



**ATMIYA
UNIVERSITY**

**MANAGEMENT OF CUMIN (*Cuminum cyminum L*)
WILT (*Fusarium oxysporum*) AND ALTERNARIA
BLIGHT (*Alternaria burnsii*) DISEASES THROUGH
DIFFERENT BOTANICALS**

A Thesis

**Submitted to the
Atmiya University,
For the Degree of**

DOCTOR OF PHILOSOPHY

in

Microbiology

by

Bhavna Jagani

Enrolment No.191682003

**Under the Guidance of
Dr. Nutan Prakash Vishwakarma
Department of Biotechnology**

**ATMIYA UNIVERSITY,
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August-2023

Declaration by Research Scholar

The Originality of Research Work

I declare that the thesis entitled “*Management of Cumin (Cuminum cyminum L) Wilt (Fusarium oxysporum) and Alternaria blight (Alternaria burnsii) diseases through different botanicals*” is my own work conducted under the supervision of **Dr. Nutan Prakash Vishwakarma** at the Department of **Biotechnology**, Faculty of **Science**, Atmiya University, Rajkot, Gujarat, India and approved by the Director of Research.

I further declare that to the best of my knowledge; the thesis does not contain any part of any work which has been submitted for the award of any degree either in this University or any other University without proper citation.

Date:

Place:

Jagani Bhavna

Certificate of Supervisor

This is to certify that the work entitled “**Management of Cumin (*Cuminum cyminum L*) Wilt (*Fusarium oxysporum*) and Alternaria blight (*Alternaria burnsii*) diseases through different botanicals**” is a piece of research work done by **Jagani Bhavna** under my supervision for the degree of Doctor of Philosophy in Department of **Microbiology**, Faculty of **Science**, Atmiya University, Rajkot, Gujarat, India

To the best of my knowledge and belief the research work and thesis

- I. Embodies the work of the candidate herself,
- II. Has duly been completed,
- III. Fulfils the requirement of the ordinance related to Ph.D. degree of the University &
- IV. is up to the standard both in respect of content and language for being referred to the examiner.

Date:

Place:

Dr. Nutan Prakash Vishwakarma

Declaration by Research Scholar

Submission of Thesis

I declare that the submitted thesis entitled “***Management of Cumin (Cuminum cyminum L) Wilt (Fusarium oxysporum) and Alternaria blight (Alternaria burnsii) diseases through different botanicals***” incorporates

1. All the suggestions/directions/modifications/additions/deletions received from the supervisor and the external examiners through their thesis evaluation reports.

2. All the suggestions/directions/modifications/additions/deletions received from the panel of examiners during the public viva voce (Open Defence) conducted on

Date:

Place:

Jagani Bhavna