

**DETECTION, SPATIAL TRACKING, DAMAGE AND YIELD ASSESSMENT
AND MAPPING OF ANTHRACNOSE-TWISTER OF ONION USING
REMOTE SENSING TECHNOLOGY IN LAUR, GENERAL
MAMERTO NATIVIDAD, AND PALAYAN
CITY, NUEVA ECIJA**

ROGELIO ESPINOSA MAGBITANG JR.


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**BACHELOR OF SCIENCE IN AGRICULTURE
(Crop Protection-Plant Pathology)**

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ACCEPTANCE SHEET

This undergraduate thesis manuscript entitled "DETECTION, SPATIAL TRACKING, DAMAGE AND YIELD ASSESSMENT AND MAPPING OF ANTHRACNOSE-TWISTER OF ONION USING REMOTE SENSING TECHNOLOGY IN LAUR, GENERAL MAMERTO NATIVIDAD, AND PALAYAN CITY, NUEVA ECIJA" prepared and submitted by ROGELIO E. MAGBITANG JR., in partial fulfillment of the requirements for the degree of BACHELOR OF SCIENCE IN AGRICULTURE (CROP PROTECTION-Plant Pathology), is hereby accepted:


RONALDO T. ALBERTO, Ph.D.
Adviser

6/7/19
Date Signed


CELYNNE O. PADILLA, M.Sc.
Critic

6/7/19
Date Signed


CELYNNE O. PADILLA, M.Sc.
Department Research Coordinator

6/7/19
Date Signed

Accepted as partial fulfillment of the requirements for the degree of BACHELOR OF SCIENCE IN AGRICULTURE (CROP PROTECTION-Plant Pathology):


RONALDO T. ALBERTO, Ph.D.
Chair, Department of Crop Protection

6/7/19
Date Signed


EDILYN V. LANSANGAN, Ph.D.
College Research Coordinator

8 June 2019
Date Signed


ERNESTO A. MARTIN, Ph.D.
Dean, College of Agriculture

6-8-19
Date Signed

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Also, the author would like to extend his heartfelt gratitude to Dr. Annie Melinda Paz-Alberto, the Director of the Institute for Climate Change and Environmental Management (ICCEM) for her permission to allow the author to use the software and computer facilities. And also, for allowing him to avail technical assistance from one of LIDAR team especially to Mr. Romnick Tagaca, Mr. Kevin Manipon, Ms. Karla Trisha Alejandro, Mr. Miguelito Isip and, Mr. Ariel Biagtan for sharing their expertise in Geographical Information System-mapping without them the production of maps would not be possible.

To his family and friends especially to Team Crop Prot, Jreral group, Peers, and to his dorm mates for warmest support and unconditional love.

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ABSTRACT

MAGBITANG, ROGELIO JR. E. Department of Crop Protection, College of Agriculture, Central Luzon State University, Science City of Muñoz Nueva Ecija, Philippines, **June 2019, DETECTION, SPATIAL TRACKING, DAMAGE AND YIELD ASSESSMENT AND MAPPING OF ANTHRACNOSE-TWISTER OF ONION USING REMOTE SENSING TECHNOLOGY IN LAUR, GENERAL MAMERTO NATIVIDAD AND, PALAYAN CITY, NUEVA ECIIJA**

Adviser: RONALDO T. ALBERTO, Ph.D.

This study was conducted to detect, determine the distribution incidence and severity of anthracnose-twister through mapping using remote sensing technology in onion growing areas of Laur, General Mamerto Natividad, and Palayan City, Nueva Ecija. A total of 17 barangays were surveyed in which nine (9) from the Municipality of Laur, three (3) from General Mamerto Natividad, and 5 barangays from the City of Palayan.

Total areas affected were 142.84 ha out of 548.19 ha surveyed in which 23.99 ha were damaged in Laur until harvested. In the Municipality of General Mamerto Natividad, the total areas affected were 138.16 ha out of 495.29 ha and had a 1.75 ha damaged, while in Palayan City a total of 8.18 ha were damaged out of its total area of 91.24 ha. Results from Spectroscopy shows the reflectance variation in healthy and infected leaves, whereby the higher the reflectance the more the onion damaged was.

Estimated yield for Laur was 9,369.95 MT, 10,499.3 MT in General Mamerto Natividad, and 775.55 MT in Palayan City.

Key words: Remote Sensing Technology; mapping of incidence and severity of anthracnose-twister; Laur, General Mamerto Natividad, and Palayan City, Nueva Ecija

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