

David Cane, Isidro Collado, Muriel Viaud and colleagues note that gray mold is so-named because it covers infected plants with fuzzy gray spores that can ultimately kill plants.

A fungus named *Botrytis cinerea* causes the disease. Studies show that the fungus kills by producing two main plant toxins, botrydial and botcinic acid. Conventional fungicides are largely ineffective in destroying the fungus, which can easily spread to other plants.

In the new study, the scientists describe the identification of five genes involved in producing the enzymes that are responsible for making the toxins produced by the fungus. In lab studies, the researchers showed that inactivating one of the genes, called BcBOT2, blocked the gene cluster's ability to make the botrydial toxin. The finding could help the development of new, more effective fungicides or other resistance strategies, that target the ability of *B. cinerea* to make botrydial, the researchers suggest.

Article: "Sesquiterpene Synthase from the Botrydial Biosynthetic Gene Cluster of the Phytopathogen *Botrytis cinerea*",

pubs.acs.org/stoken/presspac/p ... ll/10.1021/cb800225v

Provided by ACS

Citation: Advance in the battle against 'gray mold' (2008, December 15) retrieved 10 April 2024 from <https://phys.org/news/2008-12-advance-gray-mold.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--