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AN EVALUATION OF SEVERAL MEDIA
FOR USE IN IDENTIFICATION OF
SOME *Fusarium* SPECIES

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**AN EVALUATION OF SEVERAL MEDIA
FOR USE IN IDENTIFICATION OF
SOME *FUSARIUM* SPECIES**

**An Undergraduate Thesis
Submitted to the Faculty of the
Cavite State University
Indang, Cavite**

**In Partial Fulfillment of the
Requirements for the Degree of
Bachelor of Science in Biology
(Major in Microbiology)**

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ABSTRACT

NUESTRO JENIFFER A., April 1999. "An Evaluation of Several Media for Use in Identification of Some *Fusarium* Species." An Undergraduate Thesis, Bachelor of Science in Biology, (Major in Microbiology).

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Carnation leaf agar (CLA), cogon leaf agar (CGLA), banana leaf agar (BLA) and corn leaf agar (CNLA) were compared for their usefulness in the identification of some *Fusarium* species, namely: *F. solani*, *F. oxysporum*, *F. equiseti*, *Fusarium chlamydosporum*, *F. moniliforme* and *F. proliferatum*. The different media were evaluated based on the shape of macroconidia, the presence and formation of microconidia, production of sporodochia and chlamydospore, and cultural degeneration.

All cultures examined produced typical macroconidia and microconidia on CLA and CNLA. Chlamydospores were also produced consistently and cultural degeneration was not observed. Thus, CLA and CNLA were the most suitable media for the identification of *Fusarium* species used in this study. Conidial production was not consistent in BLA and CGLA and therefore, not suitable for the reliable identification of species examined.

Corn leaf agar is highly recommended as a substitute for CLA in the identification of *Fusarium* species.

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An undergraduate thesis presented to the faculty of the Biological Science Department, College of Arts and Sciences, Cavite State University, Indang, Cavite, in partial fulfillment of the requirements for the degree of Bachelor of Science in Biology, major in Microbiology. Prepared under the supervision and guidance of Dr. Adelaida Erasga Sangalang Contribution No. CAS 98-99-238-02.

INTRODUCTION

The form genus *Fusarium* is the largest in the Tuberculariaceae and taxonomically one of the most difficult of all fungal groups. Few mycologist attempt to identify species of *Fusarium* because of the great variability in their cultural morphology that makes identification uncertain for all but few specialist. *Fusarium* produces long, crescent shaped, multiseptate macroconidia typically borne on sporodochia and very small spherical, oval elongated or crescent shaped microconidia on single or branched hyphae. Chlamydospores are also commonly produced by mycelium and macroconidia. Parasitic *Fusarium* are generally vascular parasites causing wilts of plants by plugging the conducting tissue and by toxin secretion as well. The most destructive species is *Fusarium solani* on potato for example (Alexande,1977). The shape of macroconidia produced in sporodochia is a key criterion in *Fusarium* taxonomy (Wollenweber & Reinking, 1935; Nelson et al., 1983 Burgess et al., 1988). *Fusarium* in the section Liseola, however, cannot be distinguished by this criterion because macroconidia are similar in