

出國報告 (出國類別：開會)

美國植物病理學會年會發表及夏威夷大學植物與環境保護科學系參訪 報告書

服務機關：農業部花蓮區農業改良場

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派赴國家：美國

派赴地區：夏威夷州

出國期間：民國 114 年 7 月 30 日至 8 月 9 日

報告日期：民國 114 年 10 月 31 日

摘要

2025 美國植物病理學會 (The American Phytopathological Society, APS) 年會「Plant Health 2025」於 8 月 2-5 日於夏威夷檀香山舉辦。我國農業部所屬試驗單位出席與會及發表者為：農業部花蓮區農業改良場(本場)、農業試驗所及台中區農業改良場。Plant Health 2025 主題為「全球社群攜手應對全球風險」(Global Communities Collaborating to Address Global Risk)，強調植物健康為全球共同課題，應與各領域專家加強合作。主題演講邀請國際稻米研究所 (International Rice Research Institute, IRRI) 資深研究員 Dr. Van Schepler-Luu 分享其水稻病害研究與團隊合作經驗，鼓勵研究機構跨單位/國的合作交流。本場研究人員於大會前拜訪夏威夷大學植物與環境保護科學系，與系上老師交流研究議題、了解當地重要病害病原並參觀實驗室，深入了解同為熱帶海島的夏威夷面臨的關鍵病蟲害與研究方向，可為往後試驗與合作的參考。

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目的

美國植物病理學會旨在促進植物病理學相關研究推廣與精進，包含病原鑑定與防治、新興檢測技術的開發、國際交流與研究合作。參與人員除美國本土研究人員外，亦囊括國際上植物病理學研究工作者。年會每年於美國不同城市舉辦，本次大會選定夏威夷州檀香山市 (Honolulu) 為舉辦地，主辦場地為夏威夷會議中心 (Hawaii Convention center)。此次共有超過 35 個國家、約 1,100 名研究人員與會，參與學研機構超過 180 個。大會安排 6 場田間參訪、約 40 個討論會議 (sessions)，並有 689 張成果海報發表。

有機農業為遵守自然、資源循環永續利用原則，不允許使用合成化學藥劑，在病蟲害防治上，非農藥防治資材開發甚為重要。本場轄區的一些大宗作物，如西瓜、苦瓜、蔥等，在非農藥防治資材的使用上仍有相當的需求，因此，本場持續開發有機農業可用與環境友善之微生物製劑，導入生產期間之病害防治。本場篩選出之貝萊斯芽孢桿菌 HL_B03 經過測試，其較一般菌株具有較高之溫度耐受性，可與菜籽粕共同施用於土壤中。田間試驗中本細菌對絲瓜萎凋病及西瓜蔓枯病具有防治效果，並與中研院楊玉良老師團隊合作分析本細菌之抗菌物質。試驗成果於美國植物病理學會年會海報發表「應用臺灣本土微生物防治重要作物病害」，期提升國內微生物菌在有機防治的國際能見度。

會後參觀夏威夷大學，瞭解植物與環境保護科學系各研究室實驗室的主題，參觀線蟲實驗室的運作，了解以熱帶作物為研究主題之大學其病蟲害研究趨勢。

過程

本會議舉辦地點為美國夏威夷州檀香山市 (Honolulu, Hawaii)，由美國植物病理學會 (The American Phytopathological Society, APS) 主辦，大會為期4日，第1日為田間實地考察，3日為主題演講與海報展示 (議程請見附錄一)。本場研究人員與會行程如下表所示。

日期	地點	行程與工作紀要
2025.07.30	台北松山-東京 東京-夏威夷	交通行程、報告準備
2025.07.31	Dole 農產公司鳳梨生產與加工基地	當地重要作物生產與加工觀摩
2025.08.01	夏威夷大學	參訪夏威夷大學、實驗室與教育果園
2025.08.02	年會第1日，田間實地考察	會前 Field trip
2025.08.03	年會第2日，夏威夷會議中心	APS研討會議程
2025.08.04	年會第3日，夏威夷會議中心	APS研討會議程
2025.08.05	年會第4日，夏威夷會議中心	APS研討會議程
2025.08.06	夏威夷農產品市場調查	當地市場市集調查
2025.08.07-09	夏威夷-東京 8/7-8/8 東京-台北松山8/8-8/9	報告撰寫、交通行程(考量到時差，回國已為8月9日)

一、7/31 Dole 農產公司鳳梨生產與加工基地

都樂食品公司 Dole Food Company 為美國一家跨國食品公司，為全球最大的新鮮水果及蔬果供應商。該公司與夏威夷淵源深厚，其前身為創立於 1901 年的夏威夷鳳梨公司 (Hawaii Pineapple Company)。當時夏威夷歐胡島中央高原區開闢了第一個商業鳳梨園，當地的酸性土質與氣候非常適合鳳梨生長，又因進口至美國本土無須關稅，生產面積逐漸擴大，成為夏威夷當地非常重要的經濟作物。在 20 世紀初至中期夏威夷一直是生產鳳梨罐頭的重地，後因海運發達面臨亞洲的競爭逐漸沒落，現以提供鮮食及果汁加工為主。

Dole 主責栽培的技術員向參訪者介紹鳳梨的栽培特性、與當地的操作習慣 (圖一)，栽培仍以大量人力進行種植、管理與採收，種源為墨西哥引進、夏威夷鳳梨研究所研發的品種，栽植後可收穫兩次，第三期則果實太小不具經濟價值。因歐胡島當地為火山岩風化的土壤，為酸性土壤，使得疫病在當地並不盛行，線蟲反而是當地的重要病害。當地的鳳梨現以鮮食為主，因此 Dole 建置了自動化清洗、分級包裝的生產線 (圖二、三、四)，供應當地 (主要) 與美國本土的部分需求。而在包裝場的對面，Dole 公司設置了 Dole Plantation 作為觀光及教育果園 (圖五)。園區內設置了鳳梨造景庭園 (圖六)、熱帶園藝植物園及觀光販賣部，並介紹公司與夏威夷種植鳳梨的歷史。



圖一、Dole 技術員介紹當地的栽培模式。



圖二、Dole 公司的分級包裝場域。



圖三、採收後於大型清洗槽進行果實清洗。



圖四、Dole 內部的自動分級包裝產線。



圖五、Dole 觀光及教育果園。



圖六、以鳳梨為主軸的造景庭園。

二、8/01 參訪夏威夷大學

本場研究人員與農業試驗所與會人員參訪夏威夷大學植物與環境保護科學系 (Department of Plant and Environmental Protection Sciences)，該系位於夏威夷大學馬諾阿校區 (University of Hawaii at Mānoa) (圖七、八)，當日先至系館簡介本國參訪人員現行研究內容，再由夏大老師們簡報研究主題。現任系主任為 Dr. Wang, Koon-Hui，為線蟲研究人員，現專注於免耕犁系統對線蟲族群的影響 (圖九)，於會後引領我們參觀其線蟲研究室 (圖十)。系上老師 Dr. Michael Melzer，主要負責椰子犀角金龜的防治管理、利用 RNAi 進行有害生物防治；Dr. Cheng, Zhiqiang，主要研究內容為草皮與景觀植物病害防治與管理；Dr. Jane Marian Luis，為推廣教育專員，研究內容為真菌病原鑑定與管理，亦有進行相思樹對萎凋病之抗性研究。與會人員與老師們針對研究內容相談甚歡，互相分享兩地相似的作物相與栽培習慣，建立往後交流、合作的橋梁 (圖十一)。

隨後前往位於珍珠港區的夏威夷大學所屬城市園藝中心 Urban Garden Center (圖十二)，該園區為熱帶果樹、特色與園藝作物的保種園區，近 10 年轉型為食農教育示範場域，作為民眾、學生蔬菜農業推廣教育中心，並提供小型耕作圃開放一般民眾認養 (圖十三、十四)。夏威夷大學在此地進行熱帶果樹的育種與栽培技術改良，其中麵包果作為當地重要的食材之一 (圖十五)，為一重要研究項目，園區內亦保有釋迦、芒果、香蕉等 (圖十六)。



圖七、夏威夷大學馬諾阿校區。



圖八、參訪植物與環境保護科學系。



圖九、系主任 Dr. Wang 簡介其重點研究。



圖十、參訪線蟲研究室，了解現行研究。



圖十一、本部所屬試驗人員與夏大研究人員交流。



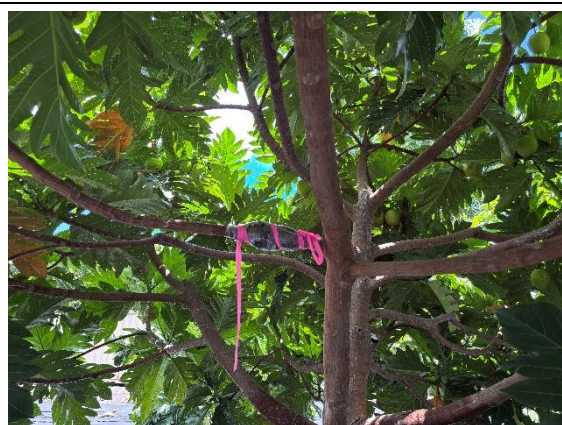
圖十二、位於珍珠港區的 Urban Garden Center。



圖十三、食農教育場域—蚯蚓堆肥介紹。



圖十四、食農教育場域—民眾認養菜圃。



圖十五、麵包果為當地重要食材（品種 *Artocarpus altilis*）。



圖十六、果園內保種的釋迦。

三、8/02 田間實地考察

Plant Health 2025 此次共舉辦 6 場田間參訪，本場研究人員參與「Tour of tropical crop production in Hawaii 夏威夷熱帶作物生產巡禮」場，參訪點之一為當地生產與食農教育結合的 Kahuku 農場。該農場由一家人共同經營，自主生產百香果 (圖十七)、香蕉、可可 (圖十八)、木瓜 (圖十九) 及茄子等作物，設計季節菜單販售及舉辦食農體驗課程。於該農場聽取農場主的生產與營運心得 (圖二十)，該地生產限制因子為水資源不均及人力不足。後續參觀香蕉園、可可園並瞭解可可加工品，並於此農場品嚐特色午餐與加工品 (圖二十一)。另一參訪點為甘藷出口包裝場，該包裝場以輻射照射 (Food irradiation) 進行甘藷的諸塊消毒處理，連同包裝盒、裝於金屬櫃內進行輻射處理 (圖二十二至二十五)，處理後預期可達去除微生物、殺蟲與避免諸塊於運送過程發芽等效果，處理後的甘藷可銷售至美國本土及出口 (圖二十六)。



圖十七、百香果栽培。



圖十八、可可園內的可可果實。



圖十九、木瓜栽培。



圖二十、農場主為當地青農，分享心得。



圖二十一、Kahuku 農場作物之加工品。



圖二十二、甘藷連同包裝進行輻射處理。



圖二十三、輻射處理設備。



圖二十四、輻射處理設備。



圖二十五、輻射處理設備。



圖二十六、標示 Treated「處理後」。

四、8/03 大會開幕日 (第 2 日)

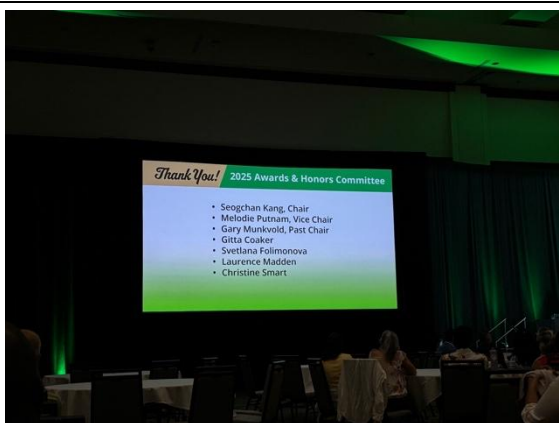
Plant Health 2025 於夏威夷會議中心舉行 (圖二十七、二十八)，大會開幕致歡迎詞後進行病理學會執委會成員致謝頒獎 (圖二十九)。接著由國際稻米研究所 (IRRI) 資深研究員 Dr. Van Schepler-Luu 以「From Rice Fields to Global Networks: International Collaboration to Tackle Rice Diseases」為題進行本年度主題演講 (圖三十)，分享其研究有許多不同單位與國籍的研究人員參與，以基因編輯進行抗病育種工作，試驗水稻栽植於不同國家，透過跨國合作促使調查試驗可順暢進行 (圖三十一、三十二)。她鼓勵國際合作、並強調跨國團隊的重要性。主題演講後為各專題演講與討論會議 (sessions)，本場人員聆聽「From Local to Global Solutions: Connecting Diagnostic Communities for Health Security」，由 5 位講者分享病原檢定與診斷工作，說明邊境檢疫、鑑定技術更新及跨國新興病害通報等工作的重要性 (圖三十三)。其中美國 The National Plant Diagnostic Network (NPDN) 是美國的防檢疫機關合作聯盟，設有 128 個試驗室，專注於邊境、市場新興病原鑑定，定期聚辦培訓與工作會議，提升成員對新興病害的敏銳度。本日亦進行發表海報佈置工作 (圖三十四)。



圖二十七、Plant Health 大會開幕式。



圖二十八、本場研究人員與會。



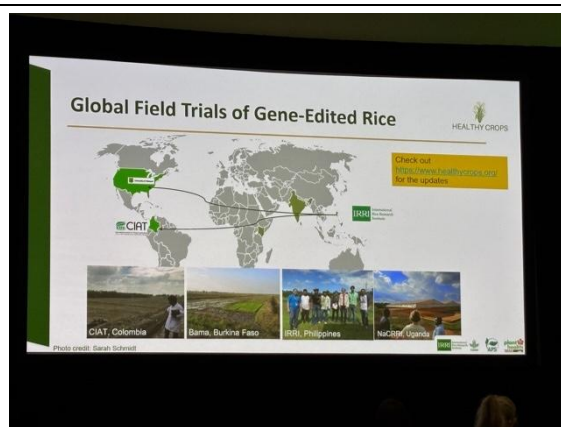
圖二十九、執委會致謝。



圖三十、主題演講者 Dr. Van Schepler-Luu。



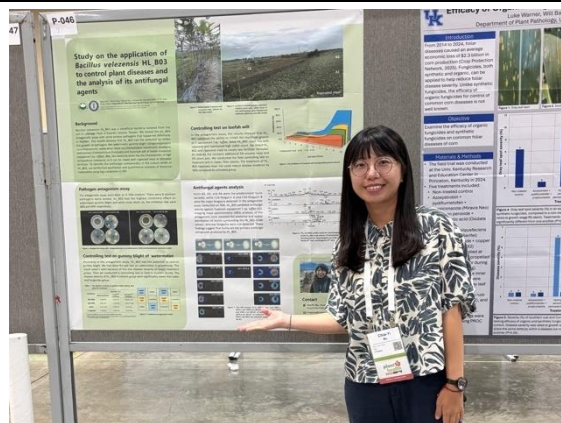
圖三十一、IRRI 的水稻育種計畫。



圖三十二、跨國的育種工作執行團隊。



圖三十三、聆聽專題討論。

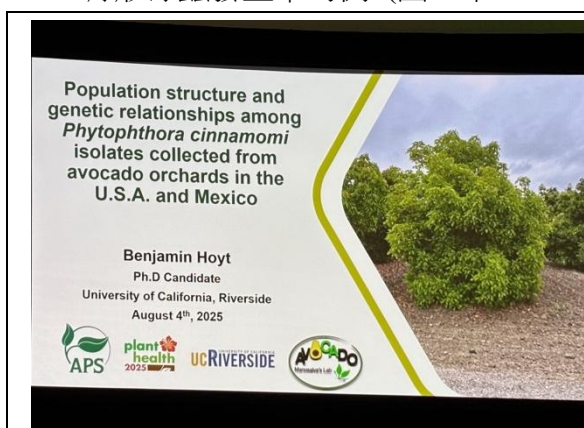


圖三十四、海報佈置。

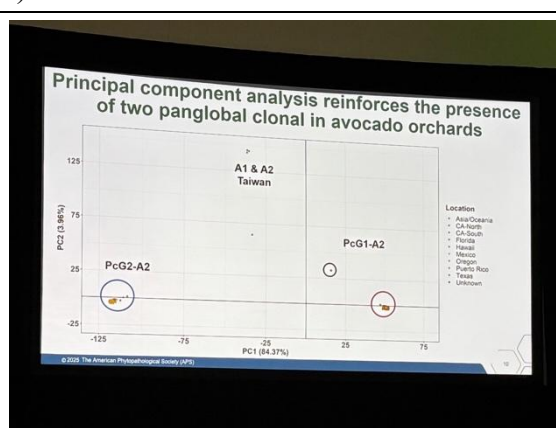
五、8/04 大會第 3 日

各專題演講於今日密集舉行，聆聽卵菌、病毒與抗藥性管理等研究。卵菌演講之一為加州大學河濱分校博士候選人 Benjamin Hoyt，其在美國與墨西哥的重要酪梨產區採集疫病菌，探究其致病力與遺傳變異性，分析酪梨疫病流行菌株的親緣關係。在親緣分析中，因亞洲地區菌株的遺傳變異度很大，研究中亦以臺灣菌株進行比較，然親緣性甚遠（圖三十五、三十六）。另一場為加州州立理工大學 Dr. Shunping Ding 抗露菌病之沙拉用蔬菜品種研究，加州人口密集，生食的葉用蔬菜消費量極高，仰賴高密度的設施生產。生產中的限制因子之一為露菌病，研究團隊針對十字花科蔬菜篩選抗病品系，並進行性狀選拔與抗病性調查，期能推出抗病又具市場價值之品系（圖三十七、三十八）。

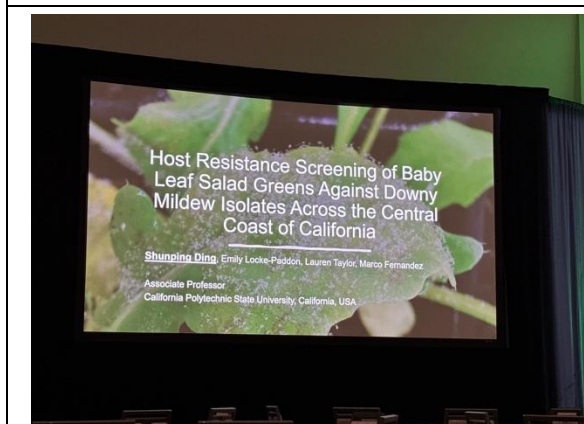
病毒演講之一美國農業部研究員 Dr. Jennifer Wilson 以玉米研究病毒間的交互作用 (viral synergy)，玉米致死壞死病 (maize lethal necrosis disease) 為玉米褪綠斑駁病毒 (Maize chlorotic mottle virus, MCMV) 和馬鈴薯 Y 病毒群共同感染引起 (最常見為甘蔗嵌紋病毒 Sugarcane mosaic virus, SCMV)，與 MCMV 共同感染可使 SCMV 突破玉米抗性，這些抗性機制多與細胞間移動有關，使其病徵更為嚴重且致死性提高（圖三十九、四十）。今日亦進行部分研究海報參觀，主題為真菌與線蟲病害，舉大豆白絹病接種與抗性選拔、應用覆蓋作物於甘藷田抑制腎形線蟲發生率為例（圖四十一、四十二）。



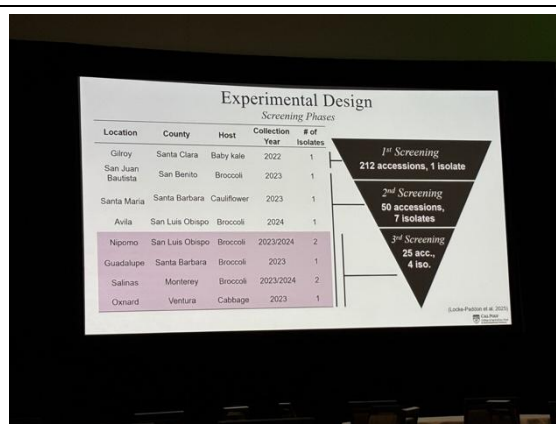
圖三十五、卵菌演講 — 酪梨疫病。



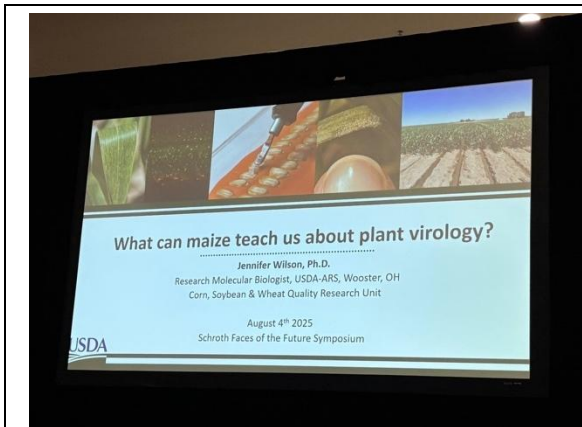
圖三十六、卵菌演講 — 酪梨疫病。



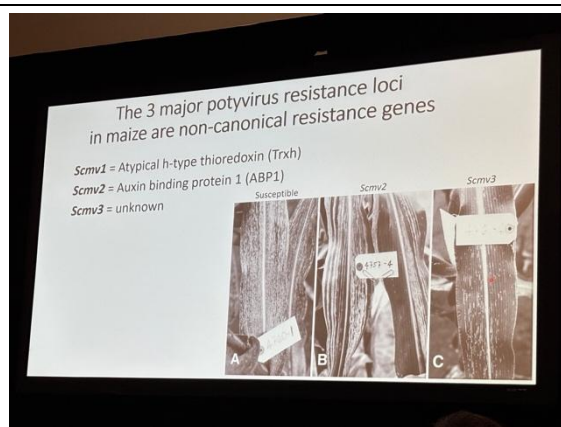
圖三十七、卵菌演講 — 蔬菜露菌病。



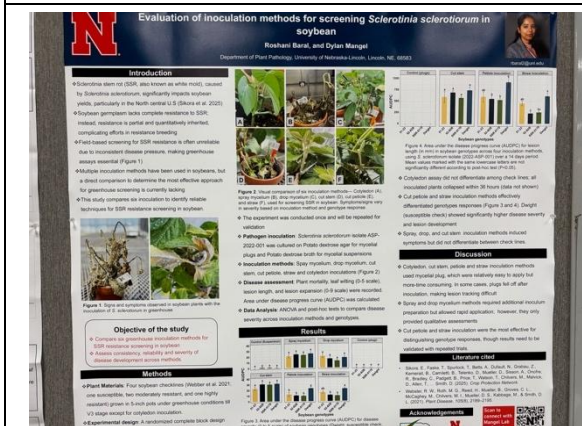
圖三十八、卵菌演講 — 蔬菜露菌病。



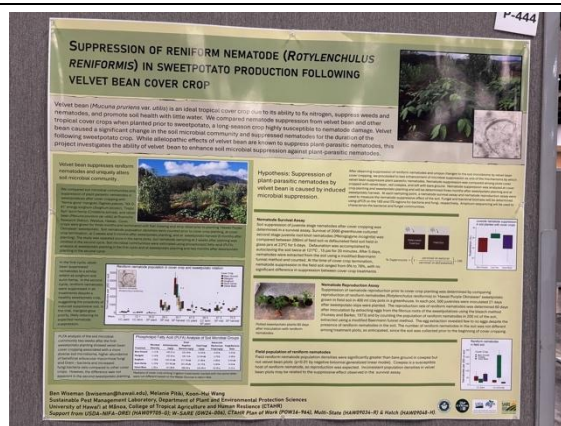
圖三十九、病毒演講 — 玉米病毒。



圖四十、病毒演講 — 玉米病毒。



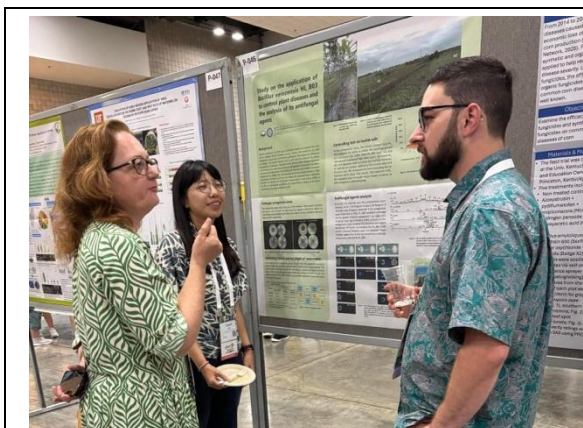
圖四十一、大豆白絹病接種系統。



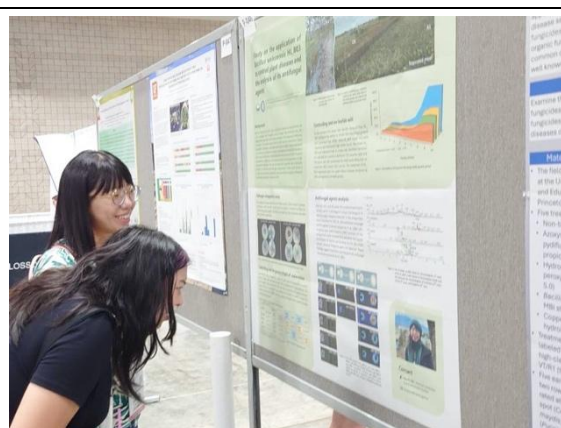
圖四十二、覆蓋作物輔助線蟲防治。

六、8/05 大會第 4 日

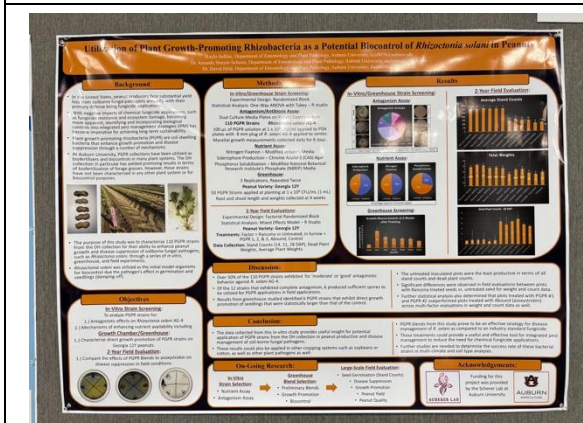
本日為本場研究人員之海報展示時間，以「Study on the application of *Bacillus velezensis* HL_B03 to control plant diseases and the analysis of its antifungal agents.」為題發表，現場參觀人數踴躍，向與會研究人員講解及討論（圖四十三、四十四）。亦同時進行海報參觀，主題為病害整合性管理與生物防治（圖四十五至四十八）。



圖四十三、講解海報及討論。



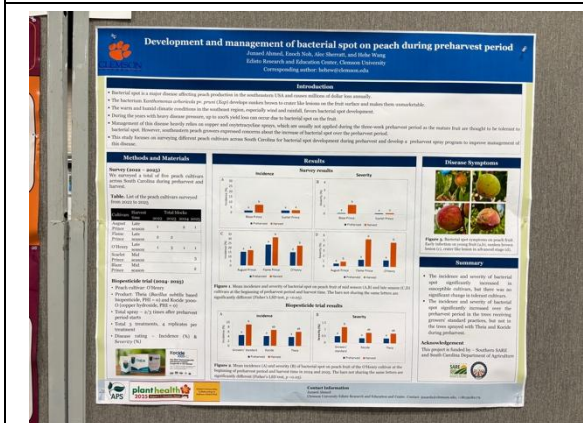
圖四十四、講解海報及討論。



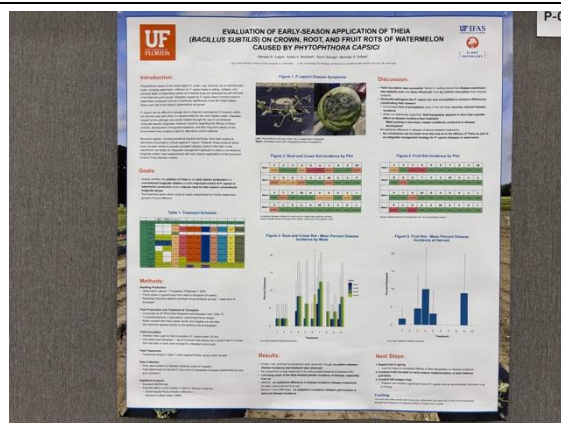
圖四十五、花生立枯病生物防治。



圖四十六、草莓冠腐病生物防治。



圖四十七、桃子細菌性斑點病生物防治。



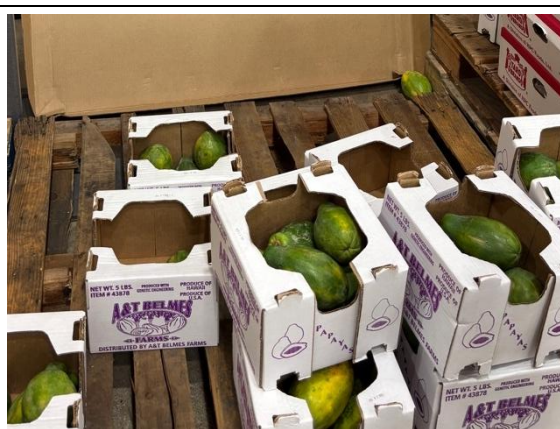
圖四十八、西瓜疫病生物防治。

七、8/06 農產品市場調查

走訪夏威夷當地的農產品賣場，有全球連鎖商場品牌於夏威夷之分店、地區超市與小型農產市集。當季水果為木瓜與鳳梨，三地皆可看到販售。夏威夷當地主要商業栽培木瓜品種為 'Rainbow'，是基因改造木瓜，佔 75%以上的種植面積。果型相對橢圓，育種目標為抗病毒病之品種，然賣場果實上仍有少數輪點病病斑 (圖四十九、五十)，售價換算新台幣約 165 元/公斤。主要商業栽培鳳梨品種為 'MD2'，果實呈圓筒形、果肉為金黃色 (圖五十一、五十二)，耐儲運，亦為全世界主流之商業品種，售價換算新台幣約 150 元/顆。連鎖超市內亦可看到販售有機農產品與加工品，會以綠色標籤標示，如有機芒果、香蕉、葡萄、生菜及咖啡等。



圖四十九、Rainbow 基改木瓜。



圖五十、Rainbow 基改木瓜。



圖五十一、Dole 生產之鳳梨。



圖五十二、Dole 生產之鳳梨。



圖五十三、有機芒果。



圖五十四、有機葡萄。



圖五十五、有機生菜沙拉組合。



圖五十六、有機咖啡。

心得及建議

一、兩地鳳梨主要病蟲害差異

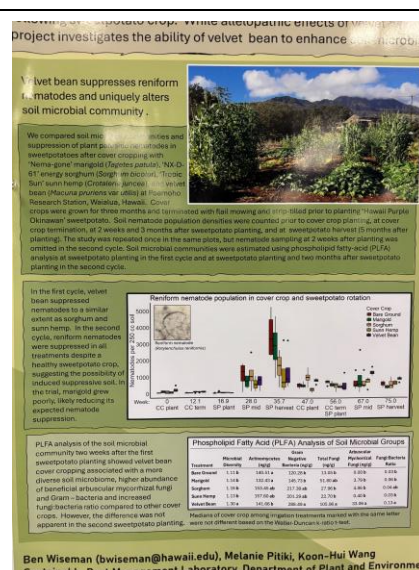
參訪 Dole 時了解到當地為酸性土壤，疫病並不盛行，線蟲反而是當地的重要病原菌。當場亦提問介殼蟲是否危害，技術員回答不是很常見。鳳梨喜通氣、排水良好、土層深厚、pH4.5-6.0 偏酸的砂質壤土。我國適合栽種的鳳梨產區亦多為酸性土質，而主要記錄之重要病害以真菌（基腐病）及疫病（心腐病）為主，線蟲有紀錄但非主要病原，而介殼蟲為主要害蟲。推測雨量與濕度也許為兩地病蟲害相差異的原因。夏威夷產區常年有海風吹拂，夏季午後偶有陣雨，但土壤排水性佳，整體氣候偏乾爽。無長時間的高濕度，較無真菌與疫病的利病條件，加上海風吹拂，通風性佳，小型害蟲之發生率低。故雖兩地皆為熱帶區，然氣候的差異仍使常見的病蟲害相不同。當地線蟲的防治，目前以換地種植、休耕及化學藥劑為主，於種植前以殺線蟲劑處理。當地尚未發展具規模的有機鳳梨栽培，於走訪超市及市集時，尚無看到有機鳳梨的產品。

二、夏威夷大學系主任 Dr. Wang, Koon-Hui 實驗室

夏大王主任為線蟲專家，近年著重於免耕犁系統研究，比較該耕作模式與傳統翻耕，免耕犁有提升對土壤的保護、碳排減少等優勢（圖五十七），線蟲為一主流病害，王主任亦專注此栽培模式對線蟲群族的影響。以 velvet bean 作為地瓜及芋頭（經濟作物）生產前的綠肥與覆蓋作物，可固氮、減少雜草、省工及促進土壤健康，在線蟲族群上，整體土壤線蟲數量雖只略下降，然有害的植物寄生性線蟲顯著下降，游離型的線蟲數量上升。本場注重有機農業的栽培技術發展，王主任實驗室的研究可作為栽培與病害防治等試驗研究的參考。

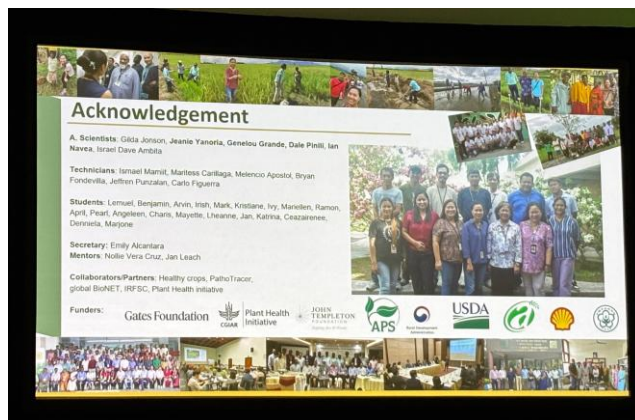


圖五十七、王主任研究室之成果。



三、大會主題演講

大會主題演講邀請 IRRI 資深研究員 Dr. Van Schepler-Luu 演講，在演講的最後致謝時，有提到我國農業部的參與（圖五十九），在國際研討會提到我國政府單位實在有點驚喜。然我國與 IRRI 的交流合作其實已非常多年，從民國 98 年起，農委會、中央研究院及國內農業相關大專院校重啟計畫合作關係，農業試驗所於民國 101 年與 IRRI 簽署合作備忘錄，更爭取 4 年期合作計畫就抗/耐逆境品種改良與開發、稻作種原交換與保存、水稻病蟲害綜合防治等主題進行專案計畫。往後更有許多研究人員互訪、交流之研討會舉行。查近期之出國報告，2024 年本部試驗改良場所亦有派員至菲律賓總部進行耐逆境育種之考察。本場 2024 年積極參與之有機世界大會 (OWC) 的工作坊上，亦有與 IRRI 之育種人員於演講後請教與討論病蟲害防治議題，IRRI 作為鄰近我國之國際研究組織，稻米又為我國重要糧食作物，其研究值得我國研究人員參考應用。



四、海報展示

本次海報展示本場以貝萊斯芽孢桿菌 HL_B03 應用於絲瓜萎凋病及西瓜蔓枯病的防治成果，同區之研究人員多數主題亦為微生物防治。過程中與會研究人員針對微生物資材、製劑使用的時機點、方式及效益進行討論。有人提及與菜籽粕共同應用，顯示本菌有耐熱性，對逆境的耐性應也可評估，更表示於氣候變遷的逆境中本菌很有應用潛力。另在觀摩的過程中，發現美國本土的微生物製劑研究，多數使用的為已商品化的製劑，顯示微生物農藥在美國相對成熟。而有近 1/3 是肥料產品，並於相關研究中進行土壤微生物改良，這些研究中強調土壤健康，先將土壤調整為健康、利於生長的环境，爾後病害發生的機會即會下降。

五、商場內有機農產品標示

於國際連鎖賣場或地區超市內販售的有機農產品與加工品，皆特別以綠色標籤標示，對於消費者來說辨識度很高，即使為非母語使用者的外國人，也會因為標籤的不同而多駐足觀看。我認為這對有機農產品的推廣及宣傳是很好也有效的方式，消費者會因標示顏色多看一眼，也能從多數商品中，快速辨識到有機農產品，提升有機農產品被選擇的機會。

附錄

附錄一：大會議程



Full Schedule

1044 results found

Program Type...▼

Category...▼

Pathogen Type...▼

Host Type...▼



Friday, August 1, 2025



8:00 AM - 3:00 PM HST
FIELD TRIP: International Plant Pathology Protecting Plant Health Across Borders
Location: Hawai'i Convention Center, Main Entrance

Sponsoring Chairperson: Ronald D. French-Monar
Organizer: Brent S. Sipes, PhD – University of Hawaii
Organizer: Wendy Sueno – USDAAPHIS PPQ FO Honolulu Plant Inspection Station

Hawai'i Convention Center, Main Entrance

Saturday, August 2, 2025



7:00 AM - 7:00 PM HST
FIELD TRIP: Hawaiian Agriculture Up Close: A Field Tour of Crops, Pathogens, and Research Efforts
Location: Hawai'i Convention Center, Main Entrance

Organizer: Madison Flasco, PhD – Plant Pathology and Crop Physiology, Louisiana State University Agricultural Center
Organizer: Alejandro Olmedo-Velarde – Department of Plant Pathology, Entomology and Microbiology, Iowa State University
Organizer: Andrea Sierra-Mejia – University of Arkansas System Division of Agriculture
Organizer: Jennifer R. Wilson, PhD (she/her/hers) – USDA-ARS Corn, Soybean & Wheat Quality Research Unit

Hawai'i Convention Center, Main Entrance



7:45 AM - 4:30 PM HST
FIELD TRIP: Tour of tropical crop production in Hawaii
Location: Hawai'i Convention Center, Main Entrance

Sponsoring Chairperson: Christian G. Aguilar – Agrofresh

Organizer: Achour Amiri, Associate Professor – Washington State University
Organizer: Collins Bugingo – Oregon State University
Sponsoring Chairperson: Romina Gazis, PhD – Tropical Research and Education Center, University of Florida, Homestead, FL, USA
Organizer: Wayne Jurick II – USDA-ARS
Organizer: Achala N. KC – Oregon State University
Organizer: Jane Marian S. Luis – University of Hawaii at Manoa

Hawai'i Convention Center, Main Entrance



8:00 AM - 12:00 PM HST
PRE-MEETING WORKSHOP: Python and Machine Learning for Plant Pathologists, Supported by BASF and Valent BioSciences
Location: Room 317 B

Organizer: Nikita Gambhir – FMC Corp.
Organizer: Daniel Winter Heck – Cornell University
Organizer: Camila Nicolli, PhD – University of Arkansas
Speaker: Josiah M.K Marquez, Ph.D. – Hawaii Department of Agriculture and Biosecurity
Speaker: Huaijin Chen, Ph.D. – University of Hawai'i at Mānoa
Speaker: Xing Wei, PhD – University of Hawai'i at Mānoa

Room 317 B



8:00 AM - 5:00 PM HST
PRE-MEETING WORKSHOP: Emerging Rice Diseases: Challenges and Solutions
Location: Room 317 A

Organizer: Van Schepler-Luu, Ph.D (she/her/hers) – International Rice Research Institute (IRRI)
Organizer: Xin-Gen (Shane) Zhou – Texas A&M University

Room 317 A



8:15 AM - 5:15 PM HST
FIELD TRIP: Experience Oahu's Rich History: Byodo-In Temple, Waimea Valley Botanic Garden & Nursery Tour
Location: Hawai'i Convention Center, Main Entrance

Organizer: Achyut R. Adhikari – University of Hawaii at Mānoa
Organizer: Bhawana Ghimire – Bartlett Tree Experts
Organizer: Emma Lookabaugh – BASF
Organizer: Alberto Ricordi – University of Hawaii

Hawai'i Convention Center, Main Entrance



8:30 AM - 12:30 PM HST
FIELD TRIP: APS Gives Back: Native Roots Volunteer Experience
Location: Hawai'i Convention Center, Main Entrance

Hawai'i Convention Center, Main Entrance



9:00 AM - 4:00 PM HST
FIELD TRIP: HARC Maunawili Substation Tour and Tree Disease Walk
Location: Hawai'i Convention Center, Main Entrance

Organizer: Nicklos S. Dudley – Hawaii Agriculture Research Center Organizer: Carrie Fearer – Virginia Tech Organizer: Elena Karlsen-Ayala – USDA Forest Service Hawai'i Convention Center, Main Entrance	
10:00 AM - 12:00 PM HST Emerging Viruses in Cucurbit Working Group Meeting Location: Room 313 B Room 313 B	★
1:00 PM - 2:30 PM HST Phytopathology Editorial Board Meeting Location: Room 325 A/B Room 325 A/B	★
1:00 PM - 2:30 PM HST Plant Disease Editorial Board Meeting Location: Room 324 Room 324	★
1:00 PM - 5:00 PM HST PRE-MEETING WORKSHOP: Automated analysis of pathogen genomes using PathogenSurveillance and the genomeRxiv web server Location: Room 317 B Organizer: Niklaus Grünwald – USDA-Agricultural Research Service Organizer: Jeff Chang – Oregon State University Organizer: Upasana Dhakal – Oregon State University Organizer: Reza Mazloom – Department of Computer Science, Virginia Tech, Blacksburg, VA 24061, U.S.A. Organizer: Boris A. Vinatzer – School of Plant and Environmental Sciences, Virginia Tech, Blacksburg, VA 24061 Room 317 B	★
1:00 PM - 5:00 PM HST PRE-MEETING WORKSHOP: Tackling Global Challenges in Plant Pathology with AI: Forecasting, Imaging, and Protein Prediction Location: Room 313 B Organizer: Ashish Adhikari, PhD (he/him/his) – Plant Pathology Department, University of Florida Organizer: Karen A. Garrett, PhD – Plant Pathology Department, Global Food Systems Institute, 3Emerging Pathogens Institute, University of Florida, Gainesville, FL, USA Organizer: Aaron IsaÃ Plex SulÃj, BS – Plant Pathology Department, Global Food Systems Institute, 3Emerging Pathogens Institute, University of Florida, Gainesville, FL, USA Organizer: Jacobo Robledo – Plant Pathology Department, University of Florida Presenter: Alexander Charles Fast – University of Florida Presenter: Laura A. Valbuena Gaona (she/her/hers) – Laboratorio de Agrocomputaci3n y An3lisis Epidemiol3gico. Universidad Nacional de Colombia Room 313 B	★

1:00 PM - 5:30 PM HST Registration Open Location: Exhibit Hall 3 Prefunction Exhibit Hall 3 Prefunction	★
2:00 PM - 5:00 PM HST Exhibitor Set-Up Location: Exhibit Hall 3 Exhibit Hall 3	★
2:30 PM - 4:00 PM HST PhytoFrontiers Editorial Board Meeting Location: Room 326 A/B Room 326 A/B	★
3:00 PM - 5:30 PM HST Speaker Ready Room Open Location: Room 318 A Room 318 A	★
4:00 PM - 5:30 PM HST Subject Matter Community Meetings - Group 1 Location: Ballroom B/C Foyer Ballroom B/C Foyer	★
5:00 PM - 6:00 PM HST First Timers' Orientation Location: Room 323 A/B Room 323 A/B	★
5:45 PM - 7:15 PM HST Subject Matter Community Meetings - Group 2 Location: Ballroom B/C Foyer Ballroom B/C Foyer	★
6:00 PM - 7:00 PM HST Undergraduate Student Primer Location: Room 319 B Room 319 B	★
Sunday, August 3, 2025	
7:00 AM - 9:00 AM HST Small Fruit Disease Workers' Discussion Group Location: Room 323 A/B	★

Room 323 A/B	
7:00 AM - 9:00 AM HST Vegetable Seed Industry Breakfast (with sponsorship support) Location: Room 313 B	★
Room 313 B	
7:30 AM - 5:30 PM HST Registration Open Location: Exhibit Hall 3 Prefunction	★
Exhibit Hall 3 Prefunction	
8:00 AM - 12:00 PM HST Poster Set-Up Location: Exhibit Hall 3	★
Exhibit Hall 3	
8:00 AM - 2:00 PM HST Concessions Open Location: 808 Café, Level 3	★
808 Café, Level 3	
8:00 AM - 2:00 PM HST Exhibitor Set-Up Location: Exhibit Hall 3	★
Exhibit Hall 3	
8:00 AM - 3:00 PM HST Speaker Ready Room Open Location: Room 318 A	★
Room 318 A	
8:00 AM - 5:00 PM HST Open Meeting Room Available Location: Room 327	★
Room 327	
9:00 AM - 10:30 AM HST OPENING GENERAL SESSION: Award Ceremony & Keynote Speaker - Dr. Van Schepler-Luu Location: Ballroom B/C	★
Keynote Speaker: Van Schepler-Luu, Ph.D (she/her/hers) – International Rice Research Institute (IRRI)	
Ballroom B/C	
11:00 AM - 12:00 PM HST New Products and Services Session 1 of 2	

Moderator: Jagdeep Kaur	
Moderator: Margarita Marroquin-Guzman	▼
Room 313 C	
11:00 AM - 12:15 PM HST HOT TOPIC: Navigating Uncertainty: Resilience and Reinvention in the Face of Funding Shifts Location: Room 313 A	★
Moderator: Jim Meffert – Tecker International LLC	
Panelist: Michael J. Boehm – University of Nebraska-Lincoln	
Panelist: Samantha Thomas – Bayer Crop Science	
Panelist: Linda L. Kinkel – University of Minnesota	
Room 313 A	
11:00 AM - 12:15 PM HST SPECIAL SESSION: Biology and Management of Rapid ‘Ōhi’a Death in Hawai’i	
Organizer: Marc Anthony Hughes, PhD – USDA Forest Service	
Moderator: James B. Friday, PhD (he/him/his) – University of Hawaii at Manoa, Department of Natural Resources and Environmental Management	
APS Sponsoring Committee:None	
External Group Support/Co-Organization: Rapid ‘Ōhi’a Death Working Group.	
Description: The proposed session will delve into the critical topic of Rapid ‘Ōhi’a Death (ROD), a complex of two devastating fungal diseases affecting ‘Ōhi’a trees (Metrosideros polymorpha) across Hawai’i. This issue holds significant ecological and cultural relevance, as ‘Ōhi’a trees are keystone species in Hawai’i’s native forests and carry deep cultural importance for local communities. Understanding the biology and management of ROD is crucial for developing effective strategies to combat this disease and preserve these vital ecosystems. This session will provide attendees from various countries with a unique opportunity to learn about this Hawaii-specific disease, offering valuable insights applicable to other regions vulnerable to similar threats. By presenting the latest updates in biological research and interdisciplinary approaches, this symposium aims to foster a deeper understanding of ROD and promote collaborative efforts in managing and mitigating its impact. Attendees will gain comprehensive knowledge of the disease’s biology, the role of invasive species, and the advanced scientific techniques guiding current management practices. This symposium’s presenters are subject matter experts who will share their contributions to the science of ROD and advancements in disease management. The session will cover various scientific disciplines involved in this multi-faceted issue, including plant pathology, disease resistance, entomology, remote sensing, and forest ecology, as they relate to this critically important disease system.	▼
Plant Health 2025 Theme: Our symposium on Rapid ‘Ōhi’a Death (ROD) aligns well with the Plant Health 2025 theme, "Global Communities Collaborating to Address Global Risks," by tackling a critical plant health threat in Hawai’i. By uniting international experts and researchers, the session embodies the collaborative spirit essential for addressing global plant health challenges. We will share cutting-edge research and management strategies applicable to regions facing similar threats, promoting innovative interdisciplinary approaches.	
Our talks will focus on a Hawaii-specific novel disease issue, addressing the impacts of this newly introduces invasive species, the deep cultural ties to ‘Ōhi’a trees, and the challenges of biological invasions and biosecurity. Attendees will gain insights into disease resistance strategies, enhancing their understanding and ability to contribute to global plant health solutions.	
Ballroom B/C	

11:00 AM - 12:15 PM HST SPECIAL SESSION: From Local to Global Solutions: Connecting Diagnostic Communities for Plant Health Security Organizer: Suzette Arcibal Baldwin – North Dakota State University Moderator: Suzette Arcibal Baldwin – North Dakota State University Moderator: Abbeah Mae Navasca – North Dakota State University APS Sponsoring Committee: Diagnosticians Co-Sponsoring Committees: Disease Surveillance and Pathogen Detection Methods, Emerging Diseases and Pathogens, Extension, Regulatory Plant Pathology External Group Support/Co-Organization None: Description: Diagnostic communities play a vital role in safeguarding plant health and mitigating biosecurity threats, and their contributions deserve greater emphasis and recognition. This session explores the crucial importance of diagnostics and the diverse, complementary efforts that form the foundation of plant biosecurity. It highlights the interconnected roles of diagnostic networks, regulatory bodies, and industry in tackling plant health challenges. Key topics include the pivotal work of state laboratories in enhancing early detection and rapid response through a coordinated network of diagnostic facilities, the specialized function of federal laboratories in identifying and managing regulated plant pathogens, and the collaborative framework provided by non-profit organizations in uniting state regulatory agencies. This session will also examine how industry partnerships drive innovation in diagnostic technologies and create opportunities for public-private collaborations. Attendees will also gain insights into career pathways within diagnostics, including the technical, scientific, and regulatory aspects that make this field both impactful and rewarding. Plant Health 2025 Theme: This session highlights the importance of strong diagnostic networks connecting local, national, and global efforts to address challenges in plant health and biosecurity. It emphasizes the collective responsibility of public and private sectors in reducing plant pathogen risks. Attendees will explore how interconnected diagnostics support a resilient plant health system. Room 312	
11:00 AM - 12:15 PM HST SPECIAL SESSION: Genome Editing: Will Basic Phytobacterial Research Inform Improvements in Disease Resistance of Global Crops? Organizer: Frank F. White, PhD – University of Florida Moderator: Frank F. White, PhD – University of Florida Moderator: Jan E. Leach – Colorado State University	

APS Sponsoring Committee: None External Group Support/Co-Organization: None Description: The session will be organized/chaired by Frank White, UF, and Jan leach, Colorado State University, and introduce solutions to bacterial diseases of globally important crops involving genome editing technologies and applying basic research knowledge of disease. The first speakers will present robust systems where the applications of genome editing are advanced. The first talk will provide the extensive application of genome editing technologies to resistance to bacterial blight of rice, a disease of Asia and Africa, using basic knowledge of the host-pathogen interaction. Applications of the technologies will also be presented for another global crop, cassava. In the third talk, the prospects for success against the refractile fastidious bacterial pathogen Ca. Liberibacter asiaticus and HLB will be presented. Finally, we will discuss the use of genome editing in tomato and pepper and questions of the barriers and likelihood of applications reaching the field. Two additional short talks will be selected from solicited attendees, one of which is the case of the prospect of improving resistance to bacterial blight of a small farmer cash crop in India, pomegranate. At the end of the session, attendees will understand the basic knowledge that has led to the promise that resistance to disease in globally important crops can be derived from advances in genome editing. The attendees will also gain some insight into the likelihood of success and barriers to deployment in the field. Plant Health 2025 Theme: The speakers will address global projects addressing food security as well as prospects for enhancements for small scale farmers across geographies. Room 311	
12:00 PM - 4:00 PM HST Sprout's Corner Open Location: Room 318 B Room 318 B	
12:15 PM - 1:15 PM HST APS Division Officers Luncheon Location: Room 317 B Room 317 B	
12:15 PM - 1:30 PM HST OPSR Luncheon (by invitation only) Location: Room 319 A Room 319 A	
12:15 PM - 1:45 PM HST Lunch Break	
12:30 PM - 1:30 PM HST Public Policy Board (PPB) Listening Session Location: Room 319 B Room 319 B	
12:45 PM - 1:30 PM HST Professional Development & Membership Engagement Listening Session Location: Room 313 B Moderator: Corri Hamilton – University of Missouri	

Room 313 B	
1:45 PM - 3:00 PM HST TECHNICAL SESSION: Disease Diagnostics	▼
1:45 PM - 3:00 PM HST TECHNICAL SESSION: Genomics	▼
1:45 PM - 3:00 PM HST TECHNICAL SESSION: Integrated Pest Management	▼
1:45 PM - 3:00 PM HST TECHNICAL SESSION: Molecular Plant-Microbe Interactions	▼
3:00 PM - 5:00 PM HST APS PRESS Open Location: Exhibit Hall 3	★
Exhibit Hall 3	
3:00 PM - 5:00 PM HST Network with Exhibitors Location: Exhibit Hall 3	★
Exhibit Hall 3	
3:00 PM - 5:00 PM HST Plant Health Opening Reception Location: Exhibit Hall 3	★
Exhibit Hall 3	
3:00 PM - 6:00 PM HST Poster Viewing Open Location: Exhibit Hall 3	★
Exhibit Hall 3	
4:00 PM - 5:00 PM HST Pitch 120 Event Location: Exhibit Hall 3	★
Exhibit Hall 3	
5:00 PM - 6:00 PM HST University Alumni Networking (multiple) Location: Exhibit Hall 3	★
Exhibit Hall 3	
6:15 PM - 7:15 PM HST Early Career Professionals' Networking Location: Room 313 B	★

Room 313 B	
	
7:45 PM - 9:15 PM HST Industry & Student Networking Event with financial support from Syngenta, Corteva and Bayer Location: Off the Wall Beer & Wine (offsite)	★
Off the Wall Beer & Wine (offsite)	
  	
Monday, August 4, 2025	
7:00 AM - 8:00 AM HST Extension Plant Pathologists Breakfast Location: Room 323 A/B	★
Room 323 A/B	
7:00 AM - 8:00 AM HST OIP Breakfast (by invitation only) Location: Room 313 B	★
Room 313 B	
7:30 AM - 2:00 PM HST Concessions Open Location: 808 Café, Level 3	★
808 Café, Level 3	
7:30 AM - 2:30 PM HST Speaker Ready Room Open Location: Room 318 A	★
Room 318 A	
7:30 AM - 5:30 PM HST Poster Viewing Open Location: Exhibit Hall 3	★
Exhibit Hall 3	

7:30 AM - 5:30 PM HST Registration Open Location: Exhibit Hall 3 Prefunction	★
Exhibit Hall 3 Prefunction	
8:00 AM - 9:15 AM HST HOT TOPIC: From Lab to Leadership: Harnessing Scientific Training for Success Across Diverse Disciplines and Careers Location: Room 313 A	★
Panelist: Masha Trenhaile – Bayer Crop Science Panelist: Corinne Simonti – AAAS Moderator: Alejandra I. Huerta – North Carolina State University Moderator: Abbie Stack – Bayer Crop Science	
Room 313 A	
8:00 AM - 9:15 AM HST SPECIAL SESSION: Pathogens and Protectors: Gram-positive Bacteria on Spotlight Organizer: Devanshi Khokhani, PhD (she/her/hers) – University of Minnesota Moderator: Devanshi Khokhani, PhD (she/her/hers) – University of Minnesota	
	▼

APS Committee Sponsoring the Proposed Session: Bacteriology Biological Control
External Group Support/Co-Organization: None
Description: Gram-positive bacteria play a unique dual role in plant health, acting as both friends (beneficial microorganisms) and foes (pathogens). Beneficial genera such as Bacillus, Streptomyces, and Paenibacillus have plant-growth-promoting and biocontrol capabilities, enhancing crop productivity and resilience to stress. On the other hand, pathogenic genera such as Clavibacter are responsible for devastating diseases, including quarantine-restricted pathogens that threaten global agriculture by reducing yields and economic sustainability.
While Gram-positive bacterial pathogens are fewer than their Gram-negative counterparts, their impacts are significant. Recent advances have shed light on their virulence mechanisms, host-pathogen molecular interactions, transmission routes, and the genetic resistance strategies that crops employ. Similarly, research into beneficial Gram-positive bacteria has unveiled their potential for sustainable agricultural practices, such as integrated pest management (IPM), early pathogen detection, and biotechnological applications in breeding disease-resistant crop varieties.
This session offers value to a broad APS audience, including researchers, educators, and practitioners working on bacterial plant pathogens, plant-microbe interactions, and biocontrol approaches to control plant diseases.
Plant Health 2025 Theme: Global Challenges and Disease Management The proposed session highlights the global agricultural impact of Gram-positive bacterial pathogens, addressing their role in reducing crop yields and economic sustainability. This aligns with the theme's focus on combating the spread of plant diseases across borders.
Sustainable Agricultural Practices Exploring beneficial Gram-positive bacteria for biocontrol and plant-growth promotion aligns with the APS goal of promoting sustainable and integrated pest management practices.
Collaboration Across Disciplines By bringing together experts to discuss both the pathogenic and beneficial roles of Gram-positive bacteria, the proposal embodies the collaborative and interdisciplinary approach APS 2025 seeks to foster.
Translational Research for Practical Solutions The focus on translational approaches—linking fundamental research to applied practices—directly supports the APS 2025 theme of leveraging scientific innovation to address real-world challenges in plant health.
Room 312
8:00 AM - 9:15 AM HST SPECIAL SESSION: What's Next in Biocontrol?: Genetically-modified Biocontrol Agents Organizer: David Hubert, PhD – Indigo Ag, Inc. Moderator: David Hubert, PhD – Indigo Ag, Inc.

APS Committee Sponsoring the Proposed Session: Biological Control Committee	▼
External Group Support/Co-Organization: None	
Description: Microbial biopesticides offer many potential benefits over traditional chemical pesticides. Their likely multiple modes of action preventing development of resistance, ability to continue increasing in number throughout the growing season, and advantageous safety profile should make their adoption widespread. However, while the adoption of biological control agents against plant pathogens continues to increase, broader use is limited by a reputation for inconsistent performance. There is much ongoing research in the field to improve this reputation with everything from formulation improvements to application methodologies. Many researchers see the improvement of microbial biopesticides through genetic modification as one avenue to address this perceived shortcoming. Countless literature reviews have extolled the potential of transgenes and base changes to improve biopesticides, yet there is surprisingly little work currently being done in this area. In this session, you will hear from some of the few working in this exciting emerging field. Invited speakers will discuss several areas of research surrounding the development and use of genetically-modified (GM) biopesticides. Speakers will discuss how the development of GM biopesticides help to understand mode of action and support formulation improvements. Additionally, speakers will present ways in which genetic modifications can provide novel modes of action such as gene drives. Speakers will also address how utilization of transgenes and transspecific RNAi could be utilized to improve biopesticide performance. Finally, a representative from USDA APHIS-BRS will discuss how the agency is addressing early research regulatory concerns for GM organisms that can easily persistent in the environment. Plant Health 2025 Theme: Given their multiple modes of action, ease to deregulate, and broad pathogen efficacy, biological controls will be an increasingly important risk management tool in protecting against current and emerging plant pests. The minimal concerns for residues of biocontrol agents across jurisdictions, also make them an important tool in global trade as growers address pest issues near the time of or during export. Most importantly, the rarity of pests developing resistance to biocontrol agents, gives them an important role in protecting chemical pesticide efficacy. This protection is most important in regions where the poor stewardship practices in one country impact pesticide efficacy in adjoining jurisdictions due to movement of resistant pest strains. This session focuses on efforts underway to improve issues around levels and consistency of efficacy and stability, which have prevented wider scale adoption of biocontrol agents, despite these benefits.	
Ballroom B/C	
8:00 AM - 10:00 AM HST SPECIAL SESSION: Plant Pathologists of the Future with sponsorship support from Syngenta Moderator: Nicole A. Gauthier, PhD – University of Kentucky	▼
Room 311	
8:00 AM - 5:00 PM HST APS PRESS Open Location: Exhibit Hall 3	★
Exhibit Hall 3	
8:00 AM - 5:00 PM HST Open Meeting Room Available Location: Room 327	★
Room 327	
9:00 AM - 4:00 PM HST Sprout's Corner Open Location: Room 318 B	★

Room 318 B	
9:45 AM - 11:00 AM HST TECHNICAL SESSION: Citrus HLB Disease	▼
9:45 AM - 11:00 AM HST TECHNICAL SESSION: Data-Driven Insights and Imaging	▼
9:45 AM - 11:00 AM HST TECHNICAL SESSION: Nematology	▼
9:45 AM - 11:00 AM HST TECHNICAL SESSION: Oomycetes	▼
11:00 AM - 12:30 PM HST Lunch Break	★
11:00 AM - 12:30 PM HST Network with Exhibitors Location: Exhibit Hall 3 Exhibit Hall 3	★
11:00 AM - 12:30 PM HST Public Policy Board (PPB) Meeting Location: Room 317 B Room 317 B	★
11:00 AM - 1:00 PM HST Storkan-Hanes Mclaslin Research Foundation Luncheon Location: Room 313 B Room 313 B	★
11:00 AM - 4:00 PM HST OIP Silent Auction Location: Exhibit Hall 3 Exhibit Hall 3	★
11:15 AM - 12:15 PM HST Committee Chair/Vice Chair Meeting (by invitation only) Location: Room 317 A Room 317 A	★
12:30 PM - 1:45 PM HST TECHNICAL SESSION: Bacteriology	▼

12:30 PM - 1:45 PM HST TECHNICAL SESSION: Mycology	▼
12:30 PM - 1:45 PM HST TECHNICAL SESSION: New and Emerging Diseases	▼
12:30 PM - 1:45 PM HST TECHNICAL SESSION: Novel Research Methods	▼
12:30 PM - 3:00 PM HST SPECIAL SESSION: Schroth - Faces of the Future Session: Virology Moderator: Ruchika Kashyap – University of Georgia Moderator: Suzette Arcibal Baldwin – North Dakota State University Room 312	▼
2:15 PM - 3:30 PM HST TECHNICAL SESSION: Chemical Control	▼
2:15 PM - 3:30 PM HST TECHNICAL SESSION: Effector Research	▼
2:15 PM - 3:30 PM HST TECHNICAL SESSION: Epidemiology	▼
2:15 PM - 3:30 PM HST TECHNICAL SESSION: Tree Diseases	▼
3:30 PM - 5:30 PM HST NPDN Town Hall Location: Room 319 B Room 319 B	★
3:30 PM - 5:45 PM HST Network with Exhibitors Location: Exhibit Hall 3 Exhibit Hall 3	★
3:30 PM - 5:45 PM HST Plant Health Hub Networking Break Location: Exhibit Hall 3 Exhibit Hall 3	★
3:45 PM - 4:30 PM HST IDEA CAFÉ: Balancing Science and Self Location: Room 322 A Organizer: Sehgeet Kaur – School of Plant and Environmental Sciences and Graduate Program in Genetics, Bioinformatics, and Computational Biology, Virginia Tech, Blacksburg, VA 24061, U.S.A	★

Moderator: Sehgeet Kaur – School of Plant and Environmental Sciences and Graduate Program in Genetics, Bioinformatics, and Computational Biology, Virginia Tech, Blacksburg, VA 24061, U.S.A Moderator: Boris A. Vinatzer – School of Plant and Environmental Sciences, Virginia Tech, Blacksburg, VA 24061 Room 322 A	
3:45 PM - 4:30 PM HST IDEA CAFÉ: Federal Research Updates Location: Room 321 A Moderator: Paul Esker – Penn State Organizer: Rubella Goswami Moderator: Rubella Goswami Room 321 A	★
3:45 PM - 4:30 PM HST IDEA CAFÉ: Hot Topics in Turfgrass Pathology; Future Directions Location: Room 322 B Organizer: Fereshteh Shahoveisi – University of Maryland Moderator: Fereshteh Shahoveisi – University of Maryland Room 322 B	★
3:45 PM - 4:30 PM HST IDEA CAFÉ: The Rise of Bioinformatics and AI: What's the Future of Wet Lab Skills? Location: Room 321 B Organizer: Dimitra Valsami (she/her/hers) – Newcastle university Moderator: Dimitra Valsami (she/her/hers) – Newcastle university Room 321 B	★
3:45 PM - 4:30 PM HST Poster Viewing with Authors Present (P-001 - P-319, Poster Session I) Location: Exhibit Hall 3 Exhibit Hall 3	★
3:45 PM - 4:30 PM HST POSTERS: Analytical and Theoretical Plant Pathology I	▼
3:45 PM - 4:30 PM HST POSTERS: Bacteriology I	▼
3:45 PM - 4:30 PM HST POSTERS: Biological Control I	▼
3:45 PM - 4:30 PM HST POSTERS: Biotechnology I	▼
3:45 PM - 4:30 PM HST POSTERS: Chemical and Biopesticide Control I	▼

3:45 PM - 4:30 PM HST POSTERS: Crop Loss Assessment I	▼
3:45 PM - 4:30 PM HST POSTERS: Cultural Control I	▼
3:45 PM - 4:30 PM HST POSTERS: Disease Detection and Diagnosis I	▼
3:45 PM - 4:30 PM HST POSTERS: Epidemiology I	▼
3:45 PM - 4:30 PM HST POSTERS: Genetics of Resistance I	▼
3:45 PM - 4:30 PM HST POSTERS: Integrated Pest Management I	▼
3:45 PM - 4:45 PM HST APS Speed Mentoring Event Location: Exhibit Hall 3 Exhibit Hall 3	★
4:00 PM - 6:00 PM HST BioSecurity and Microbial Forensics Interest Group Location: Room 317 A Room 317 A	★
4:15 PM - 5:15 PM HST Phytopathologist of Distinction (POD) Talks I Moderator: Carolee P. Bull, PhD – The Pennsylvania State University Room 313 A	▼
4:30 PM - 5:15 PM HST Poster Viewing with Authors Present (P-321 - P-703, Poster Session I) Location: Exhibit Hall 3 Exhibit Hall 3	★
4:30 PM - 5:15 PM HST POSTERS: Late Breaking I	▼
4:30 PM - 5:15 PM HST POSTERS: Microbiome/Communities I	▼
4:30 PM - 5:15 PM HST POSTERS: Molecular/Cellular Plant-Microbe Interactions I	▼

4:30 PM - 5:15 PM HST POSTERS: Mycology I	▼
4:30 PM - 5:15 PM HST POSTERS: Nematology I	▼
4:30 PM - 5:15 PM HST POSTERS: New and Emerging Diseases I	▼
4:30 PM - 5:15 PM HST POSTERS: Oomycetes I	▼
4:30 PM - 5:15 PM HST POSTERS: Outreach I	▼
4:30 PM - 5:15 PM HST POSTERS: Pathogen Dispersal I	▼
4:30 PM - 5:15 PM HST POSTERS: Pathogen-Vector Interactions I	▼
4:30 PM - 5:15 PM HST POSTERS: Plant Defense Responses I	▼
4:30 PM - 5:15 PM HST POSTERS: Plant Stress and Abiotic Disorders I	▼
4:30 PM - 5:15 PM HST POSTERS: Population Biology Genetics I	▼
4:30 PM - 5:15 PM HST POSTERS: Postharvest Pathology I	▼
4:30 PM - 5:15 PM HST POSTERS: Proteomics/Metabolomics/Genomics I	▼
4:30 PM - 5:15 PM HST POSTERS: Systematics/Evolution I	▼
4:30 PM - 5:15 PM HST POSTERS: Virology I	▼
5:00 PM - 5:45 PM HST IDEA CAFÉ: Application Technologies in Disease Management: Impacts and Opportunities Location: Room 321 B Organizer: Stacey E. Swanson Moderator: Stacey E. Swanson Moderator: Charlotte Oliver – Colorado State University Room 321 B	★

5:00 PM - 5:45 PM HST IDEA CAFÉ: Branching Out: Boosting Visibility and Enrollment in Plant Pathology Courses Across Disciplines Location: Room 321 A Organizer: Becca Hall (she/her/hers) – The University of Minnesota Moderator: Becca Hall (she/her/hers) – The University of Minnesota Moderator: Gazala Ameen, n/a – Department of Agronomy, Horticulture and Plant Science, South Dakota State University, Brookings, SD 57007 Room 321 A	★	Women and Allies in Plant Pathology Breakfast with financial support from Corteva, Bayer and Valent Biosciences Location: Room 323 A/B Room 323 A/B With Financial Support From   
5:00 PM - 5:45 PM HST IDEA CAFÉ: Career Opportunities in International Development for Plant Pathologists Location: Room 322 A Organizer: John Bowman Organizer: Ronald D. French-Monar Room 322 A	★	7:00 AM - 11:45 AM HST Poster Viewing Open Location: Exhibit Hall 3 Exhibit Hall 3
5:00 PM - 5:45 PM HST IDEA CAFÉ: Intellectual Property Concerns in Diagnostics: Who owns a sequence? Location: Room 322 B Organizer: Deborah Groth-Helms – Agdia, Inc. Moderator: Kylie Rau, n/a – Agdia, Inc., Elkhart, IN Room 322 B	★	7:30 AM - 2:00 PM HST Concessions Open Location: 808 Café, Level 3 808 Café, Level 3
8:00 PM - 9:30 PM HST LGBTQIA+ Networking Event (ticket required) with financial support from Corteva, Valent Biosciences, and Bayer Location: Wild Orange (offsite) Wild Orange (offsite)   	★	7:30 AM - 2:30 PM HST Speaker Ready Room Open Location: Room 318 A Room 318 A
8:15 PM - 10:00 PM HST Industry & Extension Networking Event (ticket required) with financial support from Corteva Location: Aloha Beer Company (offsite) Aloha Beer Company (offsite) Sponsored By: 	★	7:30 AM - 3:00 PM HST Registration Open Location: Exhibit Hall 3 Prefunction Exhibit Hall 3 Prefunction
Tuesday, August 5, 2025		8:00 AM - 9:00 AM HST New Products and Services Session 2 of 2 Moderator: Jagdeep Kaur Moderator: Margarita Marroquin-Guzman Room 313 C
7:00 AM - 8:00 AM HST	★	8:00 AM - 9:15 AM HST SPECIAL SESSION: A World in Crisis: Impact on Food Security and Disease Management from the Front Lines Organizer: Robert C. Kemeraït, Jr., PhD – UGA Dept of Plant Pathology Moderator: Robert C. Kemeraït, Jr., PhD – UGA Dept of Plant Pathology

APS Committee Sponsoring the Proposed Session: Office of International Programs (OIP) External Group Support/Co-Organization: None Description: Protecting crop production from plant diseases to better ensure food security is a global issue. The relevance of "food security" becomes of increasing concern as the world's population grows and as issues such a climate change and political instability further disrupt farming and the lives of farmers, often in some of the most economically-challenged regions on Earth. With the external stress affecting agriculture comes greater need to protect crops from diseases. In this session, speakers who have first-hand experience with the threat of uncertainty on crop production in regions across the world will provide information on how such challenges are met. This session is not only for those interested in global affairs, but for all who wish to understand how our work in plant disease management becomes increasingly vital for future food security. Plant Health 2025 Theme: This session unifies how global stresses, to include climate change, civil unrest, political instability, and emerging pest problems all affect food security and the need for improved strategies in disease management. The speakers, all from diverse backgrounds and heritage, are united in their message that collaboration is and will be key to meeting the issues faced by farmers and in agriculture. Room 313 A	
8:00 AM - 9:15 AM HST SPECIAL SESSION: Embracing the Land-Grant Mission: How to Build a Strong and Sustainable Career in Extension Organizer: Jensen Hayter – University of Tennessee, Knoxville Moderator: Jensen Hayter – University of Tennessee, Knoxville APS Committee Sponsoring the Proposed Session: None External Group Support/Co-Organization: None Description: Extension specialists and agents seek to serve the stakeholder community by translating the results of both basic and applied research into actionable recommendations for optimizing crop production. This is done through providing resources focused on best agronomic practices and pest and disease management. They interact with community members and stakeholders and are often the most accessible and present members of a land-grant university. For a variety of reasons many states face high rates of turnover in Extension programs, particularly among Extension agents. This session seeks to present an Extension career as a viable option at the Bachelors, Masters, and PhD level to both undergraduate and graduate students, and to provide helpful insights into creating stable and successful Extension programs. The session organizers will briefly explain the mission, purpose, and history of land-grant institutions. Invited professionals with significant Extension appointments will then describe the process of establishing Extension-centered outreach and research programs (including information on how to form productive relationships with other Extension personnel and leveraging the power of an Extension network), developing stakeholder relationships, and funding opportunities available for Extension research and education. The session will conclude with an open forum for discussion and questions moderated by the panel of invited speakers. Additionally, speakers will provide insight into mentoring graduate students and postdocs and managing laboratory personnel. Plant Health 2025 Theme: Agricultural trade has become a global enterprise. The world's food system is heavily intertwined. Extension personnel are the boots on the ground helping to maximize food production through education and applied research. Growers are the foundation of the global food supply and Extension personnel are the bridge to translating basic and applied research into actionable recommendations, thus making them an integral part in addressing risk to food production systems. Additionally, a global food system inherently shares the good and the bad. Pests and pathogens are disseminated through global trade. Extension personnel are able to rapidly focus in on an emergent problem in order to provide timely recommendations to growers to manage novel pathogens and slow disease spread. Room 311	
8:00 AM - 9:15 AM HST	

SPECIAL SESSION: Forest Health in the 21st Century: Addressing Ecological and Cultural Consequences Organizer: Carrie Fearer – Virginia Tech Moderator: Carrie Fearer – Virginia Tech Room 312	
8:00 AM - 9:15 AM HST SPECIAL SESSION: The Ascendancy of Persistent Propagative Vector-borne Plant Viruses Organizer: Kiran R. Gadhave – Texas A&M University Organizer: Daniel K. Hasegawa – USDA-ARS Moderator: Kiran R. Gadhave – Texas A&M University Moderator: Stephanie Preising, Ms. – Cornell University APS Committee Sponsoring the Proposed Session: Virology Committee Vector-Pathogen Complexes Committee External Group Support/Co-Organization: None Description: Cross-kingdom viruses, despite their compact genomes, exhibit a remarkable ability to infect hosts across different biological kingdoms. They achieve this through mechanisms such as hijacking conserved cellular receptors and machinery, mutations in key proteins, and forming specific molecular interactions. These adaptations allow them to overcome plant defenses, enhance the fitness and efficiency of insect vectors, and exploit alternative or transient hosts. Their rapid emergence in recent years has highlighted the urgent need for innovative strategies—including advanced diagnostic tools and sustainable agricultural practices—to curb their spread and address the multi-billion-dollar crop losses that jeopardize global food and nutritional security. This session, co-chaired by Drs Kiran Gadhave (Texas A&M University) and Daniel Hasegawa (USDA-ARS), will captivate a diverse audience by presenting cutting-edge research on plant pandemics caused by cross-kingdom viruses transmitted by insect vectors. It will comprehensively address major plant viruses spanning different genera—Orthotospovirus, Rhabdovirus, Begomovirus, Ketavirus and Dichorhavirus—which are transmitted by various insect vectors such as thrips, leafhoppers, whiteflies and mites, affecting a wide range of hosts, from monocots to specialty crops. Featuring speakers from the US, India, and Brazil, the session emphasizes the importance of interdisciplinary global collaborations to unravel the complex interactions between these viruses, their hosts, and vectors. The session will conclude with a 15-minute panel discussion led by the co-chairs, providing an opportunity to address audience questions and foster engaging conversations on how insights from various pathosystems can be leveraged to understand the rise of cross-kingdom viruses and their profound impacts on global agriculture and the economy. Plant Health 2025 Theme: This session invites a diverse group of plant virologists and insect vector biologists to share their fundamental, applied, and translational research on cross-kingdom vector-borne viruses. The goal is to stimulate discussions that foster interdisciplinary collaborations around the theme “Global Communities Collaborating to Address Global Risk” of Plant Health 2025. Ballroom B/C	
8:00 AM - 12:00 PM HST APS PRESS Open Location: Exhibit Hall 3 Exhibit Hall 3	

8:00 AM - 5:00 PM HST Open Meeting Room Available Location: Room 327 Room 327	★
9:00 AM - 4:00 PM HST Sprout's Corner Open Location: Room 318 B Room 318 B	★
9:15 AM - 11:00 AM HST Plant Health Hub Networking Break sponsored by EPL Bio Analytical Services Location: Exhibit Hall 3 Exhibit Hall 3 Sponsored By    	★
9:15 AM - 12:15 PM HST Network with Exhibitors Location: Exhibit Hall 3 Exhibit Hall 3	★
9:30 AM - 10:15 AM HST Poster Viewing with Authors Present (P-002 - P-318, Poster Session II) Location: Exhibit Hall 3 Exhibit Hall 3	★
9:30 AM - 10:15 AM HST POSTERS: Analytical and Theoretical Plant Pathology II	▼
9:30 AM - 10:15 AM HST POSTERS: Bacteriology II	▼
9:30 AM - 10:15 AM HST POSTERS: Biological Control II	▼
9:30 AM - 10:15 AM HST POSTERS: Biotechnology II Location: Exhibit Hall 3 Exhibit Hall 3	★
9:30 AM - 10:15 AM HST POSTERS: Chemical and Biopesticide Control II	▼

9:30 AM - 10:15 AM HST POSTERS: Crop Loss Assessment II	▼
9:30 AM - 10:15 AM HST POSTERS: Cultural Control II	▼
9:30 AM - 10:15 AM HST POSTERS: Disease Detection and Diagnosis II	▼
9:30 AM - 10:15 AM HST POSTERS: Epidemiology II	▼
9:30 AM - 10:15 AM HST POSTERS: Genetics of Resistance II	▼
9:30 AM - 10:15 AM HST POSTERS: Integrated Pest Management II	▼
9:45 AM - 10:45 AM HST Phytopathologist of Distinction (POD) Talks 2 Moderator: Courtney Gallup Room 313 A	▼
10:00 AM - 10:45 AM HST IDEA CAFÉ: Beyond Pathogens: Decoding Microbial Dynamics in Plant Health Decline Location: Room 321 B Organizer: Gayan Abeysinghe, PhD – Texas AandM University Moderator: Gayan Abeysinghe, PhD – Texas AandM University Moderator: Sanjay Antony-Babu – Texas A&M University Room 321 B	★
10:00 AM - 10:45 AM HST IDEA CAFÉ: The Challenges of Promoting Plant Health Globally to Prevent Global Risks Location: Room 321 A Organizer: Sue Cohen Organizer: Ronald D. French-Monar Moderator: Sue Cohen Room 321 A	★
10:00 AM - 10:45 AM HST IDEA CAFÉ: The Hidden Curriculum of Grad School: What No One Tells You Location: Room 322 A Organizer: Dalvir Dhadly, MS – University of Georgia Moderator: Dalvir Dhadly, MS – University of Georgia Organizer: Carlton Fitz-Patrick Collins, n/a – University of Georgia Moderator: Carlton Fitz-Patrick Collins, n/a – University of Georgia	★

Room 322 A	
10:15 AM - 11:00 AM HST Poster Viewing with Authors Present (P-320 - P-702, Poster Session II) Location: Exhibit Hall 3 Exhibit Hall 3	★
10:15 AM - 11:00 AM HST POSTERS: Late Breaking II	▼
10:15 AM - 11:00 AM HST POSTERS: Microbiome/Communities II	▼
10:15 AM - 11:00 AM HST POSTERS: Molecular/Cellular Plant-Microbe Interactions II	▼
10:15 AM - 11:00 AM HST POSTERS: Mycology II	▼
10:15 AM - 11:00 AM HST POSTERS: Nematology II	▼
10:15 AM - 11:00 AM HST POSTERS: New and Emerging Diseases II	▼
10:15 AM - 11:00 AM HST POSTERS: Oomycetes II	▼
10:15 AM - 11:00 AM HST POSTERS: Outreach II	▼
10:15 AM - 11:00 AM HST POSTERS: Pathogen Dispersal II	▼
10:15 AM - 11:00 AM HST POSTERS: Pathogen-Vector Interactions II	▼
10:15 AM - 11:00 AM HST POSTERS: Plant Defense Responses II	▼
10:15 AM - 11:00 AM HST POSTERS: Plant Stress and Abiotic Disorders II	▼
10:15 AM - 11:00 AM HST POSTERS: Population Biology Genetics II	▼
10:15 AM - 11:00 AM HST POSTERS: Postharvest Pathology II	▼
10:15 AM - 11:00 AM HST	

POSTERS: Proteomics/Metabolomics/Genomics II	▼
10:15 AM - 11:00 AM HST POSTERS: Systematics/Evolution II	▼
10:15 AM - 11:00 AM HST POSTERS: Virology II	▼
11:00 AM - 12:15 PM HST Lunch Break	★
11:15 AM - 12:00 PM HST Public Policy Board (PPB) Listening Session Location: Room 319 B Room 319 B	★
11:45 AM - 12:15 PM HST Poster Take-Down Location: Exhibit Hall 3 Exhibit Hall 3	★
12:15 PM - 1:45 PM HST PLENARY SESSION: Society Updates & Plenary Speaker - Jan Kreuze Location: Ballroom B/C Keynote Speaker: Jan F. Kreuze (he/him/his) – International Potato Center Ballroom B/C	★
12:15 PM - 3:45 PM HST Exhibitor Move-Out Location: Exhibit Hall 3 Exhibit Hall 3	★
2:00 PM - 3:15 PM HST SESSION: Integrating Epidemiological Modeling and Spatial Risk Assessment for Sustainable Plant Disease Management, Supported by Corteva Location: Room 313 C Moderator: Javier Delgado Speaker: Krystel Navarro – Corteva Agriscience Speaker: Layton Peddicord (he/him/his) – Corteva Agriscience Room 313 C Sponsored By 	★
2:00 PM - 3:15 PM HST SPECIAL SESSION: Endangered Species Act: New Agricultural Outlook Post ESA Strategies	

Organizer: Karen Ferreira Da Silva (she/her/hers) – Corteva Agriscience Organizer: Madeline Wade Organizer: Julia M. Crane – Valent BioSciences Organizer: Lia Murty Organizer: Katie Neufeld Organizer: Amy Hope Organizer: Carl A. Bradley – University of Kentucky Moderator: Karen Ferreira Da Silva (she/her/hers) – Corteva Agriscience Moderator: Madeline Wade Room 312	▼	APS Committee Sponsoring the Proposed Session: Epidemiology Committee (Sponsoring) Disease Surveillance and Pathogen Detection Methods (Co-Sponsoring) Crop Loss Assessment and Risk Evaluation (Co-Sponsoring)
		External Group Support/Co-Organization: None Description: Global trade and shifting climate patterns are accelerating the spread of invasive plant diseases, presenting significant threats to agriculture, ecosystems, and global food security. This session explores advanced modeling techniques, including AI-driven analytics, network modeling, and remote sensing, that enable accurate predictions of disease emergence and cross-border movement. Attendees will learn how spatial models integrate international trade data, climate suitability factors, and host plant distributions to effectively forecast outbreaks under uncertainty. Through real-world case studies, the session will highlight user-friendly platforms and communication strategies that engage decision-makers ranging from policy officials to agricultural producers. Presenters will demonstrate tools designed to guide proactive surveillance efforts and optimal intervention strategies, illustrating the tangible benefits of interdisciplinary and international collaboration. With a strong focus on practical application, global data sharing, and stakeholder involvement, the session provides actionable knowledge valuable to professionals involved in plant disease monitoring, policymaking, and management. Participants will leave with a clear, forward-looking perspective on utilizing state-of-the-art modeling approaches to promote plant health in our increasingly interconnected world. Plant Health 2025 Theme: This session is intrinsically aligned with the Plant Health 2025 theme, "Global Communities Collaborating to Address Global Risks," by emphasizing the critical role of international collaboration in predicting and managing the spread of invasive plant diseases, an urgent global risk exacerbated by international trade and climate change. By bringing together experts from various countries and disciplines—including plant pathologists, epidemiologists, and data scientists—we foster a collaborative environment where insights, data, and strategies are shared across borders. The session highlights the importance of open, globally available databases and international trade data in facilitating cross-border data sharing and analysis. By showcasing how international scientific collaboration and data sharing can enhance our collective capacity to promote plant health, we emphasize the critical importance of building bridges between research communities, regulatory agencies, and stakeholders to develop more effective, coordinated responses to emerging plant health threats. Addressing global risks through innovative strategies is at the core of this session. We demonstrate how innovative models like PoPS Global and Webidemics can forecast disease spread, optimize control strategies, and inform global surveillance efforts. Leveraging network analysis, artificial intelligence, remote sensing, and aerosol transport modeling, we present state-of-the-art approaches to assessing global disease susceptibility and managing risks on a global scale. These advanced techniques improve predictive capabilities and support proactive responses to emerging threats. The session contributes to enhancing global plant health by focusing on strategies to prevent and control the spread of invasive pests and pathogens, thereby safeguarding agriculture, ecosystems, and food security. By providing tools and models that inform policy decisions and management strategies, we aid countries in implementing effective biosecurity measures. Sharing user-friendly interfaces and communication strategies empowers stakeholders worldwide to understand and act upon complex epidemiological information, fostering capacity building and education. Finally, the session fosters a global community committed to plant health by encouraging interdisciplinary collaboration among different fields, enhancing the development of comprehensive solutions to plant health challenges. By addressing the needs of policymakers, regulators, growers, and researchers, we promote a unified effort to tackle global risks. Aligning with the meeting's goal, the session is part of a worldwide movement dedicated to safeguarding plant health through shared knowledge and collaborative action. In summary, by integrating advanced modeling techniques with international cooperation and effective communication, this session exemplifies how global communities can work together to address and mitigate the risks posed by invasive plant diseases. It supports the Plant Health 2025 theme by fostering collaboration, promoting innovative strategies, and contributing to a worldwide movement dedicated to enhancing global plant health. Ballroom B/C
		2:00 PM - 3:15 PM HST

SPECIAL SESSION: Leveraging Diverse Knowledge to Address Socio-Economic Disparities in Mycotoxin Management Worldwide

Organizer: Lily Lofton

Organizer: Wanderson Moraes – Corteva Agriscience

Organizer: joesph Opoku

Organizer: Shiv Singla

Organizer: Rebecca R. Sweany, PhD, PhD – U.S. Department of Agriculture

Moderator: Rebecca R. Sweany, PhD, PhD – U.S. Department of Agriculture

Moderator: Wanderson Moraes – Corteva Agriscience

Moderator: Drew Olson (he/him/his) – Department of Plant Pathology, University of Georgia



APS Sponsoring Committee: Mycotoxicology Committee

External Group Support/Co-Organization: None

Description: Our present world is marked by rapid and often polarizing technological advancements, environmental changes, and societal shifts. As climate change and globalization drive the global spread of plant pathogens and diseases, maintaining food and feed safety, security, and quality is increasingly challenging yet critical to support the demands of our growing world. Fortunately, rapid advances in technologies can mitigate these threats. However, adoption of new technologies is often hampered by a lack of knowledge and/or cultural acceptance. Mycotoxins are a food safety threat worldwide, posing acute risks to human and livestock health and agricultural economics. Regions with limited resources and/or knowledge of mycotoxins are at a greater risk for harm. In our ever-changing world, managing mycotoxins presents a unique challenge. However, we also have a unique opportunity to leverage global connections to integrate cutting edge research with cultural knowledge and precise communication strategies, allowing us to develop sustainable methods to mitigate mycotoxin contamination. This Special Session will explore translational research in mycotoxin management, including breeding for host resistance to mycotoxigenic fungi and mycotoxin accumulation, novel food storage practices, advanced decontamination techniques, and sustainable biocontrols. Further, this Session will examine effective communication strategies to increase mycotoxin knowledge and risk management globally, across pipelines from farmers to policy makers. This section will discuss the socio-economic challenges of mycotoxin management, particularly in developing countries. Together, we will explore how precise communication-based strategies can be used to increase (1) governmental knowledge and support, (2) education/training for key target audiences (e.g., educators, health professionals, producers), and (3) public awareness. Together, this Session will highlight the need for global cooperation and capacity building to ensure equitable and effective mycotoxin control measures.

Plant Health 2025 Theme: Our Special Session, “Leveraging Diverse Knowledge to Address Socio-Economic Disparities in Mycotoxin Management Worldwide” directly aligns with the Plant Health 2025 theme of “Global Communities Collaborating to Address Global Risks”. We focus on sustainable and equitable mycotoxin management, emphasizing innovative technologies, global collaboration, cultural knowledge, and communication. This includes:

1. Breeding and host resistance: Breeding for host resistance to mycotoxigenic fungi and mycotoxin accumulation. Showcasing cutting-edge, translational research that bridges the gap from identifying sources of host resistance (genetic and metabolomic) with selecting, deploying, and applying more resistant cultivars. This section will also highlight the challenges for breeding against mycotoxin contamination.
2. Global spread of disease: Highlighting advanced mycotoxin control and decontamination techniques designed to cope with increased mycotoxin contamination risks due to climate change (e.g., Europe).
3. Culture, communications, and global connections: Addressing the socio-economic challenges of mycotoxin management, particularly in developing countries. Exemplifying community-based research, citizen science, and context-sensitive interventions to address socio-economic disparities in mycotoxin management and mitigate mycotoxin exposure (e.g., Africa, Southeast Asia). Emphasizing how culturally appropriate and strategic communication can be used to increase government support, target audience education (e.g., educators, health professionals, producers), and public awareness to improve food and feed safety and public health outcomes (e.g., Africa, Southeast Asia, Central America).

Our Session’s focus on innovative, culturally appropriate, communication-based strategies for mycotoxin management, and its emphasis on global collaboration for sustainable outcomes, exemplifies the vision of the Plant Health 2025 theme. By exploring these groundbreaking approaches, we aim to significantly contribute to enhancing and safeguarding global plant health for a more sustainable tomorrow.

Room 313 A

2:00 PM - 5:00 PM HST
SPECIAL SESSION: I. E. Melhus Graduate Student Symposium: Harnessing Host Resistance to Strengthen Management Strategies Amidst Global Threats
Moderator: Carrie Fearer – Virginia Tech

Sponsored By:  Room 311	▼
3:45 PM - 5:00 PM HST TECHNICAL SESSION: Biological Control	▼
3:45 PM - 5:00 PM HST TECHNICAL SESSION: Global Spread, Risk, and Regulatory	▼
3:45 PM - 5:00 PM HST TECHNICAL SESSION: Microbiome and Microbial Communities	▼
3:45 PM - 5:00 PM HST TECHNICAL SESSION: Virology	▼
5:00 PM - 6:00 PM HST Hemp Diseases Working Group Meeting Location: Room 317 A Room 317 A	★
6:30 PM - 9:00 PM HST Celebration Event: Aloha Under the Stars Location: Rooftop Garden, Level 4 Rooftop Garden, Level 4	★