

**Antifungal Activities of Some Medicinal Plant Extracts and  
*Trichoderma* spp. against *Stemphylium vesicarium*  
of *Allium sativum***

**A Dissertation**

**Submitted for the Partial Fulfillment of the  
Requirements for the Degree of M.Sc. in Botany.**

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**RECOMMENDATION**

This is to certify that Ms. Sajana Shrestha has carried out the dissertation work entitled “**Antifungal Activities of Some Medicinal Plant Extracts and *Trichoderma* spp. Against *Stemphylium vesicarium* of *Allium sativum*”** under my supervision. The entire work is based on the collection of primary data by student. This result has not been submitted for any other academic degree. I therefore, recommend this dissertation for the partial fulfillment of Master’s Degree in Botany from Tribhuvan University, Nepal.

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## ABSTRACT

The extracts of eight aromatic plants viz. *Cuscuta reflexa*, *Syzygium aromaticum*, *Allium cepa*, *Cinnamomum zeylanicum*, *Solanum xanthocarpum*, *Phyllanthus emblica*, *Cinnamomum camphora* and *Equisetum diffusum* were assessed *in-vitro* for antifungal activity against *Stemphylium vesicarium*; the causal organism of leaf blight of garlic. Pathogenicity test was confirmed by inoculating the pathogen into healthy garlic plant. The assessment for fungitoxicity was carried out by poisoned food technique using five different concentrations (20%, 40%, 60%, 80% & 100%) against the test fungus in terms of percentage of mycelial growth inhibition. Among the test plants, the extracts of *Cuscuta reflexa*, *Syzygium aromaticum* and *Allium cepa* were able to inhibit the mycelial growth completely.

*Trichoderma* spp. was tested to determine its effect on mycelia growth of *S. vesicarium* on PDA medium. The mycelia growth was totally inhibited by *Trichoderma* spp. showing its fungitoxic properties.

# TABLE OF CONTENTS

<b>CHAPTER – 1</b>	<b>PAGE NO.</b>
<b>1. INTRODUCTION</b>	<b>1-5</b>
1.1 General Introduction	1
1.2 Objectives	4
1.3 Justification of the study	4
1.4 Limitation of the study	5
<b>CHAPTER- 2</b>	
<b>2. LITERATURE REVIEW</b>	<b>LITE 6-13</b>
2.1 Test fungus	6
2.1.1 Isolation and pathogenicity test of <i>Stemphylium vesicarium</i> (Wallr.) Simmon	6
2.2 Antifungal activity of plant extract	7
2.2.1 Test plants	7
2.2.1.1 <i>Phyllanthus emblica</i> L.	7
2.2.1.2 <i>Syzygium aromaticum</i> L.	7
2.2.1.3 <i>Cinnamomum camphora</i> Linn. Presl	7
2.2.1.4 <i>Solanum xanthocarpum</i> Schrad and Wendl	8
2.2.1.5 <i>Cuscuta reflexa</i> Roxb.	8
2.2.1.6 <i>Allium cepa</i> L.	8
2.2.1.7 <i>Equisetum diffusum</i> D.Don	9
2.2.1.8 <i>Cinnamomum zeylanicum</i> B.	9
2.3 Antifungal activity of <i>Trichoderma</i> spp.	12

## **CHAPTER -3**

<b>3.</b>	<b>MAT</b>
<b>    MATERIALS AND METHOD</b>	<b>14-19</b>
3.1 Materials	14
3.2 Methods	14
3.2.1 Collection of diseased plants	14
3.2.2 Isolation of test fungus by single spore method	14
3.2.3 PDA media preparation	14
3.2.4 WA media preparation	15
3.2.5 Identification of test fungus	15
3.2.6 Pathogenicity test	15
3.2.7 Reisolation	15
3.2.8 Maintenance of pure culture	16
3.2.9 Control by using different plant extracts	16
3.2.10 Preparation of plant extracts	16
3.2.11 Preparation of one week old culture	17
3.2.12 Antifungal assay	17
3.2.13 Calculation of mycelia growth inhibition	17
3.2.14 Determination of MIC of plant extracts	18
3.2.15 Biological control	18
3.2.16 Conidial measurement	18
3.2.17 Statistical data analysis	19
3.2.18 Photographs	19

## **CHAPTER – 4**

<b>4.</b>	<b>RESULTS</b>	<b>20-31</b>
4.1	Isolation of test pathogen	20
4.2	Pathogenicity test	21
4.3	Antifungal activity of different plant extracts against test fungus	22
4.4	Minimum inhibitory concentration (MIC) of Plant extracts	30
4.5	Efficacy of <i>Trichoderma</i> spp. to control test fungus	30
4.6	Statistical data analysis	31

## **CHAPTER – 5**

<b>5.</b>	<b>DISCUSSION</b>	<b>DI 32-35</b>
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## **CHAPTER – 6**

<b>6.</b>	<b>CONCLUSION</b>	<b>CO 36</b>
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## **CHAPTER – 7**

<b>7.</b>	<b>RECOMMENDATION</b>	<b>RE 37</b>
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<b>REFERENCES</b>	<b>38-42</b>
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## **APPENDICES**

<b>I.</b>	<b>Material used for the study</b>	<b>Ma 43</b>
<b>II.</b>	<b>Nutritional content of garlic</b>	<b>Nut 45</b>

III.		T
	op Ten Garlic Producers-11 June 2008	46
IV.		Mi
	chrometry	47
V.		Ph
	otographs	48

## LIST OF TABLES

Table 1: Diseases of garlic	2
Table 2: Medicinal plants used to test fungitoxicity	16
Table 3: Measurement of diameter of colony of test fungus after 7 days	20
Table 4: MIC of plant extract	30
Table 5: Correlation between different concentration of plant extracts and mycelial growth	31



## LIST OF FIGURES

Figure 1: Antifungal activity of plant extract of <i>Cuscuta reflexa</i> against <i>Stemphylium vesicarium</i> (Wallr.)Simmons	22
Figure 2: Antifungal activity of plant extract of <i>Syzygium aromaticum</i> against <i>Stemphylium vesicarium</i> (Wallr.)Simmons	23
Figure 3: Antifungal activity of plant extract of <i>Allium cepa</i> against <i>Stemphylium vesicarium</i> (Wallr.)Simmons	24
Figure 4: Antifungal activity of plant extract of <i>Cinnamomum zeylanium</i> against <i>Stemphylium vesicarium</i> (Wallr.)Simmons	25
Figure 5: Antifungal activity of plant extract of <i>Solanum xanthocarpum</i> against <i>Stemphylium vesicarium</i> (Wallr.)Simmons	26
Figure 6: Antifungal activity of plant extract of <i>Phyllanthus emblica</i> against <i>Stemphylium vesicarium</i> (Wallr.)Simmons	27
Figure 7: Antifungal activity of plant extract of <i>Cinnamomum camphora</i> against <i>Stemphylium vesicarium</i> (Wallr.)Simmons	28
Figure 8: Antifungal activity of plant extract of <i>Equisetum diffusum</i> against <i>Stemphylium vesicarium</i> (Wallr.)Simmons	29

## ABBERRATIONS

cm	-	Centimeter
m	-	Meter
mm	-	Millimeter
gm	-	Gram
mg	-	Milligram
mt	-	Metric Ton
μ	-	Micrometer
°C	-	Degree Celsius
ha	-	Hectare
GC	-	Gas chromatography
TLC	-	Thin layer chromatography
NARC	-	National Agricultural Research Council
CDB	-	Central Department of Botany
PDA	-	Potato Dextrose Agar
WA	-	Water Agar
MIC	-	Minimal inhibitory concentration