2.2.2 RESEARCH ENDEAVORS

Table 3. Prominent Graduates in the MS in Horticulture with Research Endeavors (2016 – 2026)

Name of MS Horticulture Graduates	Year Graduated	Agency	Position	Research Endeavors
Mark Al-jamie J. Muttulani	2016	University of Southern Mindanao	Associate Professor IV	Seed Propagation Techniques in Growing Various Herbs and Spices and Their Pesticidal Efficacy Against Bacterial and Fungal Diseases of Bell Pepper (Capsicum annuum) (2023)-USM Fund Upgrading of Tissue Culture Facility in USM (2020-2022)-DA BAR ACEF Fund Organic Based Interventions of Selected Vegetable Crops and Sheep Nutrition (2022)-USM Fund Germplasm Collection, Propagation and Fertilization of Anthurium in USMARDC (2022)-USM Fund Influence of Plant Growth Regulators to Improve Hybrid Nut Production in Dwarf Coconuts Development of Appropriate Treatments

				to Coconut Inflorescence to Improve Hybridization Operations.
Noe. S. Mamon Jr.	2016	University of Southern Mindanao	Assistant Professor III	CA-CaRE: “Capacity and Resiliency Enhancement” for Agricultural Technologists
Rico Jay Ceriales	2019	Cotabato Foundation College of Science and Technology	Instructor I	Diversity Assessment and characterizations of herlum rice along Arakan Valley
Imelda A. Mariano	2019	Southern Philippines Agri-Business and Marine and Aquatic School of Technology	Assistant Professor IV	Consumers’ Preferences on Different Kalamansi Nip Variants (Plain Kalamansi, with Carrots, with Cucumber, with Chayote) Field Evaluation of Four Citrus Species Cuttings Thru Balance Fertilization Program Horticultural And Physiological Parameters of Adlai (Coix Lacryma - Jobi L.) As Influenced By Different Fertilizer Application Schemes Assessment Of Coffee and Cacao Farmers in Selected Municipalities of Davao Occidental Effects of Mulching Based Sea weed Extract Bio stimulants applied on growth and yield of Pomelo

				Community-Based Production of Dragon Fruit Seedlings (Hylocereus undatus) in Buhangin, Malita, Davao Occidental
Jake D. Aquino	2026	Davao Del Sur State College	Instructor I	Value Chain Analysis and Investment Road Map of Arabica Coffee in Davao Del Sur Regenerative Agriculture and Artificial Intelligence in Scaling-Up Key Commodity Crops in Daval Del Sur Regenerative and Agriculture and Artificial Intelligence in Sustaining Mangrove Ecosystems for Resilient and Innovative Coastal Communities in Davao Del Sur Declaration of Mt. Altut Tuna as a Local Conservation Area of Brgy. Colonsabac Matanao, Davao Del Sur Philippines

The Master of Science in Horticulture (MS Horticulture) program of the University of Southern Mindanao (USM) has demonstrated its capacity to produce graduates who have established meaningful careers and have actively contributed to agricultural research, instruction, technology development, and community-based initiatives. From 2016 to 2026, graduates of the program have assumed professional positions in higher education institutions and government-related agricultural programs, while continuously engaging in research endeavors addressing current issues and emerging needs in horticulture and allied agricultural sciences. Their professional accomplishments and research involvement provide evidence of the program's contribution to developing competent, research-oriented, and socially responsive horticulture professionals.

Table 3 presents selected prominent graduates of the MS in Horticulture program and their research endeavors from 2016 to 2026. The graduates represent different cohorts and institutions, demonstrating that the competencies developed through the program have been applied beyond USM and have contributed to agricultural research and development in various areas of Mindanao.

Among the notable graduates is Mark Al-jamie J. Muttulani, who completed the MS in Horticulture program in 2016 and currently serves as an Associate Professor IV at the University of Southern Mindanao. His professional trajectory demonstrates the application of advanced horticultural knowledge to research, instruction, facility development, and agricultural innovation. His research endeavors encompass seed propagation techniques and the pesticidal efficacy of herbs and spices against bacterial and fungal diseases of bell pepper, an initiative funded by USM in 2023. He has also been involved in the Upgrading of the Tissue Culture Facility at USM, supported through the DA-BAR Agricultural Competitiveness Enhancement Fund (ACEF), which contributed to strengthening institutional capacity for plant biotechnology and propagation research. Other research engagements include organic-based interventions for selected vegetable crops and sheep nutrition, germplasm collection, propagation and fertilization of *Anthurium* at the USM Agricultural Research and Development Complex, and studies on the use of plant growth regulators to improve hybrid nut production in dwarf coconut. He has likewise participated in the development of appropriate treatments for coconut inflorescences to improve hybridization operations. These research activities reflect the graduate's sustained engagement in applied research addressing crop production, crop protection, propagation, biotechnology, and agricultural productivity.

Another graduate of the 2016 cohort, Noe S. Mamon Jr., is currently an Assistant Professor III at the University of Southern Mindanao. His research and development involvement includes the CA-CaRE: "Capacity and Resiliency Enhancement" for Agricultural Technologists, reflecting the application of his academic preparation toward strengthening the capacity and resilience of agricultural practitioners. His involvement demonstrates the broader contribution of MS Horticulture graduates not only to crop production research but also to human resource development and agricultural extension.

Rico Jay Ceriales, a 2019 MS Horticulture graduate, currently serves as an Instructor I at the Cotabato Foundation College of Science and Technology. His research endeavor on the diversity assessment and characterization of heirloom rice along the Arakan Valley demonstrates the application of research skills toward the documentation, characterization, and conservation of locally important agricultural genetic resources. This work is particularly relevant to sustainable agriculture and biodiversity conservation because it recognizes the importance of traditional crop varieties as valuable resources for future agricultural development.

Imelda A. Mariano, a 2019 graduate who currently serves as an Assistant Professor IV at the Southern Philippines Agri-Business, Marine and Aquatic School of Technology (SPAMAST), has demonstrated extensive engagement in applied agricultural and horticultural research. Her research endeavors include studies on consumers' preferences for different kalamansi-based products, field evaluation of citrus species cuttings under balanced fertilization, and the influence of different fertilizer application schemes on the horticultural and physiological parameters of adlai (*Coix lacryma-jobi* L.). She has also been involved in the assessment of coffee and cacao farmers in selected municipalities of Davao Occidental, evaluation of seaweed-extract-based biostimulants and mulching on pomelo growth and yield, and community-based production of dragon fruit seedlings in Buhangin, Malita, Davao Occidental. These research activities illustrate the diverse application of horticultural science in crop propagation, crop nutrition, value addition, farmer assessment, production technology, and community development.

The program has also produced recent graduates who are already contributing to research and development despite being at the early stages of their professional careers. Jake D. Aquino, a 2026 graduate, currently serves as an Instructor I at Davao del Sur State College. His research and development activities include the Value Chain Analysis and Investment Road Map of Arabica Coffee in Davao del Sur, as well as initiatives focusing on regenerative agriculture and artificial intelligence for scaling up key commodity crops. He is also involved in research addressing the application of regenerative agriculture and artificial intelligence in sustaining mangrove ecosystems for resilient and innovative coastal communities in Davao del Sur. His participation in the declaration of Mt. Altut Tuna as a Local Conservation Area in Barangay Colonsabac, Matanao, Davao del Sur, Philippines, further demonstrates the expanding scope of MS Horticulture graduates into resource conservation, climate resilience, agricultural innovation, and community-based environmental management.

Collectively, the research endeavors of these graduates demonstrate that the MS Horticulture program has developed professionals capable of addressing agricultural concerns using research-based and multidisciplinary approaches. Their research interests extend from conventional horticultural production and crop propagation to plant tissue culture, crop protection, crop nutrition, postharvest technology, agricultural value chains, biotechnology, biodiversity conservation, regenerative agriculture, artificial intelligence, and environmental sustainability. This diversity of research areas indicates

that the competencies developed through the program remain relevant to the changing needs of the agricultural sector.

The professional positions occupied by these graduates also provide evidence of their employability and career advancement. Several graduates have progressed into faculty positions at the associate professor level, while others have assumed instructor and academic research roles in higher education institutions. Their continued engagement in research, extension, teaching, and development initiatives demonstrates the multiplier effect of the MS Horticulture program, wherein graduates apply their acquired knowledge and competencies in their respective institutions and communities.

Furthermore, the research endeavors of the graduates contribute to the attainment of institutional and national priorities in agriculture. Studies on crop propagation, organic inputs, tissue culture, plant growth regulators, crop protection, and postharvest technologies support productivity and sustainable production. Research involving coffee, cacao, banana, citrus, dragon fruit, rice, adlai, pomelo, and other priority crops contributes to the development of commodity-based agricultural systems. Meanwhile, studies involving regenerative agriculture, artificial intelligence, biodiversity, mangrove ecosystems, and conservation demonstrate the graduates' responsiveness to emerging challenges related to climate change, environmental sustainability, food security, and rural development.

The accomplishments of these graduates therefore serve as significant indicators of the effectiveness and relevance of the MS in Horticulture program. Their career progression, research productivity, institutional involvement, and community-oriented initiatives demonstrate that the program is producing graduates who are not only employable but also capable of generating and applying knowledge for the advancement of horticulture and agriculture. The sustained research engagement of graduates from different cohorts further reflects the program's success in cultivating a culture of inquiry, innovation, and evidence-based problem solving.

Overall, the achievements of the prominent MS Horticulture graduates from 2016 to 2026 provide substantial evidence of the program's contribution to human resource development and agricultural research in Southern Philippines. Their accomplishments in academe, research, technology development, conservation, and community-based agricultural initiatives affirm the program's continuing relevance and its capacity to produce graduates who contribute meaningfully to institutional, regional, and national agricultural development.

2.2.3 RESEARCH PUBLICATIONS

Research publications of prominent graduates of the MS Horticulture from 2016-2026

Author/ Co-Author	Title	Name of Journal	Scope
Mark Al-jamie J. Muttulani (MS Horticulture Graduate 2016)	Grape (Vitis vinifera L.) propagation using different types of cuttings and root-initiating substances	Journal of Agricultural Research, Development, Extension and Technology	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:u5HHmVD_uO8C
	Postharvest quality and physicochemical analysis of strawberry (Fragaria ananassa L.) to various application of mulching and organic fertilizers	Bhartiya Krishi Anusandhan Patrika	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:IjCSPb-OGe4C

Response of Mulching and Organic Fertilizers on the Growth Performance of Strawberry (Fragaria ananassa L.) in Southern Philippines.	Current Agriculture Research Journal	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:2osOgNQ5qMEC
Response of banana varieties and seaweed extracts on plantlet formation and root development using corms	Journal of Tropical Agriculture	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:roLk4NBRz8UC
Utilization of Carbonized Wastes as Ethylene Absorbers for Shelf-life Extension of Major Tropical Fruits in Southern Philippines	Asian Journal of Dairy and Food Research	International: Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:UebtZRa9Y70C

Basal Scarification: A Technique for Improved Grapevine Rooting and Propagation	Bhartiya Krishi Anusandhan Patrika	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:Se3iqnhoufwC
Enhancing hydroponic leaf lettuce (Lactuca sativa) production through optimized nutrient formulations	Asian Journal of Agriculture	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:eQOLeE2rZwMC
Plant-based hydrating solutions for extending vase life and postharvest quality of chrysanthemum (Dendrathema x grandiflorum)	Current Agriculture Research Journal	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:UeHWp8X0CEIC
Varietal Screening and Maturity Stage Evaluation of Corn (Zea mays L.) Microgreens	Asian Journal of Dairy and Food Research	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&u

	Through Sensory and Acceptability Study as Potential Food in Southern Philippines		ser=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:YsMSGLbcyi4C
	Propagation and productivity evaluation of Anthurium (Anthurium andraeanum) using organic fertilizers in tropical conditions	Journal of Agricultural Research, Development, Extension and Technology	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:u-x6o8ySG0sC
Noe S. Mamon Jr. (MS Horticuture Graduate 2016)	Fertilizer integration on cacao cum rubber: implications on cacao growth, yield, disease occurrence and profitability	American Journal of Agricultural Science, Engineering, and Technology	International Link: https://journals.e-palli.com/home/index.php/ajaset/article/view/93
Rico Jay Ceriales (MS Horticulture Graduate 2019)	Characterization Of Semi-Processed Rubber (Hevea brasiliensis Willd.) Treated With Different Coagulants	International Journal of Research and Innovation in Applied Science (IJRIAS)	International Link: https://rsisinternational.org/journals/ijrias/

Imelda A. Soriano (MS Horticulture Graduate 2019)	Rooting Response and Subsequent Growth of Selected Citrus Sp. to Application of Different Hormones	SPAMAST Research Journal	National Link: https://spamastresearchjournal.ph/index.php/srj/article/view/4
Judy Rose Alamada (MS Horticulture Graduate 2020)	Inland Fish Diversity and Conservation Challenges in Pulang River, Central Mindanao, Philippines	Annual Research & Review in Biology	International Link: https://journalarrb.com/index.php/ARRB/article/view/2224
Francisco Jr. O. Esgrina (MS Horticulture Graduate 2020)	Maximizing Pleurotus ostreatus yield with sustainable agricultural waste substrates in Arakan, Cotabato, Philippines	Nusantara Bioscience	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=qbDxNBoAAAAJ&citation_for_view=qbDxNBoAAAAJ:Tyk-4Ss8FVUC
	Response of different avocado microclonal rootstock varieties to etiolation time.	Nativa	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=qbDxNBoAAAAJ&citation_for_view=qbDxNBoAAAAJ:2osOgNQ5qMEC

	Optimizing the productivity of eggplant grown in polybags with the application of buffalo manure tea	The Journal of Agriculture and Development	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=qbDxNBoAAAAJ&citation_for_view=qbDxNBoAAAAJ:eQOLeE2rZwMC
	Microclonal success of avocado using different scions and clonal rootstock varieties	Asia - Pacific Journal of Science and Technology	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=qbDxNBoAAAAJ&citation_for_view=qbDxNBoAAAAJ:Y0pCki6q_DkC
	Growth vitamin hormone and shading intensity affect the rhizo-caulogenesis of etiolated avocado microclonal rootstocks	Asian Journal of Agriculture	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=qbDxNBoAAAAJ&citation_for_view=qbDxNBoAAAAJ:zYLM7Y9cAGgC
Maron M. Garrigues (MS Horticulture Graduate 2016)	Meliponiculture in the Philippines: A Comprehensive Review of its Socio-Economic Significance,	International Journal of Research and Innovation in Applied Science (IJRIAS)	International Link: https://rsisinternational.org/journals/ijriss/articles/meliponiculture-in-

	Ecological Role, and Future Prospects		the-philippines-a-comprehensive-review-of-its-socio-economic-significance-ecological-role-and-future-prospects/
	Sweet Pepper (Capsicum annuum L) Under Organic Nutrient Management â€“ A Comparative Study of Agronomic and Economic Outcomes	IDEAS	International Link: https://ideas.repec.org/a/bjf/journl/v10y2025i7p1348-1363.html
Mylene Grace Denona (MS Horticulture Graduate 2016)	Enhancing Leaf Mustard Yield with Nitrogen-based Fermented Plant Juice	JARDET	International Link: https://www.researchgate.net/profile/Mylene-Grace-Denona
Riza D. Meperanum (MS Horticulture Graduate 2026)	Plant-based hydrating solutions for extending vase life and postharvest quality of chrysanthemum (Dendrathema x grandiflorum)	Current Agriculture Research Journal	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:UeHWp8X0CEIC

Jules Wesley F. Marcelino (MS Horticulture Graduate 2026)	Utilization of Carbonized Wastes as Ethylene Absorbers for Shelf-life Extension of Major Tropical Fruits in Southern Philippines	Asian Journal of Dairy and Food Research	International: Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:UebtZRa9Y70C
Mariel P. Amoy (MS Horticulture Graduate 2026)	Response of banana varieties and seaweed extracts on plantlet formation and root development using corms	Journal of Tropical Agriculture	International Link: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=JbTmQw6AoE0C&citation_for_view=JbTmQw6AoE0C:roLk4NBRz8UC

The research productivity of graduates is another important indicator of the effectiveness and relevance of the Master of Science in Horticulture program of the University of Southern Mindanao. From 2016 to 2026, prominent graduates of the program have produced and co-authored research publications covering a broad range of horticultural and allied agricultural disciplines. As presented in the research publication table, these scholarly works have been published in journals with national and international scope, demonstrating the capacity of the graduates to communicate research findings to the broader academic and scientific community.

Among the most productive graduates is **Mark Al-jamie J. Muttulani**, a 2016 MS Horticulture graduate, whose publications cover diverse areas of horticultural science. His research publications include studies on **grape propagation using different types of cuttings and root-initiating substances**, **the postharvest quality and physicochemical characteristics of strawberry under different mulching and organic fertilizer treatments**, and the **growth performance of strawberry in response to mulching and organic fertilizers in Southern Philippines**. These studies demonstrate a sustained research interest in crop propagation, sustainable crop production, postharvest management, and the adaptation of horticultural technologies to local conditions.

His publications also include research on **banana propagation**, particularly the response of different banana varieties and seaweed extracts on plantlet formation and root development using corms. This research is relevant to the development of efficient and cost-effective propagation techniques for banana, one of the economically important crops in the Philippines. Another significant research output is the **utilization of carbonized wastes as ethylene absorbers for extending the shelf life of major tropical fruits in Southern Philippines**, which demonstrates the integration of waste utilization, postharvest technology, and sustainable agricultural practices.

Additional publications of Muttulani focus on **basal scarification as a technique for improved grapevine rooting and propagation**, **optimized nutrient formulations for hydroponic leaf lettuce production**, **plant-based hydrating solutions for extending the vase life and postharvest quality of chrysanthemum**, **varietal screening and maturity-stage evaluation of corn microgreens**, and **propagation and productivity evaluation of *Anthurium* using organic fertilizers under tropical conditions**. Taken together, these publications demonstrate the breadth of research competencies acquired and applied by the graduate, encompassing plant propagation, crop nutrition, protected and soilless production, postharvest technology, ornamental horticulture, sustainable agriculture, and food-related horticultural innovations.

The publication record of **Noe S. Mamon Jr.**, also a 2016 graduate, includes research on **fertilizer integration in cacao-cum-rubber systems**, particularly its implications for cacao growth, yield, disease occurrence, and profitability. The study reflects the application of horticultural and crop production principles to diversified and economically

important farming systems. It also demonstrates the relevance of graduate research to practical concerns involving productivity, disease management, and farm profitability.

Rico Jay Ceriales, a 2019 graduate, has contributed to research on the **characterization of semi-processed rubber (*Hevea brasiliensis*) treated with different coagulants**. Although focused on rubber, the study demonstrates the interdisciplinary nature of the graduate program and its relevance to industrial and perennial crops. The research contributes to understanding processing-related characteristics of an economically important agricultural commodity.

The research productivity of **Imelda A. Soriano**, a 2019 MS Horticulture graduate, includes the study **"Rooting Response and Subsequent Growth of Selected Citrus Sp. to Application of Different Hormones."** Published in a national research journal, the study directly reflects the application of plant propagation and plant growth regulator principles that are central to horticultural science. The research provides practical information relevant to the efficient propagation and establishment of citrus crops.

Judy Rose Alamada, a 2020 graduate, has contributed research on **inland fish diversity and conservation challenges in the Pulang River, Central Mindanao, Philippines**. While extending beyond conventional horticultural production, the study demonstrates the broader environmental and conservation orientation of graduates and their ability to apply research methodologies to natural resource management and biodiversity concerns.

Another 2020 graduate, **Francisco Jr. O. Esgrina**, has produced several research outputs addressing agricultural biotechnology, sustainable production, and crop propagation. His publications include research on **maximizing *Pleurotus ostreatus* yield using sustainable agricultural waste substrates in Arakan, Cotabato**, as well as studies on **avocado microclonal rootstocks**, including responses of different microclonal rootstock varieties to etiolation time, microclonal success using different scions and clonal rootstock varieties, and the influence of growth-promoting substances and shading intensity on rhizo-caulogenesis of etiolated avocado microclonal rootstocks. These studies demonstrate the application of research in mushroom production, agricultural waste utilization, plant biotechnology, and advanced propagation techniques.

Maron M. Garrigues, a 2016 graduate, has contributed scholarly work on **meliponiculture in the Philippines**, examining its socioeconomic significance, ecological role, and future prospects. Her research broadens the contribution of horticulture graduates toward sustainable agricultural systems and ecological services, particularly through the integration of pollinator-related enterprises and environmental conservation. Her publication on sweet pepper under organic nutrient management likewise addresses agronomic and economic outcomes, highlighting the importance of sustainable nutrient management and profitability in vegetable production.

The publication record of **Mylene Grace Denona**, a 2016 graduate, includes research on **enhancing leaf mustard yield using nitrogen-based fermented plant juice**. This work

is particularly relevant to sustainable horticulture because it explores locally derived organic inputs as potential alternatives or complements to conventional fertilizers. Such research contributes to the program's broader thrust toward environmentally sound and resource-efficient crop production.

The research outputs of the program's recent graduates likewise demonstrate an immediate transition from graduate-level research to scholarly publication. **Riza D. Meperanum**, a 2026 graduate, is associated with research on **plant-based hydrating solutions for extending the vase life and postharvest quality of chrysanthemum**. **Jules Wesley F. Marcelino**, another 2026 graduate, contributed to research on the **utilization of carbonized wastes as ethylene absorbers for shelf-life extension of major tropical fruits in Southern Philippines**. **Mariel P. Amoy**, also a 2026 graduate, contributed to research on the **response of banana varieties and seaweed extracts on plantlet formation and root development using corms**. These outputs demonstrate that the research generated within the graduate program can progress toward dissemination through scholarly publication.

The overall publication record demonstrates several notable characteristics of the MS Horticulture program. First, the research outputs are **multidisciplinary**, covering fruit crops, vegetable crops, ornamental plants, plantation and industrial crops, postharvest technology, plant propagation, plant biotechnology, organic and sustainable agriculture, agricultural waste utilization, and environmental conservation. Second, the publications demonstrate **strong local and regional relevance**, with several studies conducted under conditions prevailing in Southern Philippines. This is particularly significant because the research addresses practical production constraints and opportunities faced by farmers, agricultural institutions, and communities in Mindanao.

Third, the publication record demonstrates the graduates' ability to disseminate research through **internationally and nationally scoped journals**. The presence of publications in journals with international scope indicates the capacity of graduates to contribute to the wider body of agricultural knowledge, while publications in national journals provide avenues for sharing technologies and findings that are directly relevant to Philippine agriculture.

The publications also reflect the application of research competencies developed through the MS Horticulture curriculum. Topics such as propagation, plant growth regulators, crop nutrition, postharvest physiology, organic fertilization, tissue culture, crop protection, and sustainable production are consistent with the core competencies expected of graduate students in horticulture. The progression from graduate research to publication further indicates that the program encourages graduates to transform research findings into scholarly outputs and practical knowledge.

The research publications of prominent MS Horticulture graduates from 2016 to 2026 provide compelling evidence of the program's contribution to research and knowledge generation. The quantity and diversity of publications, together with their national and

international reach, demonstrate that graduates have acquired the research competencies necessary to investigate agricultural problems, generate evidence-based solutions, and communicate their findings through scholarly channels. Their research productivity strengthens the visibility of the MS Horticulture program and contributes to USM's mission of advancing science, technology, innovation, and sustainable agricultural development.

2.2.4 Patent/Copyright/Utility Model/Developed and Applied

Table 5. Prominent Graduates in the Master of Science in Horticulture with Patent/Copyright/Utility Model/Developed Applications (2018 – present).

Name of MS Horticuture	**Year Graduated**	**Agency**	**Position**	**Patent/ Copyright/ Utility Model/ Developed Applications (2018-present)**
Mark Al-jamie J. Muttulani	2016	University of Southern Mindanao	Associate Professor IV	Copyright General of the creative work entitled "General Guidelines for Halal Production" Copyright Registration No: 2025-00534-A-TCCR Copyright Registration Work entitled "Halal Crop Production" Copyright Registration No:2025-00532-A-TCCR

Mark Al-jamie J. Muttulani, an MS Horticulture graduate of 2016 from the University of Southern Mindanao (USM), is currently serving as an Associate Professor IV at the University of Southern Mindanao. His professional career demonstrates a strong commitment not only to teaching and research but also to the development and protection of innovative and knowledge-based outputs.

From 2018 to the present, Dr. Muttulani has contributed to the development of intellectual property outputs, particularly in the area of Halal crop production and agricultural practices. Among his notable accomplishments are the copyright registrations for instructional and technical materials that support the promotion and application of Halal principles in agriculture.

His registered creative works include “General Guidelines for Halal Production,” with Copyright Registration No. 2025-00534-A-TCCR, and “Halal Crop Production,” with Copyright Registration No. 2025-00532-A-TCCR. These copyrighted works reflect his efforts to generate practical and knowledge-based resources that can be utilized by students, researchers, practitioners, and other stakeholders in promoting Halal-compliant agricultural production.

These intellectual property accomplishments demonstrate the relevance and impact of the MS Horticulture program in developing professionals who are capable of producing innovative, useful, and protected knowledge outputs. Dr. Muttulani's accomplishments further exemplify how graduate education in horticulture can contribute to research, instruction, innovation, and the advancement of sustainable and specialized agricultural practices.

2.2.5 Expert and Consultancy Services and Regional/National Technical Working Group Members

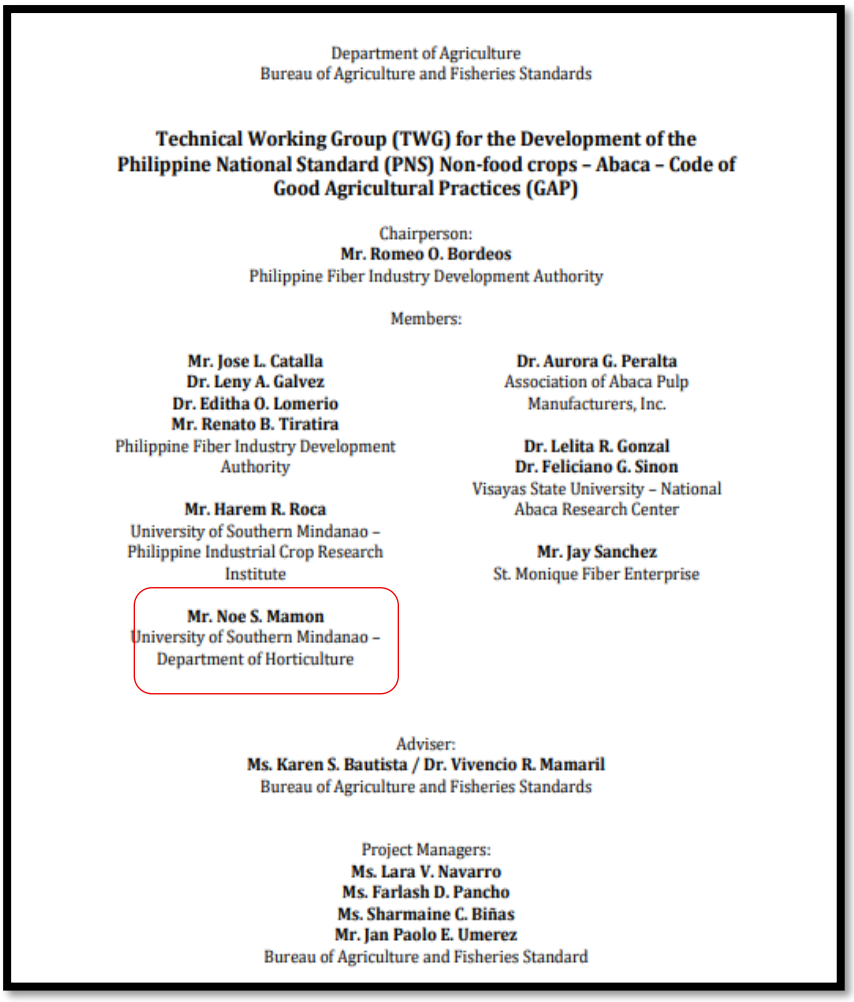
Table 6. Prominent Graduates in the Master of Science in Horticulture with Expert and Consultancy Services and Regional/National Technical Working Group Members (2016 – present).

Name of MS Horticulture Graduate	**Year Graduated**	**Agency**	**Position**	**Expert and Consultancy Services and Regional and National Working Group Members (2016- Present)**
Mark Al-jamie J. Muttulani	2016	University of Southern Mindanao	Associate Professor IV	Consultancy Agricultural Productivity Enhancement (CAPE) of DOST Program in Region 12 TWG members in the Development of PNS on Pummelo-Product Standard-Grading and Classification-Member Technical Working Group (TWG) 7th Meeting for the Development of the Philippine National Standard (PNS) on Durian — Code of Practice (COP) — Good Agricultural Practices (GAP)-Member

				Fruit Crops National Seed Industry Council TWG- Fruit Crops member
Noe S. Mamon	2016	University of Southern Mindanao		Technical Working Group (TWG) for the Development of the Philippine National Standard (PNS) Non-food crops – Abaca – Code of Good Agricultural Practices (GAP)- Member

The MS in Horticulture program has produced graduates who actively contribute their expertise to agricultural development programs and the formulation of national standards. **Mark Al-jamie J. Muttulani**, a 2016 graduate and Associate Professor IV at the University of Southern Mindanao, has served as a consultant under the DOST Consultancy Agricultural Productivity Enhancement (CAPE) Program in Region 12. He has also contributed as a member of various Technical Working Groups (TWGs) involved in the development of Philippine National Standards (PNS), including the PNS on Pummelo-Product Standard, Grading and Classification; the PNS on Durian—Code of Practice (COP)-Good Agricultural Practices (GAP); and the Fruit Crops National Seed Industry Council TWG.

Similarly, **Noe S. Mamon**, also a 2016 MS Horticulture graduate of USM, has served as a member of the TWG for the development of the Philippine National Standard on Abaca—Code of Good Agricultural Practices (GAP). These engagements demonstrate the program's contribution to producing graduates whose technical expertise extends beyond academic institutions and supports national efforts in agricultural standardization, productivity enhancement, quality assurance, and the promotion of good agricultural practices.



Department of Agriculture
Bureau of Agriculture and Fisheries Standards

Technical Working Group (TWG) for the Development of the Philippine National Standard (PNS) Non-food crops – Abaca – Code of Good Agricultural Practices (GAP)

Chairperson:
Mr. Romeo O. Bordeos
Philippine Fiber Industry Development Authority

Members:

Mr. Jose L. Catalla
Dr. Leny A. Galvez
Dr. Editha O. Lomerio
Mr. Renato B. Tiratira
Philippine Fiber Industry Development Authority

Mr. Harem R. Roca
University of Southern Mindanao – Philippine Industrial Crop Research Institute

Mr. Noe S. Mamon
University of Southern Mindanao – Department of Horticulture

Dr. Aurora G. Peralta
Association of Abaca Pulp Manufacturers, Inc.

Dr. Lelita R. Gonzal
Dr. Feliciano G. Sinon
Visayas State University – National Abaca Research Center

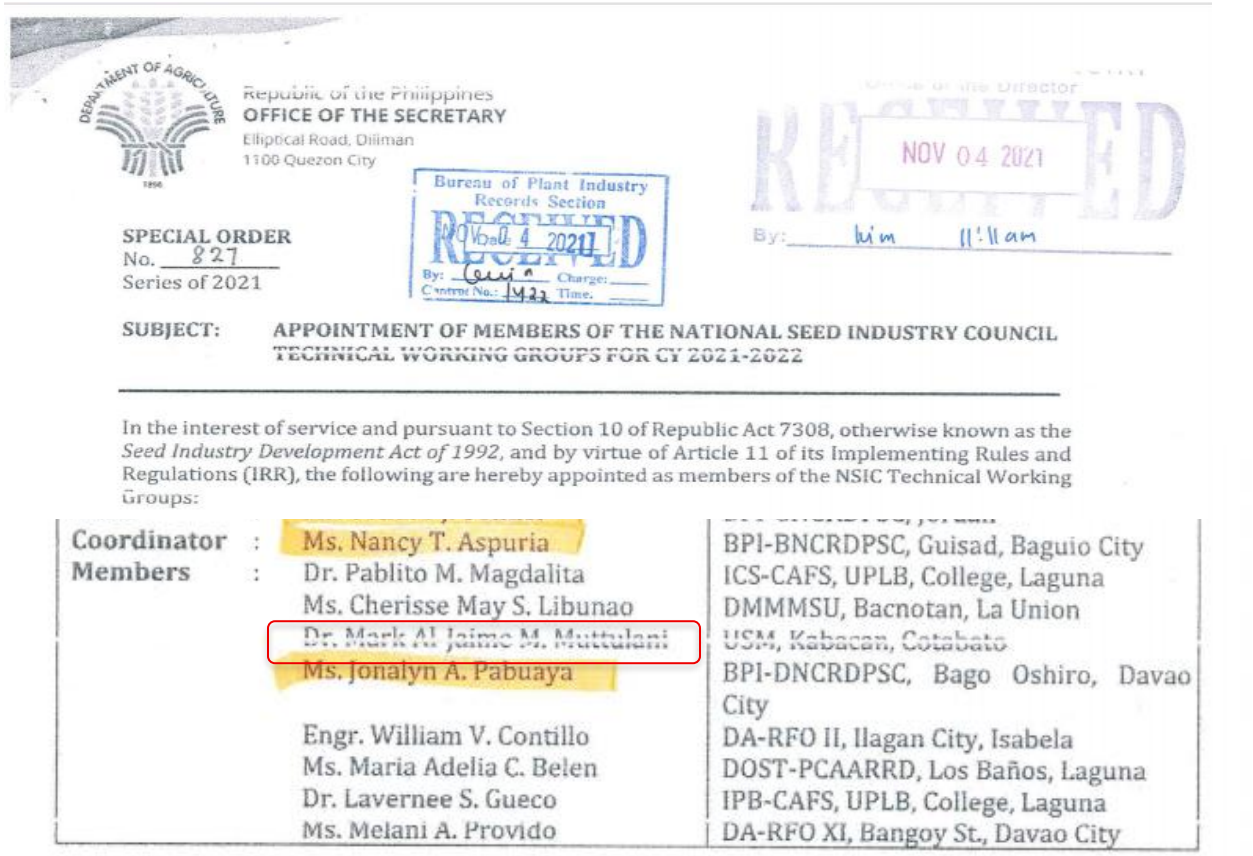
Mr. Jay Sanchez
St. Monique Fiber Enterprise

Adviser:
Ms. Karen S. Bautista / Dr. Vivencio R. Mamaril
Bureau of Agriculture and Fisheries Standards

Project Managers:
Ms. Lara V. Navarro
Ms. Farlash D. Pancho
Ms. Sharmaine C. Biñas
Mr. Jan Paolo E. Umerez
Bureau of Agriculture and Fisheries Standard

https://philfida.da.gov.ph/images/Publications/PNS/PNS-Non-food-Abaca-GAP.pdf

Prof. Mamon (MS Horticulture Alumni) as member of TWG for the Development of the Philippine National Standard (PNS) Non-food crops – Abaca – Code of Good Agricultural Practices (GAP).



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OFFICE OF THE SECRETARY
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1100 Quezon City

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SPECIAL ORDER
No. 827
Series of 2021

SUBJECT: **APPOINTMENT OF MEMBERS OF THE NATIONAL SEED INDUSTRY COUNCIL TECHNICAL WORKING GROUPS FOR CY 2021-2022**

In the interest of service and pursuant to Section 10 of Republic Act 7308, otherwise known as the *Seed Industry Development Act of 1992*, and by virtue of Article 11 of its Implementing Rules and Regulations (IRR), the following are hereby appointed as members of the NSIC Technical Working Groups:

Coordinator	:	Ms. Nancy T. Aspuria	BPI-BNCRDPSC, Guisad, Baguio City
Members	:	Dr. Pablito M. Magdalita	ICS-CAFS, UPLB, College, Laguna
		Ms. Cherisse May S. Libunao	DMMMSU, Bacnotan, La Union
		Dr. Mark Al Jaime M. Muttulani	USM, Kabacan, Cotabato
		Ms. Jonalyn A. Pabuaya	BPI-DNCRDPSC, Bago Oshiro, Davao City
		Engr. William V. Contillo	DA-RFO II, Ilagan City, Isabela
		Ms. Maria Adelia C. Belen	DOST-PCAARRD, Los Baños, Laguna
		Dr. Lavernee S. Gueco	IPB-CAFS, UPLB, College, Laguna
		Ms. Melani A. Provido	DA-RFO XI, Bangoy St., Davao City

Prof. Muttulani (MS Horticulture Alumni) serving as Fruit Crops TWG Member of NSIC for 2021-2022

Republic of the Philippines
Department of Agriculture (DA)
Bureau of Agriculture and Fisheries Standards (BAFS)
"...ensuring consumer safety and promoting global competitiveness of Philippine agricultural and fishery products, and machinery..."

Page	:	1 of 1
Reference Numbers		

July 13, 2026

CERTIFICATION

This is to certify that **Mark Al-Jamie Muttulani**, **PhD** of the University of Southern Mindanao (USM), was an active and valued member of the Technical Working Group (TWG) for the Philippine National Standard (PNS) on Pummelo — Product Standard — Grading and Classification (PNS/BAFS 11:2025). As a TWG member, he is responsible for providing scientific and technical data and information to support the development of the standard. His participation was aligned with the Special Order (SO) No. 745 series of 2025 that officially created the TWG for the said PNS.

This certification is issued upon the request of the above-named for whatever legal purpose it may serve.

ALPHA M. LANUZA, DVM
Chief Science Research Specialist
Standards Development Division (SDD), BAFS-DA

Prof. Muttulani (MS Horticulture Alumni)) certification as active member of Technical Working Group for the PNS on Pummelo- Product Standard Grading and Classification