

**VIRULENCE CHARACTERIZATION OF ISOLATED FUNGAL
ANTAGONIST AGAINST RICE BLAST
(*Magnaporthe oryzae*) Couch.**

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(Crop Protection Plant-Pathology)**

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BIOGRAPHICAL SKETCH

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He continues to strive for his dreams, and he promised to finish his study for his family. And finally, he obtained his certification in Agricultural Science and degree in Bachelor of Science in Agriculture in year 2019.

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ABSTRACT

OREJANA, JEFFREY M., Department of Crop Protection, College of Agriculture, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, **June 2019, VIRULENCE CHARACTERIZATION OF ISOLATED FUNGAL ANTAGONIST AGAINST RICE BLAST (*Magnaporthe oryzae*) Couch.**

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Rice blast caused by *Magnaporthe oryzae* is one of the most important fungal disease in rice. Bio-control agent provides sustainable control for the disease. Generally, the study aimed to characterize the virulence of isolated fungal antagonist against rice blast. Moreover, in this study the rice blast fungal pathogen (*Magnaporthe oryzae*) was isolated through single spore isolation technique, identified the fungal antagonist using morphological and molecular approach, and conducted dual culture assay.

Results showed that, P1, P2, P6 and P8 isolates were identified as *Penicillium verruculosum* and isolates FA and FB were identified as *Fusarium oxysporum* with 98-100% identity. Phylogenetic tree displayed that the P8J (P8) isolates was closely related to *P. verruculosum* species among the four *Penicillium* species, and FAJ was closely related to *Fusarium oxysporum*. Dual culture assay showed that among five isolates; P1, P2, P6, FA and FB, the P1 isolates exhibited the highest percent growth of inhibition of 46.9 % against *Magnaporthe oryzae* compare to the other isolates.

Keywords: fungal antagonist; *Magnaporthe oryzae*; *Penicillium verruculosum*; mono-conidial isolation; dual culture assay

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