行政院及所屬各機關出國報告（出國類別：研究）

建立非疫區（Establishment of Pest Free Status）區域訓練研習會

服務機關：行政院農業委員會動植物防疫檢疫局
姓名職稱：植物防疫組 劉天成 副組長
植物檢疫組 王堂凱 技正
派赴國家：印尼
出國期間：106 年 9 月 3 日至 9 月 9 日
報告日期：106 年 12 月 7 日

摘要

美國農業部動植物防疫檢疫署（APHIS, Animal and Plant Health Inspection Service）與印尼農業部農業檢疫署（Indonesian Agricultural Quarantine Agency）共同舉辦「建立非疫區（Establishment of Pest Free Status）」區域訓練研討會，邀請我國及東南亞國協國家包括越南、寮國、柬埔寨、泰國、緬甸、馬來西亞、汶萊、印尼及東帝汶等 10 國共 20 名代表參加該研討會，由美國農業部專家主講建立非疫區之國際標準，包括國際植物防疫檢疫措施標準（International Standards for Phytosanitary Measures, ISPM）第 4 號、第 26 號等，並由各國分享建立非疫區或非疫狀態之經驗，其中柬埔寨、寮國、緬甸、東帝汶、印尼及汶萊等 6 國，部分因甫建立檢疫規定，部分則因尚在調查及建立病蟲害清單或無農產品輸出需求，並無建立非疫區之經驗且檢疫制度尚在發展之初期階段；另越南、泰國、馬來西亞及菲律賓發展較佳，除已經建立檢疫制度、建立有害生物清單外，目前已成功輸銷需檢疫處理之農產品至日本、南韓、歐盟、美國及澳洲等，在建立非疫區或維持非疫狀態部分亦有相關經驗；我國則分享建立小紅鰹節蟲(*Trogoderma granarium* (Everts))、番石榴果實蠅（*Bactrocera correcta*）及入侵紅火蟻之非疫狀態或非疫區經驗，獲與會人員熱烈討論。研討會後並參訪印尼之芒果園，瞭解其果實蠅共同防治及監測措施。

目錄

壹、前言

為協助東南亞國家發展植物檢疫制度，增進對建立植物有害生物非疫區之能力，以調和各國國內與國際植物保護公約（International Plant Protection Convention, IPPC）相關規定，達到促進貿易之目的，美國農業部動植物防疫檢疫署（APHIS, Animal and Plant Health Inspection Service）與印尼農業部農業檢疫署（Indonesian Agricultural Quarantine Agency）共同舉辦「建立非疫區（Establishment of Pest Free Status）」區域訓練研討會，邀請東南亞國協包括越南、寮國、柬埔寨、泰國、緬甸、馬來西亞、汶萊、印尼及東帝汶等 9 國推薦 2 名同仁參加該研討會，由於駐美國在臺協會臺北辦事處農業組動植物檢疫辦事處區域主任 Mr. Caplen Russell 之爭取，APHIS 同意本次一併邀請我國推薦 2 名同仁參加。

前揭研討會於 106 年 9 月 4 日至 8 日在印尼 Bekasi 市（位於雅加達近郊）舉辦，本局由植物防疫組劉天成副組長及植物檢疫組王堂凱技正參加。

貳、行程與研習會紀要

山竹鮮果實之楊桃果實蠅及木瓜果實蠅蒸熱殺蟲檢疫處理認證試驗工作，自106年7月16日至7月28日，共計執行13天。

日期	地點	主要行程紀要
9月3日(六)	臺灣桃園-雅加達	桃園國際機場搭乘長榮航空班機前往雅加達市，再由印尼檢疫署(Indonesia Agriculture Quarantine Agency, IAQA)接駁車接至位於貝加西市的農業檢疫應用研究中心(Applied Research Institute of Agriculture Quarantine, ARIAQ)。
9月4日(一)	貝加西市	1. 報到 2. 由檢疫署長Mrs. Banun Harpini、美國駐印尼大使館農業顧問Mr. Chris Rittgers及檢疫署下負責本次研習會之植物檢疫與生物安全中心(Center for Plant Quarantine and Biosafcty)主任Dr. Antarjo Dikin共同進行開幕致詞 3. 美國動植物防疫檢疫署之國際服務組亞太區助理經理Mr. Jeffery F. Willnow簡報該署之國際科技與規範能力建構中心(International Technical and Regulatory Capacity Building Center, ITRCB)之功能及如何申請該中心補助訓練計畫。 4. 印尼檢疫署植物檢疫與生物安全中心主任Dr. Antarjo簡報SPS協定與促進貿易之關係 5. 美國動植物防疫檢疫署之國際服務組亞太區助理經理Mr. Jeffery F. Willnow簡報植物檢疫面臨之挑戰與機會 6. 印尼檢疫署植物檢疫與生物安全中心主任Dr. Antarjo簡報NPPO如何在強化核發檢疫證制度上扮演有效的角色 7. 美國動植物防疫檢疫署風險評估資深專家Dr. Devaiah A. Muruvanda簡報如何建立非疫區
9月5日(二)	貝加西市	1. 印尼、汶萊、柬埔寨及寮國進行國家簡報 2. 馬來西亞、緬甸、菲律賓及泰國進行國家簡報 3. 東帝汶、越南及臺灣進行國家簡報

		4. 美國動植物防疫檢疫署風險評估資深專家 Dr. Devaiah A. Muruvanda 簡報美國水果及蔬菜市場准入審查程序 5. 美國動植物防疫檢疫署風險評估資深專家 Dr. Devaiah A. Muruvanda 簡報如何建立果實蠅非疫區
9 月 6 日 (三)	貝加西市	1. 印尼Gajah Mada大學教授Dr. Suputa簡報決定果實蠅寄主狀態之技術 2. 美國動植物防疫檢疫署風險評估資深專家Dr. Devaiah A. Muruvanda簡報非疫狀態之確認程序 3. 印尼農業部園藝作物保護組助理組長Mrs. Anik Kustaryati簡報印尼在芒果園建立及防治果實蠅之程序 4. 印尼農業部園藝作物保護組助理組長(退休)Mrs. Cahyaniati簡報印尼在管理芒果園果實蠅狀態之經驗 5. 印尼Gajah Mada大學教授Dr. Suputa簡報印尼果實蠅狀態
5 月 19 日 (四)	井里汶市	1．參訪果實蠅示範防治之芒果園 2．參訪符合 GAP 規範之芒果園
5 月 20 日 (五)	貝加西市	綜合討論：東協國家在建立非疫區之挑戰與機會
5 月 21 日 (六)	雅加達-臺灣桃園	搭乘長榮航空班機返抵桃園國際機場

參、研習會內容

本次研習會主題為非疫狀態及非疫區之建立與維持，重點係針對 ISPM 4 及 26，美國動植物防疫檢疫署專家分別說明兩者之內容，以及美國建立與認定非疫區之原則，各國再分享國內與非疫狀態及非疫區建立及維持相關之經驗，最後再參訪印尼芒果園關於果實蠅之防治與管理。

一、ISPM 4 及 26 規定

（一）ISPM 4

國際植物防疫檢疫措施標準（International Standards for Phytosanitary Measures, ISPM）第 4 號敘述了建立非疫區之要件，本次研習會美國專家們對此要件內容進行說明，本標準係指建立非疫區時期確定及維持之要件，當輸出國建立非疫區時，即可要求輸入國免除額外的植物檢疫措施，例如蒸熱處理、低溫處理等。建立非疫區包括以下 3 階段：

1.建立非疫區：

（1） 首先需確定非疫區之範圍，非疫區之定界與有害生物之生物學特性有關，如有害生物飛行能力強，則應考量有自然屏障做為界線，一般實際上多以符合有害生物之生物學界線且容易辨識之邊界來界定，相關界線例如國界、州界等，自然邊界例如河、海、山脈等。

（2） 接下來應建立該有害生物之調查方法，依據有害生物之生物學特性建立調查方法，例如土壤傳播者，則應對土壤或植物根部取樣。

（3） 確認該有害生物在非疫區內之狀態，可分為一般監視與特別調查，一般監視則可自政府機構、研究機構、大學、生產者、顧問、博物館及一般大眾取得資訊，因此可以是科學及貿易期刊、為發表之歷史資料或當代之觀察。特別調查則利用所建立之有害生物調查方法進行偵察（detection）或定界調查，此則屬於官方之調查，需依據該國植物保護機關所核准之計畫進行。

2.維持非疫區

（1） 應建立防止有害生物傳入及傳播之特別措施，應先將該有害生物列

入檢疫有害生物名單，如為建立全國性之非疫區，應詳細規定寄主農產品輸入要件，如為建立國家內部分地區為非疫區，則應限制寄主農產品在某些地區包括緩衝區之移動。

（2） 對非疫區內生產者應推廣並修正相關病蟲害防治措施。

3.確認維持非疫區狀態

為確認該地區之非疫狀態，以持續向輸出國申請維持免除部分檢疫措施，在建立非疫區後仍應查核無疫病蟲害狀態是否持續。相關措施包括：

（1） 對非疫區輸出之貨品應特別檢查。

（2） 要求研究人員、顧問或植物檢疫人員將有害生物的任何發生情況向國家植物保護機關通報，且輸出國應立刻通報輸入國。

（3） 進行監測調查，以所建立之調查方式持續進行調查。

除前揭各階段應執行事項外，亦應建立非疫區建立、維持及確認各階段之文件檔案資料，資料內容應包括建立非疫區之定界資料、監測調查資料（包括所採用之技術細節）、各種行政措施例如限制移動之資料、所採用之植物檢疫規定。

最後美國專家提醒，建立非疫區時，為避免建立之非疫區不被輸入國認可，最好在初步確認非疫區地點、目標有害生物等資料後，先請輸入國提供確認非疫區之程序，並依據該程序逐步確認建立非疫區之措施，並且在建立非疫區時，亦應充分與輸入國溝通甚至邀請其參與，以達成簡化檢疫處理之目的。

（二）ISPM 26

ISPM 26 係進一步闡釋 ISPM 4 有關建立非疫區之要件，為聯合國糧農組織（FAO）特別針對各國最關注之有害生物－果實蠅所訂定之「建立果實蠅非疫區」標準，因此亦特別聲明 ISPM 4 之建議亦同時適用於建立果實蠅非疫區，且本標準內容許多亦與 ISPM 4 相似，但由於有害生物對象可單純針對果實蠅，因此有許多在建立果實蠅非疫區時值得參考之處。

ISPM 4 訂定時間為 1996 年，而 ISPM 26 訂定時間為 2015 年，這段期間公眾參與與溝通為國際社會關注焦點之一，因此 ISPM 26 特別訂定公眾認識之要件，包括製作宣導品、寄主材料入境處理箱、運輸管理系統等等。

另外也特別訂定了矯正行動（本標準附件 2），以利果實蠅在非疫區內爆發時可以進行滅除，其內容包括：

1. 建立緊急防治區：首先應解除緊急防治區內的非疫狀態，在依據輸出國國家植物保護機構之決定，在偵察發現果實蠅處劃定圓形之緊急防治區範圍，如同時於多點偵察發現果實蠅，則應建立多個圓形根除區，其半徑應依據果實蠅之飛行能力而定。
2. 採取控制措施：對生產者可要求進行防治、套袋、田間衛生等措施，進一步限制寄主植物之移動，對包裝場則可要求再次消毒、對緊急防治區內生產之果實應特別處理且應與其他非疫區之果實分開儲存。緊急防治區內如果有果實加工廠，應避免在儲藏時遭受感染，且販售貨架上的果實也有被感染之可能，亦應特別處理。
3. 文件紀錄與保存：相關偵察紀錄及各種措施均應保存文件與紀錄。

由於果實蠅移動速度快且距離長，因此本標準認為建立緩衝區是必要的，尤其在地理隔離不足的非疫區，建立緩衝區時可使用減少果實蠅密度之技術，包括噴藥、殺蟲誘引劑、不孕技術、生物防治等，還必須考慮緩衝區內寄主植物狀態、氣候條件及該果實蠅之擴散能力。

在監測調查上，本標準特別建議在建立非疫區時，應連續監測 12 個月才可確認非疫狀態，且調查期間不得監測發現 1 個未成熟標本、2 隻以上具生殖能力之成蟲或 1 隻受精雌成蟲，並且在附錄 1 及附錄 2 提供各果蠅時監測調查之資材與方式，另與 ISPM 4 不同之處，本標準特別規定執行監測調查時，應有可執行專業鑑定之人力，且必須能在 48 小時內完成鑑定，監測調查行動必須包括寄主植物鮮果實之抽樣，尤其在緊急防治區內小範圍之定界調查中，鮮果實抽樣為特別有效之方法，抽樣時要考

量果實蠅之寄主偏好並針對高風險地區所生產果實，選擇果實時也應挑選有危害狀、落果等高風險果實。

二、美國建立與認定非疫區之原則

（一）美國建立非疫區之原則

美國建立非疫區仍以 ISPM 4 及 26 之規定為原則，認為建立非疫區時應先瞭解目標有害生物之特性及生長限制，才能瞭解應劃定之地理區隔及緩衝區，此外也才能建立監測方式，在建立非疫區前，最好先建立低密度流行區，再朝建立非疫區努力；其次所建立之非疫區應有明確之地理區隔，例如為山谷或與其他栽培區有沙漠作為區隔等，才能避免有害生物入侵，且應製作地圖作為輔助及向輸入國說明；另還需有仔細之移動管制措施，以避免有害生物在建立非疫區時持續入侵，因此需先確認有害生物之傳播途徑、訂定檢查計畫、設置檢查站，或對可能傳播有害生物之植物或植物產品先行檢疫處理後再放行，如建立者為果實蠅之非疫區，則需有更嚴禁之移動管制措施，且由於果實蠅之移動距離長、速度快，設立緩衝區也是必要的；此外應有完整之監測計畫，且相關紀錄亦需完備，紀錄內容應包括使用之誘引器、設置密度、誘引劑更換間隔及監測紀錄等，以作為向輸入國說明之資料；最後，應建立有害生物爆發時之緊急防治計畫，以快速而有效的撲滅有害生物。

（三）美國認定非疫區之原則

美國以認定一些國家所建立之非疫區，例如菲律賓建立之芒果象鼻蟲（*Sternochetus frigidus*, Mango pulp weevil）非疫區及智利之地中海果實蠅非疫區等，相關資料均公布於 APHIS 網站，所認可之非疫區均符合 ISPM 4 及 26 之規定，且各輸出國在申請美國認定時，均提供充分之證據，包括相關文獻報導、官方監測資料、非疫區及鄰近地區氣候資料等，另亦需提供監測程序資料，包括使用之監測方式、誘引器設置密度、調查頻率及如何鑑定有害生物，在果實蠅部分，還要求需有剖果調查資料，此外還需提供移動管制、風險溝通等相關行政措施，作為確認非疫區之依

據。

三、各國非疫狀態及非疫區建立及維持相關經驗分享(按字母順序排列)

（一） 汶萊(Brunei Darussalam)

由於汶萊並沒有任何建立及維持非疫狀態或非疫區之經驗，與會代表則報告其植物檢疫制度。汶萊設有進口許可規定，任何植物或植物產品輸入汶萊前，應先向其設立之輸入單一窗口申請輸入許可證，許可證由汶萊之農業與農產品部核發，原則上除柑橘種苗、榴槤種苗或芒果象鼻蟲(*Sternochetus frigidus*, Mango Pulp Weevil)之寄主植物外，一般均會發給許可證。除輸入許可證外，還須檢附植物檢疫證明書，汶萊也會在邊境執行檢疫，如果輸入的是種苗，由於輸入數量不多，採取每棵均檢查的方式，如果輸入植物產品，則採抽樣 2%之方式，如經檢疫處理，也須檢附相關之正本文件。

（二） 柬埔寨(Cambodia)

柬埔寨剛開始發展植物檢疫制度，2008 年前其只有植物保護與檢疫辦公室，隸屬於農業經濟與農業土地利用促進部下，2008 年後更名為植物保護與檢疫司，隸屬農業部下，植物保護與檢疫司下有 5 個科辦公室及 1 個植物保護與檢疫研究站，該 5 科分別為企劃科、植物檢疫科、植物保護研究與診斷科、植物保護科、植物產品品質與安全促進科，該司之目的為減少作物因有害生物造成之損失、農藥及土壤消毒藥劑管理、確保產品安全性、植物檢疫、發展相關技術並調合國際與國內制度。該國之「植物保護與檢疫法」仍尚未通過，此外亦無地方植物檢疫站，該國國境雖與越南、泰國及寮國相鄰，但邊境亦無檢疫人員執行檢疫工作，另甫派專家團隊接受聯合國國際糧農組織之補助接受風險評估訓練，迄今亦尚未執行過風險評估，亦未曾建立非疫區。此外亦尚未建立作物之病蟲害清單，因此無法對外申請檢疫准入，該國農產品出口除面臨檢疫資料不足之問題外，由於缺乏灌溉系統及作物輪作等植物保護觀念，目前生產之作物品質亦不足以外銷。

（三） 印尼(Indonesia)

印尼目前亦無建立及維持非疫狀態或非疫區之經驗，與會代表則報告印尼之農業及進出口概況，印尼國土面積約 1,904 平方公里，人口約 26.3 億，人口數為世界第 4 大，其中約 6%從事農業(約 4 千 9 百萬人)，目前出口之農業產品為椰子(世界第 1 位)、棕梠果實(世界第 1 位)、橡膠(世界第 2 位)、稻米(世界第 3 位)、可可(世界第 3 位)及咖啡(世界第 4 位)，主

要出口市場為東南亞、南亞、中東及中國，產量最高之水果為芒果、柑橘及蛇皮果，出口量最高之水果則為鳳梨、山竹及香蕉，水果出口總量為 26 萬噸，產值為 27 億美元，主要銷往巴基斯坦、馬來西亞及印度。農業生產面臨產地分散、農民耕作面積小、缺乏有效除滅有害生物之計畫等挑戰，此外由於國土分散，亦尚未完全建立作物之病蟲害清單。目前申請市場准入之項目包括對澳洲以果實蠅低密度區(位於 Indramayu)之方式申請輸出芒果、以蒸熱處理方式申請輸出紅龍果、對日本及南韓申請蒸熱處理後輸出芒果，以及對日本申請蒸熱處理後輸出甜瓜。

（四） 寮國(Lao People's Democratic Republic)

寮國面積 23 萬 6 千平方公里，人口僅 676 萬人，由農業部下設之植物檢疫司掌管植物檢疫工作，目前亦正發展植物檢疫工作，其植物保護法係於 2008 年制定並於 2012 年開始執行、2016 年第一次修正，目前正積極建立作物病蟲害清單，並著手規劃於寮國、泰國及柬埔寨邊境之 khong 島建立非疫區，該島位於媚公河上，面積 88 平方公里，經調查島上並無黃龍病、*Citrus tristeza virus* 及 *Citrus exocortis viroid*)等重要柑橘病害，計畫引進無病毒種苗，建立柑橘生產非疫區，目前仍面臨經費不足、農業人員缺乏對建立非疫區之相關經驗與知識，此外亦尚未完全建立作物病蟲害清單。

（五） 馬來西亞(Malaysia)

歐盟關切馬國輸銷之水生植物可能帶有煙草粉蝨（*Bemisia tabaci*)、福壽螺（*Pomacea* sp.)、薊馬(*Thrips palmi*)、線蟲(*Radophilus* sp.及 *Hirschmaniella* sp.)及潛葉蠅，並要求出口之貨物及其產地不可有前揭有害生物，為使水生植物輸銷歐盟，馬國建立了輸往歐盟之水生植物非疫區，馬國先尋求優良的水生植物種苗園，建立標準作業程序，並要求業者自主管理，由馬國檢疫機關不定期抽檢，再尋找合適之生產區，生產區又因水生植物是否會露出水面，分為具網室之生產區(適合種植會露出水面之水生植物)及不具網室之生產區 2 種，為檢查出口貨物是否帶有歐盟關切之有害生物，全株大部分露出水面之植物，出口前須種植於網室內之砂地觀察 10 週，少部分露出水面之植物則須 4 週，完全於水面下生長之水生植物雖栽培時不須強制種植於網室，但出口前須種植於網室 10 週以觀察是否罹染前揭有害生物，均由業者先自行進行相關檢查，因此馬國檢疫機關要求業者應定期辦理訓練，使員工具有植物保護及病蟲害與病徵鑒定之能力，馬國檢疫機關亦會不定期前往生產區抽檢，包裝場則要求須完全無有害生物，且具有雙重門等防蟲措施，每批貨物出口前再由

馬國檢疫機關逐批檢疫並發給檢疫證明書，註明該批貨物業經檢疫，且未罹染前揭有害生物。

（六） 緬甸(Myanmar)

緬甸面積 67 萬 6 千平方公里，主要生產水果為芒果、西瓜及番石榴，近年透過內陸運輸，銷往中國大陸之芒果及西瓜自 2008 年起迄今成長 1 倍以上，另一重要外銷市場則為新加坡。由於緬甸為芒果象鼻蟲、芒果種子象鼻蟲及果實蠅疫區，而前揭有害生物亦為輸出目標國日本、南韓、澳洲、美國及歐盟之檢疫有害生物，於是緬甸開始針對芒果象鼻蟲及芒果種子象鼻蟲執行病蟲害綜合管理計畫，可有效降低有害生物危害情形，但目前由於缺乏經費，仍無法執行全國性之大規模偵察調查，因此無法確認發生區域，此外亦正調查國內果實蠅種類及其寄主，因此尚無法開始建立非疫區。

（七） 菲律賓(Philippines)

菲律賓於 1987 年於 Palawan 群島發現芒果象鼻蟲（*Sternochetus frigidus*, Mango pulp weevil, MPW），菲國即於該年開始管制 Palawan 群島芒果種子、種苗及任何芒果植株之部分或全部離開 Palawan 群島並執行相關防治措施，將芒果象鼻蟲限制於 Palawan 群島南方，並在南北聯結處建立檢疫點及 9 個檢疫站，確保疫區之芒果植株或產品不會移動到北部，並進行風險溝通，使該地區農民及民眾了解該害蟲之重要性。另該國於 2006 年至 2009 年執行美國援助之計畫，針對芒果象鼻蟲及芒果種子象鼻蟲（*Sternochetus mangiferae*, Mango Seed Weevil, MSW）進行全國性調查，調查範圍包括 16 個省共 79 個縣，結果顯示除 Palawan 以外為芒果象鼻蟲疫區外，菲國全境均為芒果種子象鼻蟲非疫區，為維持非疫狀態，菲國在確認非疫區後執行低密度之監測計畫，除使用誘引劑外，亦隨機抽樣頗開芒果進行檢查，到目前為止確認僅 Palawan 為芒果象鼻蟲疫區，相關結果業獲澳洲及美國認可，非疫區生產之芒果可順利輸銷。

（八） 臺灣(Taiwan)

我國與會人員報告 3 個與建立或維持非疫狀態或非疫區之例子：

1. 小紅鰹節蟲(*Trogoderma granarium* (Everts))之非疫狀態確認：小紅鰹節蟲屬於檢疫類積穀害蟲，曾於臺灣發生並紀錄，導致臺灣被視為此蟲之疫區，導致我國輸往中國大陸之稻米須經磷化氫燻蒸處理。但自 1990 年起，多次全國性穀倉害蟲調查均未發現此害蟲，為依據 ISPM 4 之規定向中國大陸申請為非疫區，以免除前揭檢疫處理，需進行全國性監測計畫。我國自 2012 年 10 月起到 2015 年 12 月止，持續 3 年

3 個月，在輸往大陸白米之碾米廠有 58 處、本土稻穀倉庫 48 處、進口米倉 30 處、進口穀物倉 2 處及港口穀倉 2 處、合計 140 處進行監測，均未發現該蟲，並於 2016 年向 The Centre for Biosciences and Agriculture International（CABI）申請，成功將臺灣列為小紅鰹節蟲不存在（Absent, formaly present）地區。現正積極向中國大陸申請輸銷之稻米免經檢疫處理。

2. 番石榴果實蠅（*Bactrocera correcta*）之非疫區確認： CABI 及歐洲及地中海地區植物保護組織（European and Mediterranean Plant Protection Organization, EPPO）資料庫引用中國大陸呂文剛等人 2010 年所發表文獻指我國為番石榴果實蠅發生國家，但經查該篇資料引用錯誤。我國自 1989 年持續至今持續進行偵察工作，於臺灣本島及離島地區之重要港站、主要農作物產區、進口農產品集散地及果菜市場等地設置番石榴果實蠅偵察點 490 個，並使用麥氏誘殺器（McPhail Trap）內置甲基丁香油（Methyl Eugenol）進行偵察，結果均為發現該果實蠅，我國於 2015 年向 CABI 申請，成功將我國列為番石榴果實蠅不存在（absent）地區。我國並據以向日本申請申請棗鮮果實檢疫准入，並獲日本同意無須提供番石榴果實蠅之防檢疫資料。

3. 建立入侵紅火蟻（The Red Imported Fire Ant）非疫區：紅火蟻於 2003 年入侵我國，發生密度較高區域在新北市、桃園市及新竹縣，我國在該等地區使用防治措施降低密度，並限制當地土方及苗木之移動，在發生密度較低區域包括宜蘭縣及嘉義縣則採取撲滅之策略，撲滅方式包括施撒毒餌及除滅蟻丘等方式，並且限制移入該地區之土方及苗木應檢附經檢疫無罹染紅火蟻之證明，執行防治措施後再以餌劑監測 6 個月，於 2016 年 12 月成功於宜蘭縣撲滅紅火蟻。

（九） 泰國(Thailand)

泰國植物檢疫業務係由農業部下之植物保護研究與發展司(Plant Protection Research and Development Office)主政，該司下設有 5 組，分別為病蟲害管理技術組、農業昆蟲研究組、植物病理研究組、雜草管理組及植物檢疫組，泰國目前針對建立非疫區或非疫狀態之經驗包括：1.向印尼申請 Srisaket 省為紅蔥之馬鈴薯腐敗線蟲(*Ditylenchus destructor*)及洋蔥黑穗病病(*Urocystis cepulae*)之非疫區，印尼於 2015 年接受泰國之申請，目前紅蔥僅可由此省出口，由於維持境內線蟲及真菌之非疫區並不容易，經詢問泰國出席代表，泰國全境均無前揭有害生物，但由於印尼未接受其申請為全境之非疫區，所以向印尼申請紅蔥之主要產地 Srisaket

省為非疫區，印方於 2015 年派產地查證團前來查證後始認可泰方之申請；2.向歐盟申請特定供果園為柑橘潰瘍病(*Xanthomonas axonopodis* pv. *citri*)及柑橘黑星病(*Guignardia citricarpa* Kiely) 之非疫生產點，與歐盟訂定之檢疫條件包括：果園及包裝場須先登記、符合良好農業規範(Good Agriculture Pratice)及良好作業規範(Good Manufacturing Pratice)，泰方須確認供果園無前揭有害生物，且出口前應經次氯酸鈉(sodium hypochlorite)或鄰苯基苯酚鈉(sodium orthophenylphenate)之消毒，每批貨物還須經泰國檢疫機關檢疫後開立證明書，此外還須於每年出口季時邀請歐盟派員進行產地查證。

（十） 東帝汶(Timor Leste)

東帝汶位於印尼東方、澳洲北方，甫於 2002 年成為國際公認的一個獨立國家，目前正建立植物檢疫體系及進行病蟲害清單調查，由於與澳洲距離近，且澳洲已有完整之檢疫及病蟲害鑑定體系，東帝汶與澳洲農業部之北澳洲檢疫策略中心(Northern Australia Quarantine Strategy)合作，所採集的標本均送往該中心鑑定，至於標本之採集與製作則由澳洲專家辦理相關訓練，由東帝汶執行，另外也與澳洲農業部簽訂備忘錄，共同調查境內有害生物種類，偵查點設於輸出果園或輸入之港埠。東帝汶政府業於 2016 年編列預算增進加強該國病蟲害鑑定與調查之設備，以更有效率的核發檢疫證明書並符合 ISPM 相關規定。

（十一）越南(Viet Nam)

越南透過植物檢疫與保護法執行植物檢疫及建立非疫區工作，由於越南與柬埔寨、中國及寮國交界，其執行邊境管制與檢疫並不容易，此外越南農民耕地面積為世界最小之平均 0.63 平方公里，使得建立非疫區更為困難，目前與非疫區或非疫狀態相關經驗包括：1.與中國大陸在邊境共同合作進行地中海果實蠅調查，該計畫由 2009 年執行至 2016 年，經過調查及確認，目前在中越邊境並無地中海果實蠅。2.目前正嘗試規劃在 Bac Gang 省之 Luc Ngan 地區建立荔枝細蛾非疫區，使越南荔枝輸銷中國大陸、澳洲及美國之輻射照射劑量可由 400 Gy 降為 200 Gy，以減少檢疫處理時間。3. 2006 年至 2009 年進行芒果種子象鼻蟲之全國調查，確認該有害生物不存在，並據以向 CABI 申請修正其資料庫，CABI 業接受相關申請並修正完成。

四、參訪印尼芒果園

（一） 西爪哇省 Indramayu 縣之 Krasak 村之芒果園

本芒果園為印尼政府執行果實蠅區域共同防治之示範地點，該村共有 100 公頃之芒果園，每公頃種植 100 棵芒果樹，該村種植 1 萬棵芒果樹，樹齡為 17-25 年，一般 11 月開始採收，目前已發展出產期調節技術，可一年 3 收，但一般為每年 2 月及 11 月分別採收，共計 2 次，該村芒果為政府輔導之共同防治與果蠅密度監測果園，以甲基丁香油置於自製之寶特瓶誘引器內（圖 1）調查果實蠅密度，並以蛋白質誘引板混合馬拉松（圖 2）防治果實蠅，果樹均無矮化處裡，樹高約 10 公尺，經詢問農民如何防治高處之有害生物，農民表示會將噴頭綁於竹竿頂端進行噴藥，但無法噴到之處則不予防治，在防治果實蠅時雖會套袋，但高處套不到的也就不套了，另參訪時亦提供較早採收之芒果供各國與會人員品嚐（圖 3），但其風味欠佳、甜度及水分不足，實難與我國產之愛文芒果等相提並論。

（二） 西爪哇省 Cirebon 縣 Sedong Lor 村之芒果園

抵達本縣時，由縣農業廳廳長舉辦說明會（圖 4），軍方也同時列席，該芒果園亦為印尼政府執行果實蠅區域共同防治之示範地點，同時也執行良好農業規範（Good Agricultural Practice），種植密度亦為每公頃 100 株，本村種植時間較短，樹齡約 10 年，共種植約 400 公頃，全 Cirebon 縣共種植 4,000 公頃，依據訪談農民所獲得資訊，全村每年芒果之收入約 9 億印尼盾（合新台幣約 225 萬元），由產銷班內 10 位農民均分，生產之芒果依其尺寸由大至小分為 A、B 及 C 共三級，A 及 B 級則由外銷商視訂單情形購買，C 及則供內銷市場，目前最嚴重之有害生物為果實蠅、蠶蛾及炭疽病。說明會後由農民帶領各國與會人員參訪芒果園（圖 5），在說明會時官方說明本地為有機栽培，但經實際詢問農民，雖一般不使用藥劑，但雨後一定會施用防治炭疽病之藥劑，而參訪時葉片上介殼蟲很嚴重，農民表示都用洗米水進行防治，但美國農業部專家及我國與會人員私下討論時均表示懷疑其防治效果。

陸、心得與建議

東協國家彼此發展差異很大，目前在檢疫制度方面最落後的是柬埔寨及寮國，此二國才剛建立檢疫規定，檢疫制度尚未完備，甚至在邊境亦無檢疫站，所以在檢疫管制上是極鬆散的，更不用談建立非疫區等進階的植物檢疫措施；發展稍微好一點的是緬甸及東帝汶，此二國雖然已經建立制度，但是還在調查及建立病蟲害清單，在建立清單前，其農產品尚無法向他國申請檢疫准入，東帝汶雖僅獨立 15 年，由於國土面積小且在澳洲政府極力協助下，檢疫制度已經建立，但仍進行有害生物調查中；接下來發展較好的是印尼及汶萊，其已建立檢疫制度並且進行數次大規模全國性的病蟲害調查，初步建立了病蟲害清單，印尼目前正向日本等國申請檢疫准入並發展蒸熱殺蟲處理技術，汶萊則無農產品輸出需求，故其僅處理輸入檢疫即可；發展最好的是越南、泰國、馬來西亞及菲律賓，除已經建立檢疫制度、建立有害生物清單外，目前已成功輸銷需檢疫處理之農產品至日本、南韓、歐盟、美國及澳洲等，在建立非疫區或維持非疫狀態部分也有一些經驗。再進一步觀察這些國家的報告，可以發現菲律賓之檢疫調查仰賴美國及澳洲協助完成，而越南則與中國大陸共同調查地中海果實蠅分布，仍有大國從旁協助輔導的情形，此外本次與會人員在處理檢疫業務時，在與該等國家交涉過程亦發現，越南及泰國在處理檢疫業務例如修正對自己有利之檢疫條件，對外積極爭取外銷機會等方面，其行動速度亦較慢且不積極，相較起來似乎馬來西亞的整體發展較佳。

由於東協各國發展差異大，美國農業部專家在說明 ISPM4 及 26 等規定時，只能從最基本的條文解釋開始，因此該等簡報主要係說明 ISPM 規定，並沒有進一步應用或實例說明，對發展較好的國家例如我國及馬來西亞等能收穫的有限，另外在參訪印尼芒果園時，印尼官方強調該等芒果園為果實蠅共同防治示範園，並進行密度調查及外銷等事宜，由於我國業推行共同防治多年，在外銷經驗上也比印尼充足，雖無法獲得更進一步之栽培管理資訊，但藉此瞭解印尼農業發展進度，對我國農業對外發展也是良好參考。

以我國之國際政治處境，幾乎無法參加重要之國際組織與會議，因此藉這樣的機會在短短 1 週內認識東南亞 9 國之植物檢疫人員，且瞭解各國植物檢疫制度

之發展，對我國發展新南向政策或評估農業南向發展機會上實有助益，也是一次非常難得的機會，未來如能進一步建立更深入及全面的關係，亦可促進我國參與國際社會，尤其在我國新南向政策下，更應把握機會認識東南亞國家官員；此外，我國在農業發展及檢疫制度之經驗上優於東南亞各國，不論他們目前積極推動之果實蠅共同防治、蒸熱殺蟲技術、病蟲害監測、果園管理等，均有可與東南亞各國分享之處，因此在研習會最後一天，我國與會人員也建議未來如果有機會，歡迎由臺灣主辦相關研習會，我國農業委員會、外交部或臺農發公司等亦可藉由此機會認識相關官員，藉以開拓我國農產品外銷市場並落實新南向政策。

捌、附圖

圖 1、甲基丁香油置於自製之寶特瓶誘引器內

圖 2、以蛋白質誘引板混合馬拉松

圖 3、提供較早採收之芒果供各國與會人員品嚐

圖 4、Cirebon 縣農業廳廳長（左 3）舉辦說明會

圖 5、由農民帶領各國與會人員參訪芒果園

圖 6、研討會會場

圖 7、劉天成副組長（右 1）及王堂凱技正（右 2）為我國與會人員

圖 8、與印尼與會代表（Dr. Aulia Nusandara）合影

圖 9、與汶萊與會代表（Mrs. Rohani Binti Haji Ali，左 1 及 Mrs. Hajah Safwanag Binti Abdullah）及緬甸與會代表（Dr Mu Mu Thein，右 2 及 Mrs. Aye Aye Mya，右 1）合影

圖 10、與柬埔寨與會代表（Dr. Ny Vuthy，左 2 及 Mr. Sar Chanthy，右 2）合影

圖 11、與寮國與會代表（Dr. Vienphet Vansilalom 右 1 及 Ms. Si Amphay Lung Oudom，右 2）及泰國與會代表（Mr.

圖 12、與馬來西亞與會代表（Mrs. Zaiti Akmal Dahlan 右 2 及 Mrs. Nor Faezah Mahat，右 3）及越南與會代表（Mr.

Nopparat Buahom 左 2 及 Ms. Wasana Ridthaisong，中）合影	Nguyen Trong Thuong 左 1 及 Mr. Nguyen Tuan Anh，左 2）合影
	
圖 13、與菲律賓與會代表（Mr. Jay-R M. Millanes 右 1 及 Dr. Peter M. Magdaraog，右 2）合影	圖 14、與東帝汶與會代表（Mrs. Adalgisa das Dores Guterres Alvares 前排右 1 及 Mr. Abel Ximenes，前排中）合影
	
圖 15、參加研習會人員於會場前合影	

柒、附錄

研習會投影片（按研習會報告順序）

International Technical and Regulatory Capacity Building (ITRCB) Center

Scott B. Goldman
Project Manager
International Technical and Regulatory Capacity Building
September 2, 2015

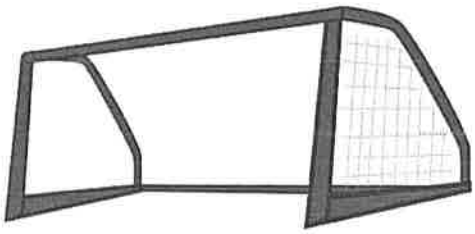
scott.b.goldman@aphis.usda.gov

ITRCB Mission & Activities

- Established in 2007 as central entry point/ "clearinghouse" for APHIS's international cooperation/technical assistance activities;
- ITRCB supports the APHIS and IS strategic goals.

International Services Strategic Goals

1. Protect U.S. Agriculture and Natural Resources;
2. Facilitate U.S. exports through safe international trade and science based regulations;
3. Enhance global health and U.S. biosecurity through the development of science-based regulatory systems and policies around the world;



ITRCB Activities

International Participant Training - FY 2015

Animal Health: 8 Training courses for international participants

- Wildlife Disease Monitoring (2) – Wildlife Services
- Risk Analysis in Animal Health – VS, Colorado St. Univ.
- Int'l Transboundary Animal Disease (2) – VS & SMEs
- Veterinary Epidemiology – VS, Colorado St. Univ.
- Emergency Poultry Disease Response – Univ. Delaware
- Diagnostic Laboratory Network Course - Univ. Delaware (2016)

Plant Health: 2 Training courses

- Plant Health Systems Analysis – PPQ
- Fundamentals of Risk Analysis for Plant Protection (PRA) - PPQ

ITRCB Technical Cooperation

FY 14 activities:

Plant Health: 42 completed technical cooperation activities:

- Colombia - Citrus Disease Information Exchange
- Pakistan - SPS Distance learning modules & workshop
- Haiti - Quarantine Inspection Training
- Chile - Cold Treatment Training for SAG Personnel

Animal Health: 32 completed technical cooperation activities:

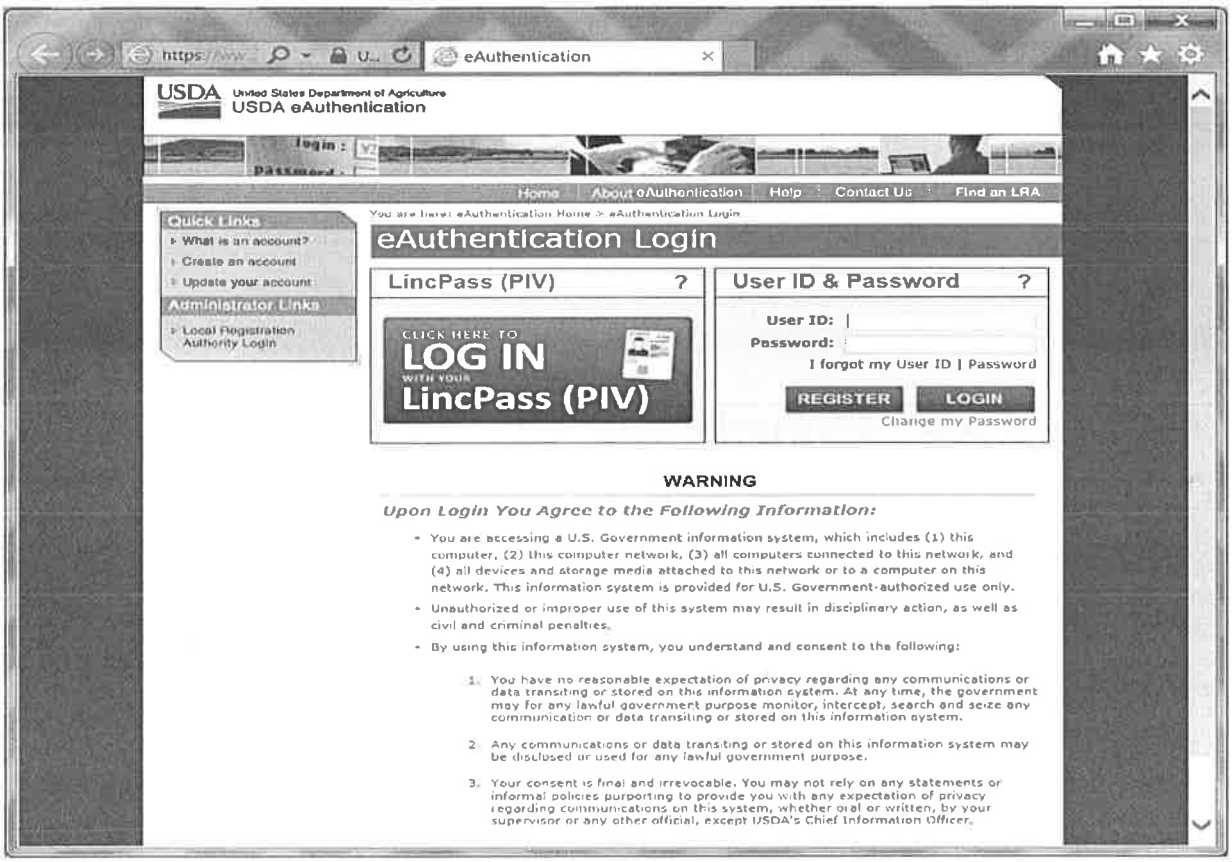
- Laos - Specimen Collection Workshop
- Brazil - Regional workshop on Molecular Diagnostic for HPAI

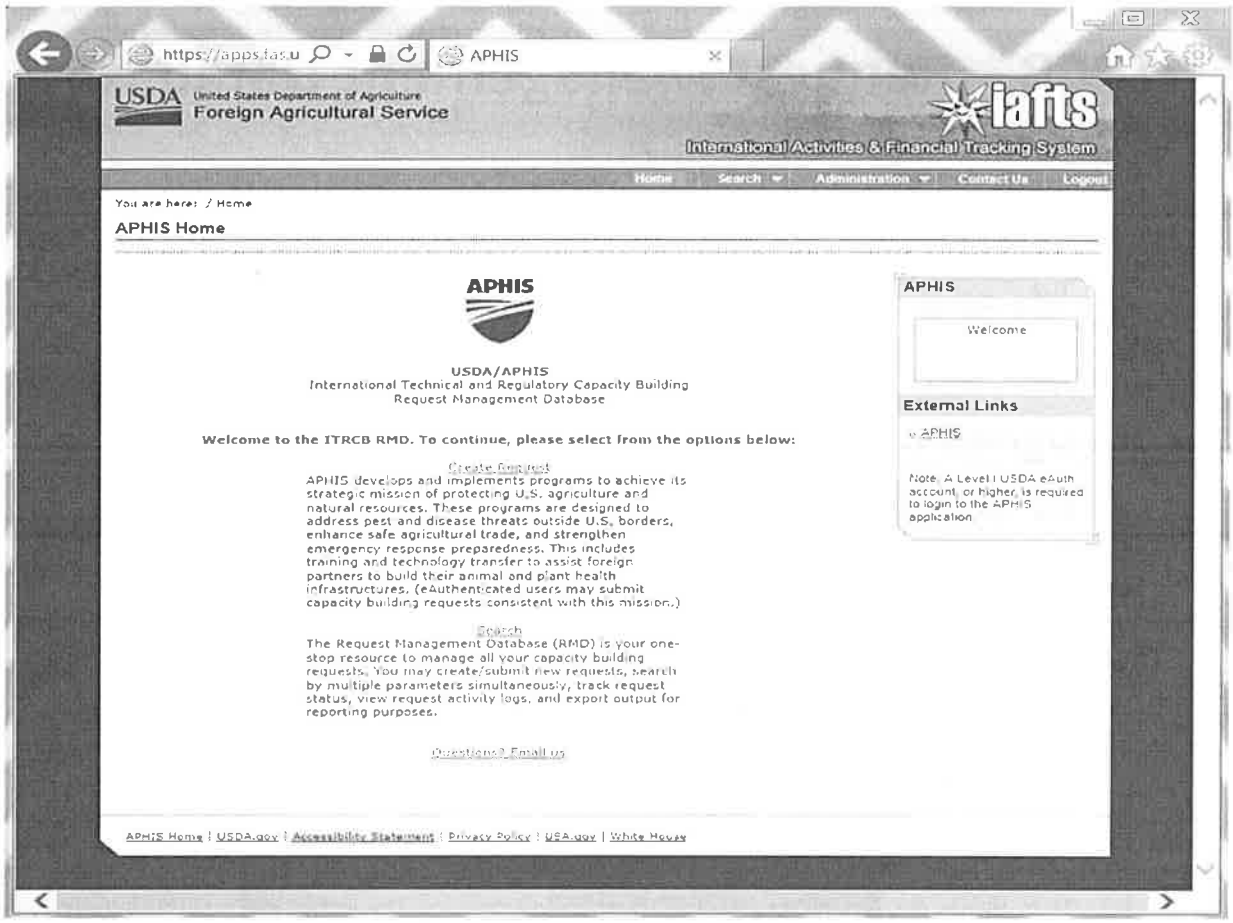
Submit an ITRCB request

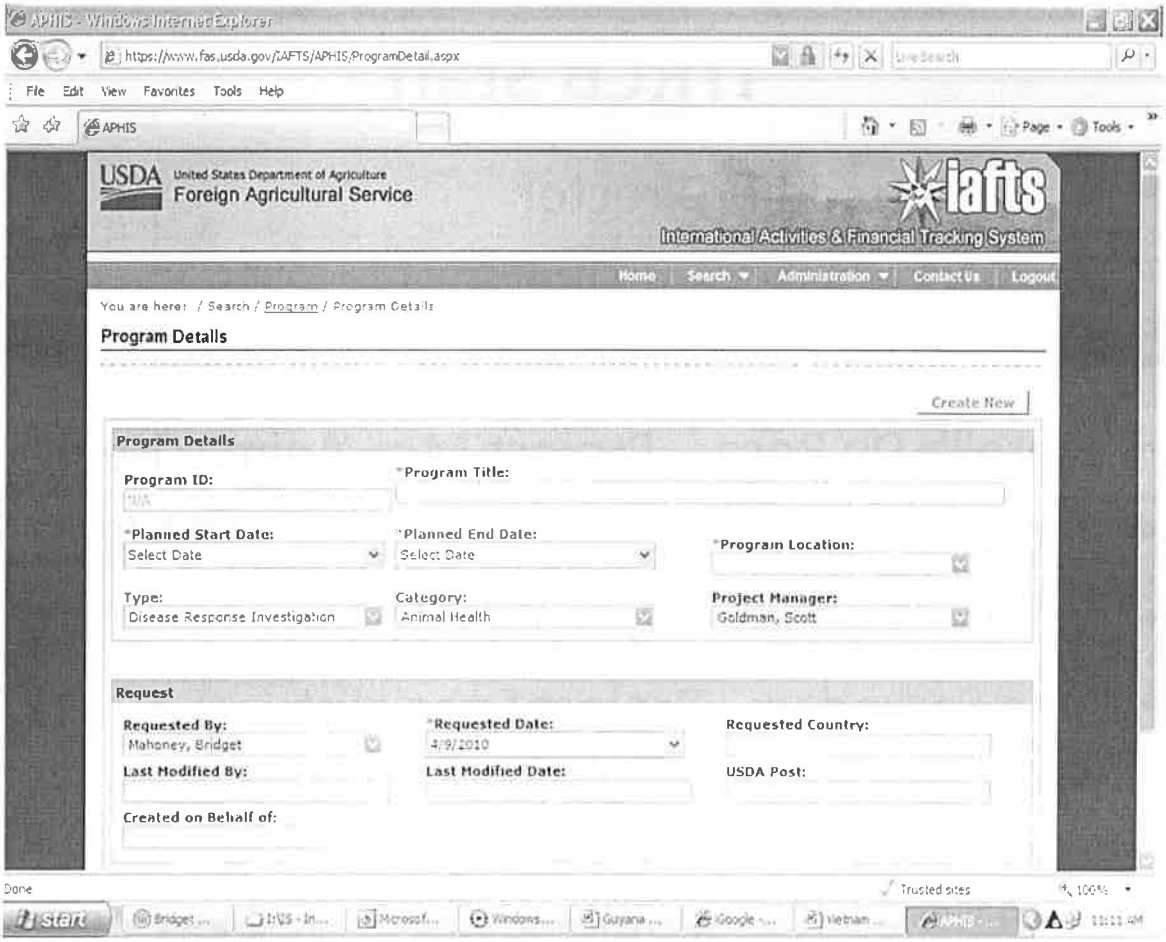
- Capacity building requests should be submitted directly by posts through the ITRCB Request Management Database (RMD)

- From the APHIS Public Web site, go to:
    1. IS – Capacity Building page
    2. Use your e-authentication credential
    3. RMD Welcome page – click create a request
    4. Complete all required fields, Save then Submit

https://apps.fas.usda.gov/iafts/aphis/login.aspx

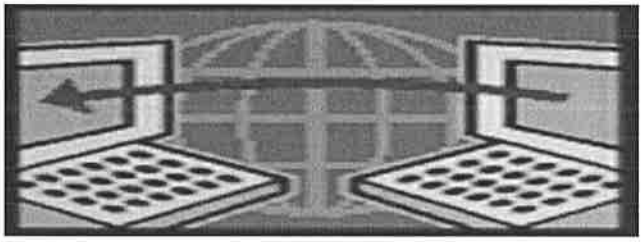



https://apps.fas.u
APHIS
USDA United States Department of Agriculture
Foreign Agricultural Service
iafts
International Activities & Financial Tracking System
Home
Search
Administration
Contact Us
Logout
You are here: / Home
APHIS Home
APHIS
USDA/APHIS
International Technical and Regulatory Capacity Building
Request Management Database
Welcome to the ITRCB RMD. To continue, please select from the options below:
Create Request
APHIS develops and implements programs to achieve its strategic mission of protecting U.S. agriculture and natural resources. These programs are designed to address pest and disease threats outside U.S. borders, enhance safe agricultural trade, and strengthen emergency response preparedness. This includes training and technology transfer to assist foreign partners to build their animal and plant health infrastructures. (eAuthenticated users may submit capacity building requests consistent with this mission.)
Search
The Request Management Database (RMD) is your one-stop resource to manage all your capacity building requests. You may create/submit new requests, search by multiple parameters simultaneously, track request status, view request activity logs, and export output for reporting purposes.
Questions? Email us
APHIS
Welcome
External Links
APHIS
Note: A Level I USDA eAuth account, or higher, is required to login to the APHIS application
APHIS Home | USDA.gov | Accessibility Statement | Privacy Policy | USA.gov | White House


APHIS - Windows Internet Explorer
https://www.fas.usda.gov/IAFTS/APHIS/ProgramDetail.aspx
File Edit View Favorites Tools Help
APHIS
USDA United States Department of Agriculture
Foreign Agricultural Service
iafts
International Activities & Financial Tracking System
Home
Search
Administration
Contact Us
Logout
You are here: / Search / Program / Program Details
Program Details
Create New
Program Details
Program ID:
N/A
*Program Title:
*Planned Start Date:
Select Date
*Planned End Date:
Select Date
*Program Location:
Type:
Disease Response Investigation
Category:
Animal Health
Project Manager:
Goldman, Scott
Request
Requested By:
Mahoney, Bridget
*Requested Date:
4/9/2010
Requested Country:
Last Modified By:
Last Modified Date:
USDA Post:
Created on Behalf of:
Done
Trusted sites
100%
start

ITRCB – Request Management Database

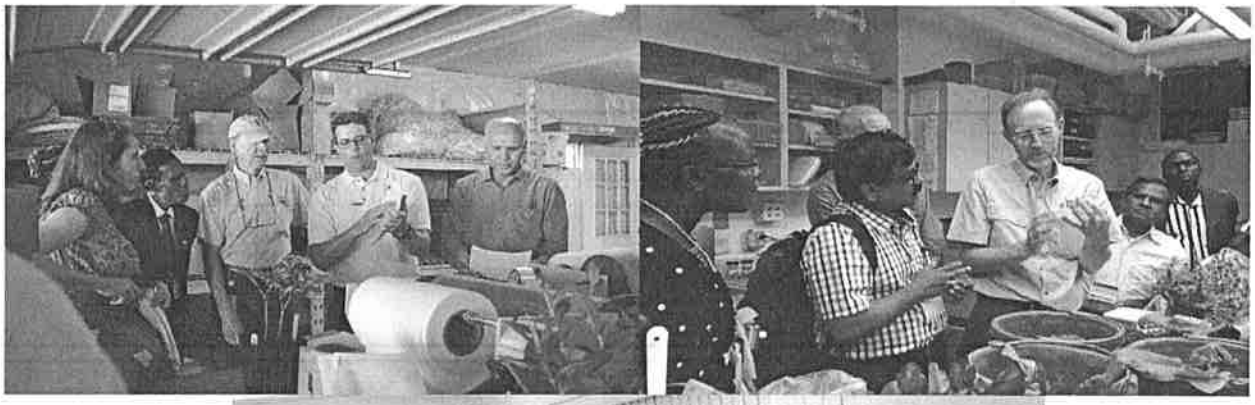
- Enables Posts to enter capacity building requests into the information system with required data fields and provide background/description;
- Once record is saved and submitted, a number is assigned to the activity and e-mail notification is sent to the ITRCB project manager;
- Database currently being updated, key system for ITRCB to analyze and report on assistance activities.



ITRCB Staff

- Mark Prescott – Director
- VACANT – Assistant Director
- Scott Goldman – Project Mgr. Plant Health
- Morella De Rosa – Project Mgr. Animal Health
- Benjamin Williams – Project Mgr. DTRA/BEP
- Jennifer Stamos – Project Specialist
- Ama Sarkodee – Project Specialist
- Brian Santos - Project Specialist (new Sept. 8)

Happy Capacity Building!



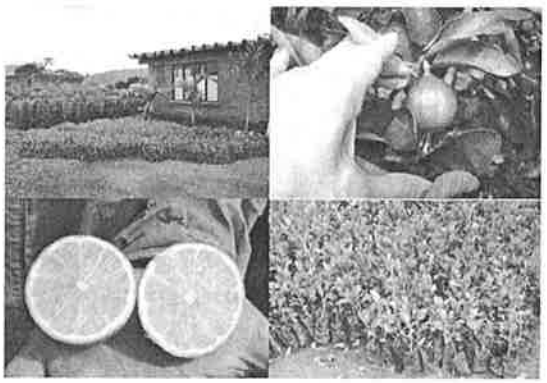
International Technical and Regulatory Capacity Building (ITRCB) Center

Dr. Eric Coleman, ITRCB Acting Director - April 2017

ITRCB HISTORY & PROCESS

Established in 2007 as central entry point/ "clearinghouse" for international assistance

Requests enter our database, either from USDA posts overseas or through domestic staffs



ITRCB STAFF

Eric Coleman, DVM, MPA

Acting ITRCB Director

Morella DeRosa, DVM	Scott Goldman	Karla Martinez-Garcia
Project Manager: Animal Health and Avian Influenza Program Requests	Project Manager: Plant Health and Biotechnology Program Requests Currently: TDY in South Africa	Project Manager: Interagency Agreements with Dept. of Defense, Dept. of State and FAS and related Program Requests.
Brian Santos	**Anna Lena Wonnenberg**	**Ama Sarkodee**
Project Specialist: Activity Support, Database Management, Monitoring & Evaluation, and Activity Reporting.	Project Specialist: Plant Health Portfolio, Activity Reporting and International Cable System	Project Specialist: Activity Support, Processing J-1 Status Visa (Alternate); And Administrative Support

ITRCB CRITERIA

- APHIS mandate
- Presidential or Secretarial Priority
- Promote safe trade, safeguard U.S. agriculture
- Staff and organization development
- Promote other USG Agencies

ITRCB ACCOMPLISHMENTS

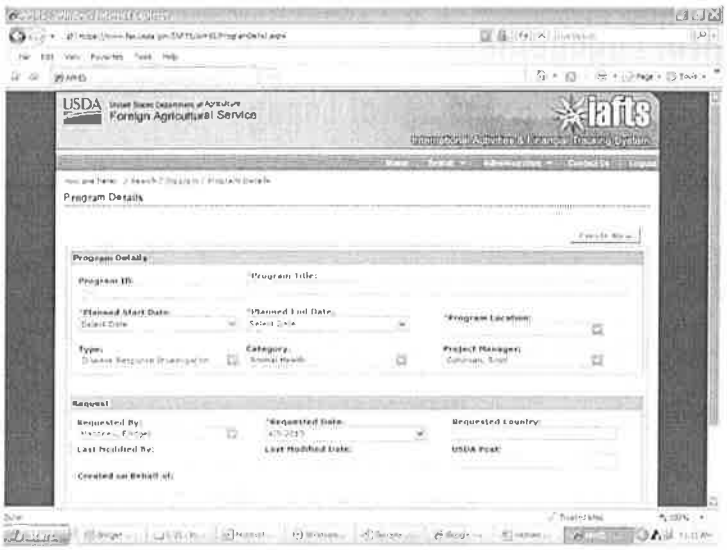
Broad Accomplishments to date:

- Established a standard request format by launching a web-based Request Management Database (RMD)
- Integrated more with the Department SPS capacity building strategy; enhanced collaboration with FAS
- Developed and implemented standard courses
- Built relationships with University partners
- Implementing full cost recovery when possible and justified
- Initiated yearly planning and reporting process

SUBMIT A REQUEST

Capacity building requests should be submitted directly through the ITRCB Request Management Database (RMD)

http://www.aphis.usda.gov/international_safeguarding/index.shtml



STANDARD COURSES

5 animal health, 2 plant health

- International Trans-boundary Animal Disease
- Veterinary Epidemiology
- Risk Analysis (animal and plant)
- Poultry Emergency Response
- Laboratory Diagnostic Networks
- Plant Health Systems Analysis

INTER-AGENCY AGREEMENTS AND IMPLEMENTING PARTNERS

ITRCB maintains agreements with USG stakeholders that provide funding to implement international capacity building activities.

Biological Engagement:

- DOD's Cooperative Biological Engagement Program
- State Department's Biosecurity Engagement Program.

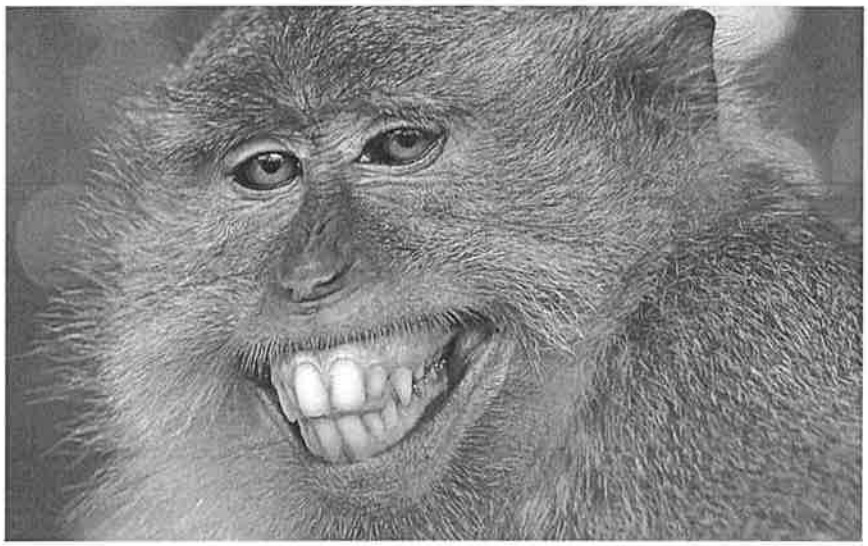
USAID

USDA – Foreign Agricultural Service

DEFENSE THREAT REDUCTION AGENCY
UNITED STATES OF AMERICA

UNITED STATES AGENCY
USAID
INTERNATIONAL DEVELOPMENT

THANK YOU!



INTER-CROSS SECTION BETWEEN WTO-SPS AGREEMENT AND TRADE FACILITATION AGREEMENT

Antarjo Dikin, Ph.D
Indonesia Agricultural Quarantine Agency

SANITARY AND PHYTOSANITARY (SPS) MEASURES WITH OBJECTIVE :

To protect humans, animals, and plants from diseases, pests, or contaminants

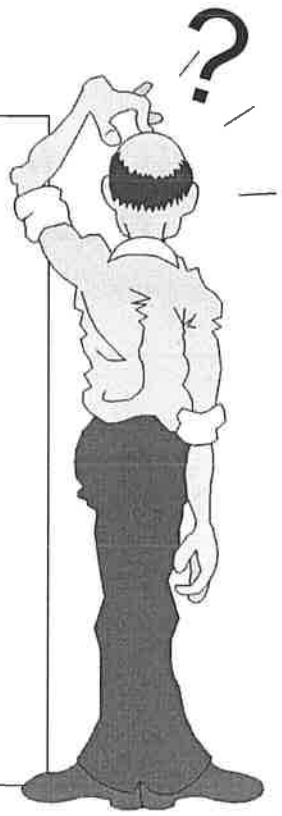
WTO- SPS Agreement Basic Right

Article 2.1

"Members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health, provided that such measures are not inconsistent with the provisions of this Agreement"

SPS Measures

- Human or animal health from food-borne risks
- Human health from animal- or plant-carried diseases
- Animals and plants from pests or diseases
- examples:
  - pesticide residues
  - food additives



SPS PRINCIPLE

- Scientific Justification (2 articles)
- Transparency (7 articles)
- Risk Assesment (5 articles)
- Equivalence (4 articles)
- Technical Assistance (9 articles)
- Consistency (10 articles)
- Harmonization (3 articles)
- Pest and Disease Free Areas (6 articles)

Scientific justification

shall ensure

- is based on scientific principles
- applied only to the extent necessary to protect human, animal or plant life or health (least trade restrictive)
- is not maintained without sufficient scientific evidence

Scientific justification

Supported International standards

Risk assessment

- ✓ scientific evidence
- ✓ processes and production methods
- ✓ inspection, sampling and testing methods
- ✓ pest or disease prevalence
- ✓ ecological and environmental conditions
- ✓ quarantine and other treatment

Transparency

Members shall

- Establish an Enquiry Point AND Designate a Notification Authority
- Notify other Members of new or changed SPS regulations when

no international standard exists OR the new regulation is <u>different</u> than the international standard

AND

regulation may have <u>significant</u> <u>effect</u> on trade

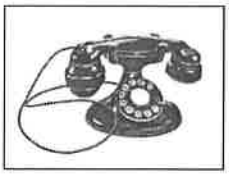
Transparency

Notifications → Normal / Emergency

Observations? → Normally at least 60 days allowed for comments

Longer than 60 days is encouraged if it is possible

Enquiry Points →



Risk Assessment

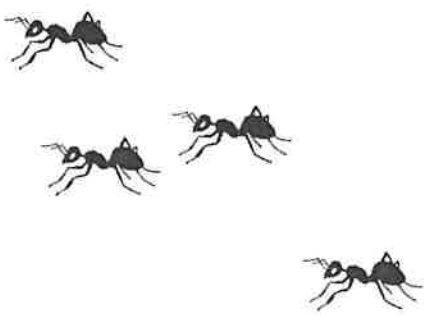
(Appropriate Level of Protection ≠ Acceptable Risk)

Food safety risks

Risks associated with foods, drinks or animal feed

Pest or disease risks

- Evaluation of the probability of entry, establishment or dissemination
- As a function of the applied SPS measure
- Possible biological and economic consequences



Loss of production, costs of control or eradication, relative cost-effectiveness of alternative approaches

Equivalence

If the exporting country objectively demonstrates that its measures achieve the same ALOP as the importing country

Members shall

Accept SPS measures of other Members as equivalent

G/SPS/19/REV.2

Technical assistance

- Who has resources to challenge SPS measures - or justify their own (Trust funds)?
- Coordination among technical assistance providers (STDF)
- Surveys on technical assistance needs and activities

Consistency

Members shall

Avoid arbitrary distinctions

in appropriate level of SPS protection (ALOP) considered in different situations

if distinctions result in discrimination or disguised restrictions on trade

Consistency - issues

- ALOP same as acceptable level of risk
- Sovereign right to establish – but no country defines ALOP with precision
- Difficult to apply ALOP consistently – and difficult to maintain consistently

HARMONIZATION

- ✓ **Encourage the use of international standards**
- ✓ **Presumption of conformity**
- ✓ **Right to be more , but the SPS Agreement requires scientific justification or a risk evaluation.**

Harmonization

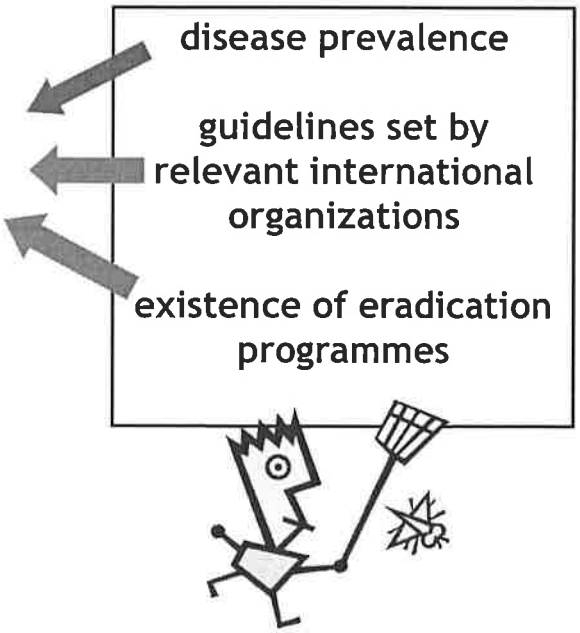
Standard-setting organizations

food safety	*animal health*	*plant health*
CODEX	OIE	IPPC

Codex = Joint FAO/WHO Codex Alimentarius Commission
OIE = World Organization for Animal Health
IPPC = International Plant Protection Convention (FAO)

Pest- or Disease-Free Area (REGIONALIZATION)

Members shall take into account



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WTO Trade Facilitation Agreement

WTO TF Agreement

Agreed upon at the WTO MC9 in Bali, 2-7 December 2013; consists of the following Sections & Articles

Section I

Article 1 : Publication & Availability of information (publication, information on internet, enquiry points, notification) = Transparance

Article 2 : Opportunity to Comment, information before EIF and Consultation

Article 3 : Advance Rulings (tariff classification and origin of the goods)

Article 4 : Appeal or Review Procedures = Scientific Justification

Article 5 : Other Measures to Enhance Impartiality, Non-Discrimination and Transparency (notifications for enhanced controls or inspections, detection, test procedures)

Article 6 : Disciplines on Fees and Charges Imposed on or in Connection with importation and Exportation (those applied to fees and charges other than import and export duties, fees and charges should be limited in amount to the appropriate costs of the services rendered)

Article 7 : Release and Clearance of Goods (pre-arrival processing, electronic payment, risk management, TF measures for Authorized Operators, etc)

Article 8 : Border Agency Cooperation (agruments of working days and hours, procedures and formalities, common facilities, joint controls, one stop borders post control, etc)

Section I (continued) :

Article 9 : Movement of Goods Intended for imports

Article 10 : Formalities Connected with Importation and Exportation and Transit (documentation requirements, acceptance of copies, use of international standards, single window, PSI, use of customs brokers, rejected goods, temporary admission of goods/inward and outward processing, etc)

Article 11 : Freedom of Transit (shall not be more burdensome than necessary)

Article 12 : Customs Cooperation (promoting compliance, exchange of information, verification, request, protection and confidentiality, etc)

Article 13 : Committee on Trade Facilitation (National Committee on TF)

WTO TF Agreement

SECTION II

Special and Differential Treatment Provisions for Developing Country Members and Least Developed Country Members

1. General Principles
2. Catagories of Provisions (A, B and C)
3. Notification and Implementation of Category A (Endorse Into Force; LDCs to enter 1 year from EIF)
4. Notification of Definitive Dates for Implementation of Categories B and C (upon EIF, a Member shall notify the provisions it has designated as Category B, one year after EIF, a Member shall notify the Committee its definitive dates to implement provisions in Category B, similar for Category C, except to include info on assistance and support needed)
5. Early Warning Mechanism; Extension of Implementation Dates for Provisions in Categories B & C

WTO TF Agreement

SECTION II

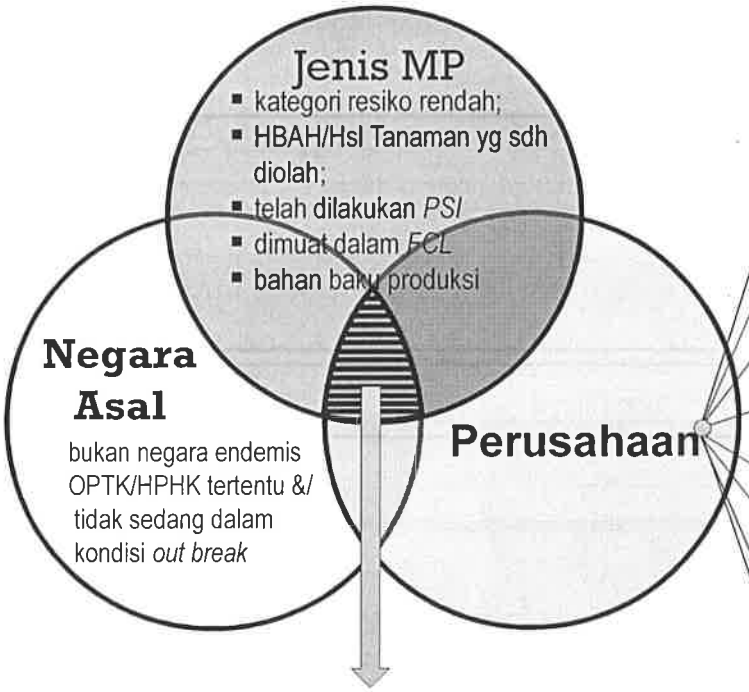
Special and Differential Treatment Provisions for Developing Country Members and Least Developed Country Members

6. Implementation of Categories B & C
7. Shifting between Categories B & C
8. Grace Period for the Application of the Understanding on Rules and Procedures governing the Settlement of Disputes
9. Provisions of Assistance for Capacity Building
10. Information on Assistance to be Submitted to the Committee

THANK YOU

THANK YOU

+ INITIATIVE SINGLE RISK MANAGEMENT



Percepatan Layanan Karantina
(Prioritas Pelayanan Prima)

Kriteria Importir

- Pemilik/importir harus memiliki rekam jejak yang baik (selalu mematuhi ketentuan)
- Pemilik/importir harus sebagai importir produsen/ digunakan sendiri dan bukan trader murni;
- Pemilik/importir harus secara rutin melakukan kegiatan importasi dan memiliki PPK online sendiri;
- Pemilik/importir wajib melapor sebelum kedatangan barang (sebelum kapal sandar);
- Pemilik/importir tidak menggunakan pihak ketiga lebih dari 3 (tiga) PPJK
- Pemilik/importir tidak menggunakan pihak ketiga (PPJK) yang telah memiliki catatan tidak baik (*black list*);
- Pemilik/importir wajib memiliki kantor/gudang sendiri (tidak sewa).
- Pemilik/importir merupakan jalur Mita/Mita Prioritas Bea dan Cukai

Source : w.sutian

STRENGTHENING PHYTOSANITARY CERTIFICATION SYSTEM THROUGH THE EFFECTIVE ROLES OF NPPO

ANTARJO DIKIN Ph.D

INDONESIAN AGRICULTURAL QUARANTINE AGENCY (IAQA)

BEKASI, 2017

TOPIC TO BE DISCUSSED

- *ISPM 7, PHYTOSANITARY CERTIFICATION SYSTEM*
- *RISK MANAGEMENT IN PHYTOSANITARY MEASURES*
- *OPERATION OF RISK MANAGEMENT BASED UPON TARGET QUARANTINE PEST*

Badan Karantina Pertanian
TangguhTerpercaya
Bersama Anda Melindungi Negeri

GENERAL REQUIREMENT OF ISPM7

BEFORE REVISED	AFTER REVISED
▪ Standard export certification system to produce valid and credible phytosanitary certificates (including Phytosanitary certificate for re-export). ▪ Certification systems should meet the current phytosanitary requirements of the importing country. ▪ The basic elements of the phytosanitary certification process include: - ascertaining the relevant phytosanitary requirements of the importing Country (including import permits if required) - verification of the consignment and confirmed the import requirements at the time of certification - issuing a phytosanitary certificate. The requirements for a certification system to fulfil these functions comprise the following: - legal authority - management responsibility, including resources, documentation, communication and - review mechanism.	▪ Official information on the phytosanitary import requirements of the importing country should be available to the NPPO personnel of the exporting country. • Technical information on the regulated pests of the importing country, along with equipment for sampling, inspection, testing and treatment, should also be available to the personnel involved in phytosanitary certification. • NPPO of the exporting country should maintain a system for documenting the relevant certification procedures. • Guidance and instruction material for all procedures should be available. • Records of all activities for issuance of phytosanitary certificates should be maintained. • NPPOs of exporting and importing countries should maintain official communication through their respective contact points. • Information on phytosanitary import requirements or non-compliances should be communicated.

DIFFERENCES BETWEEN ISPM 7 AND REVISED ISPM 7

OUT LINE REQUIREMENT (after revision):

- Official information on the phytosanitary import requirements of the importing country should be available to the NPPO personnel of the exporting country.
- Technical information on the regulated pests of the importing country, along with equipment for sampling, inspection, testing and treatment, should also be available to the personnel involved in phytosanitary certification.
- NPPO of the exporting country should maintain a system for documenting the relevant certification procedures.
- Guidance and instruction material for all procedures should be available.
- Records of all activities for issuance of phytosanitary certificates should be maintained.
- NPPOs of exporting and importing countries should maintain official communication through their respective contact points.
- Information on phytosanitary import requirements or non-compliances should be communicated.

REQUIREMENT OF PHYTOSANITARY CERTFICATION SYSTEM

1. Legal Authority
2. NPPO Responsibilities
3. Resources and Infrastructure
4. Documentation
5. Communication
6. Phytosanitary Certification System Review

APPENDIX 1: Guidelines for public officers issuing phytosanitary certificates

1. Legal Authority:

- NPPO should have the sole authority by legislative or administrative means to conduct, develop and maintain a phytosanitary certification system related to exports and re-exports, and should bear the legal responsibility for its actions in using this authority, in accordance with Article IV.2(a) of the IPPC --- Law No. 16 0f 1992 -- IAQA.

- NPPO may have the authority to prevent the export of consignments that do not meet phytosanitary import requirements --- not to issue the PC without meet Import requirements.

2. NPPO Responsibilities

Administrative responsibilities :

NPPO's management system ensures all legislative and administrative requirements related to phytosanitary certification which satisfied and be able to:

- identify a person or office within the NPPO responsible for the phytosanitary certification system
- identify the duties and communication channels of all personnel involved in phytosanitary certification
- employ or authorize personnel who have appropriate qualifications and skills
- ensure that adequate and sustained training is provided
- ensure that adequate personnel and resources are available – number of personnel in the conducting quarantine measures.

Operational responsibilities:

NPPO should have the capability in the functions:

- Document and maintain the information of phytosanitary import requirements for phytosanitary certification
  Provide relevant information in instructions to personnel for phytosanitary certification – SOP for each activity
- Perform sampling, inspection and testing of plants, plant products and other regulated articles for purposes related to phytosanitary certification – refer to SOP
- Detect and identify pests – the right method for mitigation
- Identify plants, plant products and other regulated articles – may potential of pests carrier

Operational responsibilities:

NPPO should have the capability in the functions:

- Perform surveys and monitoring and control activities to confirm the phytosanitary status attested in phytosanitary certificates --- Surveillance ISPM 6
- Complete and issue phytosanitary certificates
- Verify that appropriate phytosanitary procedures have been established and correctly applied
- Investigate and take corrective actions (if appropriate) on any notification of non compliance

Continued .....

Operational responsibilities:

NPPO should have the capability in the functions:

- Produce operational instructions to ensure that phytosanitary import requirements are satisfied
- Issuance of phytosanitary certificates and other relevant documents
- Review the effectiveness of phytosanitary certification systems
- Implement, to the extent possible, safeguards against potential problems such as conflicts of interest and fraudulent issuance and use of certificates
- Conduct training for personnel
- Verify the competency of authorized personnel
- Ensure through appropriate procedures the phytosanitary security of consignments after certification.

3. Resources and Infrastructure

- Personnel
- Information on importing country phytosanitary import requirements
- Technical information on regulated pests
- Materials and facilities

3. Resources and Infrastructure

Personnel

- NPPO of the exporting country should have personnel with the technical qualifications and skills, responsibilities of conducting phytosanitary certification activities --- *Accredited personnel.*
- The personnel should have the training and experience --- *Good CV*
- Personnel should have no conflict of interest in the outcome of the phytosanitary certification --- *Need a guidelines for public officers issuing phytosanitary certificates based on official confidential format*
- Except for the issuance of phytosanitary certificates non-governmental

3.Resources and Infrastructure

Personnel --- *Providers*

- *Personnel may be authorized by the NPPO to carry out specified certification functions. To be authorized by NPPO, such personnel should be qualified and skilled, and responsible to the NPPO.*
- *To ensure independence in their exercise of official functions, they should be subject to restrictions and obligations equivalent to those for government officials and have no financial or any other personal interest in the outcome.*

Except for the issuance of phytosanitary certificates non-governmental personnel may be authorized by the NPPO to carry out specified certification functions (Guidelines for public officers issuing phytosanitary certificates are provided in Appendix 1 *[under development, amend as needed]*.)

Information on phytosanitary import requirements

- Phytosanitary certification should be based on official information from the importing country.
- NPPO of the exporting country should have official current information concerning the phytosanitary import requirements of relevant importing countries --- *Export Manual (SPS).*
- Information should be made available in accordance with Article VII.2(b), VII.2(d) and VII.2(i) --- *concerning Requirements in relation to imports.*

Technical information on regulated pests

- Personnel involved in phytosanitary certification should be provided with adequate technical information concerning regulated pests for the importing countries including :
  - their presence and distribution within the exporting country
  - biological, surveillance, detection and identification of the pests
  - means to control such pests, including eradication/treatment.

Materials and facilities

NPPO should ensure the availability of equipment, materials and facilities for conducting sampling, inspection, testing, treatment, consignment verification and other phytosanitary certification procedures.

4. Documentation -- *NPPO has system for record keeping, tracing and verification documents including:*
   1. Phytosanitary certificates – PC export and PC for re-export
   2. Documentation of procedures

      NPPO should maintain guidance documents and work instructions to cover all the technical procedures of the phytosanitary certification system (sampling, inspection, testing, treatment and verifying consignments, security over official seals and marks, identification and phytosanitary security (as appropriate) through all stages of production, handling and transport prior to export, investigation of notifications of non-compliance, investigation of invalid or fraudulent phytosanitary certificates.
   3. Record-keeping

      Keeping all procedures related to phytosanitary certification.
      The purposes for validation and trace-back.

5. Communication

   Communication within the exporting country

   NPPO should have procedures for communication to relevant government departments and agencies, authorized personnel and industry such as producers, brokers, exporters and other stakeholders concerning phytosanitary import requirements, pest status and geographical distribution as well as management practices within the exporting country, operational procedures.

   Communication between NPPO:
   - *Exchange information between NPPO's*
   - *Inform phytosanitary requirement to RPPO, IPP*

6. Phytosanitary Certification System Review:

   Periodically conduct review about the phytosanitary certification activities for the effectienee improvement

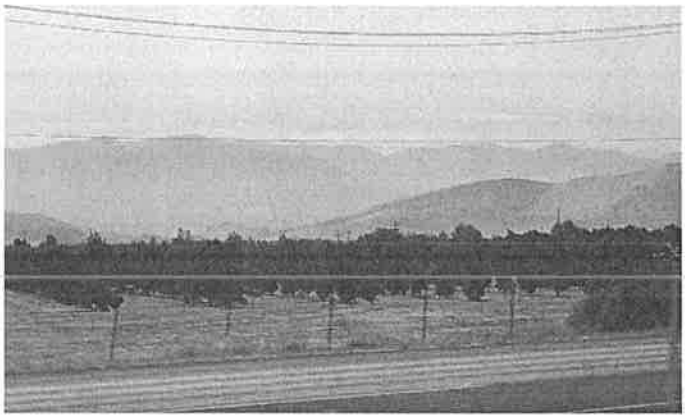
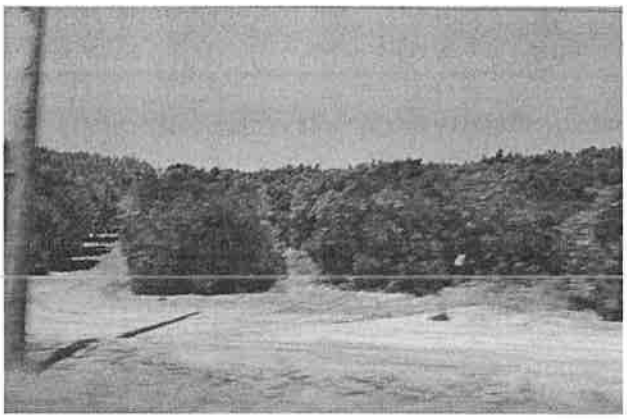
Note from ISPM No. 7:

The guidelines for ISPM No. 7 is more comprehensive to support a guarantee dissuance the PC's than before revision.

The personnel involves in the issuance of PC's instead of member of NPPO from government and also public officer s who responsibility to NPPO.
Indonesia requests to complete the appendix of ISPM No. 7 before endorsement.

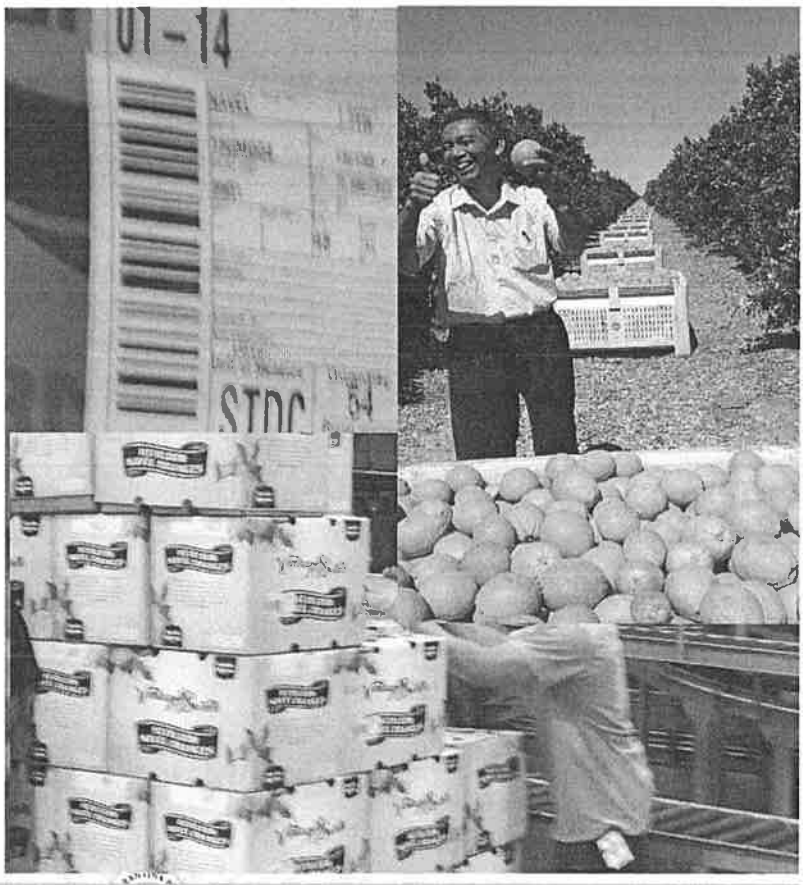
SPECIFIC REQUIREMENT RELATED TO PHYTOSANITARY CERTIFICATION (MED FLY FREE AREA IN CALIFORNIA)

Badan Karantina Pertanian
TangguhTerpercaya
Bersama Anda Melindungi Negeri

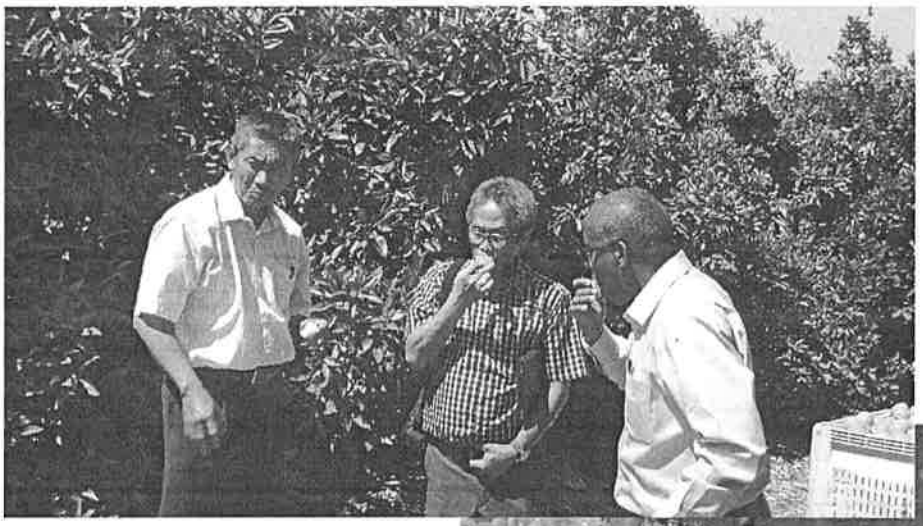



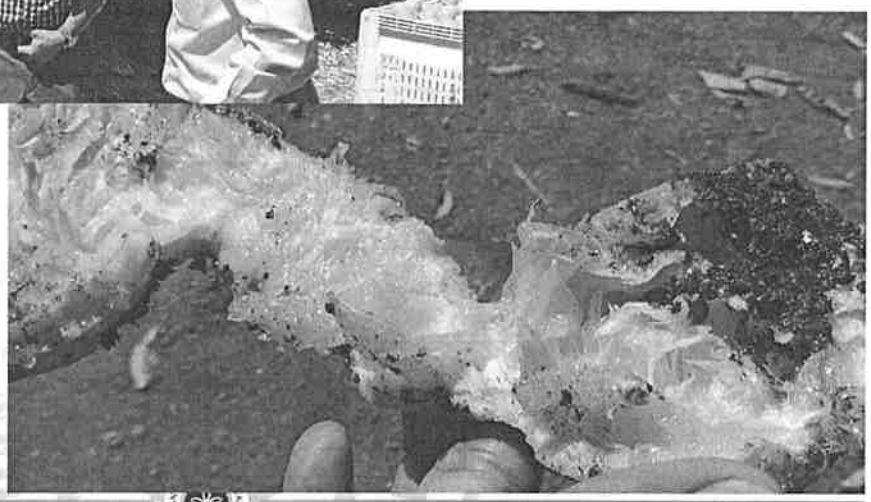
CONFIRMATION OF TECHNICAL DATA BETWEEN DESK EVALUATION AND FIELD SITUATION DEALING WITH PEST MANAGEMENT (MED FLY FREE AREA, CALIFORNIA)



PACKING HOUSE PROCESSING (COME IN UNTILL READY EXPORT) UNDER CONTROL INCLUDING TRACEABILILTY





SPECIFIC REQUIREMENT RELATED TO PHYTOSANITARY CERTIFICATION
(Storage Insects in Wooden Products)

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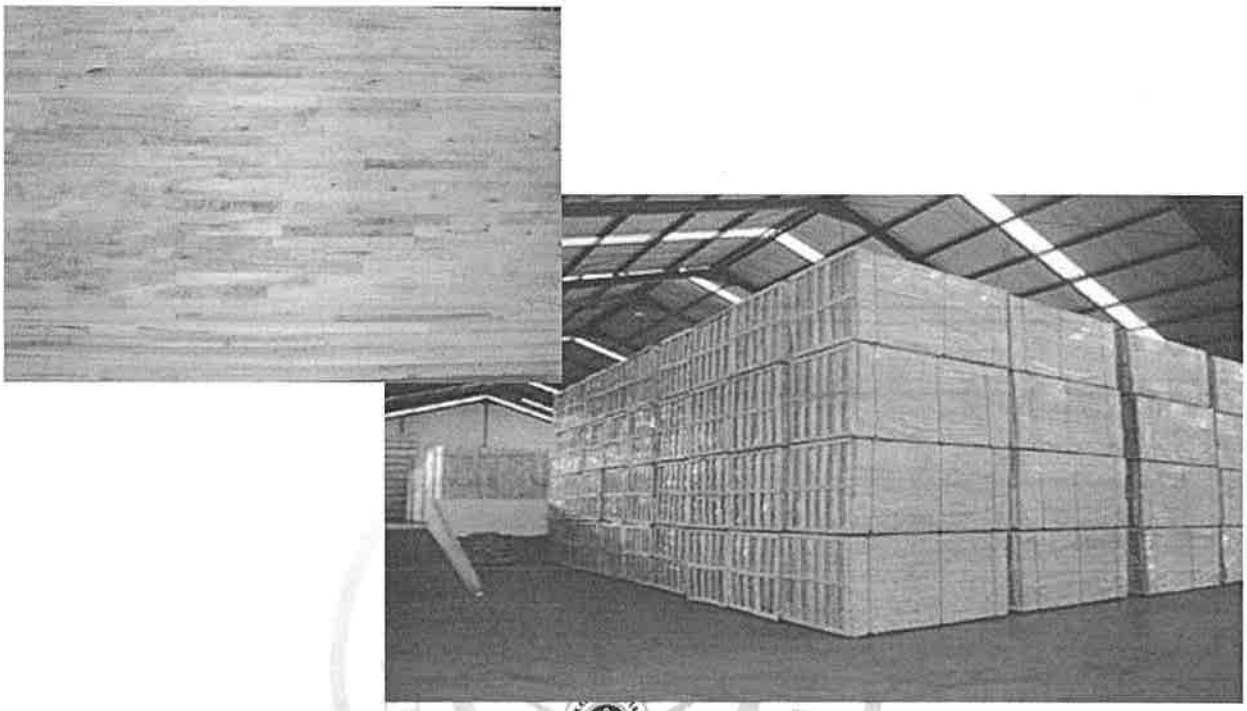
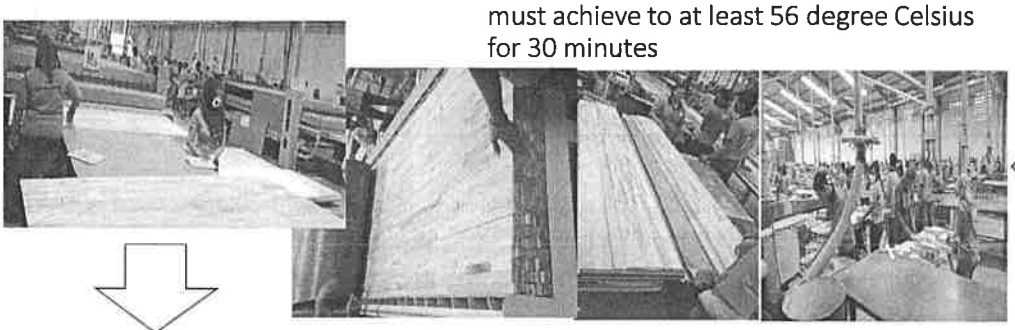
TangguhTerpercaya
Bersama Anda Melindungi Negeri

Barecore Certification



Raw Material for Barecore

KD for HT must be verified that wood core must achieve to at least 56 degree Celsius for 30 minutes



The place where processing woods had been heat treated must be free from pests.

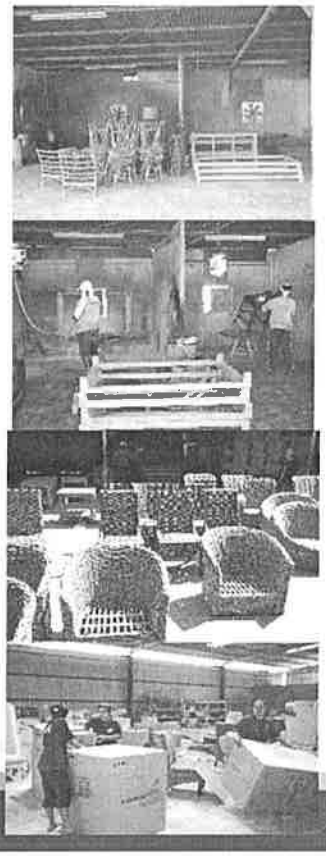
Furniture industries process against MB standard

(The target of the fumigation must not be wrapped in or coated with materials that are impervious to methyl bromide)

- Wooden or rattan products are fumigated un-finished product at warehouse of exporter.
- The exporter should provide :
  - ✓ a suitable fumigation place
  - ✓A good sanitation and no pest infestation of warehouse for finishing product (wood or rattan)
  - ✓ a good and clean of container (empty container clearance).
- Exporters carry out a good documentation.

Fumigation practices for unfinished product

Finishing product process



Loading process

Bersama Anda Melindungi Negeri

PALM KERNEL EXPELLER (PKE) Process against IMPORT HEALHT SYSTEM:

(Importation into New Zealand of Processed Animal Feeds of Plant Origin)

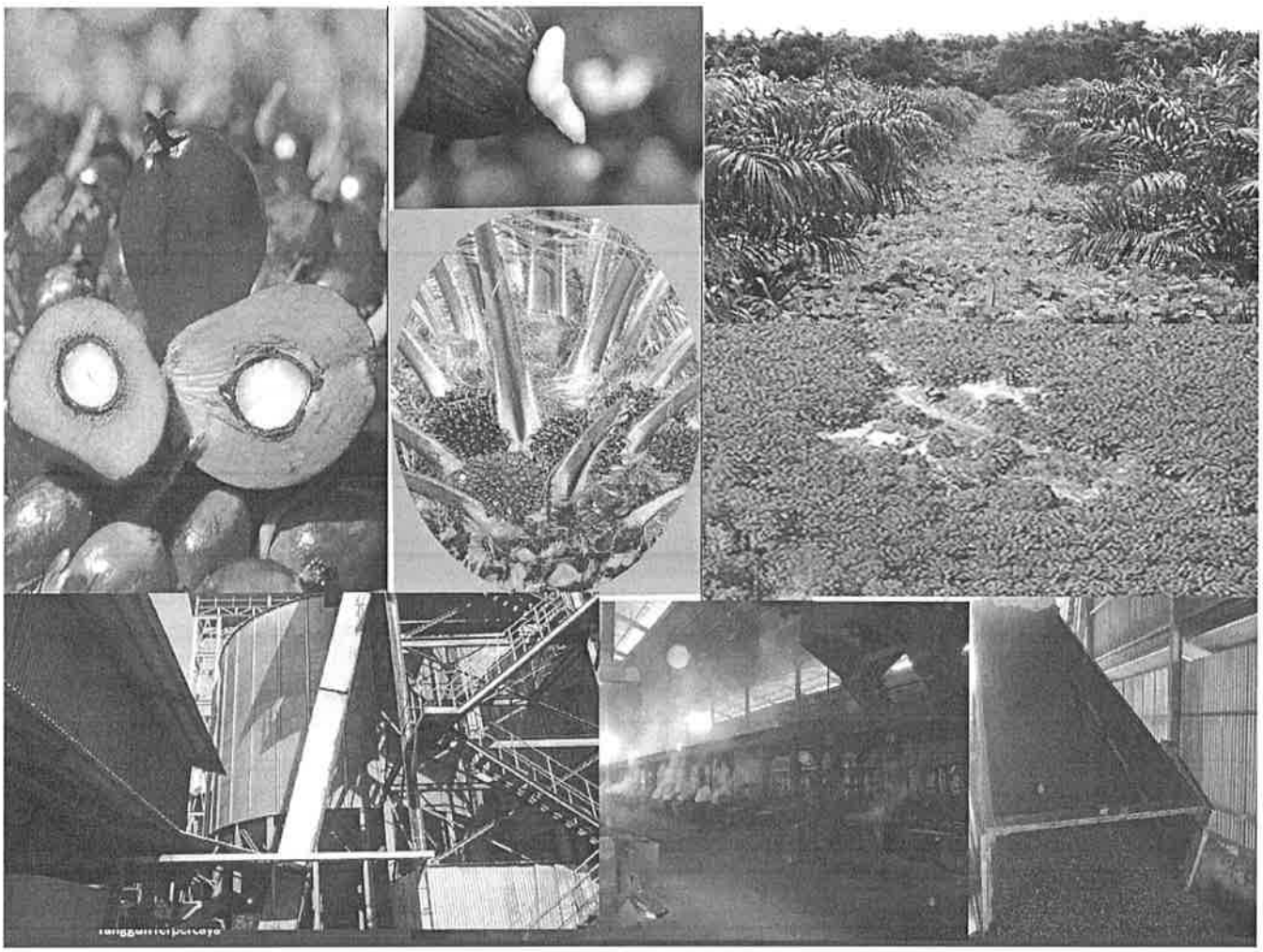
NPPO of the exporting country must verify and certify import requirement of PKE:

- Heat treatment process at least 85°C;
- Store in factories dedicated to the processing of the palm fruits and kernels, and kept clean and free of potential contamination in the production;
- Handle and store in a manner to prevent any contamination with unprocessed plant material, vermin, birds, ruminant animals, faecal material and other animal products;
- Inspection according to official procedures prior to export, and fumigation with phosphine or methyl bromide prior to or during shipment.
- Monitoring regularly based on the SOP and corrective action must be taken place in necessary

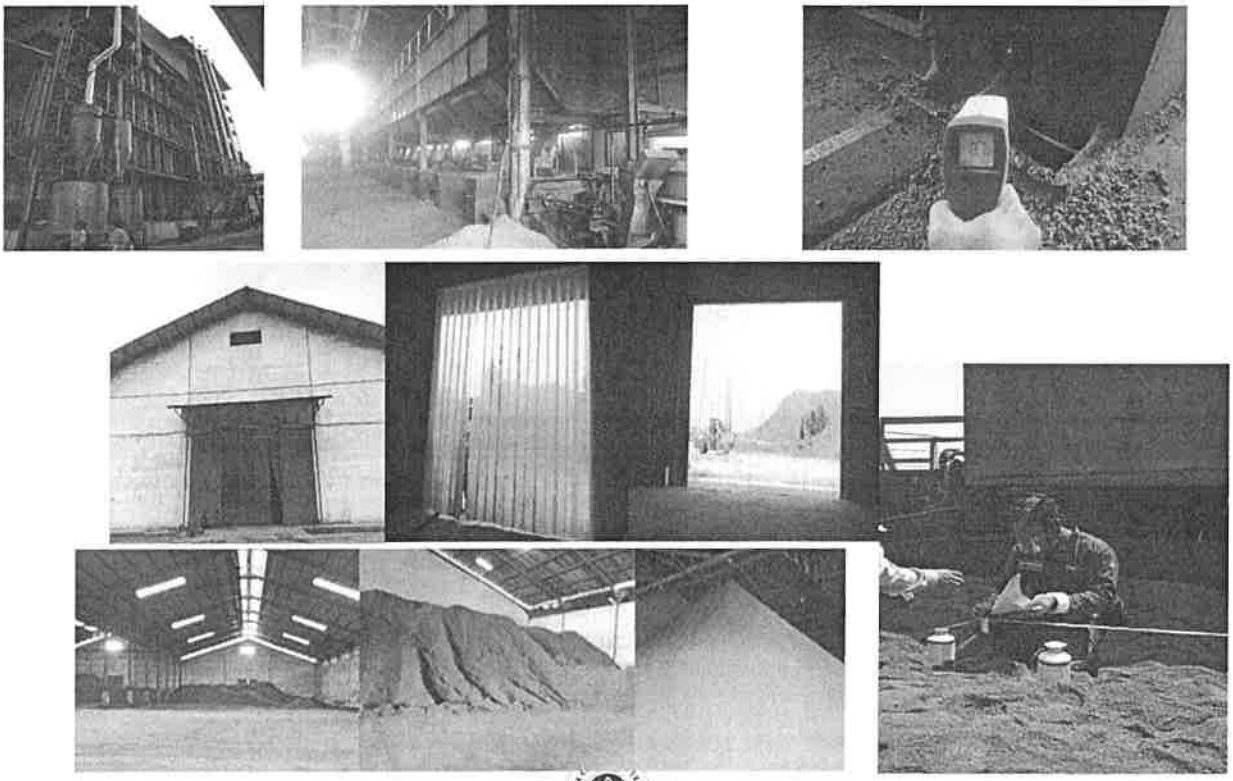
CHECKLIST FOR PHYTOSANITARY CERTIFICATION

1. Source of Product
2. Processing
3. Sanitation maintained
4. Post Production Storage
5. Pest Control
6. Post Product Transportation

} Detail content in SOP



PHYTOSANITARY CERTIFICATION OF PKE



STRONG COOLABORATION MAY SOLVE ANY NOTIFICATION OF NON-COMPLIANCE

THANK YOU

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Establishment of Pest Free Areas and its Management

Devaiah A. Muruvanda, Ph.D.
Senior Risk Manager – Entomology

United States Department of Agriculture
Animal and Plant Health Protection Service
Plant Protection and Quarantine

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United States Department of Agriculture

Requirements for the establishment of pest free areas

A "pest free area" is: "an area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained".

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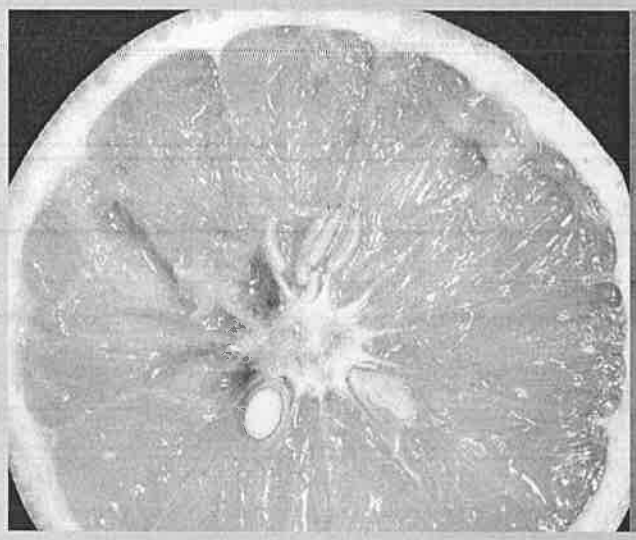
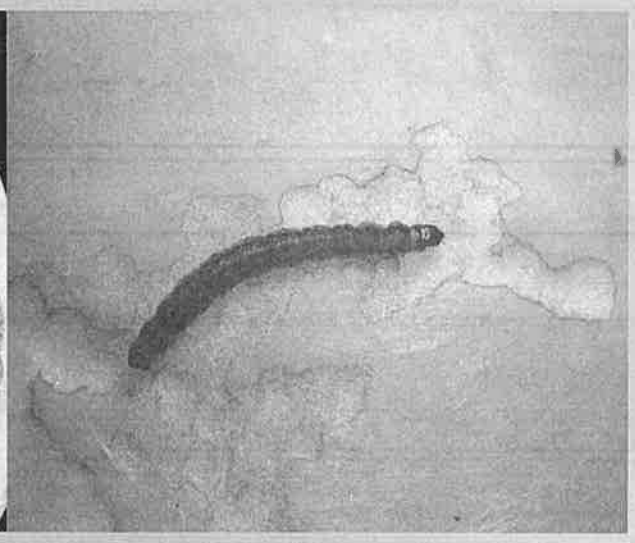
Why are pests mitigations such as quarantine treatments and Pest Free Areas necessary? Pests that are obvious vs pests that are hidden





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Requirements for the establishment of pest free areas

- Benefits of PFA:

-No need for additional phytosanitary measures when certain requirements are met.

-Scientific basis for absence of a stated pest from an area. Used as an element in pest risk assessment. Justification for lack of phytosanitary measures.

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Requirements for the establishment of pest free areas

ISPM 4: PFAs defined by three types:

- - an entire country
- - an uninfested part of a country in which a limited infested area is present
- - an uninfested part of a country situated within a generally infested area.

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Concept of a Pest-free Area

- Recognize biological, physical or other natural limiting factors to limit pest incursion – buffer zone
- Must effectively regulate movement of host material into the area – quarantine regulations
- Requires monitoring / surveillance of pest(s) of concern
- Must include contingency plans for pest finds or outbreaks

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Elements of a Pest-free Area

- Geographic description

- Natural barriers; mountains, deserts

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Requirements for the establishment of pest free areas

Methods used to achieve these components may include:

- - data assembly
- - surveys(delimiting, detection, monitoring)
- - regulatory controls
- - audit (review and evaluation)
- - documentation (reports, work plans).

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Requirements for the establishment of pest free areas

General requirements for pest free areas (PFAs)

Determination of a PFA

-Relevant to biology of pest

-Readily recognizable boundaries to coincide with pests's biological limits

-Boundaries administrative, physical features or property that is clear

-within an area considered pest free to avoid exact delimitation

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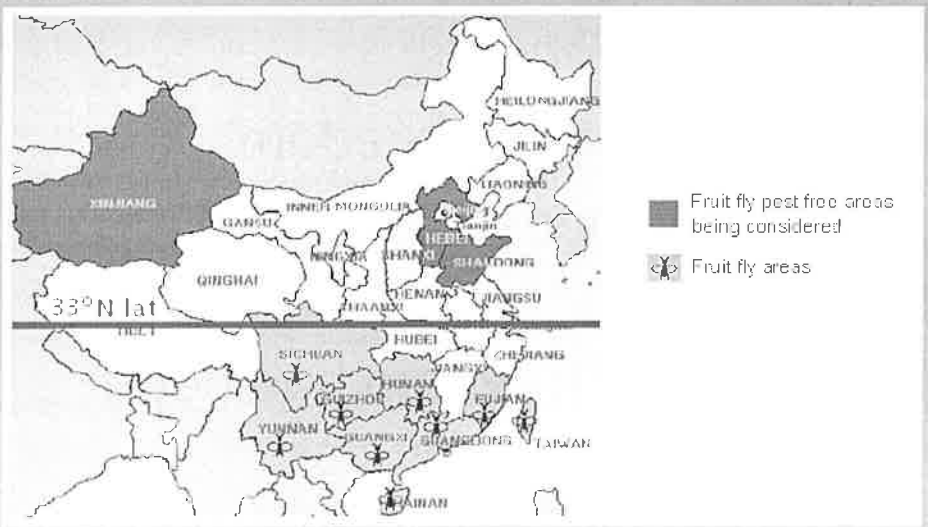
Pest Free Areas



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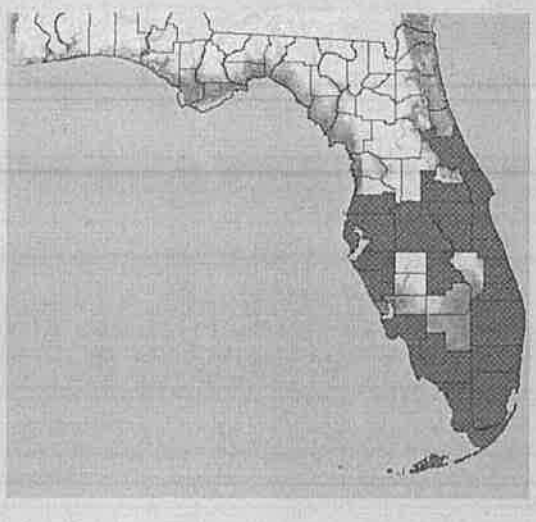
Elements of a Pest-free Area

- Geographic description
- Maps



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Requirements for the establishment of pest free areas

Establishment and Maintenance of a PFA

Three main components:

- systems to establish freedom
- phytosanitary measures to maintain freedom
- checks to verify freedom has been maintained.

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Pest Free Areas
What information is needed to recognize an area as pest free?

Location Location Location !

A Geographic description of the proposed PFA is essential and should include:

Maps with the PFA delineated.
Natural barriers and buffer zones identi
Locations of places of production
Locations of control points

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Requirements for the establishment of pest free areas

Establishment and Maintenance of a PFA

- **Systems to establish freedom**

-Two general types of systems to provide data are recognized, with variations and combinations.

These are:

- general surveillance
- specific surveys.

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Requirements for the establishment of pest free areas

Establishment and Maintenance of a PFA

- Systems to establish freedom

--General surveillance

- ----Information may be obtained from:
- - scientific and trade journals
- - unpublished historical data
- - contemporary observations

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Requirements for the establishment of pest free areas

Establishment and Maintenance of a PFA

- Systems to establish freedom

--Specific surveys

These are official surveys and follow a plan which approved by the NPPO:

- Detection Survey

- Delimiting Survey

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Requirements for the establishment of pest free areas

Establishment and Maintenance of a PFA

Phytosanitary measures to maintain freedom

Specific measures:

-Regulatory Actions

listing as quarantine pest, specification of import requirements, restriction of movement within areas of country

-Routine Monitoring

-Extension advice to producers

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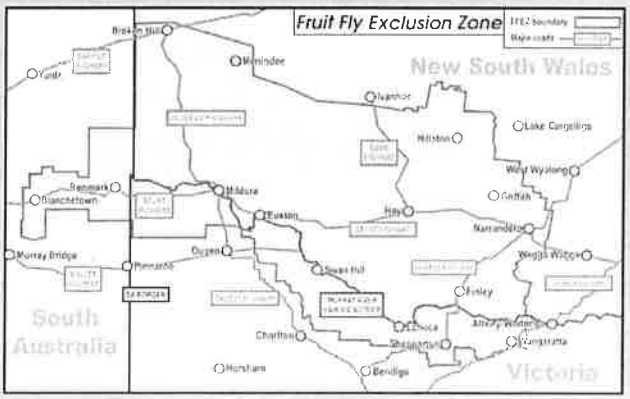
Elements of a Pest-free Area

- Geographic description

- Location of regulatory checkpoints



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Elements of a Pest-free Area

Movement Controls

Road stations, inspection checkpoints

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Requirements for the establishment of pest free areas

Establishment and Maintenance of a PFA

Verification for pest freedom and management checks to be made by

-- ad hoc inspection of exported consignments

-requirement that the NPPO be notified of any occurrences of the pest

- monitoring surveys.

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Requirements for the establishment of pest free areas

Establishment and Maintenance of a PFA

Documentation and Review

Establishment and maintenance of a PFA should be adequately documented and periodically reviewed. These include:

-Data assembled to establish the PFA.

-Administrative measures to support PFA.

-Delimitation of the PFA.

-Phytosanitary regulations applied.

-Technical details of surveillance, survey and monitoring systems used.

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Elements of a Pest-free Area

- Emergency Action Plan

- Trigger for plan implementation
- Delimiting survey
- Mitigation measures

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Pest Free Areas

Summary

Conclusions

Questions?

INDONESIA COUNTRY REPORT

Market Access Overview on Fruit Commodities

Presented by
Aulia Nusantara (IAQA)

Regional ASEAN Training
Workshop on the [illegible]
Bekasi, [illegible]

COUNTRY REPORT

INTRODUCTION

- Capital city : Jakarta
- Total area: 1,904,569 km^2
  land: 1,811,569 km^2
  (13,466 islands)
  water: 93,000 km^2
- Borders :
  Land: Malaysia, PNG, East Timor
  Maritime: Singapore, Malaysia, Philippines, Vietnam, Palau, Australia
- Administrative division: 34 provinces
- Population: 263.51 million (±300 etnnic groups)

COUNTRY REPORT

..... Introduction

- Agricultural country (Total area 31 million ha)
  --- > 60% in Java Island
    - Smallholding farmers (mostly rice)
    - Large plantation (mainly for export purpose)
- Total worker in agriculture: ± 49 millions people
- Contribution: 13.7% of national GDP
- World leading producer: coconut (1st), oil palm (1st), rubber (2nd), rice (3rd), cocoa (3rd), coffee (4th)

COUNTRY REPORT

..... Introduction

- Total agricultural export (2011-2015): 34 million tons/year
  - Mainly estate crops (>96%)
  - Top export commodities : oil palm (US$ 17.36 B), latex (US$ 3.7 B), cocoa (US$ 1.31 B)
  - Other commodities export: coconut, coffee, pepper, pineapple, mangosteen
- Main destination countries : Southeast Asia, South Asia, Middle East, China

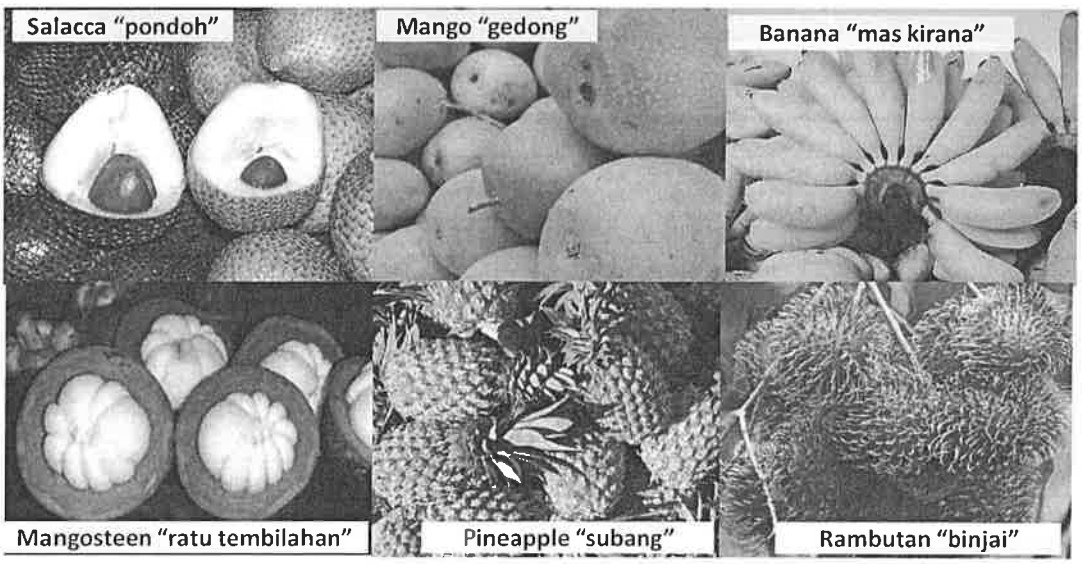
COUNTRY REPORT

FRUITS IN INDONESIA

- Various edible fruit species
- > 300 fruit species has been found
- Some fruits have become commercial

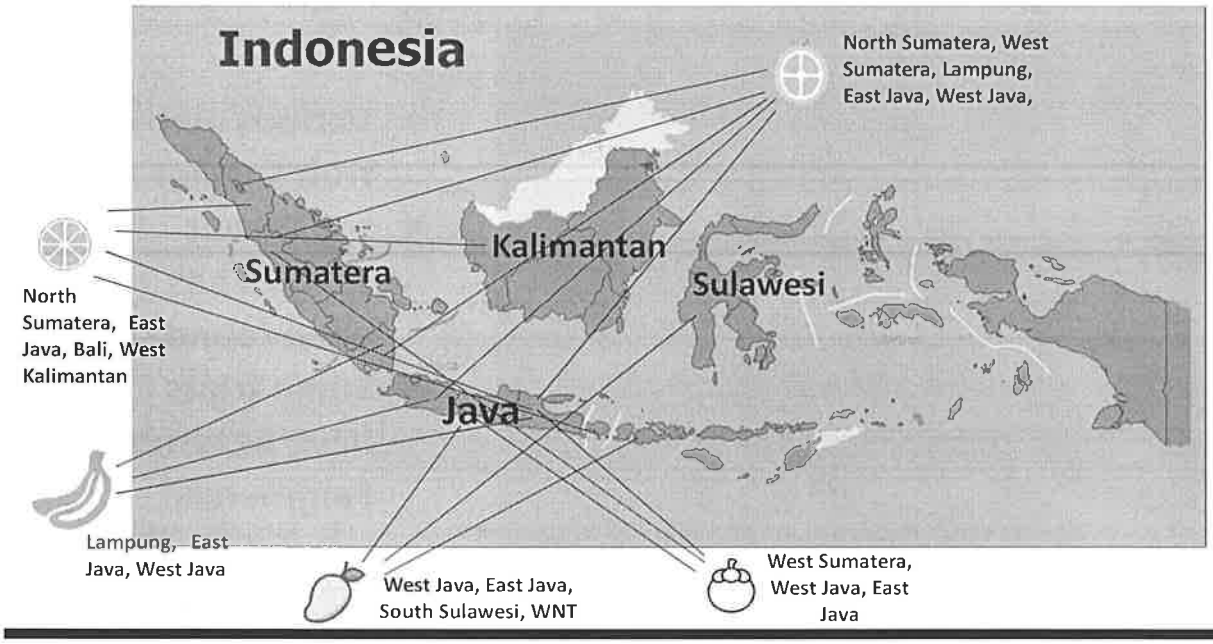
COUNTRY REPORT

..... Fruits in Indonesia



COUNTRY REPORT

..... Fruits in Indonesia



COUNTRY REPORT

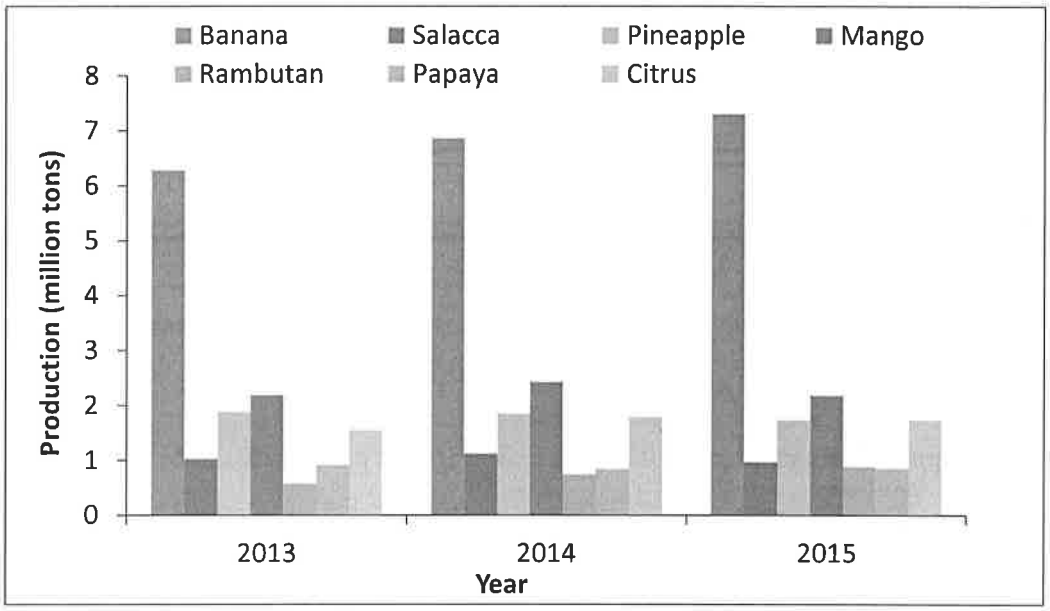
..... Fruits in Indonesia

Commodity	Production (ton)				
	2011	2012	2013	2014	2015
Mango	2.131.139	2.376.333	2.192.928	2.431.330	2.178.826
Citrus	1.721.880	1.498.394	1.548.394	1.785.256	1.744.330
Salacca	1.082.125	1.035.406	1.030.401	1.118.953	965.198
Avocado	275.953	294.200	289.893	307.318	382.537
Durian	883.969	888.127	759.055	859.118	995.729
Lansium	171.113	258.453	233.118	208.424	274.310
Jackfruit	654.808	663.930	586.356	644.291	699.487
Guava	211.836	208.151	181.632	187.406	195.743
Rambutan	811.909	757.336	582.456	737.239	882.694
Papaya	958.251	906.305	909.818	840.112	851.528
Pineapple	1.540.626	1.781.894	1.882.802	1.835.483	1.729.600
Mangosteen	117.595	190.287	139.602	114.755	203.100
Banana	6.132.695	6.189.043	6.279.279	6.862.558	7.299.266

Total prod. = 18.29 – 20.17 million ton

Source: MoA - Indonesia

..... Fruits in Indonesia

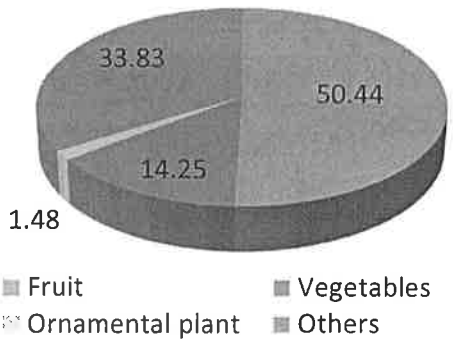


COUNTRY REPORT

Fruit export

- **2015 → Horticulture: US$ 576 million (2.06% of total)**
- **Fruit Export value: US$ 275 million**
  Volume: 260 thousand tons

Horticultural export share of Indonesia



COUNTRY REPORT

..... fruit export

No.	Commodity	Export volume (tons)				
		2011	2012	2013	2014	2015
1	Mango	1.486	1.515	1.089	1.149	1.243
2	Mangosteen	12.603	20.169	7.648	10.082	38.177
3	Citrus	1.084	1.384	1.558	1.796	3.225
4	Grape	0	867	596	219	408
5	Watermelon	169	726	503	541	931
6	Pineapple	189.223	183.072	174.096	192.315	193.948
7	Banana	1.735	1.489	5.680	26.264	22.308

Source: MoA - Indonesia

COUNTRY REPORT

..... fruit export

Destination country	Volume (ton)				
	2011	2012	2013	2014	2015
Hongkong	2 831,3	9 770,7	2 023,8	1 614,1	6 800,0
China	8 142,6	10 688,9	4 825,3	20 189,7	9 792,4
Singapore	31 920,4	34 319,8	22 540,4	19 183,6	18 350,9
Malaysia	4 964,1	5 434,8	10 180,4	11 582,4	29 465,3
Nepal	8 797,0	5 104,1	11 024,8	9 440,6	14 502,6
Vietnam	352,7	2 327,7	2 509,7	3 467,8	4 022,8
India	19 487,4	23 675,1	36 705,4	31 444,4	29 859,0
Pakistan	71 948,9	87 013,3	91 188,3	101 275,1	99 572,7
Bangladesh	53 787,2	62 074,4	50 988,5	51 719,1	23 403,0
Others	5 993,0	5 848,7	14 957,2	49 187,5	118 722,2

Source: Central Bureau of Statistic - Indonesia

COUNTRY REPORT

PHYTOSANITARY ISSUES

IDENTIFICATION OF OBSTACLES

- Megadiverse country
- Costly market access technology
- No feasible eradication program for existing pests
- The production area are often scattered on the entire island
- Smallholder farmers

COUNTRY REPORT

SUPPORTING MARKET ACCESS

- Pest list confirmation
  - National surveillance program
    Surveillance of fruit flies → IAQA, DGH
- Quality control of product
  - Phytosanitary certification guidelines by IAQA (salacca, avocado, mangosteen, lansium etc)
  - Guidelines of Good Agriculture Practice and Good Handling Practice (training, workshop)

COUNTRY REPORT

..... Supporting market access

- Pest management
  - IPM on various fruits
  - Biological control
- Personel capacity development
  - Training, workshop (in collab with JICA, ACIAR, USaid,
    Thermal treatment disinfestation of fruit flies
    Identification of fruit flies
    Diagnostic in mite & mealybug
    In house training
- National regulation
- Public awareness and phytosanitary education

COUNTRY REPORT

UPDATE ON MARKET ACCESS

- Salacca to China/Australia/New Zealand
  - Fresh salacca importation since 2014 (Australia) and 2008 (China)
  - From registered orchard on Yogyakarta and East Java
  - Total export (2016-mid 2017): 412.638 kgs (China), 10.804 kgs (Australia)



COUNTRY REPORT

- **Mangosteen to China/Australia/NZ/Netherland**
  - Meet import country phytosanitary requirements (fruit maturity, system approach, inspection etc)
  - Fresh mangosteen importation (2009-2013): >3.400 tons/year
  - From registered orchard on Java & Sumatera



COUNTRY REPORT

..... update on market access

On going process

- Mango to Australia

  Areawide management program on mango orchard in Indramayu, West Java (in collaboration with ACIAR) → area low pest prevalence

- Mango to Japan/South Korea

  Fruit flies disinfestation development by vapor heat and hot water (laboratory scale)

  Vapor heat development supported by JICA

- Melon to Japan

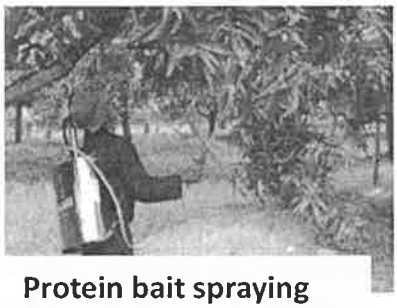
  Vapor heat trials (laboratory scale)

COUNTRY REPORT

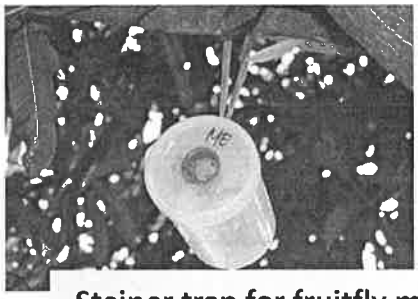
Areawide Management of fruitfly on mango orchard (West Java)

Mango orchard

Wooden block



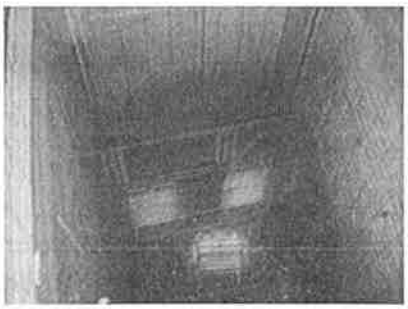
Protein bait spraying

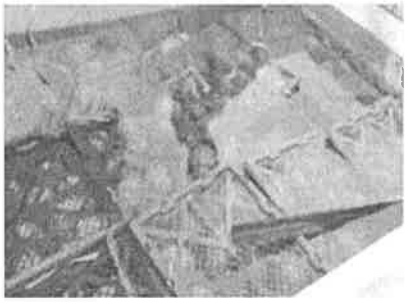


Steiner trap for fruitfly monitoring

COUNTRY REPORT

Quarantine treatment development (VHT, HWT, Irradiation)





..... update on market access

On going process

- Dragonfruit to Australia

  Biosecurity import requirements for fresh dragonfruit from commercial production area in Yogyakarta, Jember, and Banyuwangi was under reviewed by Australia Government

Khowp jai | Thank you | Gam uhn

Terima kasih

Maraming salamat po | Khop khun

Aw khun | Jeesuutin baadae