

**DETECTION, SPATIAL TRACKING, DAMAGE AND YIELD ASSESSMENT  
AND MAPPING OF ANTHRACNOSE-TWISTER OF ONION USING  
REMOTE SENSING TECHNOLOGY IN  
SAN JOSE CITY, NUEVA ECIJA**

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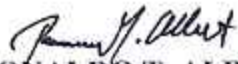
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**BACHELOR OF SCIENCE IN AGRICULTURE  
(Crop Protection – Plant Pathology)**

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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 SAN JOSE CITY, NUEVA ECIJA," prepared and submitted by MARY JANE M. DE GUZMAN, in partial fulfillment of the requirements for the degree of BACHELOR OF SCIENCE IN AGRICULTURE (CROP PROTECTION - Plant Pathology), is hereby accepted:

  
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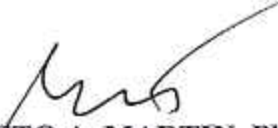
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## **BIOGRAPHICAL SKETCH**

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She was a fortunate recipient of Science City of Muñoz Scholarship. She became a secretary from January 2019 to May 2019 of Pest Management Society, a college-based organization.

Mary Jane likes reading books and nature exploring activities that made her gave so much interest in plants.

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## ABSTRACT

**DE GUZMAN, MARY JANE M.**, 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 SAN JOSE CITY, NUEVA ECIJA**

Adviser: RONALDO T. ALBERTO, Ph.D.

Detection, tracking and mapping the geographical distribution of anthracnose-twister disease of onion conducted in San Jose City, Nueva Ecija and carried out in 14 of its barangays from January 2019 to April 2019. Yield was assessed as well the damage and incidence where the progress was determined through a map series.

A total of 77.78 hectares (4.67%) anthracnose-twister incidence over 1,663.12 estimated onion area was surveyed throughout the season. Barangays with high incidence level were detected in Caanawan and Kaliwanagan. High damage level was only detected in Barangay Kaliwanagan affecting a total of 0.81 hectares equivalent to 0.49% of the onion area.

Normalized Difference Vegetation Index (NDVI) images in Barangay Bagong Sikat and Barangay San Juan were acquired using Unmanned Aerial Vehicle (UAV) to detect anthracnose-twister incidence which surveys validated through ground truthing. An estimated 24,058.29 MT of onion was produced in 29 onion-growing Barangays in San Jose City.

**Keywords:** spatial tracking; mapping of anthracnose-twister incidence; Remote Sensing Technology; San Jose City, Nueva Ecija; Geographical Information System

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