New campus study on fungi could lead to improvements in agriculture

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The amount of rice lost to rice blast disease, a disease caused by fungi, would otherwise feed over 60 million people.

OLIVIA BRANAN
STAFF
14 HOURS AGO

A study released by campus biochemists could lead to new fungicides and better protection of rice crops.

Led by Michael Marletta, campus professor of chemistry and molecular and cell biology, the team of researchers discovered how the fungus *Magnaporthe Oryzae* enters rice plants and causes rice blast disease.

"Berkeley is filled with examples of basic fundamental research that leads to important applications in society," Marletta said in an email. "We discovered an important aspect of how the fungus gains entry to the plant. If you can stop this, you will save the plant."

According to Marletta, the amount of rice lost annually due to rice blast disease could feed 60 million additional people.

Richard Sayler, a postdoctoral associate involved in the study, said that the team's research discovered how *M. Oryzae* is able to invade rice plants.

"Our study characterized an enzyme that's important for the infection of the fungus *Magnaporthe Oryzae* on rice plants," Sayler said. "We studied the basic biochemistry of this enzyme and learned more about its mechanism of infection."

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"This gives us a target to go after to develop new fungicides for a fungus that uses a particular mode of action like this one," Sayler said.

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ESPM, MAGNAPORTHE ORYZAE, MATTEO GARBELOTTO, MICHAEL MARLETTA, RICHARD SAYLER

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