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余永年 著

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著者简介

余永年 菌物[真菌]学家。1923年生于重庆市万州。1949年国立四川大学学士,1951—1953年中国农业大学进修教师,1957—1960年中国科学院真菌学研究生。历任中国科学院研究员、博士研究生导师,中国农业大学兼职教授、重庆三峡大学客座教授。中国真菌学会理事长、中国菌物学会名誉理事长。中国《真菌学报》主编、《中国孢子植物志》副主编,英、美传记单位名誉委员、顾问。发表学术论文100多篇,如"茭白黑粉菌刺激生长物质的研究"、"中国球针壳属分类研究.Ⅰ.关于种的划分"、"北京地区水霉科的季节性分布"、"南极淡水分离出的菌物"、"中国灵芝培育史话",建立新分类单位约50个。著编译书20余部,主要有:《真菌与人》、《真菌分类学大纲》、《真菌学概论》、《中国白粉菌目志》、《中国腐霉属志》、《余永年菌物学论文选集》、《中国霜霉目志》和《余氏新谱》等。获国家及省部级一、二等奖5次,培养硕士、博士等学位研究生近10名,享受政府[国务院]特殊津贴。

A BRIEF RECOMMENDATION OF THE AUTHOR

Yu Yong-Nian mycologist, came from Wanzhou district, Chongqing city of China in 1923. Specializing in plant pathology he received his Bachelor Degree of Agronomy at National Sichuan University in 1949, visiting scholar at China Agricultural University from 1951 to 1953. As a graduate student studying in mycology of Chinese Academy of Sciences (CAS), he winded up his studies in 1960. He has successively held the posts of research professor and doctoral supervisor of CAS; a concurrent professor at China Agricultural University and a chair professor at Chongqing Three Gorges University. He is former and honorary president of Mycological Society of China, vice-editor-in-chief of Cryptogamic Flora of China, and was the chief editor of Acta Mycologica Sinica. He also was honorary appointment and member of ABI and IBC respectively. Prof. Yu has published over 100 papers, such as "Studies on the production of indole acetic acid by *Ustilago esculenta* P. Henn.", "Taxonomic studies on the genus *Phyllactinia* of China. Ⅰ. The delimitation of the species", "Seasonal periodicity of Saprolegniaceae in Beijing district", "Notes on some fungi isolated from fresh water in Antarctica", and "The history of Lingzhi (*Ganoderma* spp.) cultivation". He participated in writing, compiling and translating about 20 books and monographs, for example: 《Fungi and Human》(1980), 《Outline of Fungal Taxonomy》(1980), 《Introductory Mycology》(1983), 《Mycoflora of Chinese Erysiphales》(1987), 《The Genus *Pytnium* in China》(1989), 《Mycoflora of Chinese Peronosporales》(1998), 《Selected Treatises of mycology by Y. N. Yu》(1993), and 《Neogenealogy of Clan Yu》(2001), etc. He has won 1st and 2nd class Awards of National and Ministry / Province rank for 5 times; trained about 10 graduate students for Master and / or Doctor Degrees. In recognition of his achievements he awarded the Government Special Subsides by the State Council of the Government of the People's Republic of China.

前　言

余自幼鲁钝，贪玩好乐，对学文识字，兴趣不浓，特别是对死记硬背的私塾教育，兴趣索然。后入新式学校读书，学习内容丰富多彩，同学多、有玩伴，故而喜欢学校生活，对学习也逐渐产生了兴趣。从不满10岁入小学开始，直到37岁读完研究生，除寒暑假和数年的工作时间外，悠悠18年的学习岁月，都吃住在学校，过着有规律的集体生活，算得上是一个以学校教育为主成长起来的典型学生。值得庆幸的是，我在大、中、小学和研究单位，都遇到一批高素质、高水平的老师，他们对我的成长影响深远，在此无限思念中深表敬意。

1948年我才开始学习撰写论文，至2003年总共写了约200篇，其中大约百分之七十是与菌物学和植物病理学有关的内容。在前书《余永年菌物学论文选集》(1993)中，已收入58篇，本《文选》又收了78篇，不过少数篇章有重复，因有读者反应，重要论文的“参考文献”和“拉丁文描述”不应省略，故再次发表。此外，还有40多首试笔的诗词。本《文选》共分三部分：第一部分是“菌物学论文”，共35篇；第二部分为“杂文辑萃”，一般是与菌物学无直接关系的杂文，共40篇；第三部分为“附录”，包括作者简历、著作目录、诗词和影集四个内容。

本书多承著作老伴沈明珠教授的鼓励和支持，她是不少文章的第一读者，每每读完后都有高招、高见，有时还亲自动手修改。赵海燕先生在张落出版此《文选》中，具体组织输入论文和物色出版社等多方面，作了大量工作，不辞辛劳。郝光娥女士为论文的搜集和复印资料，跑了不少路，不嫌烦琐；以及其他许多关心、支持此书面世的朋友们。如果没有他[她]们的帮助和支持，本《文选》是很难出版的。在此向他们致以最衷心的感谢。由于作者水平所限，书中遗误在所难免，尚祈读者不吝教言。

著　者　　谨识

北京 中关村 桐庐

2003年2月25日

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第一部分

菌物学论文

A PRELIMINARY STUDY ON ROOT ROT AND FOOT ROT OF PYRETHRUM*

CONTENTS

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* A thesis submitted to the University Faculty for the Degree of BACHELOR OF AGRICULTURE, Department of Phytopatholofy & Entomology, National Szechwan University, June 1949.

A PRELIMINARY STUDY ON ROOT ROOT AND FOOT ROT OF PYRETHRUM

INTRODUCTION

Pyrethrum (*Chrysanthemum cinerariaefolium* Vis.) is one of the most important material for contact, high-speed insecticide manufacturing. This insecticidal plant is universally cultivated throughout the world, espically in Japan, in recent years, more than 18,000,000 pounds were produced annually, while in Kenya about 3,000,000 1bs, and in France 1,000,000 pounds were produced per year respectively. Those productions are more supplied for exporting as well as for local consumption.

On Chengtu-plain, it does not grow so well on account of the serious root rot and foot rot during the whole growing seasons. Although some workers had done the isolating of the causal organism during last several years, yet the primary causal organism is still uncertain. Therefore, experiments on the study of the causal organism was conducted . According to the isolation and the study of the pathological anatomy of the infected root, it is surely believed that the pathogen is a species of *Pythium* which Mr. Ciccarone (2) had been isolated from the Kenya pyrethrum field in 1946, belonging to the Phycomycetes.

This organism was evidently responsible for pyrethrum wilting in blossom stage as well as for poor stands in early seedling, but its role as a parasite of pyrethrum was not well understood. Therefore a careful study was made of the pathogen and the destructiveness caused by this fungus. The purpose of this paper is to deal with the details of the morphology and physiology of the pathogen, and to intend to suggest some effective control measures.

The writer wishes to express his sincere obligation to Professor Dr. W. C. Ho for solving the problems and for his constructive directions throughout the course of the work. The writer is indebted also to Mr. D. Z. Haiang for many helpful suggestions, to Mr. C. L. Hsieh for counsal on the statistical analysis, and to Miss K. S. Lee for making figure 5 and 6.

OCCURRENCE

This disease occurs throughout the pyrethrum-growing sections on Chengtu-plain appearing in the spring and fall, but its had not been observed on the other seasons.

Excessive soil humidity coupled with the moderate temperature is the most important factor to influence the occurrence of the disease.

IMPORTANCE

The pyrethrum root rot and foot rot have caused heavy annually losses on the production of the pyrethrum flowers on Chengtu Plain since its cultivation. The prevalence has been invetigated and the losses found in the field of National Szechwun University was 29.1% and in the Provoncial Agricultural Improvement Imstitute field was 35% in 1948. In regarding to the individual hill, about 50% was infected.

MANIPULATION OF GLASSWARE

Cleaning glassware

Glassware was cleaned either in the dilute or concentrated solution of potassium dichromate and sulphuric acid. Those solution not only clean the glassware but also destroy the sporeforming organisms which some times cause trouble in the laboratory.

Concentrated solution:

Sulphuric acid (Conc.) 460cc
Potassium dichromate 60g
Distilled water 300cc

Dissolve the potassium dichromate in the warm water, cool, and then add the acid slowly, cooling as necessary.

Dilute solution:

Sulphuric acid (Conc.) 60cc
Potassium dichromate 60g
Distilled water 1000cc

The potassium dichromate shoud be dissolved in the water and the acid added slowly to the solution. Never pour the water into the acid.

The procedure of cleaning Petri dishes is as follow:

1. Wash with tap water.
2. Soak with hot water for half hour.
3. Wash with soap water.
4. Rinse with tap water and drain.
5. Dip in cleaning solution:
   a. Petri dishes would be kept in that solution till all the dirty masses were dissolved clearly.
   b. Use the forceps or other instruments to dip and pick out, otherwise the skin of

hands would be hurt.

6. Rinse with tap water.
7. Rinse with distilled water for three changes.

Sterilization of glassware

Petri dishes are commonly sterilized for one hour in a hot-air oven at 160℃. An ordinary gas range thermostat is a convenience in preventing overheating. Either a higher temperature or a longer time is necessary in some localities or if the dishes are wrapped, three or four at a time, in newspaper or small paper sacks. Wrapping permits storange in a convenient place after sterilization. Petri dishes may often be crazed if they are put in the steamer or autoclave. The writer usually sterilized the Petri dishes which were wrapped with newspaper, in a autoclave for a half hour for three times.

Marking glassware

For temporary marking on glassware, Chinese black ink is often required. For permanent marking on steamed glass, a commerical glass marking pencil may be used. The pencil is more convenient although the markings are less easily read.

PREPARATION OF CULTURE MEDIA

The cultivation of various bacteria and fungi in vitro provides the investigator with many valuable approches to his problem. Some of the more commonly used media and the methods employed by other investigators considered. The writer used following media, namely water agar, water blank, Czapek's sucrose nitrate agar, potato dextrose agar, pyrethrum sucrose agar and carrot dextrose agar, to culture this fungus.

Water blank(WB):

Place the desired quantities of distilled or tap water in suitable containers, e. g., about 10cc in test tube, plug, and auclave.

Water agar(WA):

Distilled water ····· 10000cc
Agar ····· 200g

Melt the agar in the water by heating in electric pan. Filter, tube, plug, and autoclave. Clean and put away equipment.

Czapek's sucrose nitrate agar(CSNA):

Potassium dibasic phosphate ····· 1.00g