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報告名稱:

赴美國研習進口動植物疫病蟲害隔離檢疫實務

主辦機關:

行政院農業委員會動植物防疫檢疫局

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出國人員:

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出國類別: 其他

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分類號/目: F7／農品檢疫及家畜保健　F7／農品檢疫及家畜保健

關鍵詞: 檢疫制度,隔離檢疫實務,檢疫設施,檢疫犬

內容摘要: 爲配合我國動植物檢疫中心之規劃作業，本計畫於九十年七月十七至二十六日前往美國夏威夷州研習動植物檢疫制度與動植物隔離檢疫作業，重要心得及建議包括：(1)鑒於外來疫病蟲害或入侵種非僅影響農業生產安全，對生態環境面亦造成嚴重危害，爲建構一個全面性之防疫檢疫體系，可考慮將入侵種對生態面之影響納入檢疫體系；(2)夏威夷州及聯邦檢疫制度對風險管理觀念極爲注重，基本上係就各項輸入動植物及其產品之風險先予評估，例如天敵昆蟲及植物病原之輸入風險較高，而一般植物隔離檢疫之風險較低，因此必須在不同生物安全等級之隔離設施內予以管理。這種對風險清楚定位的觀念，值得我國參考；(3)另本次研習後攜回有關美國聯邦及夏威夷州之動植物隔離檢疫法規、植物病原隔離檢疫措施標準作業流程、檢疫犬計畫與訓練資料及檢疫犬設施建築藍圖等，可提供未來推動動植物檢疫中心之運作參考。

本文電子檔已上傳至出國報告資訊網

赴美國研習進口動植物疫病蟲害

隔離檢疫實務報告

摘　　要

為配合我國動植物檢疫中心之規劃作業，本研習計畫於九十年七月十七至二十六日前往美國夏威夷州研習動植物檢疫制度與動植物隔離檢疫作業。參訪單位包括美國農部動植物健康檢查署夏威夷分處，及夏威夷州農業廳之動物檢疫部門及植物檢疫部門所屬單位及轄下之動植物隔離檢疫設施。

本次研習之重要心得及建議包括：(1)鑒於外來疫病蟲害或入侵種非僅影響農業生產安全，對生態環境面亦造成嚴重危害，為建構一個全面性之防疫檢疫體系，可考慮將入侵種對生態面之影響納入檢疫體系；(2)夏威夷州及聯邦檢疫制度對風險管理之觀念極為注重，基本上係就各項輸入動植物及其產品之風險先予評估，例如天敵昆蟲及植物病原之輸入風險較高，而一般植物隔離檢疫之風險較低，因此必須在不同生物安全等級之隔離檢疫設施內予以管理。這種對風險清楚定位的觀念，值得我國參考；(3) 為有效進行風險管理，檢疫主管機關宜先瞭解各輸入途徑(pathway)之風險程度高低，方能充分運用有限的人力與財務資源；(4)在檢疫犬方面，夏威夷州之檢疫犬計畫始於 1989 年，1998 年紐西蘭專家曾應邀前往評估並提出數項建議。目前夏威夷州除與紐西蘭合作獲取犬隻來源外，刻正興建全新之檢疫犬訓練中心，其間所歷經之成功與失敗等寶貴經驗，值得作為我國未來推動檢疫犬計畫之借鏡與參考；(5)另本次研習後攜回有關美國聯邦及夏威夷州之動植物隔離檢疫法規、植物病原隔離檢疫措施標準作業流程、檢疫犬計畫與訓練資料及檢疫犬設施建築藍圖等，可提供未來推動動植物檢疫中心之運作參考。

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赴美國研習進口動植物疫病蟲害隔離檢疫實務報告

壹、前言及目的

為確保我國農業生產安全，維護台灣多元化之綠色資源景觀，農委會動植物防疫檢疫局於八十七年八月一日成立，並依權責掌理國內動植物防疫檢疫制度與管理體系。

為強化我國動植物防疫檢疫功能，防檢局刻正規劃籌建國家級之動植物檢疫設施，以防杜外來疫病蟲害之入侵。為配合該中心之規劃作業，防檢局曾於八十九年十月及十一月派員前往美國東岸及日本考察動植物檢疫中心設施，就其動植物檢疫設施及隔離設計等項目深入瞭解；本次研習計畫則為前往美國夏威夷州以進一步蒐集動植物檢疫制度與作業，研習隔離檢疫作業程序及相關實務，以借重國外經驗，作為本局動植物檢疫中心後續規劃運作之參考。

另鑒於美國夏威夷州在天敵引進防治及檢疫犬計畫上行之有年，本次研習亦將該二項議題列入學習重點，以提供未來相關計畫之推動參考(詳參工作規範)。

貳、行程及紀要

七月十七日　(星期二)

14:20　搭乘中華航空 CI 018 班機前往夏威夷檀香山
(台北時間)

08:50　抵達檀香山國際機場
(夏威夷時間)

09:00　參觀歐胡(Oahu)島中央平原之農業多元化栽培
(接待人員 Plant Pest Control Branch Manager – Larry Nakahara)

11:30　討論研習行程 (Larry Nakahara) (附件二)

七月十八日　(星期三)

08:00　拜會夏威夷農業廳廳長 Mr. James Nakatani 及副廳長 Ms. Letitia Uyehara

08:30　夏威夷州之動植物檢疫制度總論 (Plant Quarantine Branch – Carol Okada)

09:30　台灣檢疫制度介紹 (呂技正斯文) (內容參閱附件三)

10:00　夏威夷州之植物檢疫法規 (Larry Nakahara)

11:30　午餐

13:00　夏威夷州之動物檢疫制度 (Livestock Disease Control Manager – Jason Moniz, DVM)

13:30　獸醫實驗室簡介及參觀 (Veterinary Laboratory

Manager – Crane Hahn, DVM)

14:00 犬貓隔離檢疫作業及設施參觀 (Animal Quarantine Manager – Cordell Chang)

15:00 美國防杜口蹄疫及狂牛病現況 (USDA-APHIS-VS 獸醫官 – Michael Staton, DVM)

16:30 參觀夏威夷州檢疫犬訓練設施 (PQ Canine Instructor – Todd Kikuta)

七月十九日 (星期四)

08:30 夏威夷州植物檢疫作業 (PQ 專家 – Domingo Cravalho & Amy Takahashi)

10:30 檢疫進口申請

11:00 進口審核制度

11:30 隔離檢疫程序 (PQ Maritime Supervisor – Glen Takahashi, Insect Specialist – Neil Reimer, Ph.D.)

12:00 午餐

13:30 參觀夏威夷州農業廳於夏威夷機場之檢疫作業 (PQ Airport Supervisor – Dennis Nagatani)

七月二十日 (星期五)

08:00 美國聯邦於夏威夷州之檢疫作業 (USDA-APHIS-PPQ Honolulu Airport Operation Director – Jim Kosciuk ； PPQ Port Director - Hilda Montoya)

09:00 參觀聯邦於檀香山國際機場之檢疫作業

10:00 參觀機場檢疫犬作業

12:00 午餐

13:30 搭乘夏威夷航空 HA162 班機前往夏威夷島 (Plant Industry Division Administrator – Lyle Wong, Ph.D.)

15:30 參觀夏威夷農業廳 Hilo 檢疫站

七月二十一日(星期六)

09:00 參觀農產品出口輻射照射處理設施 (Hawaii Pride X-ray Irradiator Senior Vice President – Eric Weinert)

10:30 參訪夏威夷火山國家公園及雜草天敵防治作業

12:00 午餐

14:30 搭乘夏威夷航空 HA 249 班機返回檀香山

七月二十二日(星期日)

08:00 自由時間，整理資料

七月二十三日(星期一)

08:30 聯邦及夏威夷州之檢疫犬計畫 – 建立程序、訓練哲學、訓練方式、手冊、目標、犬隻照顧、犬舍、計畫檢討、人員徵選與維持、學歷需求、標準程序、國際合作 (PQ Canine Instructor- Todd Kikuta, Canine Coordinator – Lester Kaichi)

12:00 午餐

13:00 夏威夷州之生物防治作業 (Plant Pest Control

Branch – Kenneth Teramoto)

15:30 參觀植病隔離檢疫設施 (Pest Control Branch – Eloise Killgore)

16:30 參觀昆蟲隔離檢疫及天敵養蟲作業 (Kenneth Teramoto)

七月二十四日(星期二)

08:30 茂伊(Maui)機場疫病蟲害風險評估計畫 (Neil Reimer； Carol Okada)

12:00 午餐

13:30 整理資料

18:30 農業廳廳長 Mr. James Nakatani 晚宴

七月二十五日(星期三)

08:00 至檀香山國際機場 USDA-APHIS-PPQ 辦公室蒐集資料

09:40 搭乘中華航空 CI 017 班機返回台北

七月二十六日(星期四)

16:20 返抵中正國際機場

參、至美國夏威夷州研習主要議題及重點

一、夏威夷州之植物檢疫制度

1. 夏威夷州之檢疫作業擔負防杜疫病蟲害入侵之第一線防護(First Line-of-Defense)，以保護農業生產、園藝產業、水產養殖、動物健康、天然資源及生態環境安全。

2. 夏威夷檢疫制度起源甚早，始自 1888 年 David Kalakaua 國王即制定禁止咖啡植株及部位輸入夏威夷王國之命令。1890 年農林業委員會(the Board of Agriculture and Forestry)成立，規定所有植物進入夏威夷前並須進行檢疫。而在 1905 年時首次在檢查作業中發現蛇類，為保護夏威夷多樣化之生態資源，自此亦將非圈養動物(non-domestic animal)納入檢疫範圍內。

3. 夏威夷植物檢疫制度之目標有三：

(1) 規範植株及其部位、有害植物疫病害蟲、非圈養動物及微生物之輸入，以防止植物疫病蟲害入侵。

(2) 防止疫病蟲害由在各島嶼間散佈，或在同一島嶼之不同地區間散佈。

(3) 協助夏威夷農產品之出口檢疫作業，俾利產品輸出至美國其他各州或他國。

4. 檢疫法規

(1) 植物檢疫母法為夏威夷修訂法規第 150A 章之「植物及非圈養動物檢疫法」(Hawaii Revised Statutes, Chapter 150A, entitled "Plant and Non-Domestic Animal Quarantine Law")。(詳附件四)

(2) 植物檢疫之行政命令則訂於管理法規(Administrative Rules)中：

- 第 4-70 章：植物輸入規定；
- 第 4-71 章：非圈養動物及微生物輸入規定；
- 第 4-72 章：植物於州內之移動規定；

- 第 4-73 章：植物輸入規定。

(3) 有關夏威夷與其他各州間之農產品輸出入檢疫法規，請參閱 CFR (Code of Federal Regulations) 之 Title 7 "Agriculture" - Chapter III "Animal Plant Health Inspection Service, Department of Agriculture" - Part 318 "Hawaiian and Territorial Quarantine Notice".

5. 檢疫主管機關

夏威夷州之植物檢疫機關為農業廳 Plant Industry Division 之 Plant Quarantine Branch，人員配置由上而下分別為：

(1) Branch Manager

(2) Section Supervisors - 包括歐胡島(機場/港口)、可愛(Kauai)島(港口)、茂伊(Maui)島及夏威夷島等四處。

(3) Master Journeyman Inspector - work shift supervisors, specialists, Kona Airport Supervisor, canine coordinator/trainer

(4) Journeyman Inspectors - 包括檢疫犬作業官(detector dog handlers)

(5) Plant Pest Aides

6. 作業範圍

(1) 機場檢疫作業 - 包括旅客/行李、空運貨櫃、郵件、快遞、軍事基地、島間貨運；

(2) 港口檢疫作業 - 包括旅客/行李、海運貨櫃、島間貨運、出口認證、輸入許可、隔離檢疫及作業調查。

7. 輸入核准制度

進口核准程序包括：

(1) 辦理申請與繳費；

(2) 倘為已允許輸入項目，則予逕行發證；

(3) 新申請輸入項目，視申請種類由昆蟲類、非脊椎及水生類、陸地脊椎類、微生物類或植物類等專家進行申請初審；

(4) 提報農業委員會(the Board of Agriculture)討論

- 申請案件應檢附下列資料：輸入動植物之俗名與學名、輸入目的、負責機構及負責人名、隔離地點與方式、處置方式、生物學資料(分佈、棲地、繁殖、耐熱、食性及可能入侵之疫病蟲害)；
- 由適當專家審核後，先送核管之諮議次委員會(appropriate advisory subcommittee)進行第一次審查，並提供修正或補充意見；
- 送動植物諮議委員會(Advisory Committee on Plants and Animals)進行第二階段之審查，並提供修正或補充意見；
- 送農業委員會進行最後之審查與決定；
- 經農業委員會核定之輸入項目，基本上將納入允許輸入名單中，惟尚須通過公聽及州長簽署等立法程序。

二、夏威夷州之植物隔離檢疫作業

1. 依據上節所述，由夏威夷州植物檢疫部門負責之隔離檢疫項目包括：

(1)植物項目：

- 鳳梨科作物(pineapple and bromeliads)：隔離觀察期間視植物來源及風險而定，來自中南美洲者為一年；產自中南美洲但已於其他地區栽培六個月至一年者之隔離期為六個月；產自其他國家並經栽植達一年以上或產自美國本土未經認證之苗圃者為二個月；產自美國認證苗圃者為一個月。
- 咖啡：種苗隔離期間為一年。
- 蘭科作物：視風險程度，隔離期間為二個月以上。
- 香蕉種苗：隔離期間一年。
- 百香果種苗：隔離期間為一年。
- 芋頭種苗：隔離期間為一年。

(2)昆蟲項目：包括由州政府引進天敵進行生物防治，及夏威夷大學等研究機構所研提之輸入申請。視風險程度，一般隔離評估期間為一年以上。

(3)植物病原項目：包括由州政府引進植物病原菌進行生物防治，及夏威夷大學等研究機構所提之相關申請。一般植物病原之隔離評估期間較長，部份個案並達七年以上。

2. 美國檢疫制度之精神係基於風險管理觀念：

(1)一般對境內農業生產或生態安全影響最大之植物或其部位，即列入禁止輸入項目(即無法管理風險者)；

(2) 惟其中倘以檢疫處理如冷藏(refrigeration)、溫湯(hot water immersion)、熱風(forced hot air)、幅射(irradiation)、非寄主態(non-host status)、燻蒸(fumigation)、氣調(modified atmospheres)、化浸處理(chemical dips)者，則允許其輸入(因檢疫處理可有效降低風險)；

(3) 一般輸入檢疫項目(即風險程度較低者)在港口進行檢疫作業，以降低疫病蟲害入侵風險；

(4) 未能完全達成風險管理之檢疫項目，則繼續進行隔離檢疫作業，以管理剩餘風險。(此階段之風險管理，係以可能夾帶入侵之低風險昆蟲及細菌真菌病原菌，至病毒風險之管理，一般均以指標植物偵測(indexing)方式快速進行)

(5) 為生物防治及學術研究目的所引進之昆蟲、細菌病原菌及真菌病原菌等輸入風險極高，因此必須在植物病原或昆蟲等高生物安全等級(bio-security level)之隔離檢疫設施下管理重大風險。

3. 夏威夷州之隔離檢疫設施

(1) 植物隔離檢疫設施

鑒於一般輸入植物之風險已先以輸入檢疫規定降低至可管理等級，植物隔離檢疫設施基本上僅提供一物理性之阻絕(physical confinement)，以防止植株移動、昆蟲逃逸及疾病傳播等，俾便檢疫官員於隔離期間內繼續觀察以管理風險。

因此夏威夷州之植物隔離檢疫溫室之結構極為簡單，並可依認證方式允許學術機關或私人機構之溫室

進行隔離檢疫，但嚴格之作業管制仍舊是必要的，方能完成管理風險。基本上，對商用種苗而言，夏威夷州之隔離檢疫標準仍較美國本土為嚴，因其並不允許隔離檢疫圃之設立。

(2) 植物病原隔離檢疫設施

夏威夷州擁有全美第一座植物病原隔離檢疫設施，佔地雖然不大，但已將風險管理等級提高至生物安全等級第四級。在生物等級第四級設施中，允許處理可由空氣傳播及對生命安全有威脅之危險病原，因此在專家管理、人員訓練、作業流程、設施阻隔、實驗室設計及出入管制上均須達到固定水準。

在標準作業程序上，管理項目則包括通氣系統、殺菌釜、設施消毒、入口、緊急出口、火警管理、醫療、離開、溫室管理、人員職責、人員管理、負壓管理、操作維護、研究程序、緊報系統、衛浴管理及污水處理等(附件五)。這些程序之訂定及熟讀，有利於隔離設施之管理及緊急狀況之處置。

有關生物安全等級第四級管理原則，請參閱美國疾病管制中心(CDC，Center for Disease Control and Prevention) 手冊 "Biosafety in Microbiological and Biomedical Laboratories"，重要網站可參閱附件六。

(3) 昆蟲引進隔離檢疫設施

昆蟲之引進亦有可能攜入對人體生命危害之病原生物，因此在理論上必須採取第四級之管理水準。而鑒於經費限制，夏威夷州之昆蟲隔離檢疫設施並未配置負壓隔離，惟仍保有其他應有之嚴格管理措施及作

業程序。

4. 另鑒於輸入天敵昆蟲及植物病原菌之風險較高，因此對這些項目之隔離檢疫僅允許在州農業廳之隔離檢疫設施內進行，一般學術機構未被授權進行相關作業。

三、 美國聯邦之植物隔離檢疫制度

1. 美國聯邦之植物隔離檢疫法規請參閱 CFR 319.37。

2. 依據聯邦規定，輸入美國之繁殖用種苗可歸為三類：

(1) 限制輸入(restricted)：某些商業繁殖用之種苗應於輸入港口進行檢疫，並於檢查後放行。

(2) 隔離檢疫(postentry)：某些商業繁殖用之種苗則先於港口由聯邦檢疫官進行檢查後，再載往隔離地點栽植，由州檢疫官於隔離期間定期檢查。

(3) 禁止輸入(prohibited)：此類種苗不得以商品數量輸入，但得以少量輸入於檢疫設施中進行隔離檢疫後作為種原。

3. 基本上，USDA-PPQ 的作法亦為依據風險管理原則

(1) 一般業者在申請輸入時，可以 PPQ Form 587 提出申請，對風險較低之產品，將於港口檢疫後放行，因此在輸入數量上並無限制；

(2) 對風險稍高之種苗種類，則輸入業者在申請時，除填報 PPQ Form 587 外，尚需填報隔離檢疫處所協議(growing-site agreement)表格 Form 546。在該表格中，業者需同意負責隔離處所(包括苗圃、溫室或網室)之管理工作、不得移動植株、同意檢疫官進入、與現有種苗保持距離、不得取用植物部位及遵照檢疫官指

示處理等相關事項。栽植之檢疫苗圃，必須先經檢疫官認定，而在輸入數量上，不得超過檢疫圃所能種植種苗數量。至隔離期間則由六個月(菊科作物)至二年(大多數隔離檢疫項目)；

(3)基於風險考量，美國原不宜允許包括棉花、玉米等十三類種子及柑橘、馬鈴薯等十五類繁殖苗輸入，惟鑒於產業發展需要，又不得不引進各類種原予以改良作物，因此美國僅允許這些高風險項目之種苗以極少量之方式送至位於 Beltsville 之國家植物種原檢疫中心(National Plant Germplasm Quarantine Center)統籌隔離管理。這些禁止輸入之種原則在通過嚴格管制之隔離檢疫後，將送至 Aberdeen 等十個美國主要種原保存中心，以供產業界運用。

4. 有關隔離檢疫設施之相關設計，可參閱書籍如下：

Kahn, R.P., and Mathur, S.B. 1999. Containment Facilities and Safeguards for Exotic Plant Pathogens and Pests. American Phytopathological Society Press, St. Paul, MN.

另 USDA-APHIS-PPQ 目前尚在編印"Manual for Inspecting Quarantine Facilities Holding High Risk Pests"及"Guideline for Constructing and Operating Secure Quarantine Facilities"，未來在完成後應予蒐集以為參考。

四、夏威夷州之動物檢疫制度

(1)動物檢疫母法為夏威夷修訂法規第 142 章之「動物、

商標、柵欄」(Hawaii Revised Statutes, Chapter 142, entitled "Animals, Brands, and Fences")。

(2) 動物檢疫之行政命令則訂於管理法規中：

- 第 3-16 章：牛、綿羊、山羊
- 第 3-17 章：豬
- 第 3-19 章：雞、鳥類
- 第 3-20 章：非圈養動物
- 第 3-21 章：疫苗、微生物、寄生物
- 第 3-22 章：動物傳染病通報
- 第 3-23 章：馬
- 第 3-24 章：肉品分級
- 第 3-27 章：商標
- 第 3-29 章：犬、貓等食肉動物

(3) 夏威夷州之動物檢疫機關為農業廳 Animal Industry Division 之 Animal Quarantine Branch，單位配置包括 Veterinary Services, Veterinary Technical Services, Clerical Services, 及 Animal Quarantine Section (含 Rabies Quarantine Unit, Large Animal Quarantine Unit, Groundskeeping Unit, 及 Maintenance Unit)。

五、 夏威夷犬貓隔離檢疫作業

夏威夷動物檢疫站距離檀香山國際機場 7 英哩，約十分鐘車程可達，每年平均有四千隻犬貓進入本檢

疫站隔離檢查，但有一半犬隻是由軍方所申請者。由於美國目前僅有夏威夷州為狂犬病非疫區，為繼續保護該州人畜有免於狂犬病危害機會，由輸入前健康證明之取得、裝運以至輸入後隔離管理，皆訂定有詳密法規及作業流程，以嚴格執行犬貓隔離檢疫措施。夏威夷州目前之犬貓隔離檢疫時間規定，依申請輸入犬貓條件之不同，而有一百二十天隔離檢疫期計畫（從1912年即開始實施）與三十天隔離檢疫期計畫（直到1997年才有此新措施實施）之不同區分，但對小於九週幼犬、懷孕母犬或衰弱犬則不被允許申請輸入隔離。其作業規範與申請條件規定重點分別敘述如下：

(一) 輸入前一般需求規定

1. 健康證明書取得

寵物在運抵夏威夷州前14天，需由合格獸醫師以英文簽發動物健康證明書，證明書內包含以下之必須資料：

a. 性別、品種、年齡、特徵。

b. 已清除內外寄生蟲處理記錄。

c. 證明沒有罹患接觸傳染性疾病。

d. 所有規定疫苗之施打記錄，例如狂犬病疫苗名稱、製造批號、有效期限及施打日期。

e. 晶片號碼和注記日期。

2. 電子晶片

對預備施行三十天隔離檢疫期計畫的犬貓都需植入晶片，且晶片只限於美國所製造（AVID chip）。

3. 疫苗免疫注射

對所有進入夏威夷犬貓皆須注射數種的傳染病疫苗：

狂犬病疫苗免疫：

所有超過九十日齡犬貓，需有於輸入前十二個月以內才列為有效之疫苗免疫注射，但申請三十天隔離檢疫期者則另需符合其有關之規定。

其他犬傳染病疫苗免疫：

於輸入前十天至一百八十天內，注射下列之疫苗。

a. 犬瘟熱病毒。
b. 犬傳染性肝炎。
c. 犬小病毒。
d. 犬副感冒病毒。
e. 犬冠狀病毒。
f. 博得氏支氣管炎菌（犬舍咳）。

其他貓傳染病疫苗免疫：

於輸入前十天至一百八十天內，注射下列之疫苗。

a. 貓泛白血球減少病毒。
b. 貓鼻氣管炎病毒。
c. 貓杯狀病毒。
d. 披衣肺炎菌。

申請三十天隔離檢疫期計畫的犬貓，除具備以上一般基本需求外，更必須符合以下二點條件規定：

1. 於輸入前至少需已注射過二劑狂犬病疫苗，第

一劑注射時寵物不能小於三個月齡，第二劑（或以上）於輸入前九十至一百二十天內注射，最近二劑狂犬病疫苗注射記錄需載明於健康證明書內。

2. 國際畜疫會規定螢光抗體血清中和試驗（OIE-Fluorescent Antibody Serum Neutralization Test, OIE-FAVN test）。於輸入前九十天至十二個月內須實施 OIE-FAVN 血清測試，測試結果，每 ml 血液狂犬病抗體力價達 0.5 I.U. 以上，以證明犬貓對狂犬病疫苗有良好反應，具保護力。測試結果報告內須記載施測動物之晶片號碼、性別、品種、顏色和特徵，以證明其可信度。所有血液樣本測試，均由堪薩斯州立大學，狂犬病血清學實驗室執行，並於寵物輸入夏威夷進行隔離時，會由檢疫站抽血再做一次相同的測試，如果未達標準就必須隔離一百二十天。

(二) 輸入後隔離檢疫管理規定及設施

寵物抵達夏威夷後會先在檀香山國際機場（限定只能由此進入）等候室內作短暫停留，等候每天上下午各一次，由專人押運送到檢疫站隔離，抵達檢疫站時先作一般健康狀態檢查和檢測腸道寄生蟲，然後進入指定籠舍內開始隔離檢疫，通常第一星期獸醫師將會密切監測寵物健康情況，並在確定沒有腸道寄生蟲及接觸傳染性疾病感染情況下，才能將寵物帶離籠舍到洗浴站清潔洗浴。

1. 隔離籠舍

檢疫站犬隻籠舍總共有兩種規格，大型籠舍規格 6× 25× 7 呎，小型籠舍規格 6× 14× 7 呎，籠舍地板以水泥舖設，四周皆由粗鐵網圍隔，籠舍上方與後半部並有石綿板遮蓋，可供遮風擋雨及休憩，前半部較大範圍則供運動與畜主入內陪伴空間，依據犬隻體型大小而分配籠舍；貓隻籠舍則只有一種規則皆為 5× 10 呎大小，內有上下層平台以適合貓喜愛跳躍運動習性。每個籠舍只能隔離檢疫一隻寵物，以免延遲或無法區別判斷健康有問題之動物。犬貓籠舍內可由畜主提供寵物平常使用之床墊、棉被與玩具，但畜主必須負責清潔這些物品，平時籠舍皆須上鎖，畜主探視其寵物時只能在籠舍內陪伴，絕不可將其攜出籠外。

2. 動物醫療照顧和外送動物醫院

畜主於下午時段探視寵物時必須注意檢查其外觀，發現有任何不正常健康問題時可提出申請，請檢疫站獸醫師檢查處理（通常在隔天早上才處治，除非急診），但須收取處理費用，如檢疫站獸醫師評估認為有後送其他獸醫院需要時，即會通知畜主，由畜主運送或由檢疫站負責運送至畜主指定之動物醫院（須收取運送費），通常寵物會停留後送動物醫院一夜，觀察診治後再送回檢疫站繼續隔離檢疫。

3. 心絲蟲和壁蝨預防保護

畜主必須購買心絲蟲預防藥（Intercept or Heartgard）以供防治心絲蟲感染，通常由檢疫站人員於每月之第一天給予隔離寵物服用；至

於壁蝨之防治建議以含有 Amitraz 成分藥頸圈供配載或含 Fipronilt 成分藥粉灑佈犬隻身上，貓隻則沒有壁蝨防治需要。

4. 餵飼、洗浴和探視

檢疫站會統一提供市售成犬、成貓飼料餵飼隔離動物，但也可因犬貓的習慣性及特殊需求（如肥胖、結石體質）而由畜主自己提供飼料，但每天的收費一樣，並未因此而減免。

檢疫站設有寵物之清潔洗浴站，提供熱水與插座，畜主可將犬貓帶離檢疫籠舍至此洗浴，但須於至少一天前以電話提出申請，且一週最多兩次，只限於早上時段使用；亦可於檢疫籠舍內清潔（冷水），則不須申請且沒有次數限制，只要在訪視時都可進行。

探視時間為每週一、五除外的其他下午時段。探視時間內需隨時準備出示身分證明文件與核發的通行證，十八歲以下小孩須由達法定年齡畜主陪同才可進入籠舍內，哪些人可去探視須事先向檢疫站提出聲明登記，除此之外的人一概不准進入，探視時只能在檢疫籠舍內，絕不可攜出籠外。

六、 美國聯邦防杜口蹄疫及牛海綿狀腦炎現況

美國農業部對防止牛海綿狀腦炎的入侵主要採取監測與預防兩大措施。自 1990 年 5 月至 2001 年，在全美各州陸續採取了總共 12,341 個牛腦樣本進行組織病理監測，目前尚未發現有陽性感染病變。為了防

止美國境外感染牛隻進入本土，自 1989 年 7 月起對發生 BSE 的國家，禁止其活反芻動物及其產品輸入；而隨著 BSE 陸續發生，風險逐漸升高，自 1997 年 12 月開始採取更嚴格的檢疫措施，規定凡是歐洲國家的活反芻動物及其產品均禁止輸入，更甚者從 2000 年 12 月開始所有歐洲國家之動物來源肉粉、骨粉、肉骨粉均禁止輸入美國，此舉雖引起歐盟反彈，但美國仍決心維持其國家為 BSE 非疫區的決定；除此更已著手開始評估其他地區的風險，如南美洲國家、中美洲國家及亞洲國家，其中南美洲國家更可能成為其下一步重點防範之地區。另外，美國食品藥物管理局亦規定禁止將哺乳動物來源蛋白質當作飼料餵飼反芻動物，但奶、血液、膠原等來源成分，則不在此限。

從 2000 年開始至今年，世界上許多國家地區陸續發生口蹄疫，連歐洲國家亦難倖免，目前只剩北美洲、中美洲、大洋州及歐洲部份國家尚為清淨區，因此美國農業部更加強因應，嚴密防範可能入侵管道，但於其本土並不使用口蹄疫疫苗，以免執行監測計畫時，發生混淆無法區分。

七、 夏威夷州之檢疫犬計畫現況

為加強我國港埠之檢疫運作，農委會動植物防疫檢疫局自去年度起已開始進行設置檢疫犬之規劃作業，並積極尋求美國及紐西蘭之協助。為瞭解推動檢疫犬計畫所需考慮因素及其推動程序，本次前往夏威夷州研習動植物隔離檢疫實務時，亦順道向該州檢疫犬指導官 Todd Kikuta 請教，並蒙其熱心提供相關說明：

(一) 基本考量

在推動檢疫犬計畫前，應思考為何要使用檢疫犬，及主管機關希望利用檢疫犬達到甚麼目的。值得思考的問題包括：

- 檢疫犬要在何處工作？
- 檢疫犬要採取被動反應訓練，抑或主動反應訓練？
- 檢疫犬將在何種環境下工作？
- 希望利用檢疫犬達到何種目標？
- 計畫開始時希望配置之檢疫犬數量為何？
- 如何遴選檢疫犬作業官(handler)？
- 在計畫推動前應進行何種準備？

(二) 規劃流程與獲取財務支援

一但計畫目標確立後，第二步驟即可大略訂定計畫流程及執行方式，並估算計畫所需經費及確定經費來源。一般而言，推動檢疫犬計畫所需費用均超出管理者的估算，為確保檢疫犬計畫之持續推動，計畫經費應確保能逐年提供。

(三) 硬體設施之建立

在取得檢疫犬前，應先覓妥檢疫犬之住宿地點。檢疫犬為政府所有之工作犬，因此檢疫犬除在港口的工作時間外，其他時刻均留在檢疫犬舍中，而非隨同作業官回到其住家中。

一個理想犬舍地點，應選擇鄰近工作地點、環境清靜、適合訓練進行及氣候合宜之環境設置。

犬舍內應注意狗欄大小及室內室外之活動空間，並兼具通風良好、容易清理等特性，犬舍中並應配置有犬隻檢查、稱重、梳理、洗澡及貯藏室等相關空間。在訓練區中，則應配置訓練場地、器材準備室、貯藏室、犬隻留置室、小教室及辦公室。訓練場地應講求乾淨及燈照充足，所有窗戶則應配置百葉窗或窗簾，隔絕窗外事物，避免犬隻於訓練中分心致影響學習成效。此外，犬舍外亦應設置圍欄，以防外人入侵或犬隻跑出。

(四) 獸醫支援之取得

在設置檢疫犬舍後，必須取得獸醫全天候二十四小時之待命支援，以確保檢疫犬之健康安全。每隻檢疫犬之病歷卡應置於辦公室中，每年定期接受健康檢查及接種疫苗。

(五) 檢疫犬之取得

在硬體設施及醫療支援確定後，下一步要考量的即是檢疫犬的取得問題。有關檢疫犬的取得方式，可來自民眾捐贈或至流浪狗之家挑選，而挑選的狗群數目越多，選到適合犬隻之機率也愈大，惟犬隻之挑選應由專家為之。另一個取得方式，則為向檢疫犬訓練機構購買，其缺點在於供應源不穩，且取得成本過高。

一個成功的檢疫犬計畫，應能維持某固定的檢疫犬數量，並隨時考量增加犬隻之必要性。中程目標應能確保固定數量之檢疫犬供應，並能自行訓練犬隻，甚或自行推動檢疫犬培育計畫。

(六) 聘尋資深指導官及進行人員訓練

下一個重要步驟為聘尋資深指導官，以將檢疫官員訓練為檢疫犬作業官，並培養其中某一作業官為未來的指導官。在此步驟中應與指導官討論以決定第一階段中計畫配置之犬隻數量，及未來計畫擬擴充之檢疫犬數。指導官或許可提供計畫中第一批犬隻。

外聘指導官可協助訂定檢疫犬作業官的徵選方式，及指導制定應徵標準以選出最適的受訓人選。最基本的徵選標準包括具動物訓練經驗、明確的判斷力、教育程度、體能、靈巧度及個性特質等。

(七) 經驗移轉及建立計畫自主能力

在第一批作業官完成訓練後，檢疫犬組將展開其於港口之檢疫作業，並於工作中逐步學習及建立自我的檢疫犬作業經驗，而主管機關亦應定期邀請指導官檢視檢疫犬作業現況，以提供諮詢及協助解決問題。

主管機關隨後可考慮派遣第二、三批檢疫人員參加作業官訓練，以繼續推動檢疫犬配置作業，直至達成規劃目標為止。檢疫犬計畫之最終目標為建立計畫自主能力，屆時除擁有自有的資深指導官，能訓練優良的作業官外，尚應擁有自我的檢疫犬培育計畫，隨時提供優良的檢疫犬隻。

肆、心得與建議

一、美國夏威夷州檢疫制度起源甚早，由 1888 年制定第一個檢疫法規起，迄今已有一百餘年之歷史，歷經多年之演進，夏威夷州之檢疫目標除涵蓋農業生產安全外，亦注重其海島型多元化生態資源之維護，近年來更重視入侵種(invasive species，如該州之福壽螺等)之防疫檢疫問題。鑒於外來疫病蟲害或入侵種非僅影響農、林、漁、牧業之生產安全，對森林、河川、湖泊及野生動物棲地等生態保育上亦可能造成嚴重危害。因此在建構一個具全面性及完整性之防疫檢疫體系時，可思考將入侵種對生態面之影響納入檢疫體系。

二、夏威夷州及聯邦檢疫制度對風險管理之觀念極為注重，基本上先就各項輸入動植物及其產品之風險加以考量並清楚定位，而後再予以管理。因此凡屬風險太高而無法管理者，即將其列入禁止輸入項目；風險較高但尚能管理者(如天敵昆蟲及植物病原菌之引進)，則於高生物安全等級之設施中進行隔離檢疫；至輸入風險較低者，則以港口檢查方式管理；惟部份項目倘經港口檢查尚無法完成規範者，則移送隔離檢疫設施觀察至風險程度極低時，才予以同意放行。這種對風險清楚定位的觀念，值得我國參考。

三、此外在檢疫管理之觀念中，瞭解各輸入途徑(pathway)之風險程度至為重要。意即主管機關必須要先瞭解風險之來源為何，才知道資源應投入何處。在 APHIS-PPQ 中，係以例常執行之 AQIM (Agricultural Quarantine Inspection Monitoring)計畫，來監測及管理各項途徑之風險。而夏威夷州為評估茂伊(Maui)機場

之各項輸入途徑之風險高低，於去年起執行乙項百方之百檢查作業(100% inspection)計畫，即於一年中選定五個檢查時期，每期為期約三至四週，在此期間州農業廳加強派員對所有旅客、行李、空運貨品、郵件包裹等輸入途徑進行逐人逐批逐箱之100%檢查作業，以調查及統計風險來源。在該機場之風險分析中，最大風險途徑來自空運貨櫃(並非一般人想像的旅客夾帶)，計有90%發現之疫病蟲害來自本途徑，因此該州未來得而調派更多人力在空運貨櫃檢查上。

四、 目前全球計有紐西蘭、美國、澳洲、加拿大及美國夏威夷州等四國五地推動檢疫犬計畫，而夏威夷州之檢疫犬計畫始於1989年，迄今已有十二年歷史。該計畫推動之初，投入資源甚少，故規模較小。至1998年時，夏威夷州農業廳邀請紐西蘭專家前往評估該計畫，並依其建議進行數項改善，目前除與紐西蘭合作獲取犬隻來源外，亦已規劃興建全新之檢疫犬訓練中心，預計於明年初將完成啟用。該州於過去十二年計畫中，曾訓練出數隻績優檢疫犬及檢疫作業官數名，惜多位作業官因高薪吸引轉聘至 USDA-APHIS-PPQ 檢疫犬計畫檀香山分隊服務。夏威夷州之檢疫犬計畫於過去十二年間所歷經之成功與失敗經驗，的確值得相關人員深入思考，以作為未來我國推動檢疫犬計畫之借鏡與參考。

五、 夏威夷州農業廳與我國合作淵源深厚，前台灣省政府曾與該廳簽訂雙邊農業合作備忘錄，以進行專家互訪及技術交流。本次研習承蒙該廳熱誠安排與接待，行程中除拜會廳長 Mr. James Nakatani 及副廳長 Ms. Letitia Uyehara 外，尚與植物產業部門及動物產業部門

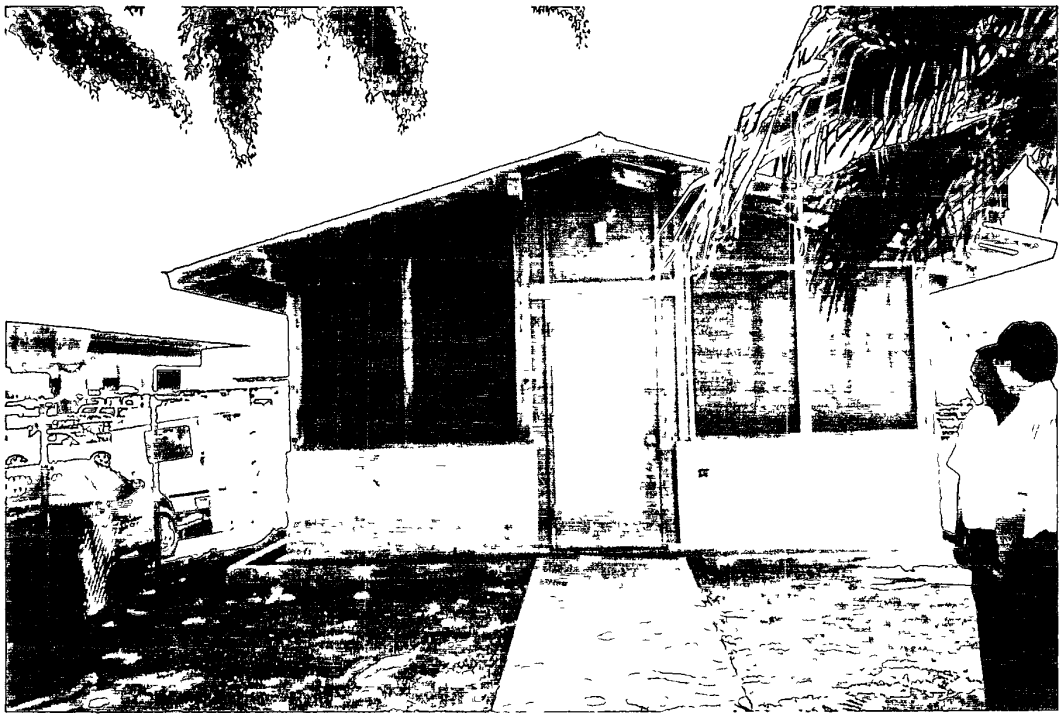
之主管及專家就十餘項動植物檢疫相關議題進行討論交流，其中並承該廳(及協調 PPQ)無私地提供寶貴資料，例如該廳動植物檢疫完整法規、植物病原隔離檢疫設施之作業流程、粉蝨寄生蜂隔離檢疫評估報告、Ivy gourd 天敵隔離檢疫評估報告、APHIS 新任官員訓練課程計畫(NOT，New Officer Training Program)、PPQ 檢疫犬訓練手冊、夏威夷州檢疫犬訓練中心建築藍圖及紐西蘭檢疫犬訓練中心建築藍圖等。鑒於該州在檢疫制度、隔離檢疫設施、犬貓隔離、天敵防治及檢疫犬計畫等方面頗有成就，我方未來可推動與夏威夷農業廳在動植物防疫檢疫領域之技術合作與人員交流。

伍、 誌謝

本次前往美國夏威夷州農業廳研習動植物隔離檢疫實務，承蒙國立屏東科技大學熱帶農業研究所賴博永所長鼎力協助，居間聯繫並協調；另亦蒙夏威夷農業廳 Plant Industry Division 主管 Dr. Lyle Wong 及 Mr. Larry Nakahara 等人悉心安排，研習任務方得順利完成，謹此致上謝忱。

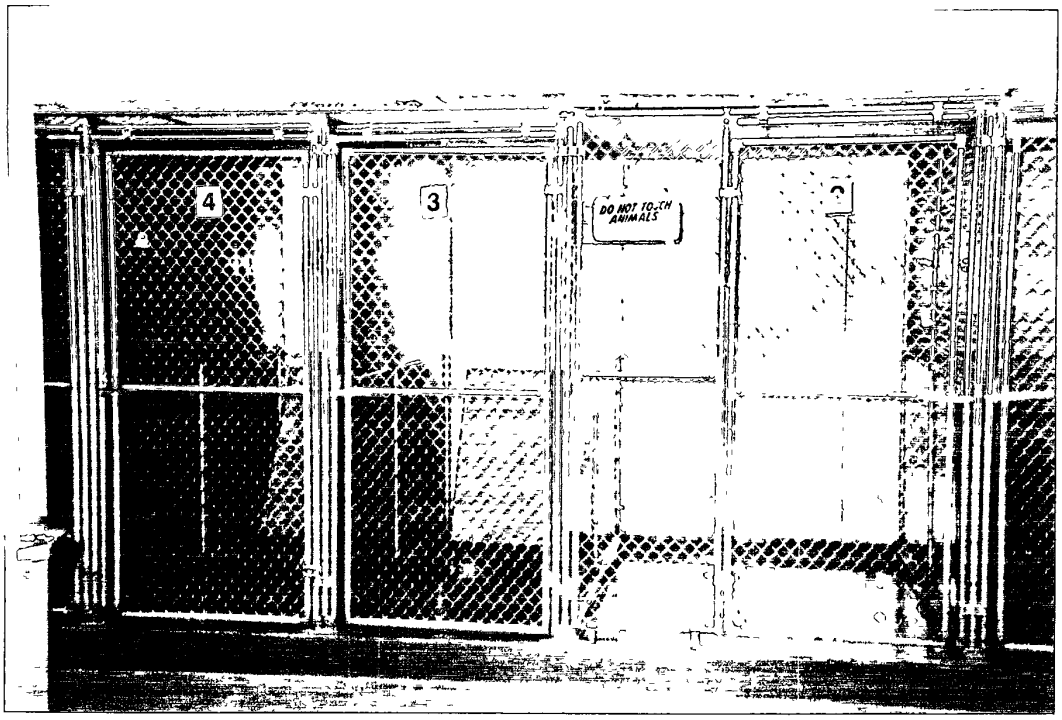
圖一　拜會夏威夷州農業廳廳長 Mr. James Nakatani 及副廳長 Ms. Letitia Uyehara

圖二　與 Plant Quarantine Branch 官員研習夏威夷植物檢疫制度情形

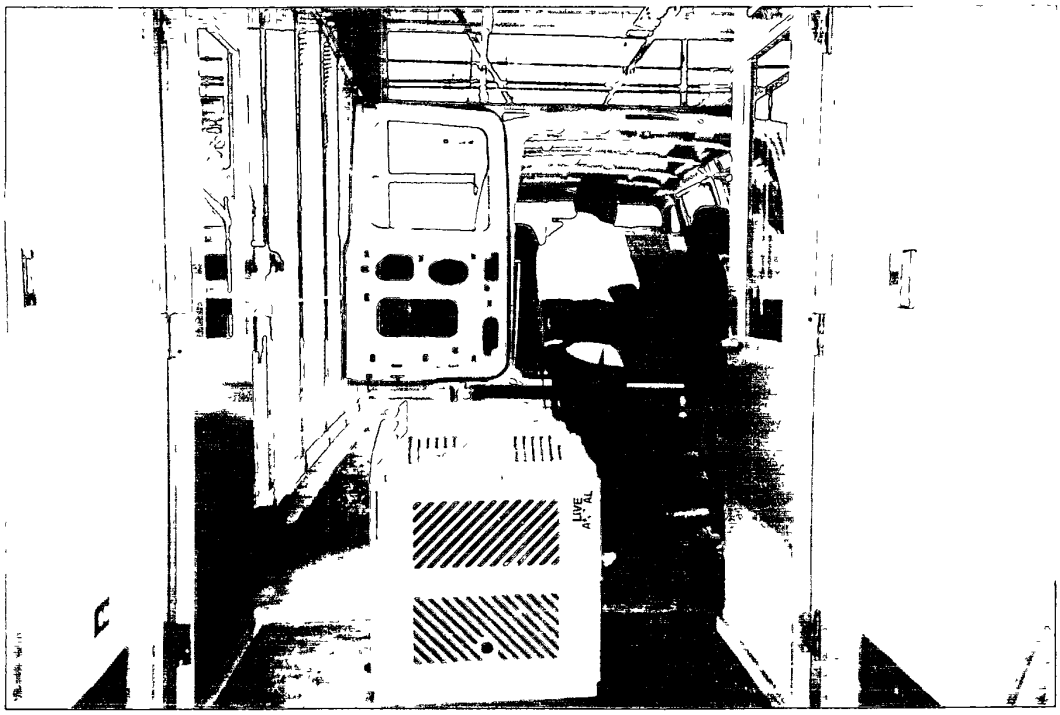


圖三　在夏威夷植物檢疫觀念中，一般商業輸入植物之風險已先經輸入檢疫法規所管理，因此隔離檢疫可於結構簡易但管理嚴格之植物隔離檢疫設施內進行。

圖四　參訪植物病原隔離檢疫設施及討論標準作業流程

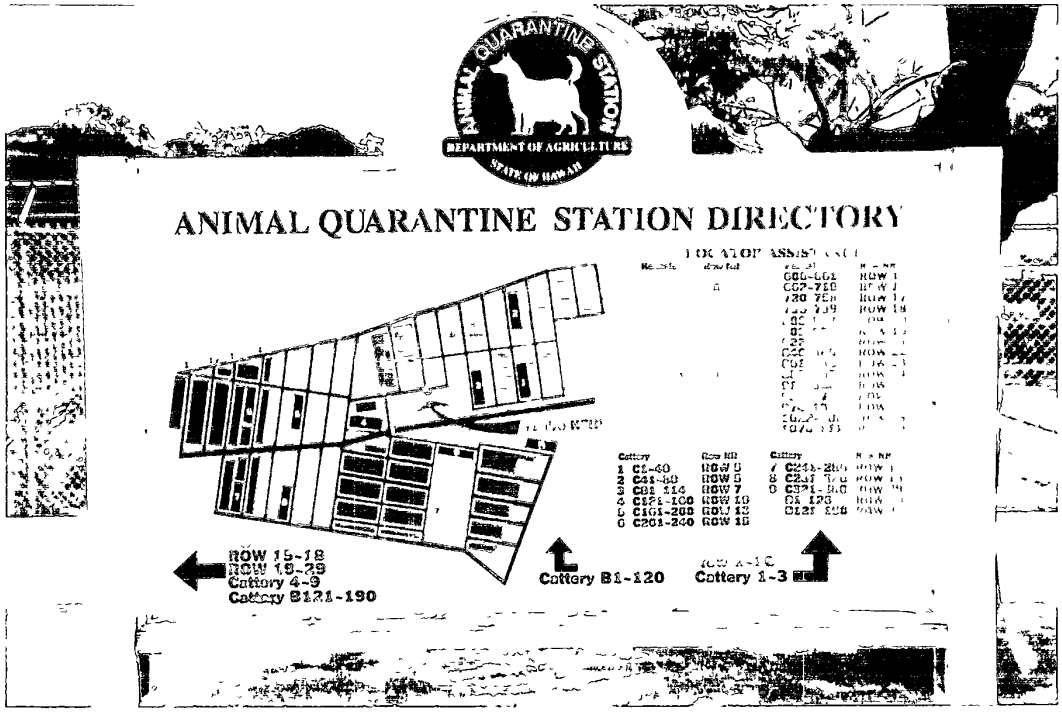


圖五　機場內檢疫犬貓等候停留區設施

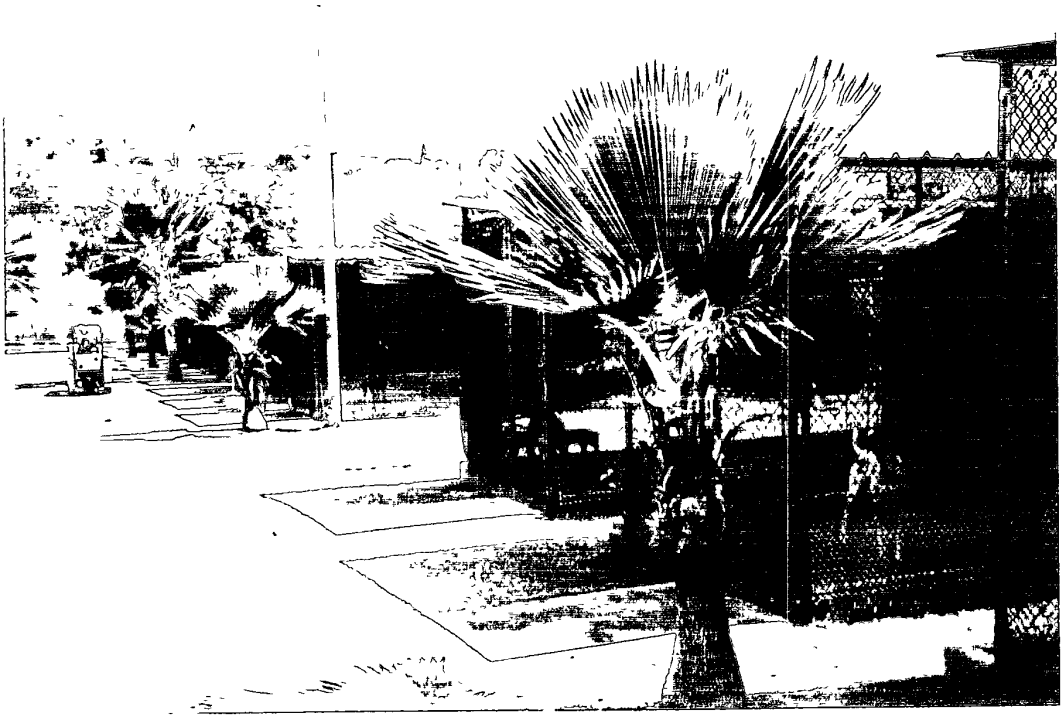


圖六　檢疫犬貓自機場準備運往檢疫站隔離（一天兩次）

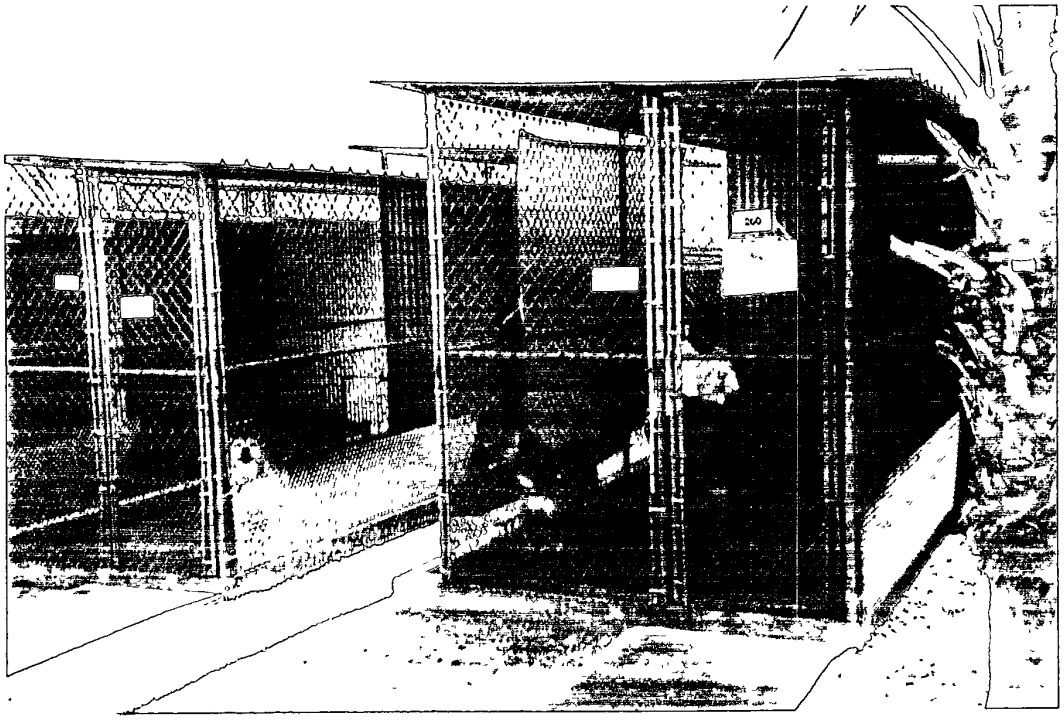
圖七　動物檢疫站左邊為行政管理中心及洽公櫃檯，右邊為販賣部



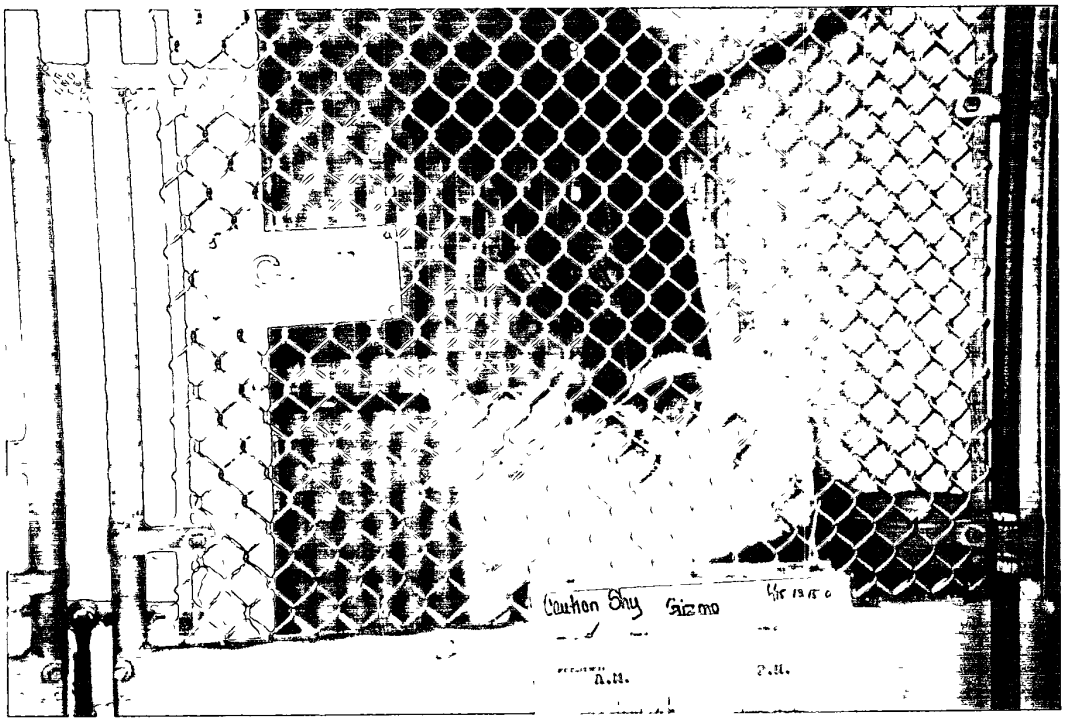
圖八　動物檢疫站佔地寬廣，建有獨立隔離籠舍一千多棟



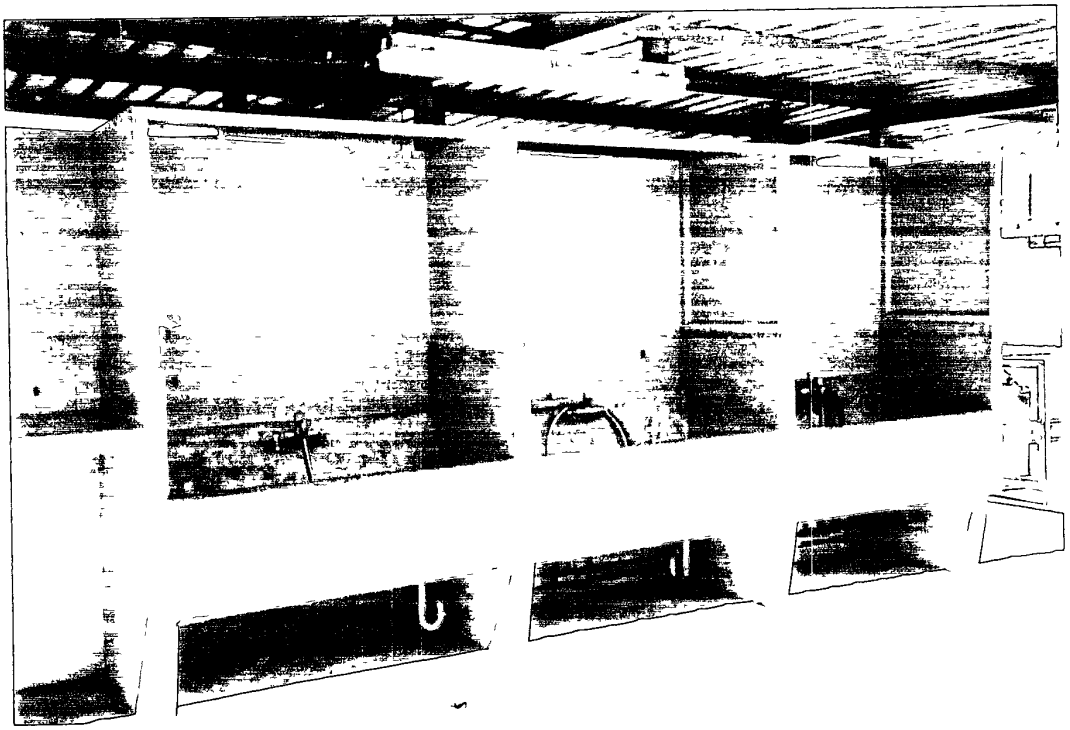
圖九 隔離籠舍由鐵網與石棉板建成，每棟獨立籠舍依規定只能隔離檢疫一隻犬貓



圖十　畜主可進入隔離籠舍內探視陪伴其寵物



圖十一　貓隻隔離籠舍內有上下層木板供其運動休憩



圖十二　檢疫站內附設犬隻清潔澡浴區

附件一

附件一

TERMS OF REFERENCE

prepared by
Sy-wen Leu and Sheng-kuang Wang

July 2, 2001

This terms of reference document has been prepared for carrying out an observation trip to Hawaii with purpose to collect information relating Hawaii's experiences on post-entry quarantine operations as a reference for BAPHIQ to establish a national quarantine center and set up its standard operation procedures of post-entry quarantine management.

I. MISSION:

1.1 In an effort to tighten Taiwan's border quarantine control, the Bureau of Animal and Plant Health Inspection and Quarantine (BAPHIQ) is working on a construction plan to establish its first national quarantine center near C.K.S. International Airport at northern Taiwan. One of the most important roles the center will play is to centralize the post-entry quarantine operations for animals and plants, which are now conducted at small facilities scattered around the island. To attain such purpose, besides reviewing its post-entry quarantine management in many aspects, BAPHIQ also decided to send observation teams overseas to learn experiences from other countries.

1.2 The first observation team was dispatched in November 2000 to visit the United States. During the trip, BAPHIQ experts called on APHIS and visited its subsidiary quarantine facilities in the east coast. In December 2000, the second observation trip was paid to Japan to visit its quarantine authorities and facilities for learning the Japanese experience. Both trip focused on building up general ideas of how these quarantine facilities work and especially observing infrastructure and related designs, i.e. the "hardware" of post-entry quarantine

operations.

1.3 As a supplement, BAPHIQ felt the need to come down to the "software" as well, such as the standard operation procedures (SOP) of post-entry quarantine operations. BAPHIQ then decide to send a third observation team to visit other quarantine location. Several sites had been proposed, in which Hawaii facilities had been a good candidate during early assessment for its long-standing quarantine operations and the achievement in maintaining a rabies-free area. The mission to Hawaii was finally boosted with a strong recommendation by Professor Po-yung Lai, Director of Institute of Tropical Agriculture, National Pingtung University of Science and Technology, and subsequently approved by BAPHIQ authority in April 2001. Besides post-entry quarantine operations, the authority also instructed the team to collect information on Hawaii's quarantine programs for plants and animals, certification programs and natural enemy rearing practices.

1.4 Through the assistance of Professor Lai, the designated team was able to contact Dr. Lyle Wong, Plant Industry Administrator of Hawaii Department of Agriculture (HDOA) to solicit his assistance for arranging the trip, and soon received a positive response. In mid June BAPHIQ submitted its official request to HDOA for receiving the observation team. The observation trip was then set and scheduled to be taken from July 17 to 26 in 2001.

1.5 Prior to departure, another mandate was given to the team. The team was assigned to call HDOA authority on a canine training issue as was raised at the 10th APHIS-BAPHIQ Bilateral Technical Talk in December 2000. During the talk APHIS had showed its willingness of providing possible assistance to train detection dogs for BAPHIQ, but later unable to do so due to a lack of beagle training capacity in the Mainland. BAPHIQ was informed that APHIS was seeking HDOA's help in the matter. The team took note and made it one of its priorities.

II. PROBLEM:

2.1 As paragraph 1.1 revealed, the new quarantine center set its goal in assembling island-wide post-entry quarantine activities. These activities now conducted at different sites according to import items and their purposes of use. On animal side, economic animals such as cattle, pigs, horses, poultry, ostriches, and pet birds receive their post-entry check at two official quarantine stations located respectively at northern and southern Taiwan. The stations have been running for some time, quite small, and both located in urban areas, thus are prone to drawing complaints from neighbors now and then. For import dogs and cats, the post-entry quarantine requirements are met at two university animal hospitals. The hospitals are certified and authorized by BAPHIQ to conduct their 20-day quarantine examinations, and subject to BAPHIQ's routine check.

2.2 On plant side, there is no official post-entry quarantine site for now. Import plant seedlings for commercial interest can undergo their quarantine checkup at isolated sites proposed by importers under a BAPHIQ certification program. For those of academic and research purposes, the plants receive post-entry quarantine in greenhouses or net houses at several universities and institutes certified by the same program. These quarantine sites are subject to routine checks as well. For Taiwan's post-entry quarantine operations as a whole, these activities are conducted at different time and sites thus make it difficult for BAPHIQ to manage them efficiently.

2.3 APHIS's Beagle Brigade program is well known for its efficiency for passenger quarantine check and has received high acclamation throughout the decades. BAPHIQ is aware of that, and finds itself in an urgent need to set up its own beagle team to add up the effort to intercept any undeclared quarantine items in passengers' handcarries. The current regulations prohibit passengers from carrying animals, plants and their products including fresh fruits into Taiwan without declaration. While there are millions of passenger entry per year at several main ports, including CKS International Airport, Koashiung International Airport, Koasahiung seaport, Keelung Seaport,

and Taichung Seaport, thus make it different to effectively enforce the regulations. The beagles seems to be an good extra input. BAPHIQ desires to know how to establish its dog team, and learn every detail about the policies and practices of dog training from competent authorities.

III. BOUNDARIES OF THE OBSERVATION:

3.1 This observation will provide a report to BAPHIQ authority about HDOA's post-entry quarantine programs and standard operation procedures as a reference to set up post-entry quarantine policies and practices for BAPHIQ's quarantine center.

3.2 The report will also cover an overview of Hawaii's quarantine programs followed by closer looks at some of the outstanding characteristics such as quarantine rules and regulations, related certification programs and natural enemy introduction and rearing.

3.3 The team will also collect as much information as possible about how to set up a dog team, and make a status report to BAPHIQ authority about the outcome of the consultation between APHIS and HDOA on the concerned beagle training issue and also the willingness and readiness of HDOA in receiving BAPHIQ's beagles.

3.4 The team will make some suggestion to BAPHIQ authority according to its findings in the trip. However, it will neither examine nor analyze the post-entry quarantine management of BAPHIQ.

IV. SPECIFIC ISSUES TO BE ADDRESSED:

4.1 As the mandates of this trip are quite diverse, it is necessary to categorize these assignments in order of priority. The first priority thus contains two components: post-entry quarantine and beagle training issue. The second category comprise of two components: Hawaii's certification programs and natural

enemy introduction and rearing. The third category also contains two components: an overview of Hawaii's quarantine programs and HDOA's bio-control achievement.

4.2 Post-entry quarantine issue

A checklist is prepared as followed:

(1) To collect and understand Hawaii's post-entry quarantine rules and regulations for animals and plants.

(2) To collect and understand standard operation procedures of Hawaii's post-entry quarantine operations.

(3) To visit animal quarantine station and its facilities, with a special focus on the canine quarantine facilities, designs and operations.

(4) To visit plant quarantine station and its facilities, and pose questions as followed:

- Which Plant items require post-entry quarantine examination.
- How many applications and the workload every year?
- Post-entry quarantine capacity of official facilities.
- Are there certified private facilities for post-entry quarantine? If yes, are there any risks and how to manage them?

4.3 Beagle training issues

(1) To visit canine training facilities, collect information and pose questions as followed:

- Learn about beagle program and its operation in Hawaii.
- What's HDOA's beagle training capacity?
- How to set up a beagle brigade? What's the basic knowledge?
- How many beagles would be needed in Taiwan's case?
- How to establish a canine training facility? Learn about any details available about planning, site selection, construction plan,

designs, costs, maintenance, trainers, rules, regulations, procedures, etc..

- How and where to train the beagle trainer?

(2) To visit HDOA authority for a request of beagle training, and pose questions as followed:

- What's HDOA's willingness to assist BAPHIQ in training beagles?
- If yes, could it be possible to set a timetable for the training project?
- BAPHIQ is planning to set up its beagle team, and would like to solicit HDOA's further assistance in the mission. What shall BAPHIQ do to initiate the cooperation?

4.4 Hawaii's certification programs

(1) To collect information about Hawaii's quarantine certification programs. How many certification programs, and how HDOA runs them?

(2) To visit certification programs, and have a close look.

4.5 Natural enemy introduction and rearing

(1) To collect and understand Hawaii's rules and regulation of natural enemy introduction and rearing.

(2) To visit natural enemy rearing sites and learn about their facilities, designs and operations.

(3) To collect standard operation procedures of rearing insectaries.

4.6 An overview of Hawaii's quarantine operation

(1) To understand Hawaii's quarantine programs as a whole, and collect the rules and regulations.

4.7 HDOA's bio-control achievement

(1) To collect information about HDOA's achievement on bio-

control activities.

4.8 Meanwhile, the team is ready to serve as a messenger and a catalyst between HDOA and BAPHIQ to explore any potential subjects for further bilateral cooperation.

V. DESIRED OUTCOMES:

5.1 A report outlining the team's findings of post-entry quarantine operations and canine training programs, attached with a collection of HDOA's quarantine rules and regulations. (The findings are for use as a reference by BAPHIQ authority to establish its national quarantine center.)

5.2 A status report of BAPHIQ's canine training request regarding the willingness and readiness of HDOA's assistance in the issue.

VI. PERSONS INVOLVED:

6.1 The observation team members will be Specialist Sy-wen Leu and Assistant Specialist Sheng-kuang Wang of BAPHIQ's Planning Department as designated by BAPHIQ authority.

6.2 Dr. Lyle Wong, HDOA's Plant Industry Administrator has been providing any necessary assistance to make the trip as fruitful as possible.

6.3 For BAPHIQ's request for beagle training assistance, the authorities of American Institute in Taiwan and APHIS's Tokyo Office have showed their willingness to facilitate the training project.

VII. PROJECT ADMINISTRATION:

7.1 TIMEFRAMES

The observation trip will be conducted from July 17 to 26 in 2001.

7.2 MEETINGS

- The BAPHIQ team wishes to call on HDOA authority.
- Meeting with Plant Industry Division to discuss on

Hawaii's quarantine programs, plant quarantine regulations, plant post-entry quarantine operations, beagle training and bio-control programs.

- Meeting with Animal Industry Division to discuss on animal quarantine regulations, animal post-entry quarantine operations, and other outstanding issues.

7.3 REPORTING GUILDLINES

The report will be presented to BAPHIQ authority.

7.4 RESOURCES

- BAPHIQ will bear traveling and accommodation cost of the team.
- Dr. Lyle Wong will arrange itinerary for the team and make available HDOA's related resources for as-needed support.

附件二

附件二

Draft Itinerary

Taiwan
Bureau of Animal and Plant Health Inspection and Quarantine

Visit to Hawaii
State and Federal Quarantine Programs

Sywen Leu, Ph.D , Specialist, Planning Dept , BAPHIQ
Sheng-Kuang Wang, DVM, BAPHIQ

July 17 – 25, 2001

July 17 – Tuesday

7.50 a.m.	Arrive, China Airlines Ft 018 Honolulu International Airport (HIA) Larry Nakahara, Manager, Plant Pest Control Branch
	Drive by diversified agriculture in Central Oahu, Wahiawa pineapple & coffee, etc
	Review itinerary of visit.
	Transportation to Hotel Waikiki Ocean Resort Hotel, (808) 922-3861 (808) 922-3773 fax

July 18 – Wednesday

7 30 a m	Pick up at Hotel
8 00 a m.	Meeting with Mr. James J. Nakatani, Chairperson, Board of Agriculture, HDOA, and Ms. Letitia N. Uyehara, Deputy to the Chairperson
8.30 a.m	Overview of Plant and Animal Quarantine Programs in Hawaii – State and Federal Responsibilities. L. Nakahara and staff.
9:30 a.m.	Plant and Animal Programs of Taiwan
	Drs Leu and Wang
10:00 a.m.	Overview of Plant Quarantine regulatory issues – HDOA
	Larry Nakahara and staff

11 30 a.m	Lunch
1.00 p m.	HDOA Animal Quarantine Facility Overview of Animal Industry Programs Animal Quarantine Branch – Cordell Chang, DVM, Manager Livestock Disease Control/Inspection and Compliance Branch – Jason Moniz, DVM, Manager Veterinary Laboratory Branch – Thomas Sawa, DVM, Manager
3 00 p.m.	Status of Foot & Mouth and "Mad Cow" Diseases, Hawaii/U S. Mainland Michael Staton, DVM, Veterinary Medical Officer, USDA, Animal and Plant Health Inspection Service, Veterinary Service, Hawaii.
4:30 p m	Tour – HDOA Canine Training Facility Todd Kikuta, Trainer, HDOA, Plant Quarantine Branch (visit to temporary facility and site of permanent facility, program briefing on canine program, Monday, July 23rd)
5 30 p m	Return to Hotel
7 00 p m	Dinner

July 19 - Thursday

7:00 a m.	Breakfast – Hotel
8.30 a m	State Plant Quarantine Office Briefing: Hawaii Animal and Plant Import Rules Permitting requirements Committee and Board of Agriculture review and approval process. Public Hearing and Listing Post-entry inspection procedures, State and Federal. Larry Nakahara & staff.
11:30 a.m.	Lunch
1:30 p.m.	Visit Honolulu International Airport Plant Quarantine Office.

Tour of State Plant Quarantine activities at the airport (baggage inspections, cargo inspections, etc.) - Dennis Nagatani, PO Airport Supervisor.

4:30 p m. Return to Hotel

July 20 – Friday

7:00 a.m. Breakfast – Hotel
Check out of hotel and pick-up, Lyle Wong

8 00 a m. USDA-APHIS-Plant Protection Quarantine (PPQ), Honolulu International Airport. Federal quarantine programs in Hawaii.

Jim Kosciuk, Director of Operations

Tour of federal airport inspection facilities

12 noon Lunch

1:30 p m. Hawaii Airlines Ft 162, Honolulu to Hilo

Lv 2:22 p m./Ar 3:10 p m.

3:30 p m. Visit HDOA PQ Hilo Station

5:30 p.m Hilo Hawaiian Hotel – Check –in
(808) 935-9361
(808) 961-9642 fax

July 21 – Saturday

7 30 a.m. Breakfast, Hotel.
Hotel Check –out

9:00 a.m. Visit Hawaii Pride X-ray Irradiator
Export of tropical fruit to U.S. mainland markets

John Clark

10:30 Tour of priority pests for containment and control

Miconia (Miconia calvescens) – Hilo area
Fireweed (Senecio madagascariensis) – Hamakua Coast
Gorse (Ulex europaeus) – Saddle Road, Mauna Kea

Tour Hawaii Volcano National Park

2:25 p m.	Airport
	Hawaiian Airlines Ft 249
5 00 p m.	Hotel Check-in
	Waikiki Ocean Resort Hotel (808) 922-3861

July 22 - Sunday

Own Time

July 23 – Monday

7 00 a m	Breakfast - Hotel
8.30 a m	Plant Quarantine Conference Room
	Hawaii and Federal Canine Programs
	Todd Kikuta, Canine Trainer Lester Kaichi, Canine Supervisor
	Training procedures, philosophy, active versus passive detector dogs, manuals, expectations, dog care, kenneling, New Zealand review of Hawaii's canine program, selection and maintaining staff, educational requirements, standardizing procedures, international efforts
11 30 a m.	Lunch
1.00 p m	HDOA Conference Room
	HDOA Biocontrol Program
	Larry Nakahara Ken Teramoto, Biocontrol Section Manager, and staff
	Overall strategy Regulatory and Permit requirements Exploration Host range testing Release and Post-release assessment Tour insect and plant pathology and rearing facilities
4:30 p.m.	Return to Hotel

July 24 - Tuesday

7.00 a.m	Breakfast – Hotel

8.00 a.m.	Hawaii Department of Agriculture, Plant Quarantine Conference Room
	Briefing:
	Kahului Maui Airport Pest Risk Assessment
	Neil Reimer, Ph D , Insect Specialist, HDOA, PQ Carol Okada, Plant Specialist, HDOA, PQ And staff
10 00 a.m.	Open Session, unscheduled topics
11 30 a.m	Lunch
1:30 p.m.	Term of Reference report
	Complete notes Photo copying, rules, regulations, other documents Clarify issues Follow-up actions
4:30 p.m	Return to Hotel
7:00 p m	Closing Dinner hosted by Mr. James Nakatani

July 25 – Wednesday

7·30 a.m	Hotel Check – out
	Airport·China Airlines 9 40 a.m departure

LW· Taiwan Quarantine Visit Drs Leu and Wang doc
7/17/01

附件三

附件三

An Introduction to Quarantine Programs in Taiwan (Draft)

By Sy-wen Leu

Outline

Context

1. Quarantine and its importance in Taiwan

   1.1 Agricultural trade in Taiwan

Taiwan is a subtropical island with a land area of around 36,000 square kilometers. The island is characterized by warm temperature and heavy rainfall, thus provide a good condition for agricultural production. Beginning in 1953, the average value

of agricultural production increased 7.3 %, with export increasing at a rate of 9.3%. The main products in Taiwan include hogs, rice, poultry, shrimp, eels, squid, tuna, granulated sugar, and bananas. While tracing back to the 1960s and 1970s crops including asparagus, pineapple, mushroom were also intensively planted for export purposes.

But beginning in 1970, agricultural exports fell behind agricultural exports due to several restraints such as small farmland size, lack of labors, and high production costs. As a consequence, foreign agriculture products began their access into Taiwan market and hence the quarantine administration has been getting more and more important.

1.2 Important of quarantine

Taiwan is crowded. To support 23 millions people in such a small island, agricultural activities have to be conducted intensively in every sector. In Taiwan, not only a farmland can be used for 2 to 3 harvests per year depending on crops, but its livestock production run in the same way. This intensive and all-year-around way of agricultural production, together with a warm, humid climate and cross infections or infestations between diversified crops, lend Taiwan's agricultural industries to the threats of pests and diseases, making pest- and disease-controls tough jobs. In the sense, the first step of quarantine control becomes very important, for it would help in avoiding or reducing introduction of foreign pests or diseases. If not, the situation could be totally different as a single introduction of pests are prone to subsequent establishment and spread, and could easily lead to a big economic loss in case of an important quarantine pest.

We have had learn some lessons during last three decades. Some examples are briefed as follows：

(1) Papaya ring spot virus

The disease was first found in 1975, and now has spread to every part of the island. The plant protection authorities have been fighting hard against PRSV ever since. Though some disease-resistant cultivars and IPM programs had been developed, most of commercial papayas are now grown under net protection. The estimated annual economic loss is around 450 millions N.T. (ca. 15 millions U.S.D.)

(2) Banana Fusarium wilt (*Fusarium oxysporum* f.sp. cubense)

The severe fungal disease was first found in 1976. Before its introduction, banana was one of the most important agricultural exports to Japan. The disease destroyed most of Taiwan's banana access to Japan since then, and now still causing severe damages for about 500 hectares banana fields every year, resulting an annual loss of 200 millions N.T..

(3) Apple snail (*Pomacea canaliculata* Lamarck)

Apple snails were illegally smuggled by some farmer for aquaculture purpose in 1979, but later were abandoned for the bad meat textures and thrown off to irrigation ditches. Beginning in 1982, the snails were reported to be found in rice paddy and water bamboo fields. It is estimated a loss of 130 millions N.T. every year, with infested area about 10,500 hectares.

(4) Pine wilt disease (pinewood nematode)

Pine wilt disease is caused by pinewood nematode. Starting in 1985, some pine trees in northern Taiwan forest were found brown and dead, later was identified to be infected by pinewood nematodes with cerambycid beetles as media. The disease damages 4000 hectares of forest annually, causing an economic loss of 570 millions N.T. per year.

(5) American serpentine leafminer (*Liriomyza trifolii* Burgess)

American serpentine leafminers were first found in 1988. As its polyphagous nature, the pest can feed on a broad spectrum of vegetables and floral crops, making it hard to control. The annual infested area in Taiwan is about 35,000 hectares, causing a damage around 40 million N.T..

(6) Rice water weevil (*Lissorhoptrus oryxophilus* Kuschel)

This pest was introduced in 1990, and now spread around the island with an infested paddy area of 13,000 hectares, causing a damage of some 130 millions N.T. per year.

(7) Foot and mouth disease (FMD)

After 40 years of FMD-free days, the first recent foot and mouth disease case was detected on a pig farm in Taiwan on March 19, 1997 and emergency measures were immediately undertaken. However, the measures were not effective enough to contain the disease. Within a month, more FMD cases were reported elsewhere and finally the disease spread throughout the island. 3.8 millions heads were slaughtered, and the direct economic loss for the incidence was 10.6 billions N.T., not to mention the loss of Taiwan's share in Japanese pork market, which equivalents to a loss of 1.6 billion U.S.D. every year. To fight against FMD, government has now allocate around 200 millions N.T. per year for an eradication project against FMD and classical swine fever. The project is alright but seems to have to continue for some time before regaining the FMD-free status. It is believed that the FMD virus particle was brought in by smuggled animal products from Mainland China.

2. Organization of BAPHIQ and its functions

2.1 The establishment of BAPHIQ

The Bureau of Animal and Plant Health Inspection and Quarantine (BAPHIQ) under Council of Agriculture (COA), equivalent to APHIS under USDA, was established on August 1, 1998. The agency takes charge of animal and plant disease and pest control, health inspection and quarantine control, veterinary drug administration, and meat hygiene and inspection in national level.

As quarantine is a trade-related issues, the administration of animal and plant quarantine controls were conducted by the Bureau of Commodity Inspections under the Ministry of Economic Affairs (MOEA) before BAPHIQ's establishment. In the meanwhile, plant and animal disease control programs had been administered by COA as disease control is an agriculture issue. As it took two agencies to coordinate their effort in fighting against invasions of exotic diseases and pests, they had to work clossly. But in some cases, the double-track control system did not perform well and then the government decided to do something. As an effort to integrate and streamline quarantine and inspection operations, MOEA agreed to hand over its quarantine administration to COA, and hence BAPHIQ was established.

2.2 Organization & functions

BAPHIQ is headed by a Director-General, and assisted by two Deputy Director-Generals and one Secretary-General. The administration divides into six Departments and the supporting units. Main functions of the Departments are listed briefly as follows:

(1) Plant Quarantine Department

A. Draft, revise and promulgate quarantine regulations for plants and plant products.

B. Conduct inspection and quarantine, and implement related measures for the import and export of plants or

plant products.

C. Carry out research, development and introduction of plant quarantine technology for the promotion of quarantine efficiency.

(2) Plant Protection Department

A. Conduct plant disease and pest prevention and eradication programs, and promote coordinated and emergency management of important diseases and pests.

B. Strengthen the monitoring, warning and notification system for plant diseases and pests. Establish pest risk analysis and loss evaluation system.

C. Strengthen researches on plant disease and pest identification, diagnosis and control methods, and develop technologies for integrated pest management.

(3) Animal Quarantine Department

A. Draft, revise and promulgate the quarantine regulations of animals or animal products.

B. Conduct inspection and quarantine, and implement related measures for the import and export of animals and animal products.

C. Execute post-entry quarantine for imported animals (such as cattle, sheep, goats, pigs, dogs, cats, gooses, deer, chickens, and ducks, etc.).

(4) Animal Health Inspection Department

A. Prevent and control diseases of livestock, poultry, wildlife, and aquatic animals, and provide guidance for animal farms on disease prevention.

B. Strengthen the investigation, monitoring and warning systems for infectious animal diseases, and prevent the

introduction of contagious animal diseases from abroad.

C. Implement the "Classic Swine Fever and Foot and Mouth Disease Eradication Program", and supervise local governments to conduct animal disease prevention work.

(5) Meat Inspection Department

A. Approve for registration of meat and poultry establishments fulfilling hygienic and technical requirements.

B. Supervise sanitary management in meat and poultry establishments.

C. Establish and improve meat inspection techniques, standard procedures and methodology.

(6) Planning Department

A. Coordinate planning on the development of policies and programs for animal and plant disease and pest control and quarantine.

B. Develop fast and accurate diagnostic technology for quarantine diseases and pests.

C. Promote and coordinate international cooperation in information exchanges and technology development relating to quarantine and disease control issues.

In addition to the Departments and supporting units, there are also four Branch Offices, located at Keelung, Hsinchu, Taichung and Kaohsiung respectively, with a total of thirteen inspection stations under jurisdiction. The Offices and their stations follow headquarter's instructions and conduct inspection and quarantine for import and export of plants, animals and their products transported by seafreight, airfreight, passengers' declarations, postal parcel check at international airports and harbors; supervision of meat inspection; post-entry quarantine; collection

and report of local animal and plant diseases and pests; support of local agricultural authorities in animal and plant disease and pest monitoring and control programs.

BAPHIQ has its staff totalled 371 for now, with an annual budget around 1.8 billions N.T..

3. Quarantine administration

3.1 Departments in charge

(1) Plant Quarantine Department forges plant quarantine policies; drafts, revises and promulgates plant quarantine laws and regulations; plans, proposes and coordinates related programs and projects; and supervises plant quarantine operations.

(2) Animal Quarantine Department conducts animal quarantine administration in the same vein.

3.2 Enforcement of quarantine regulations

Four Branch Offices and their 13 inspection stations enforce plant and animal quarantine laws and conduct inspections and quarantines for exported and imported items.

(1) Keelung Branch Office conducts quarantine activities of inspection and quarantine at Keelung Harbors for imported and exported items by seafreight, passengers, postal parcels; and executes animal post-entry quarantine at Hsichih inspection station.

(2) Hsinchu Branch Office conducts quarantine activities of inspection and quarantine at CKS International Airports for imported and exported items.

(3) Taichung Branch Office conducts inspection and quarantine at Taichung Harbor; and takes charge of development of quarantine treatment technology for exported fresh fruits and flowers.

(4) Kaohsiung Branch Office conducts inspection and quarantine at Kaohsiung Harbor and Kaohsiung inspection station; and executes animal post-entry quarantine at Kaohsiung inspection station.

3.3 Quarantine consultative committees

In order to assist BAPHIQ in formulating administrative policies, a plant protection and quarantine consultative committee was established in 1998.

The committee is consisted of 24 to 28 members appointed by BAPHIQ Director-General to represent agencies and expertise of BAPHIQ, local government authorities, and experts and scholars. The term for each of the committee members is two years, which may be extended upon reappointment.

The functions of the committee are defined as follows:

(1) Advise on matter relating to the establishment or revision of the plant protection and quarantine laws and rules;

(2) Advise on matter relating to the plant protection and quarantine technology and measures;

(3) Review matter relating to the handling of major issues on plant protection and the designation or cancellation of the designated pest-infected or -infested areas;

(4) Advise on matter relating to the risk analyses on designated plant diseases and pests;

(5) Advise on matter relating to the transparency, notification and dispute(s) of the plant quarantine;

(6) Advise on matter relating to the international cooperation and technological exchanges in plant protection and quarantine.

The Consultative Committee serves as a vital reference for BAPHIQ's decision-making on plant quarantine issues. It deals with laws, technologies, PRA, designation of pest-free areas and reviews on quarantine permits for applicant countries.

There is no telling for its importance.

For animal part, an animal quarantine consultative committee runs in a similar way.

3.4 Quarantine consultation and information exchange

In dealing with quarantine issues, it always takes more than two countries to get involved. That's why BAPHIQ stays keen on international cooperation including establishing bilateral consultation mechanisms to discuss quarantine issues with trading partners and acquiring information from relevant international organization as reference for setting its quarantine standards.

To solve quarantine disputes and promote cooperation, BAPHIQ has established annual bilateral technical talks with several countries such as the United States, Canada, Australia, New Zealand, Netherlands, Japan, Philippines, Chile, etc.. Through the talks, matters covering import and export quarantine issues, SPS measures adoption, certification, trade concerns or disputes, transparency requirements, and other related matters are properly addressed. In addition, technical cooperation issues such as canine training program and disease control technologies are raised in the talks.

Regarding to its participation of international organizations, Taiwan has been an OIE (Organization Internationale de Epizooties) member for several decades, allowing BAPHIQ free access to ample animal quarantine database. As for plant quarantine information, it is another story. Taiwan has not attained an IPPC (International Plant Protection Convention) membership, making BAPHIQ some difficulty in acquiring needed information. Even so, BAPHIQ keeps looking for more resources from other organizations including WTO and APEC to collect useful sanitary and phytosanitary information, which then serves as an input for BAPHIQ in formulating its quarantine policies and regulations.

4. Quarantine programs in Taiwan

As quarantine operations are indispensable for agricultural trades, all countries have their own quarantine programs. BAPHIQ administer plant and animal quarantine programs under two basic laws, the " Law for Plant Quarantine and Disease Control" and the "Statute for Control of Animal Contagious Diseases". These two laws were revised and promulgated in 1996. More than fifty of subsidiary enforcement rules, measures, guidelines, and explanation letters were revised and adopted accordingly. They serve as legal basis for Taiwan's quarantine programs.

4.1 Import inspection and quarantine

4.1.1 Seafreight & Airfreight

(1) Rules and regulations

Importation of plant and their products is mainly regulated by the "Quarantine requirements for entries of plants and their products into R.O.C. (Taiwan)".

The requirements cover two parts. Part A is a banning list of plants and their parts from certain countries that are infected or infested by Category-A quarantine pests. Category-A pests are composed of 48 quarantine pests and diseases, covering viruses, viroids, phytoplasmas, bacteria, fungi, nematodes, weevils and fruit flies, which pose severe threats to Taiwan's agricultural production. An example for referring to Part A can be carrots (plant parts) from Philippine (an infected area) are not allowed to import into Taiwan for burrowing nematode (a Category-A disease) infections.

In contrast to Part A, Part B allowed conditional importation of plants and their parts from certain countries that are infected for infested by Category-B quarantine pests. Category-B pests contain 25 less-

threatening quarantine pests and disease, including some virus, bacteria, nematode, thrips, weevils, fruit flies, and moths. An example for referring to Part B can be Cherries (plant parts) from Argentina (an infested area) are allowed to export to Taiwan if there's a codling moth-free mark on the certificate (first condition) or under circumstance that the cargo had been properly fumigated (second condition).

There are always exceptions to rules. For instance, Mid fruitfly (*Ceratitis capitata* Wiedemann) is a Category-A pest. However, fresh fruits from the pest-infested Netherlands, Chile or Argentina are still allowed to import into Taiwan once the cargo meet a preclearance quarantine requirements. Another example is a conditional permission for importing lily, gladiolus and dahlia corms from Netherlands if the cargo met extra requirements. The reason for these exceptions is that the exporting countries had provided sound evidences to convince Taiwan these conditional permits pose little risk.

For plant quarantine items that fall outside of Part A and B, no restriction is posed but a phytosanitary certificate is still needed for quarantine clearance.

Importation of animal and their products is regulated by the "Quarantine requirements for entries of animals and their products into R.O.C. (Taiwan)".

Taiwan's main animal quarantine diseases cover foot and mouth disease, rinderpest, pleuropneumonia, African swine fever, glanders, highly pathogenic avian influenza, Newcastle disease, rabies and bovine spongiform encephalopathy. Animals and their products can only imported from the disease-free countries declared by BAPHIQ. If a country outside the list intends to export

certain animal products, it should apply for a disease-free status by "The procedure to apply for recognition as a disease-free area". Applicant countries shall provided necessary documentations to be reviewed by BAPHIQ. If certain requirements are met, a disease-free status is then granted. However, the status is vulnerable to change once a breakout is reported by OIE or other resources.

(2) Procedures

A phytosanitary certificate certifying the consignment meets quarantine requirements will be needed for quarantine clearance. In cases of rare quarantine items, or imports of prohibited items for academic and research purposes, an application to BAPHIQ for a quarantine import permit illustrating quarantine requirements for the cargo is needed for each consignment prior to shipping.

(3) Status

According to statistics, Taiwan's annual imports for plants and their products are around 50,000 lots, including fruits and vegetables (30,500 lots), cereals and seeds (9000 lots), cut flowers and seedlings (5000 lots) and miscellaneous items (5,500 lots). Among the imports, some 120 lots were cleared after receiving proper quarantine treatment. An average 110 lots were rejected for reasons including importing from infected areas, articles attached with soils, transits through infected areas without properly sealed, ineffective cooling treatments, forged certificates, and pest interceptions, etc..

For animals and their products, the imports are around 20,000 lots per year, covering meats and offal

(11,000 lots), hides and feathers (4,000 lots), live animals (1,600 lots), animal feeds (600 lots) and miscellaneous items (2,800 lots).

4.1.2 Passengers

(1) Rules and regulations

Plant, animal and their products declared by inward passengers should meet the same plants or animal quarantine requirements as revealed in paragraph 4.1.1.. The passengers also have to make their quarantine declaration following to the "Operation points for declaration of quarantine items brought in by passengers or postal parcels".

Quantity limitation under the Operation points is one pet, a pair of pet birds, animal products less than 5 kg, plant products less than 10 kg, or seeds and corms less than 1 kg. In addition, no fresh fruits are allowed to be brought in by passengers since October 1998.

(2) Procedures

Passengers should make their declaration to quarantine counters at harbors and airports.

(3) Status

BAPHIQ received about 105,000 inward passenger declarations in 1999, including 3500 declaration for animal part and 101,500 plant declarations. Among them, 3,400 animal declarations are rejected and 4,200 plant declarations rejected. The high rejection rate for animal and their products urges a further publicization of animal quarantine requirements.

4.1.3 Postal parcels

(1) Rules and regulations

Quarantine operations for postal parcels are regulated under the same program as for passenger declaration.

(2) Procedures

BAPHIQ staff work with officials of Postal Administration and Custom Directorate-General to conduct quarantine inspection for parcels.

(3) Status

Contents of inward postal parcels are mainly meat products, sausages, feathers, seedlings, orchids, fruits and seeds originated from Southeast Asia, the United States, Netherlands, Japan and Hongkong. In 1999, near 2000 lots of postal parcels went under quarantine inspection. Some 900 lots were rejected for being unable to meet import quarantine requirements.

4.2 Post-entry quarantine programs

(1) Rules and regulations

According to "Quarantine requirements for entries of plants and their products entries into R.O.C. (Taiwan)", following plant seedlings require post-entry quarantine examination:

A. Seedlings of sugarcanes, tea plants, pineapples, citrus spp. and banana plants requires post-entry quarantine for at least two years.

B. Seedlings of *Carica* spp, longan, *Fragaria* spp., litchi, *Malus* spp, Mango, *Morus* spp., *Passiflora* spp,, *Prunus* spp., guava, *Pyrus* spp. *Rosa* spp, and *Vitis* spp. require post-entry quarantines for at least one year.

Post-entry plant quarantines should be conducted at BAPHIQ designated sites or any isolated sites proposed by

importers and certified by BAPHIQ in meeting the following two criteria: (1) no plants of the same families or genus shall be grew within 100 meters around the site (greenhouses or net houses excluded); (2) the site should be furnished with pest control equipments and attended by designated experience technicians.

Live animals such as cattle, goats, pigs, dogs, cats, horses, deer, chickens, ducks, etc., are subject to animal post-entry quarantine inspection. Various regulations were established to ensure better post-entry quarantine operations. They include procedures of animal-escorting, operation of animal post-entry quarantine station, reminders during post-entry quarantine period, and three operations points for carrying out post-entry quarantine requirements of canines, poultries and pig breeders respectively.

Most animal post-entry quarantine operations are conducted at two of BAPHIQ's inspection stations. For canines' post-entry program, it is conducted at two university animal hospitals certified by BAPHIQ and subject to routine inspection. For one-day-old chicken or ducklings, the operations could be conducted at BAPHIQ designated site or other sites proposed by importers and certified by BAPHIQ.

The post-entry quarantine period is one to three weeks depends on animals, and 21 days for dogs and cats.

(2) Procedures

A Plant importer should propose an isolated site to be certified by BAPHIQ for post-entry quarantine when they apply for a quarantine import permit. The import permit would be issued only when the site is ratified by BAPHIQ.

For importing live animals, the application procedures

are a bit easier, as most of the imports are subject to post-entry quarantine at designated sites.

(3) Status

In 1999, 20 lots of plants received post-entry quarantine. They include 1322 seedlings of cherries, plums and peaches, 4 kilograms of peach scions and two species of whitefly parasitic wasps from Hawaii.

In the same year, animals receiving post-entry quarantines are 11 lots (75 heads) of large animal (horse); 6 lots (710 heads) of medium-size animals (pig and goat); 75 lots (449,711) of poultries (chicken, ducks and turkeys); 26 lots (1,316) of wild animals (including ostriches and wild birds); and some 500 canines.

4.3 Export inspection and quarantine

BAPHIQ conducts export inspection and quarantine programs to assist Taiwan agricultural exporter to meet quarantine requirements of importing countries. Phytosanitary certificates or health certificates are issued after on-site inspections to ensure that cargos are free from pests and diseases and meets the importing countries' requirements as well as BAPHIQ's requirements. Some live animals requiring pre-shipping quarantine are isolated and examined to meet demands of importing countries. The quarantine periods range from 1 to 15 days depending on requirements of importing countries for different animals.

In addition, BAPHIQ also engages itself in developing quarantine treatment technologies and consulting with importing countries for market access issues. Some achievement has been made in the past few years, such as fresh fruits of Litchi, Ponkan, Mango, Grape, Wendan pomelo and white pomelo are now allowed to be exported to Japan, Korea or the United States after proper cold treatments.

In 1999, some 18,000 lots of plants and their products received export quarantine inspections. Main items are 7,000 lots of plant seedlings, 3,500 lots of vegetables and fruits, and 4,000 lots of seeds and cereals. For exports of animals and their products, near 17,000 lots received export quarantine inspections, with a major breakdown of 4,500 lots for feathers and hides, 4000 lots of meats and offal, and 1900 lots of live animals.

For quarantine clearance at the ports, the passengers should also declare for quarantine examination. A quarantine tag shall be attached by BAPHIQ officials should the item meet both the quarantine requirements of the importing country and that of Taiwan's. In case of quarantine tags not accepted by some countries, a phytosanitary certificate would instead be issued.

For outward-bound quarantine items, a total of about 23,000 quarantine tags and certificates were issued in 1999, with a breakdown of 14,000 animal declaration and 9,000 plant declarations.

4.4 Pre-clearance inspection

As an effort to reduce import risk, BAPHIQ has established several pre-clearance inspection programs, or adopted foreign certification programs, with a couple of exporting countries. Officials have been dispatched to foreign countries to carry out on-site inspection, certification or pre-clearance inspection for imports to Taiwan. Exporting countries in the programs are Netherlands, France, South Africa, Chile, Argentina, New Zealand, and Japan, etc. as relating to products such as sweet peppers, apples, oranges and pear scions. For exportation of beef and pork, countries like Canada, the United States, Australia and Argentina also invite BAPHIQ staff every year to

visit packer establishments and export quarantine operations to ensure safe supplies prior to shipments.

5 Future perspective

Starting from beginning, BAPHIQ has set its goal in establishing a sound animal and plant and quarantine system to ensure the safety of agricultural production, the diversities of Taiwan's ecosystem, and lives and health of human, animals and plants within the boundary. After a 3-year effort, BAPHIQ has established and revised its legal framework, recruit more expertise and successfully running its quarantine and inspection routines.

In the future, there are still things to be taken care of. One of them should be a much more concern on agriculture contrabands from Mainland China. Smuggled goods from Mainland China have posed the greatest threat to BAPHIQ's quarantine endeavors. As the risk has not been fully covered by its quarantine programs, BAPHIQ should keep further working on interagency coordination to curb the illegal pathway. Another one is about the risks of exotic pests and diseases brought in by undeclared items in passengers' luggage. In 2000, there are more than 10 millions entries of passengers at five ports, while among them only about 1% passengers declare for quarantine examination. It is thus rational to deduce that some undeclared contrabands contaminated with pests or diseases might be brought in and ready to spread in any minute. These challenges remain to be properly addressed in the future, and they should be done as quickly as possible.

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CHAPTER 150A
PLANT AND NON-DOMESTIC ANIMAL QUARANTINE

Cross References

Quarantine of domestic animals, see chapter 142, part I

Attorney General Opinions

Department of agriculture has responsibility to keep State free of imported agricultural pests, and may receive gifts to assist in preventing entry of brown tree snakes into State Att Gen Op 92-04

PART I. GENERAL PROVISIONS

§150A-1 Short title. This chapter may be cited as the "Hawaii Plant Quarantine Law " [L 1973, c 69, pt of §1]

§150A-2 Definitions. As used in this chapter the term

"Algae" means any plant containing chlorophyll, which lacks true roots, stems, and leaves, and typically inhabits moist habitats, except those algae on or in humans or animals in Hawaii and those in or on processed foods, beverages, or pharmaceuticals

"Animal" means any invertebrate or vertebrate species of the animal kingdom including but not limited to mammal, bird, fish, reptile, mollusk, crustacean, insect, mite, and nematode, other than common domestic animal such as dog and cat.

"Bacteria" means any prokaryotic or archaeobacterial organism, except those bacteria on or in humans or animals in Hawaii, and those in or on processed foods, beverages, or pharmaceuticals

"Board" means the board of agriculture

"Chairperson" means the chairperson of the board of agriculture, or the chairperson's duly authorized agents

"Department" means the department of agriculture

"Fungus" means all nonchlorophyll-bearing thallophytes, except those fungi on or in humans or animals in Hawaii, and those on or in processed foods, beverages, or pharmaceuticals

"Import" means shipment to the State from any point outside of the State.

"Insect" means an invertebrate animal belonging to the class Insecta, including beetle, bug, fly, and other arthropods, such as spider, mite, tick, centipede, and wood louse

"Inspect" means to examine material to ascertain the presence or absence of quarantine pests and to otherwise determine compliance with the provisions of this chapter or any rule adopted under this chapter.

"Inspector" means any employee or official of the department authorized by the board to administer and enforce the provisions of this law

"Label" means the written, printed, or graphic matter upon the container of any article as pertaining to plant quarantine laws and regulations.

"Microbial product" means any product manufactured with known cultures of microorganisms for the purpose of bioremediation or bioaugmentation, including products such as microbial pesticides.

"Microorganism" means any unicellular microscopic organism including but not limited to algae, bacteria, fungi, protozoa, and viruses

"Passed" means the clearance status for entry given an article for import after inspection or quarantine requirements have been met

"Pest" means any animal, insect, disease agent or other organism in any stage of development that is detrimental or potentially harmful to agriculture, or horticulture, or animal or public health, or natural resources including native biota or has an adverse effect on the environment as determined by the board

"Protozoa" means any nonphotosynthetic eukaryotic organisms, either unicellular or composed of a group of more or less identical cells, generally motile by means of appendages or movements of the cell itself at some or all stages of their life cycle, except those protozoa on or in humans or animals in Hawaii, and those in or on processed foods, beverages, or pharmaceuticals

"Soil" means that part of the upper layer of earth in which plants can grow, this material may or may not contain organic matter and includes such planting media as deteriorated peat, except clean coral, sand, pottery and industrial clay, volcanic cinders and other similar soil-free material.

"Unlisted microorganism" means any microorganism not on the lists of nonrestricted or restricted microorganisms or on the list of select human pathogen microorganisms.

"Vehicle" means any automobile, truck, tractor and similar equipment.

"Virus" means any of a class of noncellular submicroscopic obligate parasite, chiefly nucleoprotein in composition but often reducible to crystalline form, except those viruses on or in humans, or animals in Hawaii, and

those on or in processed foods, beverages, or pharmaceuticals [L 1973, c 69, pt of §1, gen ch 1985, am L 1990, c 243, §1, am L 1991, c 104, §1, gen ch 1993, am L 1995, c 193, §1, am L 1996, c 153, §2, am L 1997, c 63, §1, am L 1999, c 177, §2, am L 2000, c 211, §2]

§150A-3 Delegation of duties. All authority vested in the board or chairperson by virtue of this chapter may with like force and effect be exercised by such employees of the department as the board or chairperson may from time to time designate for the purpose [L 1973, c 69, pt of §1, gen ch 1993]

§150A-4 Effect on department of land and natural resources and the department of health. Nothing in this chapter shall be construed to amend or alter the functions, duties, and powers of the department of land and natural resources and the department of health relative to chapters 171, 183D, 187A, 197, 321, and 328 [L 1973, c 69, pt of §1, am L 1987, c 230, §4 and c 283, §16]

PART II. REGULATION OF IMPORTATION

§150A-5 Conditions of importation. The importation into the State of any of the following articles, viz, nursery-stock, tree, shrub, herb, vine, cut-flower, cutting, graft, scion, bud, seed, leaf, root, or rhizome, nut, fruit, or vegetable, grain, cereal, or legume in the natural or raw state, moss, hay, straw, dry-grass, or other forage, unmanufactured log, limb, or timber, or any other plant-growth or plant-product, unprocessed or in the raw state, soil, microorganisms; live bird, reptile, nematode, insect, or any other animal in any stage of development (that is in addition to the so-called domestic animal, the quarantine of which is provided for in chapter 142), box, vehicle, baggage, or any other container in which such articles have been transported or any packing material used in connection therewith shall be made in the manner hereinafter set forth

(1) Notification of arrival. Any person who receives for transport or brings or causes to be brought to the State as freight, air freight, baggage, or otherwise, for the purpose of debarkation or entry therein, or as ship's stores, any of the foregoing articles, shall, immediately upon arrival thereof, notify the department, in writing, of the arrival, giving the waybill number, container number, name and address of the consignor, name and address of the consignee or the consignee's agent in the State, marks, number of packages, description of contents of each package, port at which laden, and any other information that may be necessary to locate or identify the same, and shall hold such articles at the pier, airport, or any other place where they are first received or discharged, in such a manner that they will not spread or be likely to spread any infestation or infection of insects or diseases that may be present until inspection and examination can be made by the inspector to determine whether or not any article, or any portion thereof, is infested or infected with or contains any pest. In addition, the department by rules shall designate restricted articles that shall require a permit from the department in advance of importation and shall designate other articles that shall require a department letter of authorization or registration in advance of importation. The restricted articles shall include but not be limited to certain microorganisms or living insects Failure to obtain the permit, letter of authorization, or registration in advance is a violation of this section;

(2) Individual passengers, officers, and crew

(A) It shall be the responsibility of the transportation company to distribute, prior to the debarkation of passengers and baggage, the State of Hawaii plant and animal declaration form to each passenger, officer, and crew member of any aircraft or vessel originating in the continental United States or its possessions or from any other area not under the jurisdiction of the appropriate federal agency in order that the passenger, officer, or crew member can comply with the directions and requirements appearing thereon. All passengers, officers, and crew members, whether or not they are bringing or causing to be brought for entry into the State the articles listed on the form, shall complete the declaration, except that one adult member of a family may complete the declaration for other family members. Any person who defaces the declaration form required under this section, gives false information, fails to declare restricted articles in the person's possession or baggage, or fails to declare in cargo manifests is in violation of this section,

(B) Completed forms shall be collected by the transportation company and be delivered, immediately upon arrival, to the inspector at the first airport or seaport of arrival Failure to distribute or collect declaration forms or to immediately deliver completed forms is a violation of this section, and

(C) It shall be the responsibility of the officers and crew of an aircraft or vessel originating in the continental United States or its possessions or from any other area not under the jurisdiction

of the appropriate federal agency to immediately report all sightings of any plants and animals to the plant quarantine branch Failure to comply with this requirement is a violation of this section,

(3) Plant and animal declaration form The form shall include directions for declaring domestic and other animals cited in chapter 142, in addition to the articles enumerated in this chapter,

(4) Labels Each container in which any of the above-mentioned articles are imported into the State shall be plainly and legibly marked, in a conspicuous manner and place, with the name and address of the shipper or owner forwarding or shipping the same, the name or mark of the person to whom the same is forwarded or shipped or the person's agent, the name of the country, state, or territory and locality therein where the product was grown or produced, and a statement of the contents of the container Upon failure to comply with this paragraph, the importer or carrier is in violation of this section,

(5) Authority to inspect Whenever the inspector has good cause to believe that the provisions of this chapter are being violated, the inspector may

(A) Enter and inspect any aircraft, vessel, or other carrier at any time after its arrival within the boundaries of the State, whether offshore, at the pier, or at the airport, for the purpose of determining whether any of the articles or pests enumerated in this chapter or rules adopted thereto, is present,

(B) Enter into or upon any pier, warehouse, airport, or any other place in the State where any of the above-mentioned articles are moved or stored, for the purpose of ascertaining, by inspection and examination, whether or not any of the articles is infested or infected with any pest or disease or contaminated with soil or contains prohibited plants or animals, and

(C) Inspect any baggage or personal effects of disembarking passengers, officers, and crew members on aircraft or vessels arriving in the State to ascertain if they contain any of the articles or pests enumerated in this chapter No baggage or other personal effects of the passengers or crew members shall be released until the baggage or effects have been passed

Baggage or cargo inspection shall be made at the discretion of the inspector, on the pier, vessel, or aircraft or in any quarantine or inspection area

Whenever the inspector has good cause to believe that the provisions of this chapter are being violated, the inspector may require that any box, package, suitcase, or any other container carried as ship's stores, cargo, or otherwise by any vessel or aircraft moving between the continental United States and Hawaii or between the Hawaiian Islands, be opened for inspection to determine whether any article or pest prohibited by this chapter or by rules adopted pursuant thereto is present. It is a violation of this section if any prohibited article or any pest or any plant, fruit, or vegetable infested with plant pests is found,

(6) Request for importation and inspection. In addition to requirements of the United States customs authorities concerning invoices or other formalities incident to importations into the State, the importer shall be required to file a written statement with the department, signed by the importer or the importer's agent, setting forth the importer's desire to import certain of the above-mentioned articles into the State and

(A) Giving the following additional information.

(i) The kind (scientific name), quantity, and description,

(ii) The locality where same were grown or produced,

(iii) Certification that all animals to be imported are the progeny of captive populations or have been held in captivity for a period of one year immediately prior to importation or have been specifically approved for importation by the board,

(iv) The port from which the same were last shipped,

(v) The name of the shipper, and

(vi) The name of the consignee; and

(B) Containing

(i) A request that the department, by its duly authorized agent, examine the articles described,

(ii) An agreement by the importer to be responsible for all costs, charges, or expenses, and

(iii) A waiver of all claims for damages incident to the inspection or the fumigation, disinfection, quarantine, or destruction of the articles, or any of them, as hereinafter provided, if any treatment is deemed necessary.

Failure or refusal to file a statement, including the agreement and waiver, is a violation of this section and may, in the discretion of the department, be sufficient cause for refusing to permit the entry of the articles into the State,

(7) Place of inspection If, in the judgment of the inspector, it is deemed necessary or advisable to move any of the above-mentioned articles, or any portion thereof, to a place more suitable for inspection than the pier, airport, or any other place where they are first received or discharged, the inspector is authorized to do so All costs and expenses incident to the movement and transportation of the articles to such place shall be borne by the importer or the importer's agent. If the importer, importer's agent, or transportation company request inspection of sealed containers of the above-mentioned articles at locations other than where the articles are first received or discharged and the department determines that inspection at such places is appropriate, the department may require payment of costs necessitated by these inspections, including overtime costs,

(8) Disinfection or quarantine. If, upon inspection, any article received or brought into the State for the purpose of debarkation or entry therein is found to be infested or infected or there is reasonable cause to presume that it is infested or infected and the infestation or infection can, in the judgment of the inspector, be eradicated, a treatment shall be given such article The treatment shall be at the expense of the owner or the owner's agent, and the treatment shall be as prescribed by the department The article shall be held in quarantine at the expense of the owner or the owner's agent at a satisfactory place approved by the department for a sufficient length of time to determine that eradication has been accomplished If the infestation or infection is of such nature or extent that it cannot be effectively and completely eradicated, or if it is a potentially destructive pest or it is not widespread in the State, or after treatment it is determined that the infestation or infection is not completely eradicated, or if the owner or the owner's agent refuses to allow the article to be treated or to be responsible for the cost of treatment and quarantine, the article, or any portion thereof, together with all packing and containers, may, at the discretion of the inspector, be destroyed or sent out of the State at the expense of the owner or the owner's agent. Such destruction or exclusion shall not be made the basis of a claim against the department or the inspector for damage or loss incurred,

(9) Disposition Upon completion of inspection, either at the time of arrival or at any time thereafter should any article be held for inspection, treatment, or quarantine, the inspector shall affix to the article or the container or to the delivery order in a conspicuous place thereon, a tag, label, or stamp to indicate that the article has been inspected and passed. This action shall constitute a permit to bring the article into the State, and

(10) Ports of entry None of the articles mentioned in this section shall be allowed entry into the State except through the airports and seaports in the State designated and approved by the board. [L 1973, c 69, pt of §1; am L 1974, c 232, §1; am L 1977, c 114, §2; am L 1980, c 265, §2, am L 1985, c 133, §1, gen ch 1985, am L 1990, c 243, §2; am L 1992, c 229, §3, am L 2000, c 211, §3]

§150A-5.5 What constitutes importation. (a) The landing of any article for the purpose of inspection or quarantine shall not be construed to give the article any status or the owner any right incident to articles which have actually been passed and allowed into the State

(b) In legal effect, articles landed for the purpose of inspection or quarantine shall be construed to be still outside the State seeking entry, and shall not, in whole or in part, be considered suitable for entry into the State unless a tag, label, or stamp has been affixed to the article, its container, or its delivery order by the inspector as provided in section 150A-5(9), except that articles quarantined in the biocontrol containment facilities of the department or of other government agencies engaged in joint projects with the department may be released upon issuance of a permit approved by the board.

(c) Notwithstanding subsections (a) and (b), the import of articles in violation of this chapter or rules adopted under this chapter may subject the importer to penalty although the articles have not been passed for entry [L 1985, c 133, §4, am L 1990, c 243, §3, am L 1996, c 153, §3]

§150A-5.6 Exceptions to the right to import. Nothing in this chapter shall permit the importation of any animal or article if the same, or any of them, has, by rule of the department been prohibited. [L 1985, c 133, §5]

§150A-6 Soil, plants, animals, etc., importation or possession prohibited. No person shall transport, receive for transport, or cause to be transported to the State, for the purpose of debarkation or entry thereinto, any of the following

(1) Soil; provided that limited quantities of soil may be imported into the State for experimental or other scientific purposes under permit with conditions prescribed by the department;

(2) Rocks, plants, plant products, or any article with soil adhering thereto,

(3) Any live snake, flying fox, fruit bat, Gila monster, injurious insect, or eels of the order Anguilliformes, or any other animal, plant, or microorganism in any stage of development that is detrimental or potentially harmful to agriculture, horticulture, animal or public health, or natural resources, including native biota, or has an adverse effect on the environment as determined by the board, except, as provided in this chapter and provided that, notwithstanding the list of animals prohibited entry into the State, the department may bring into and maintain in the State one live, sterile brown tree snake of the male sex for the purpose of research or training of snake detector dogs, and, further, that a government agency may bring into and maintain in the State not more than two live, nonvenomous snakes of the male sex solely for the purpose of exhibition in a government zoo, but only after

(A) The board is presented with satisfactory evidence that the sex of the snakes was established to be male prior to the shipment, and

(B) The board gives written approval conditioned upon such terms as the board may deem necessary, which terms shall include measures to assure the prevention of escape, continuing supervision and control by the board with respect to any department import under this paragraph, and the manner in which the snakes shall be disposed of or destroyed.

In case of the death of one or more snakes, the department or government agency may import and maintain replacements subject to the conditions described in this paragraph, and

(4) Any live or dead honey bees, or used bee equipment that is not certified by the department to be free of pests, provided that nothing in this paragraph shall be construed to prohibit the importation of bee semen. [L 1973, c 69, pt of §1, am L 1974, c 232, §2, am L 1985, c 133, §2 and c 179, §2, am L 1990, c 243, §4, am L 1994, c 48, §1, am L 1996, c 153, §4, am L 1997, c 63, §2, am L 1998, c 10, §1, c 28, §1, and c 244, §1, am L 1999, c 21, §1 and c 177, §3, am L 2000, c 211, §4]

Cross References

Honey bee exports, see §150A-31

§150A-6.1 Plant import. (a) The board shall maintain a list of restricted plants that require a permit for entry into the State Restricted plants shall not be imported into the State without a permit issued pursuant to rules.

(b) The department shall designate, by rule, as restricted plants, specific plants that spread or may be likely to spread an infestation or infection of an insect, pest, or disease that is detrimental or potentially harmful to agriculture, horticulture, the environment, or animal or public health. In addition, plant species designated by rule as noxious weeds are designated as restricted plants [L 2000, c 211, pt of §1]

150A-6.2 Animal import. (a) The board shall maintain

(1) A list of conditionally approved animals that require a permit for import into the State,

(2) A list of restricted animals that require a permit for both import into the State and possession, and

(3) A list of animals that are prohibited entry into the State

(b) The board shall adopt rules, pursuant to chapter 91, to establish an advisory committee of no fewer than three members with applicable expertise in vertebrate biology to identify whether an animal is a prohibited hybrid animal when the department suspects that the lineage of the animal is not as stated by the owner or on other official documents

(c) Animals on the lists of conditionally approved and restricted animals shall be imported only by permit. Any animal that is not on the lists of conditionally approved, restricted, or prohibited animals shall be prohibited until the board's review and determination for placement on one of these lists, provided that the department may issue a special permit on a case-by-case basis for the importation and possession of an animal that is not on the lists of prohibited, restricted, or conditionally approved animals, for the purpose of remediating medical emergencies or agricultural or ecological disasters, or conducting medical or scientific research in a manner that the animal will not be detrimental to agriculture, the environment, or humans, if the importer of the animal can meet permit requirements as determined by the board, and provided further that the department may issue a short-term special permit on a case-by-case basis not to exceed ninety days for the importation and possession of an animal that is not on the lists of prohibited, restricted, or conditionally approved animals for the purpose of filming, performance, or exhibition, if the importer of the animal can meet permit and bonding requirements as determined by the board. [L 2000, c 211, pt of §1]

150A-6.3 Microorganism import. (a) The board shall maintain

(1) A list of nonrestricted microorganisms allowed entry into the State without a permit,

(2) A list of restricted microorganisms that require a permit for import into the State and possession, and

(3) A list of microorganisms that are select human pathogens allowed entry into the State without a permit but that require the department to notify the department of health of entry for the purpose of possible department of health inspection and monitoring.

Import of a microorganism on these lists, as well as import of any unlisted microorganism, shall be subject to the notification, labeling, and inspection requirements of section 150A-5, and is allowed only as provided herein

(b) Import of a microorganism on the restricted list of microorganisms shall be by permit issued pursuant to rules and subject to conditions established by rules, provided that, if the department in its discretion determines that import of a microorganism on the restricted list or the microorganism's proposed use presents a high risk to agriculture, horticulture, the environment, or animal or public health, the import request shall be subject to advisory committee review and board approval, including a determination that the importer is able to comply with conditions established by the board, before a permit may be issued.

(c) Import and possession of an unlisted microorganism may be allowed based on the department's determination of the level of risk presented by the import, including its proposed use, to agriculture, horticulture, the environment, or animal or public health. Import shall be either by letter of authorization or special permit issued by the department, without advisory committee review or board approval, or, alternatively, by special permit issued by the department subsequest to advisory committee review and board approval, according to risk level as provided by rule, provided that in the latter instance the importer is able to comply with conditions established by the board

(d) The department may issue an emergency permit on a case-by-case basis to a state or federal agency or state university to allow import and possession of a microorganism on the list of restricted microorganisms or an unlisted microorganism for the purpose of remediating any emergency or disaster affecting agriculture, horticulture, the evironment, or animal or public health, provided that

(1) The board, without advisory committee review, first obtains advice from qualified persons with relevant expertise,
(2) The board determines that import in less time than is required for issuance of a special permit under subsections (b) and (c) as applicable, is necessary to remediate the emergency or disaster, and
(3) The importer is able to meet conditions established by the board;
(e) Microbial products may be imported as follows
(1) Microbial products containing certain strains of microorganisms on the nonrestricted list of microorganisms, as identified by rule, may enter the State without a permit but shall not be imported without a registration issued pursuant to rules. Import of an unregistered microbial product required to be registered with the department is a violation of this section, and
(2) Import of microbial products other than those products required to be registered pursuant to paragraph (1) shall be by permit or letter of authorization, as provided in subsections (b) and (c) as applicable [L 2000, c 211, pt of §1]

§150A-6.4 Permit issuance; requirements. Except as otherwise provided in this part, all permits referenced in sections 150A-6 through 150A-6 3 shall be issued pursuant to rules. Any violation of conditions listed on the permits shall be a violation of this chapter. [L 2000, c 211, pt of §1]

§150A-6.5 Animals; prohibition against possession, etc.; exception. No person shall possess, propagate, sell, transfer, or harbor any animal included on the list of prohibited animals maintained by the board, except upon a determination that the species·

(1) Was initially permitted entry and later prohibited entry into the State, or
(2) Was continually prohibited but unlawfully introduced and is currently established in the State; and
(3) Is not significantly harmful to agriculture, horticulture, or animal or public health, and the environment.

Under the circumstances described in this subsection, the board may permit possession of the individual animal through its registration with the department while still prohibiting the same species of animal from importation, propagation, transfer, and sale. [L 2000, c 211, pt of §1]

§150A-6.6 Import lists amendment. Without regard to the notice and public hearing requirements of chapter 91, the board may adopt rules to make additions to or deletions from the lists required to be maintained in sections 150A-6.1 through 150A-6 3, provided that the board shall adopt rules pursuant to chapter 91 to establish methods to obtain public input and notify the public of additions to or deletions from the lists required under sections 150A-6 1 through 150A-6 3. [L 2000, c 211, pt of §1]

§150A-6.7 **Permit revolving fund.** (a) There is established in the state treasury a revolving fund to be known as the permit revolving fund to be administered by the department The permit revolving fund shall consist of

(1) Legislative appropriations,
(2) User fees as authorized by rule,
(3) All interest earned on or accrued to moneys deposited in the permit revolving fund,
(4) Grants and gifts, and
(5) Any other moneys made available to the permit revolving fund from other sources
(b) The department shall expend moneys in the permit revolving fund to
(1) Facilitate the processing and issuance of permits,
(2) Amend lists of creatures prohibited or allowed for import,
(3) Comply with monitoring activities,
(4) Train personnel, and provide educational workshops, materials, and equipment, and
(5) For any other purpose deemed necessary to carry out the purposes of this part [L 2000, c 211, pt of §1]

§150A-7 **Disposition.** (a) It is a violation of sections 150A-5 and 150A-6 to bring into the State contrary to those sections any plant, plant product, animal, microorganism, or any article infested with pests or contaminated with soil and the same shall be refused admittance and may, in the discretion of the inspector, be seized and treated, destroyed, or excluded at the expense of the owner or the owner's agent

(b) It is a violation of this part to bring to or possess in the State any living creature that is prohibited or restricted, without a permit issued by the department, except as expressly provided in this part. The creature shall constitute contraband and shall be seized immediately upon discovery whenever found, and be destroyed, donated to a government zoo, or sent out of the State, at the discretion of the department Any expense or loss in connection therewith shall be borne by the owner or the owner's agent.

(c) Whenever any living creature introduced or admitted under rules of the department escapes, or is found to be free from confinement, the department may confiscate or capture it and any progeny at the expense of the owner The department may destroy the creature, donate it to a government zoo, or send it out of the State after five days at the discretion of the department. Any expense or loss in connection therewith shall be borne by the owner or the owner's agent. [L 1973, c 69, pt of §1, am L 1985, c 133, §3, am L 1990, c 243, §5, am L 1992, c 229, §4, am L 1998, c 10, § 2, am L 1999, c 177, §4; am L 2000, c 211, §5]

§150A-7.5 **User fees.** Fees may be assessed for the processing and issuance of permits issued by the department under this part, for inspections related to permit conditions, and for the registration of microbial products containing certain strains of microorganisms, as established by rule [L 1996, c 153, §1, am L 1999, c 177, §5, am L 2000, c 211, §6]

§150A-8 **Transporting in State.** Flora and fauna specified by rules and regulations of the department shall not be moved from one island to another island within the State or from one locality to another on the same island except by a permit issued by the department [L 1973, c 69, pt of §1, am L 1974, c 232, §3, am L 1977, c 114, §3]

§150A-9 **Rules and regulations.** The department shall have the authority to carry out and effectuate the purposes of this chapter by rules and regulations [L 1973, c 69, pt of §1]

§150A-9.5 **Interim rules.** (a) The department shall have the power, subject to the provisions of this section, to establish, implement, and enforce interim rules governing the transporting of flora and fauna into and within the State Such rules shall not be subject to chapter 91.

(b) An interim rule may be adopted in the event that the importation or movement of any flora or fauna, in the absence of effective rules, creates a situation dangerous to the public health and safety or to the ecological health of flora or fauna present in the State which is so immediate in nature as to constitute an emergency No interim rule shall be adopted without such a finding by the advisory committee on plants and animals created under section 150A-10

(c) Interim rules adopted by the department pursuant to this section shall be effective as stated by such rules, provided that

(1) Any interim rule shall be published at least once statewide within twelve days of issuance, and
(2) No interim rule shall be effective for more than one hundred eighty days

(d) Any person may appeal the reasonableness of any interim rule or determination of the advisory committee to the circuit court [L 1977, c 114, §1, am L 1999, c 177, §6, am L 2000, c 211, §7]

§150A-10 Advisory committee on plants and animals. There shall be an advisory committee on plants and animals composed of the chairperson of the board or the chairperson's representative who shall be chairperson of the committee, the chairperson of the board of land and natural resources, the director of the office of environmental quality control, the director of department of health or their designees, and five other members, with expertise in plants, animals, or microorganisms, and who, by virtue of their vocation or avocation, also are thoroughly conversant with modern ecological principles and the variety of problems involved in the adequate protection of our natural resources The latter five members shall be chosen by the chairperson The committee shall advise and assist the department in developing or revising laws and regulations to carry out and effectuate the purposes of this chapter and in advising the department in problems relating to the introduction, confinement, or release of plants, animals, and microorganisms.

The chairperson may create ad hoc or permanent subcommittees, as needed. [L 1973, c 69, pt of §1, gen ch 1985, am L 1990, c 243, §6, gen ch 1993]

§150A-11 Enforcement. Inspectors shall enforce the provisions of this chapter and related rules promulgated by the department.

Inspectors shall be provided with suitable badges or insignia of office by the department, and shall have power to serve and execute warrants in all matters relating to the quarantine laws, to issue a citation for any violation of this chapter and related rules, and to seize contraband articles throughout the State. [L 1985, c 133, §6]

§150A-11.5 Entry of private property for enforcement. Whenever any member of the department of agriculture deems it necessary for the protection of animal or public health, agriculture, or the environment, to enter any land, building, vessel or aircraft for the purpose of seizing, capturing, confiscating or removing any living creature that is prohibited or restricted and without a permit, the member may make complaint to the district judge in whose circuit the alleged violation is occurring, and the district judge may thereupon issue a warrant, directed to any police officer of the circuit, commanding the police officer to take sufficient aid, and being accompanied by the member of the department, to go to the place described in the complaint, and to seize, capture, confiscate or remove, under directions of the member, the prohibited or restricted creature [L 1992, c 229, §2]

Cross References

Entry to control or eradicate pests, see §141-3 6

§150A-12 Citation and summons. There shall be printed a form of citation and summons for use in citing violators warning the person to appear and answer the charge against the person at a certain place and at a time within seven days after the citation The citation and summons shall be so designed to include all necessary information to make it valid and legal within the laws and rules of the State The form and contents of such citation and summons shall be adopted or prescribed by the district courts

In every case when a citation and summons is issued, the original of the same shall be given to the accused, provided that the district courts may prescribe the issuance to the accused of a carbon copy of the citation and summons and provide for the disposition of the original and any other copies

Every citation and summons shall be consecutively numbered and each carbon copy shall bear the number of the original. [L 1985, c 133, §7]

§150A-13 Administration of oath. When a complaint is made to any prosecuting officer of the violation of the provisions of this chapter of the rules promulgated and adopted pursuant thereto, the inspector who issued the citation and summons shall subscribe to the complaint under oath. [L 1985, c 133, §8]

§150A-14 Penalty. (a) Any person who violates any provision of this chapter other than sections 150A-5(2)(B), 150A-5(2)(C), 150A-6(3), and 150A-6(4) or who violates any rule adopted under this chapter other than those rules involving an animal that is prohibited or a plant, animal, or microorganism that is restricted, without a permit, shall be guilty of a misdemeanor and fined not less than $100. The provisions of section 706-640 notwithstanding, the maximum fine shall be $10,000. For a second offense committed within five years of a prior offense, the person or organization shall be fined not less than $500 and not more than $25,000.

(b) Any transportation company that violates section 150A-5(2)(B) or section 150A-5(2)(C) shall be guilty of a misdemeanor and fined not less than $100 The provisions of section 707-640 notwithstanding, the maximum

fine shall be $10,000. For a second offense committed within five years of a prior offense, the company may be fined not less than $500 and not more than $25,000

(c) Notwithstanding section 706-640

(1) Any person or organization that violates section 150A-6(3) or 150A-6(4), or owns or intentionally transports, possesses, harbors, transfers, or causes the importation of any snake or other prohibited animal seized under section 150A-7(b), or whose violation involves an animal that is prohibited or a plant, animal, or microorganism that is restricted, without a permit, shall be guilty of a misdemeanor and subject to a fine of not less than $5,000, but not more than $20,000, and

(2) Any person or organization who intentionally transports, harbors, or imports with the intent to propagate, sell, or release any animal that is prohibited or any plant, animal, or microorganism that is restricted, without a permit, shall be guilty of a class C felony and subject to a fine of not less than $50,000, but not more than $200,000, and

(d) Whenever a court sentences a person or organization pursuant to subsection (a) or (c) for an offense which has resulted in the escape or establishment of any pest and caused the department to initiate a program to capture, control, or eradicate that pest, the court shall also require that the person or organization pay to the state general fund an amount of money to be determined in the discretion of the court upon advice of the department, based upon the cost of the development and implementation of the program

(e) The department may, at its discretion, refuse entry, confiscate, or destroy any prohibited articles or restricted articles that are brought into the State without a permit issued by the department, or order the return of any plant, fruit, vegetable, or any other article infested with pests to its place of origin or otherwise dispose of it or such part thereof as may be necessary to comply with this chapter Any expense or loss in connection therewith shall be borne by the owner or the owner's agent

(f) Any person or organization that voluntarily surrenders any prohibited animal or any restricted plant, animal, or microorganism without a permit issued by the department, prior to the initiation of any seizure action by the department, shall be exempt from the penalties of this section

(g) For purposes of this section "intent to propagate" shall be presumed when the person or organization in question is found to possess, transport, harbor, or import

(1) Any two or more animal specimens of the opposite sex that are prohibited or restricted, without a permit;

(2) Any three or more animal specimens of either sex that are prohibited or restricted, without a permit,

(3) Any plant or microorganism having the inherent capability to reproduce that is restricted, without a permit; or

(4) Any specimen that is in the process of reproduction. [L 1985, c 133, §9, am L 1990, c 243, §7, am L 1991, c 104, §2; am L 1992, c229, §5, am L 1998, c 222, §1, am L 2000, c 211, §§8, 9, 10]

§150A-15 Failure to obey summons. Any person who fails to appear at the place and time specified in the citation and summons issued to that person by the inspector upon the person's citation for violation of the quarantine laws or rules shall be guilty of a misdemeanor and, on conviction, fined not more than $500 or imprisoned not more than six months, or both

If any person fails to comply with a citation and summons issued to the person, the inspector shall cause a complaint to be entered against the person and secure the issuance of a warrant for that person's arrest

When a complaint is made to any prosecuting officer of the violation of any quarantine law or any rule promulgated thereunder, the inspector who issued the complaint and summons shall subscribe to it under oath [L 1985, c 133, §10, gen ch 1985]

PART III. NURSERY STOCK EXPORT SHIPMENTS

§150A-21 Certification for shipment. The department may certify as to the pest condition or post treatment of shipments when officially required Fees may be charged for certificates in certain instances [L 1977, c 114, pt of §4]

§150A-22 Responsibility for treatment. Any treatment of nursery stock which may be required under the provisions of law shall be at the risk and at the expense of the owner or persons in charge or in possession thereof at the time of treatment, unless otherwise provided [L 1977, c114, pt of §4]

§150A-23 Nursery stock certificate. The department may issue and authorize the use of nursery stock certificates by any shipper complying with its regulation for nursery inspection Shipments accompanied by these

certificates may move to other localities within the county or to other counties without inspection at destination Nursery stock certificates may be issued for interstate shipments Fees may be charged for nursery certification Nursery stock certificates shall not be altered or misused

The department may revoke or suspend the right to use any nursery stock certificate which is issued to any person who fails to comply with requirements for their use [L 1977, c 114, pt of §4]

PART IV. OTHER EXPORTS

§150A-31 Certificate for shipment. The department may certify as to the pest condition of honey bee shipments when health certificates are officially required Fees to cover the department's certification costs may be charged for health certificates as provided by rule Health certificates shall not be altered or misused [L 1996, c 111, §1]

PART V. CERTIFIED IMPORTERS OF MICROORGANISMS

§150A-41 Microorganism import. (a) Notwithstanding the permit requirements of sections 150A-5 and 150A-6 3, the board may issue a certificate to an importer of microorganisms authorizing import and possession of microorganisms on the list of restricted microorganisms or unlisted microorganisms referenced in section 150A-6 3, provided that·

(1) The import and possession is for medical or scientific purposes,

(2) The microorganisms are contained in a laboratory or other contained system approved by the department,

(3) The microorganims are used in a manner that will not be detrimental to agriculture, horticulture, the environment, animals, or humans, and

(4) The importer is able to meet requirements established by the board, as further verified through site inspection by the department.

(b) Import by a certified importer of microorganisms other than those listed in the importer's certificate or for uses other than specified for each type of microorganism listed in the certificate shall be pursuant to section 150A-6 3

(c) A certified importer importing pursuant to certificate shall comply with the provisions of part II other than the permit requirement, as applicable, in particular, the notification, labeling, and inspection requirements of section 150A-5 [L 1999, c 177, pt of §1, am L 2000, c 211, §11]

§150A-42 Certificate. (a) An importer requesting a certificate under this part shall complete and submit an application to the department providing information as required by rule.

(b) Fees may be assessed for the processing and issuance of a certificate and for inspections related to the certificate, as established by rule. Fees may vary according to the type of certification issued and the costs incurred for inspections.

(c) A certificate issued under this part shall be valid for no more than two years from date of issuance A certified importer may reapply for certification pursuant to subsection (a). [L 1999, c 177, pt of §1]

§150A-43 Suspension or revocation of certificate. Any certificate issued pursuant to this part may be suspended or revoked by the department, after hearing, for violation of any certificate requirement or condition or any provision of this chapter or rule adopted under this part Any order made by the department for the suspension or revocation of a certificate shall be in writing and shall set forth the reasons for the suspension or revocation. The action of the department in suspending or revoking a certificate may be reviewed in the manner provided in chapter 91 [L 1999, c 177, pt of §1]

§150A-44 Summary suspension. Notwithstanding any law to the contrary, the department may cause the immediate suspension of an importer's certificate, subject to subsequent notice and hearing or other adequate procedures, upon the department's determination that there is an impending danger of escape or release of, or contamination from or exposure to microorganisms imported pursuant to cetificate so as to present a threat to public health or safety, animal health, agriculture, horticulture, or the environment, or in the event of a medical emergency or agricultural or ecological disaster resulting from escape or release of, or contamination from or exposure to microorganisms imported pursuant to certificate

The department may order the summary suspension of the certificate for a period not to exceed twenty days The order of suspension shall be served upon the certified importer at the same time as the notice of hearing for further suspension or revocation and the hearing shall be scheduled prior to the expiration of the order of suspension. The period of suspension prior to the hearing shall not be extended beyond twenty days except upon

the request of the importer for a reasonable continuance to adequately prepare the importer's defense Any attempt by the importer to continue the certified activity while the certificate has been summarily suspended shall of itself be sufficient to warrant a permanent revocation of the certificate and shall subject the importer to all penalties prescribed by this chapter or any rule or order of the department [L 1999, c 177, pt of §1]

§150A-45 Emergency remediation. In conjunction with summary suspension of an importer's certificate, upon the department's determination that there is an impending danger of escape or release of, or contamination from or exposure to microorganisms imported pursuant to certificate so as to present a threat to public health or safety, animal health, agriculture, horticulture, or the environment, or in the event of a medical emergency or agricultural or ecological disaster resulting from escape or release of, or contamination from or exposure to microorganisms imported pursuant to certificate, the department may, at the expense of the importer, seize, quarantine, remediate, condemn, or destroy the imported microorganisms, or any contaminated material, containment equipment, and laboratory or other contained system approved by the department, as the department in its discretion determines is necessary to address the threat, emergency, or disaster [L 1999, c 177, pt of §1]

§150A-46 Conditions of importation under certification. (a) A certificate issued to an importer under this part is nontransferable

(b) Every importer issued a certificate shall comply with the requirements of the certificate

(c) Any department employee or authorized representative may enter the premises under certification at any reasonable time to examine and inspect any microorganism, records, laboratory or other contained system approved by the department, equipment, procedures, manuals, and other related materials pertaining to the microorganism imported pursuant to certificate, and may conduct tests, collect samples, or perform any other duty for the purpose of carrying out and effectuating the purposes of this chapter [L 1999, c 177, pt of §1]

§150A-47 Penalties In addition to penalties that may be applicable under section 150A-14, certified importers are subject to penalties as follows:

(1) A certified importer who violates any of the foregoing sections in this part shall be guilty of a petty misdemeanor and, notwithstanding section 706-640, shall be subject to a fine of not less than $1,000 and not more than $10,000, and

(2) A certified importer who intentionally imports a microorganism not allowed by the importer's certification with the intent to propogate, sell, or release the microorganism shall be guilty of a class C felony and, notwithstanding section 706-640, shall be subject to a fine of not less than $50,000 but not more than $500,000. [L 1999, c 177, pt of §1]

§150A-48 Microorganism import certification revolving fund. (a) There is established in the state treasury the microorganism import certification revolving fund which shall be administered by the department for the purposes of this section. The microorganism import certification revolving fund shall consist of:

(1) Legislative appropriations to the microorganism import certification revolving fund,

(2) Certification and inspection fees, as authorized by rule,

(3) All fines collected pursuant to this part,

(4) Reimbursements for any costs paid by the department to remediate any impending danger or actual emergencies involving microorganisms imported pursuant to certificate;

(5) All interest earned on or accrued to moneys deposited in the microorganism import certification revolving fund,

(6) Grants and gifts to the microorganism import certification revolving fund; and

(7) Any other moneys made available to the microorganism import certification revolving fund from other sources,

(b) The balance in the microorganism import certification revolving fund shall not exceed $500,000 All amounts in excess of $500,000 shall be deposited to the credit of the state general fund

(c) The department shall expend moneys in the microorganism import certification revolving fund for the development, administration, and operation of the microorganism import certification program, including but not limited to personnel, training, materials and equipment, compliance monitoring activities, educational workshops for certified importers and applicants for certification, evaluation and remediation of impending threat or actual emergencies related to microorganisms imported pursuant to certificate, and for any other purpose deemed necessary to carry out the purposes of this part.

(d) The department may set fees, by rule, for educational workshops for certified importers or applicants for certification [L 1999, c 177, pt of §1]

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PROTOCOL FOR THE PLANT PATHOLOGY QUARANTINE FACILITY
August 20, 1991

Hawaii Department of Agriculture
Division of Plant Industry
Plant Pest Control Branch
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Honolulu, Hawaii 96814
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APPENDICES

PROTOCOL FOR THE PLANT PATHOLOGY
QUARANTINE FACILITY

The Plant Pathology Laboratory and Greenhouse Facility was designed and built to study plant pathogenic microorganisms for use in the biological control of weeds. The Building consists of the General Research Facility and the Plant Pathology Quarantine Facility. (Refer to Floor Plan of the Plant Pathology Building, page 6.)

General Research Facility (GRF)

The GRF refers to the non-containment areas of the Building where scientists, technicians, and other staff members are permitted to enter without restriction. Included in this section are:

A. Corridor #1 - Building entrance/hallway leading to Laboratories #1 and #2, and Greenhouses #1, #2, and #3.
B. Greenhouses #1, #2, and #3 - used to propagate plants for research as well as to permit research on local organisms and those that have been approved for release by the State of Hawaii.
C. Laboratory #1 - office occupied by the Plant Pathology staff.

D. Laboratory #2 - used for routine pathology work, as well as access to the PPQF.
E. Corridor #2 - Hallway from Lab #2 to Toilet, Autoclave Room, Utility Room, and Locker Room #1 (quarantine entrance).

Plant Pathology Quarantine Facility (PPQF)

The PPQF section of the Building consists of the highly restricted areas with limited access. Only authorized personnel with security keys are allowed into this area. The only people allowed to enter without notifying the HDOA Quarantine Officer are the HDOA Plant Pathologist, the PPQF Technician, HDOA Insectary Supervisor, and the HDOA designated Alternate.

Research on all foreign or exotic plant pathogens will be done in this Facility.

As of April 20, 1999, the Quarantine Officer is Ken Teramoto; the Plant Pathologist is Eloise Killgore; the Plant Pathology Technician is Lionel Sugiyama.

The PPQF consists of the following rooms:

A. Locker Room #1 - all clothing, jewelry, and other belongings for all persons entering the quarantine area are stored here.
B. Shower Room - all persons shower on exiting the Facility.
C. Locker Room #2 - all disposable or other apparel that is worn in the containment area is stored here. Access to the HEPA filter compartment is in this area.
D. Vestibule - the hallway leading to Lab #3, Greenhouse #4, and the emergency exit.
E. Laboratory #3 - the containment laboratory where exotic microorganisms are studied and cultured.
F. Greenhouse #4 - the containment greenhouse where infection studies on various host plants are done.

The Plant Pathology Building is managed by the HDOA Quarantine Officer who oversees all activities regarding the operation and maintenance of the Building.

The PPQF was designed to permit the importation and research of exotic plant pathogens in a secure or contained area. Containment is primarily achieved by the following:

1. A differential negative pressure system is maintained in a series of rooms; the most contaminated rooms (Lab #3 and Greenhouse #4) being the most negative and the farthest away from the entrance of the Building. The air exhausted from these two rooms causes a flow of air inward from the entrance of the Building towards the contaminated rooms.

2. All exhaust air passes through a set of two High Efficiency Particulate filters (HEPA filters), arranged in series which are rated at 99.7% efficient for particles 0.3 microns or larger.

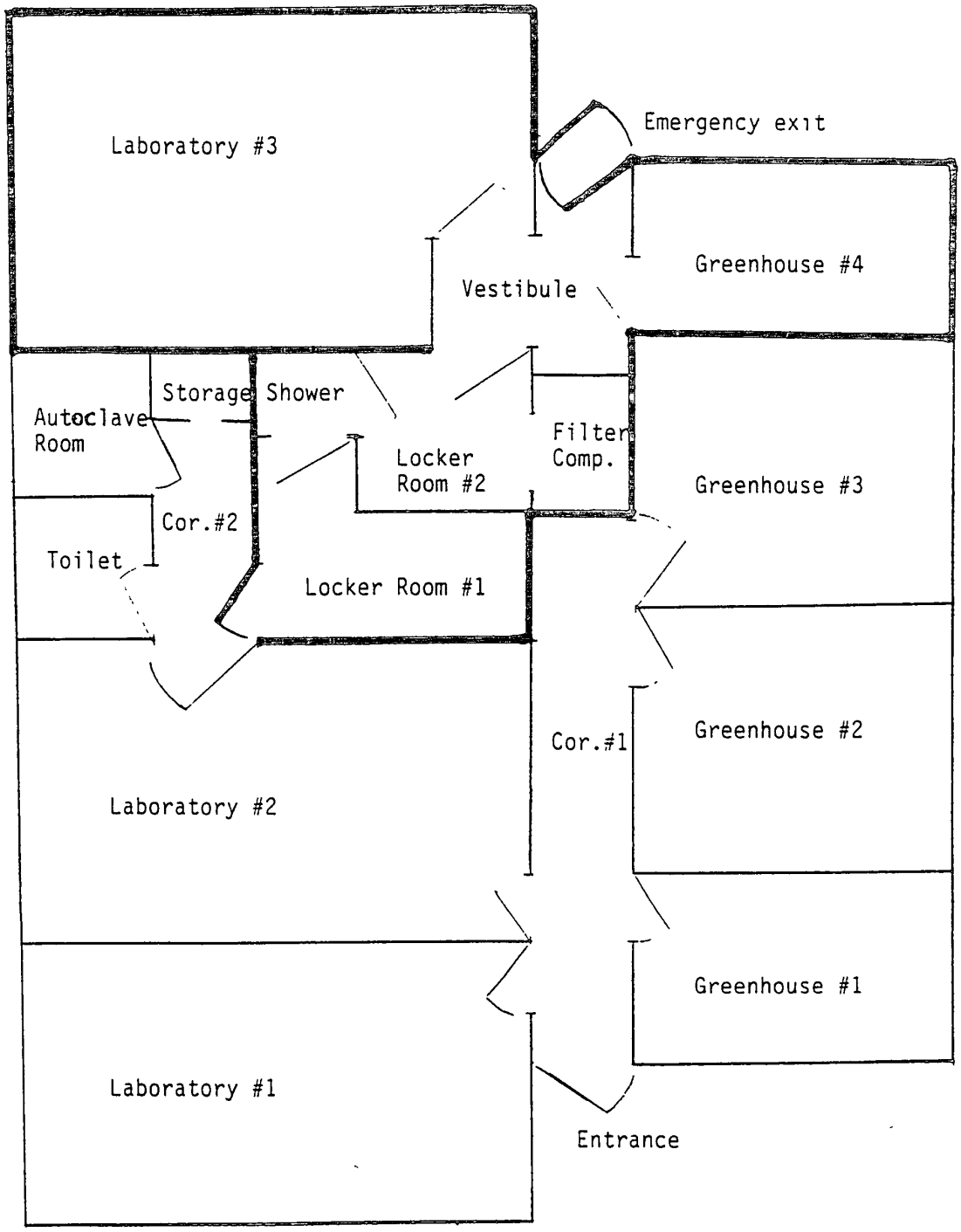
3. Construction features such as paint sealants, taping, seals, caulking, etc., eliminate air leakage.

4. All waste water is treated prior to discharge.

5. All materials leaving the PPQF are sterilized.

In addition, a Statement of Protocol, approved by the U.S. Department of Agriculture, is in place and is strictly followed by the PPQF Personnel.

Floor Plan of the Plant Pathology Building



NEGATIVE PRESSURE SYSTEM

The negative pressure system in the Quarantine Facility maintains a pressure gradient by which airborne microorganisms are contained within the quarantine area.

The innermost rooms in the quarantine area, Laboratory #3 and Greenhouse #4, are the most contaminated rooms and are kept under the highest negative pressure. The negative pressure decreases in each adjoining room proceeding towards the front entrance of the Building; thus, the negative pressure gradient from most negative to ambient follows this path: from Greenhouse #4 and Laboratory #3 to Vestibule to Locker Room #2 and Shower to Locker Room #1 to Laboratory #2 to Entrance. This gradient ensures that there is always a constant inward flow of air towards the most contaminated room.

The differential negative pressure system consists of four integrated components: the air handling units, the supply fans, the exhaust fans and the room pressure control systems.
(Please refer to blueprints M3, M4, M6, latest revision, dated 11/28/88, for reference.)

1. AIR HANDLING UNITS. These units are adjusted to provide a specified rate of air flow (Supply Air) measured in cubic feet per minute (cfm) to designated rooms. The supply air (SA) is made up of both Recirculated Air (RA) and Outside Air (OA).

Air Handling Units (AHU) supply air to the following rooms:

a. AHU #3 in Quarantine Laboratory (#3)
b. AHU #4 in Quarantine Greenhouse (#4)

(AHU #1 AND #2 are located on the rooftop and supply air to the rest of the Building.)

2. SUPPLY FANS (SF). These fans supply a specified amount of Outside Air (OA) to the Air Handling Units (#3 and #4). SF-1 and SF-1A are located on the rooftop.

3. EXHAUST FANS (EF). The blowers, EF-1 and EF-1A, which are located on the rooftop control the amount of air which is exhausted from Laboratory #3 and Greenhouse #4. (Exhaust air is passed through a series of HEPA filters which are 99.7% efficient at removing particles 0.3 microns or larger.)

Refer to Protocol Section - AIR HANDLING SYSTEM, for more information.

Negative pressure in a room is achieved when the total amount of air that is recirculated plus the air that is exhausted from the same room is greater than the air that is supplied to that room.

As an example, in Laboratory #3, the AHU #3 supplies air to the room at 800 cfm, of which 600 cfm is recirculated air (from Laboratory #3) and 200 cfm is outside air. In addition to the 600 cfm recirculated, 300 cfm is exhausted from Laboratory #3 through the exhaust ducts. So that, 800 cfm -600 cfm -300 cfm = -100 cfm in Laboratory #3. A negative pressure status is thus achieved in Laboratory #3. A similar set-up exists in Greenhouse #4.

This negative pressure status (in Laboratory #3 and Greenhouse #4) establishes the basis of the negative pressure gradient. This gradient, decreasing towards the entrance of the Building, is then maintained by the Room Pressure Control Systems.

4. ROOM PRESSURE CONTROL SYSTEMS. Each system is comprised of a pressure gauge, motorized dampers (in air ducts) and their controls. The dampers control the flow of air through air ducts from the non-quarantine areas to the quarantine areas. These units are strategically located throughout the Building and each maintains a specified negative room pressure. As mentioned before, a negative pressure gradient is achieved with the innermost rooms having the highest negative pressure.

Room pressure gauges or sensors are associated with the motorized dampers and each sensor reads the pressure differential of a particular room, relative to ambient. The ambient sensor is located at the entrance to the Building and is interlocked with all room pressure gauges.

The locations of the room pressure control systems are as follows:

#1 in Laboratory #2 at doorway
#2 in Laboratory #2 at entrance to quarantine area
#3 in Locker Room #1 at entry doorway
#4 in Locker Room #1 at entry to Shower
#5 in Vestibule over door to Shower
#6 in Greenhouse #4 at vestibule wall
#7 in Laboratory #3 at vestibule wall

In the event of a power failure, the exhaust fans and the room pressure control systems are backed up by a propane powered generator on a 5 second delay. The other components are not essential in maintaining negative pressure in the rooms. The propane tanks are capable of supplying generator power for 4 days.

MONITORING OF THE NEGATIVE PRESSURE SYSTEM

The most critical aspect in the containment of plant pathogens in the PPQF is the negative pressure system. Failure of the system means that there is no containment. Consequently, negative pressure in the PPQF is constantly monitored. Two differential pressure switches have been installed in the critical rooms; one in Greenhouse #4 and one in Laboratory #3. According to the consultants, Controls, Inc., the other rooms in the PPQF need not be monitored since a change in pressure in those rooms will definitely affect the pressure in Greenhouse #4 and Laboratory #3.

These pressure switches have been preset to send an alarm signal at a pressure of -0.05 inches of water. When and if the pressure in either room rises to that level (normal room pressure for the two rooms is -0.10 inches of water), the switch is activated and a signal is sent to the alarm system. The alarm monitoring system or the Central Station immediately telephones the PPQF staff (24 hour call) to apprise them of the alerted condition. See Protocol Section Security and Negative Pressure Alarm System.

A check on the differential pressure switches must be done quarterly as follows:

1. Remove the portable Magnehelic differential pressure gauge from the Dwyer case. (in Lab #3 cabinet)
2. Connect the loose end of the tubing to the room sensor on the pressure switch to be tested.
3. Carefully pump air into the tubing, so that the pressure registered on the portable gauge reads at 0.05 inches of water. In effect, when testing the system, a known amount of positive pressure is added to raise the normal negative room pressure to the level at which the differential pressure switch is at alarm condition, i.e., at -0.05 inches of water.

   Thus:

normal room pressure	-0.10 inches of water
pressure added	0.05
final test pressure	-0.05 inches of water

4. Wait for the Central Alarm Station to telephone the alert in the test Zone: Zone 4-Lab #3, Zone 5- Greenhouse #4.

At no time is the pressure in the PPQF compromised. The test is confined only to the connections (tubing), gauge, and the differential pressure switch.

FAILURE OF NEGATIVE PRESSURE SYSTEM

In the event of a loss of negative pressure in the PPQF, the following procedures must be followed:

1. All activities within the Facility will be halted.
2. All doors must be closed.
3. Entry and exit will be restricted and will be under the supervision of the Plant Pathologist.
4. Air ducts leading from Locker Room #1 to Corridor #2 must be covered with plastic sheeting and sealed tight with duct tape.

These conditions will remain in effect until negative pressure is restored.

AIR HANDLING SYSTEM

Air Conditioning, Supply Air and Exhaust Air Systems

AIR CONDITIONING

Greenhouse #4 and Laboratory #3 have separate air conditioning units, and both are located within those rooms.
Chilled water is supplied by chillers located on the rooftop.

Servicing: Filters in both air conditioners are to be changed once per month. See appendix I for access and filter size.

1. Remove filter gently to avoid dislodging contaminants.

2. Place directly into autoclavable plastic bag and seal. Later, autoclave @ 121 degrees C for 2 hours.

3. Replace with the appropriate filter.

SUPPLY AIR AND EXHAUST AIR SYSTEMS

The PPQF (Laboratory #3, Greenhouse #4, Locker Rooms #1 and #2, Shower and Vestibule) is under constant negative pressure. Laboratory #3 and Greenhouse #4, being the innermost rooms where all of the pathogen work will take place, are obviously the most contaminated areas. Thus the negative pressure is greater in these two rooms. In each preceding room, the negative pressure is slightly less, so that there is a constant inward flow of air towards the most contaminated rooms.

This negative pressure is maintained by the Supply Air System and the Exhaust Air System, which includes the exhaust fan and the room pressure control systems. Refer to Air Flow Diagrams of the PPQF on pp.16 and 17.

SUPPLY AIR SYSTEM

Supply air fans (SF-1 and SF-1a) are located on the roof. They control the intake of fresh air into the PPQF. The air is drawn first through a prefilter, then, through two HEPA filters, one (upstream) is located on the roof, the other (downstream) is located in the Filter Compartment in Locker Room #2.
Only one supply air fan operates at any one time; the other serves as a backup in case of fan malfunction. In addition, the fans alternate every 24 hours in order to keep them in good operating readiness. Green indicator lights (at control panel on the outside of Building) indicate which fan is in operation. Red lights indicate malfunction. These lights are monitored two times a day. If a red light is on, repair of the designated fan is mandated as soon as possible.

EXHAUST AIR SYSTEM

Exhaust air fans (EF-1 and EF-1a) are also located on the roof. Exhaust air is drawn from Greenhouse #4 and Laboratory #3, then passes through 2 HEPA filters (in series) in the Filter Compartment.
The exhaust fans operate in the same emergency manner as the Supply Air fans.

In the event of an electrical power failure, the exhaust air system operates on emergency power, which is provided by a propane powered generator located on the roof. (See Appendix IV for generator operation and maintenance). The supply air system is not essential in maintaining negative pressure and therefore is not on emergency power.

REPLACING FILTERS - Prefilters and HEPA filters

Spare filters should be kept readily available at all times. See Appendix I for source and size information.

A. Supply Air System

1. Prefilter at supply air fan (rooftop) should be changed monthly and discarded.

2. Upstream HEPA filter (supply air), located on the roof top should be changed when the supply air flow gauge reads 2.5 to 3.0 inches of water. This gauge is located in the Filter Compartment in Locker Room #2. The exact procedure will depend on the manufacturer's instructions. This filter should be changed by a qualified technician. This filter is not a contaminated filter and is to be discarded.

3. Downstream HEPA filter (supply air), located in the Filter Compartment, should rarely require a change. Check the supply air flow gauge and record pressure readings weekly. In the event that a change is necessary, this filter must be treated as a contaminated filter because of its location. This filter should be changed by a qualified technician. The procedures are as follows:

   a. Open the filter housing, pull the track locking handle, and remove the filter carefully from the tracks.
   b. Place the filter directly into a heavy duty autoclavable plastic bag.

c. Install a new HEPA filter, making sure the filter is placed on the tracks, then, secure the locking handle and close the filter housing.
d. To fit the used filter in the autoclave, cut the frame and filtering components in half, horizontally.
e. Secure the autoclavable bag and autoclave @ 121°C for 2.0 hours.

B. Exhaust Air System:

1. State PQ and Federal PPQ Officials must be notified in advance that these filters (pre and HEPAs) are to be changed. A delegated PQ and PPQ Officer must be present during any filter changes in the exhaust air system.

2. Prefilters in the exhaust air system should be changed once per month.

Replacing prefilters in exhaust air system:

a. While the unit is operating, open the access door at the ceiling in the Vestibule. Open the access door to the air duct. Remove the first two filters (most contaminated) gently, to avoid dislodging contaminants.
b. Place the filters directly into an autoclavable bag, seal, and later, autoclave @ 121°C for 2 hrs.
c. Move the two remaining filters upstream and place two new prefilters behind them.
d. Replace access doors to air duct and to ceiling.

3. Upstream HEPA filter (exhaust air) should be changed if the air flow exhaust gauge indicates a level greater than 2 inches of water. It is imperative to change prefilters and HEPA filter before the gauge reads 3 inches of water.

Replacing upstream exhaust HEPA filter. (The exact procedures will depend on the manufacturer's instructions. This should be done by a qualified technician.)

a. Open the filter housing, pull the track locking handle, and remove the filter carefully from the tracks.

b. Place the filter directly into a heavy duty autoclavable plastic bag.
c. Install a new HEPA filter, making sure the filter is placed on the tracks, then, secure the locking handle and close the filter housing.
d. Determine if the downstream HEPA filter needs to be changed. If the exhaust air flow gauge reads greater than 2 inches of water, prepare to change the downstream HEPA filter. Refer to this section B-4.
e. To fit the used filter in the autoclave, cut the frame and filtering components in half, horizontally.
f. Secure the autoclavable bag and autoclave @ 121°C for 2.0 hours.

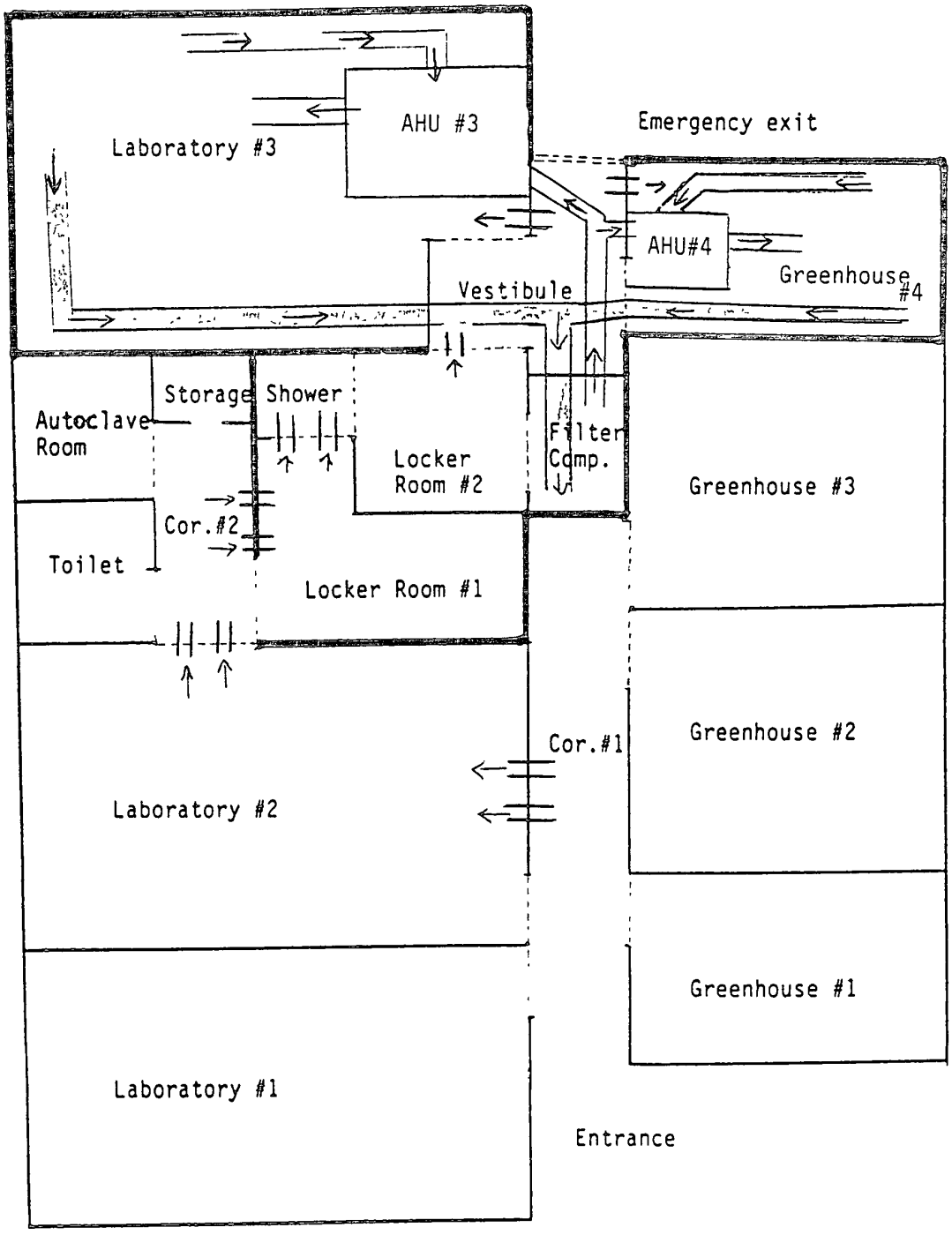
4. Downstream HEPA filter (exhaust air) should never be removed, unless it has been determined from the procedures in the section -"Replacing upstream exhaust HEPA filter"- that it is absolutely necessary. Replacing the downstream exhaust HEPA filter requires certain decontamination procedures (see below), and notification to Federal PPQ and State PQ Officials.

DECONTAMINATION PROCEDURES FOR REMOVAL OF THE DOWNSTREAM HEPA FILTER

a. The entire ventilation system must be turned off at the circuit breaker panel: the air handlers, the supply fans, the exhaust fans, and chillers.
b Open the access door to the downstream HEPA filter and spray the compartment with a disinfectant, 10% NaOCl (5.25% a.i.), making sure that all exposed surfaces of the filter are saturated.
c. Carefully remove the HEPA filter (as instructed previously - Section A3) and place into a heavy duty autoclavable plastic bag.
d. Spray the disinfectant into the rest of the compartment, including the exhaust duct work via the decontamination port.
e. Install the new HEPA filter and secure the filter housing.
f. Using a saw and snippers cut the old filter frame and filter components in half, horizontally, to fit into the autoclave.
g. Secure the autoclavable bag and autoclave at 121°C for 2.0 hours.

Filter changes are either scheduled or indicated by air flow gauge readings. However, it is important to keep in mind that abnormal negative pressure readings may also be an indication of the need to replace filters.

Air Flow Diagram of the Plant Pathology Quarantine Facility



Air ducts/dampers of the negative room pressure control system

Doorways

Direction of air flow

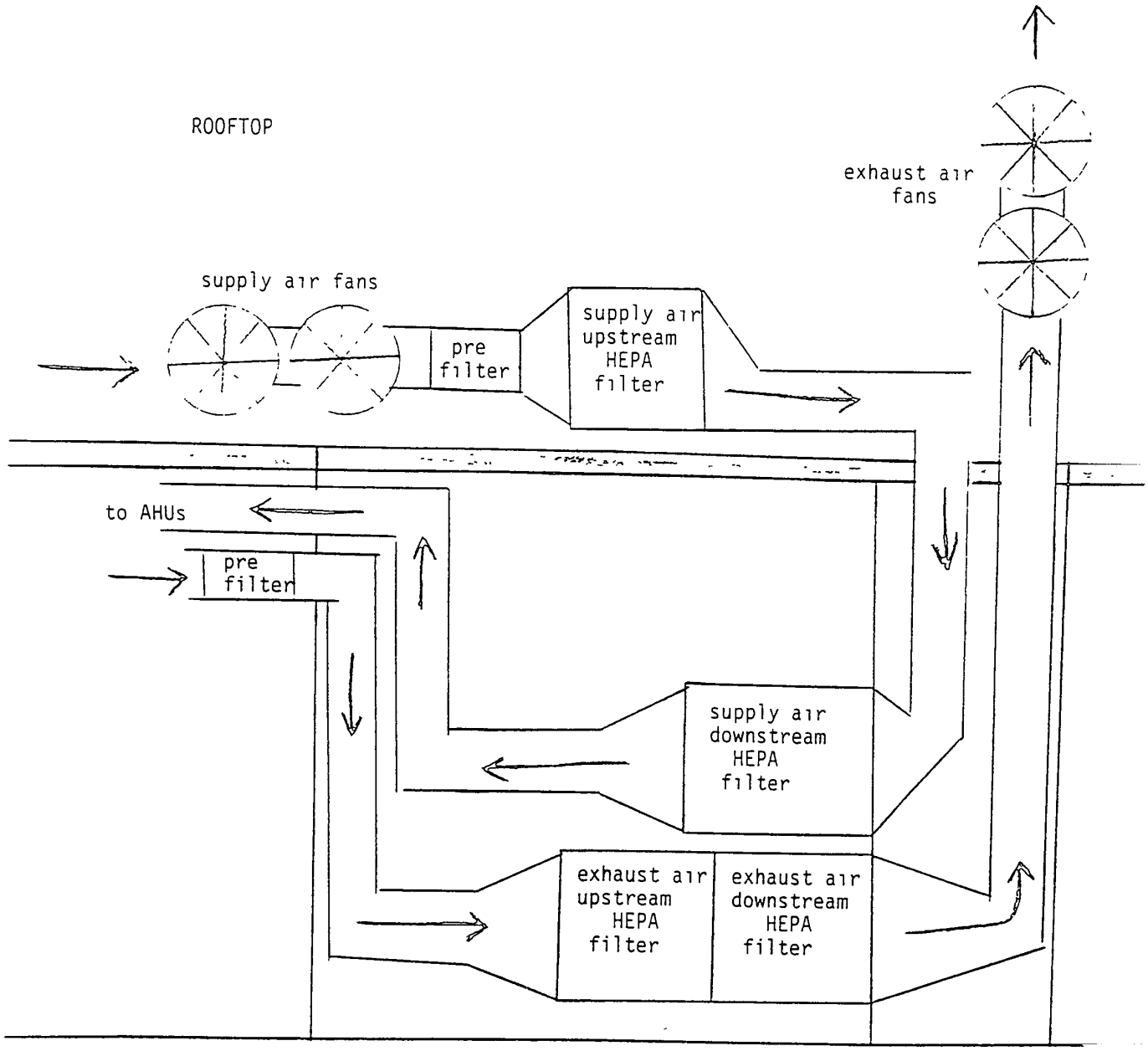
Recirculated air

Outside air

Supply air

Exhaust air

Air Flow in Filter Compartment



USE OF AUTOCLAVE

The autoclave (steam sterilizer) is used for sterilization and for decontaminating materials coming out of the Quarantine Area.

It is equipped with double doors (a pass-through feature): the front door opens to the autoclave room (non-quarantine) and the back door opens to Lab #3 (quarantine).

The Primary Control Panel of the autoclave, where the sterilizing time, drying time and other vital settings are made is located in the autoclave room, but a cycle can be started at either location. See autoclave manual for further instructions.

With this double door autoclave, it is important to be aware of the correct door opening sequence so that containment is not broken. The back door can only be opened:

a. when it is the first door opened after a cycle is finished.

b. when the sterile door key is turned on - light will glow on both sides of autoclave.

The front door will not open if the back door is open. However, both doors can be opened simultaneously if the sterile door key is "on".

ONCE THE BACK DOOR HAS BEEN OPENED, THE FRONT DOOR MUST NOT BE OPENED UNTIL AFTER A CYCLE (TO DECONTAMINATE) HAS BEEN COMPLETED.

Autoclave temperatures and time:

a. for sterilizing (media, etc.) - turn steam valve in upper access panel to LO, set time @ 20 min., set temp @ 121° C .

b. for decontaminating (quarantine trash) - turn steam valve to HI, set time @ 1 hour, set temp @ 121° C

The autoclave is equipped with "Printcon", a print out system which records the status of the sterilizing cycle. This information is kept as part of the Plant Pathology autoclaving records. A log of every autoclave use is also maintained. Door openings are also recorded on the print out, make a note on the tape as to which door was opened, so that proper door opening sequencing can be maintained.

Once per month, the sterilizer shall be tested for efficiency using a biological monitor. See Manual and Proof Plus Kit for further information.

DECONTAMINATION OF FACILITY - PARAFORMALDEHYDE

Until the PPQF is able to successfully find a safer but effective means of decontamination, the use of paraformaldehyde will be the standard of this protocol.

Decontamination of the Facility is an extreme measure.The decision to perform the decontamination process must be made by the Quarantine Officer. At present, the only basis for decontamination is the need to replace the downstream HEPA filter in the Exhaust Air System.

Because of the toxic nature of paraformaldehyde, it is recommended that the decontamination process begin on a weekend to avoid unnecessary public exposure. A warning letter to all occupants of the adjacent HDOA buildings must precede the decontamination procedure. In addition, warning signs will be posted to keep personnel away from the Building. No one will be allowed to enter the Building during this process.

Formaldehyde in air is explosive by ignition or electric spark in concentrations of 7.0%. The concentration, recommended by CDC of 0.3 g /cubic feet for decontamination purposes, results in the concentration of 0.8% of formaldehyde in the air. The Honolulu Fire Department - Hazardous Material Team should be informed of our intent to decontaminate for their information and in case of emergency.

Federal PPQ and State PQ Officials also must be informed of our intent to decontaminate.

Preliminary Steps:

1. Store all cultured organisms in air tight test tubes.

2. Remove all plant material and autoclave @ 121 degrees C for 2 hours and discard.

3. Remove all laboratory apparel and autoclave @ 121 degrees C for 2 hours.

4. Store a respirator and protective suit outside the Building. The respirator should have a filter for organic vapors and the suit shall be a complete, tyvek type.

5. Clearly label the two separate circuit breaker switches and the corresponding electrical outlets in Lab #3, which will be used for turning "ON"/"OFF" the cookers in Lab #3: first, the paraformaldehyde cooker and second, the ammonium bicarbonate (neutralizer) cooker. These circuit breakers are located in the Storage Room.

Procedures:

1. Seal the outer Emergency Exit door from the outside with air tight tape.

2. Place formaldehyde indicator strips throughout the Building.

3. Place Bacillus subtilis test spore strips throughout the PPQF.

4. Unplug all electrical equipment in the PPQF.

5. Open all drawers, cabinets, etc. for better exposure to the gas.

6. Leave the Vestibule doors to Greenhouse #4, Lab #3, and Locker Room #2 open.

7. In Laboratory #3, place 769 grams of paraformaldehyde into one of the cookers, and 769 grams of ammonium bicarbonate into the other.
   Connect the cookers to the specified outlets with separate circuit breaker connections, but be sure that these circuit breakers are in the "OFF" position. Set the cookers to the maximum temperature setting.

8. Place one electric fan in the Vestibule doorway to Greenhouse #4 and the other fan in the Vestibule doorway to Locker #2. Use separate outlets than those planned for the two cookers. Leave the fans on high speed.

9. Proceed to the Shower and wash carefully. Spray and wash down shower stall with water. Leave the glass door to Locker Room #2 open, and quickly exit the Shower. Tape the stainless steel door to prevent the escape of formaldehyde gas.

10. Turn off the emergency generator.

11. Turn off all ventilation/air circulation systems at the circuit breaker panel.

12. Cover and seal the damper ducts over the stainless steel door to the Shower. Also, cover and seal the damper ducts in the Corridor leading to Locker Room #1.

13. Turn on the circuit breaker switch connected to the paraformaldehyde cooker. Exit quickly, making sure that Building has been evacuated. Secure the Building.

14. Wait 1.25 hours for the paraformaldehyde to vaporize. With respirator and tyvek suit on, enter the Building and turn off the circuit breaker connected to the paraformaldehyde cooker. Exit the Building and secure.

15. Formaldehyde exposure time is approximately 24 hours.

16. After 24 hours, with respirator and tyvek suit on, enter the Building and turn on the circuit breaker for the ammonium bicarbonate cooker. Exit and secure the Building.

17. Wait 1.25 hours for the dissipation of ammonium bicarbonate.

18. Enter the Building, with respirator and tyvek suit on, and turn off the circuit breaker for the ammonium bicarbonate cooker. Exit and secure the Building. Neutralization of the formaldehyde should take 12-14 hours.

19. After 12-14 hours, with respirator and tyvek suit on, enter the Building. Turn on the circuit breaker for the ventilation/air circulation system and purge the PPQF, by pushing the purge switch "on". The purge switch is in the Storage Room. Exit and secure the Building.

20. After 2 hours of purging, enter the Building with respirator and tyvek suit on, and place formaldehyde indicators throughout the Building, including the quarantine areas. (Break the seal on the stainless steel door to Shower.) These strips should be monitored until the entire Building has been cleared of formaldehyde gas.

21. After the PPQF has been cleared of all traces of formaldehyde gas, turn off the purge system, and all ventilation/air circulation systems. Open and leave open all doors within the Building while undergoing the clean up procedures.

22. Test the Bacillus subtilis spore strip for the effectiveness of the decontamination procedure.

23. Because a residue may be deposited on all exposed surfaces within the PPQF after using paraformaldehyde, all surfaces including floors, walls, cabinets, equipment, etc., must be wiped down with a solution of ammonium hydroxide. Please use proper safety precautions when working with ammonium hydroxide.

24. Refer to "Replacement of downstream exhaust HEPA filter".

ENTRY INTO THE PLANT PATHOLOGY QUARANTINE FACILITY

See Protocol sections regarding Visitors, Visiting Researchers, Maintenance, etc., for additional information and requirements.

Anyone entering the PPQF must strictly adhere to the following procedures:

1. Check room pressure gauge #2 in Lab #2; it should be registering a slightly negative reading. Streamers in air ducts should indicate inward flow of air. Enter hallway and close the glass door securely.

2. Before entering Locker Room #1, check the warning sign above the door to see that the locker rooms and shower are unoccupied; "DO NOT ENTER - ROOM IN USE" sign should not be lighted.

3. Open the door by using the security key and enter. Turn on BOTH light switches on the wall to the left, and close the entry door securely.

4. In Locker Room #1, remove all clothing, as well as watches, shoes, cameras, hair accessories, etc. Eyeglasses may be worn into the Quarantine area. Place personal items in the cabinets and secure.

5. Check the air pressure gauges and streamers to be sure the air pressure is less in the shower. Open the steel door and enter the Shower Room. Close the door securely.

6. Proceed to Locker Room #2; showering is not necessary on entry. Put on laboratory garments (overalls/scrubs), plus head covering and footwear stored in the lockers.

7. Check the streamer in the air duct above the steel door to the Vestibule; air flow should be towards the Vestibule. Turn off the lights in the Shower and Locker Room #2. Open the steel door and enter the Vestibule.

8. All doors separating the Vestibule from its adjacent rooms are electronically interlocked; all doors must be securely closed before a door can be opened. This feature helps to maintain the differential negative pressure and containment feature of the PPQF.

   In case of an emergency, door malfunction, or when decontaminating the PPQF, an over-ride switch can be pushed to open the interlocked door.

9. Entry into either Greenhouse #4 or Laboratory #3 is made through the Vestibule. The emergency exit is also located in the Vestibule.
   Be sure to check the direction of air flow (streamers is air ducts) before proceeding into either room.

NOTE: In the event of an electrical power failure, notify the Quarantine Officer immediately.
The interlocked doors in the Vestibule automatically unlock (without opening), until the power is restored.

There are emergency flashlights located in Lab #3, Vestibule, Greenhouse #4, and Locker Rooms #1 and #2.

EMERGENCY EXIT

The Emergency Exit consists of two doors that are back to back in the Vestibule of the PPQF. The "double" doors are locked at all times.

The Exit is clearly marked.

The Emergency Exit may only be used under life-threatening circumstances, i.e., fire, illness, injury requiring immediate attention.

The key to the exit doors is located on the wall adjacent to the inner door handle.

EMERGENCY PROCEDURES - MEDICAL

Medical Emergency

This situation exists if a person is incapacitated and requires immediate medical attention and evacuation. Although it is important to maintain the containment level at all times, the risk situation must be evaluated in each case. Decisions should be made by a responsible PPQF staff member.

The following is to serve as a guideline in an effort to maintain containment integrity; each emergency should be assessed separately.

1. A PPQF staff member should:
   a. Administer first aid.
   b. Call for emergency help. Dial 911.
   c. Call the PPC office for assistance in directing the emergency team to the Facility. Ext. 87119, 87121, 87172, 85250

2. When the emergency team arrives,
   a. Inform them that they will be entering the areas under quarantine. Entry of personnel and equipment should be kept to a minimum.
   b. They must wear disposable jumpsuits, head and shoe coverings before they enter. (Disposables stored in cabinet in Laboratory #1.) When exiting, the disposables must be removed at Locker Room #2 if exiting via Locker Room #1. If exiting at Emergency Exit, leave disposables in Vestibule. Exit via Locker Room is preferred - less risk.

3. Opening of the emergency exit doors should be kept to a minimum and should not be left open or ajar for any length of time. The key to unlock the doors is located on the wall near the door handle.

4. PPQF representative should accompany the patient to the hospital to retrieve all contaminated clothing and blankets, securing them in a plastic bag for proper decontamination at Facility.

5. A written report should be filed for each emergency incident, with copies to USDA/APHIS-PPQ and State PQ.

EMERGENCY PROCEDURES - FIRE

Fire

The Plant Pathology Building's fire alarm is monitored by the Central Station, which will call the the Fire Department first, then the PPQF staff in case of fire.

If a fire is discovered:

1. Call PPC office for help. Ext: -39520, 39524, -39525
2. Alert other Building personnel.
3. Fire extinguishers should be used until situation becomes life threatening. They are located at:
    a. hallway at entrance door
    b. Laboratory #2
    c. Laboratory #3

4. Exit at either Locker Room #1 or Vestibule. Do not get trapped. Key to unlock the Emergency Exit doors is on wall adjacent to door handle.
   Exiting through the autoclave is an option - remove plug button at top of autoclave door, pull chain upwards to unlatch the interlock and door can be opened. This is for emergency use only. Staff members should be aware of this option in aiding trapped personnel in escaping via autoclave; turning the key lock on and opening the front door is advised.

5. PPQF representative will inform firemen of containment requirements in Facilty and admit them. Entry of persons and equipment should be kept to a minimum. Only authorized persons will be allowed into Facility. Firemen should be warned that all clothing and equipment used in the Facility must remain in the Facility to be decontaminated before release. They must shower and be provided with necessary clothing before leaving.

6. A written report should be filed with copies to USDA/APHIS-PPQ and State PQ.

Note: These are guidelines, each emergency situation should be assessed separately by a responsible PPQF staff member.

EXITING FROM THE PLANT PATHOLOGY QUARANTINE FACILITY

Exiting from the PPQF requires the same careful attention to detail as entering. Before opening doors, always check the room pressure gauges and the air flow (streamers); the gauges should be reading negative (decreasing as you exit) and the streamers should be flowing inward.

Anything brought into the PPQF may not leave the containment area without first being autoclaved (sterilized).

1. In the Vestibule, check to see that you are not carrying or holding anything. Check pressure gauge and streamers.

2. Check the sign over the steel door to see that the Locker Rooms and Shower Room are not occupied. A lighted sign indicates that the rooms are occupied.

3. If the sign is not lighted, open the steel door, enter Locker Room #2 and turn on both lights (Shower and Locker Room). Close the steel door securely. Remove all clothing and deposit in "soiled garment" bag or hang in locker.

4. Open the glass door, enter Shower Room and close the glass door securely. Draw the shower curtain to prevent water from collecting on the riser below the steel door to Locker Room #1.

5. Wash your body thoroughly with soap, including ears, nostrils, and eyeglasses, if applicable, and shampoo your hair. Rinse thoroughly.

6. Check the streamers in the air ducts, and if indicating an inward flow of air, enter Locker #1. Close the steel door securely behind you. Dry yourself using the towel provided and put on your clothes.

7. Check the room pressure gauge (#3) and streamers near the entrance/exit door. Turn off both light switches. Open the door and exit, locking the door securely behind you.

MAINTENANCE OF QUARANTINE GREENHOUSE #4

Glass Enclosure

The glass, enclosing Greenhouse #4, is glass-clad Polycarbonate or "bullet-proof" glass. It should not shatter or break upon impact. However, in the event that a crack does occur, a temporary patch shall be applied immediately as follows:

1. Cut a piece of 1/4 inch Plexiglas to fit over the damaged area, place it over the inside (contaminated side), and seal the edges tightly with duct tape.

2. With additional help, cut a panel of 1/4 inch Plexiglas, to fit completely over the outside of the damaged panel, and install it from the outside, sealing the edges with silicone caulk.

Replacement of the damaged Polycarbonate panel is possible only after the PPQF has been decontaminated. Refer to Appendix II for ordering information.

Drains

The floor drain in Greenhouse #4 empties into one of the two waste water retention tanks. Although there is a sediment trap to filter larger particles, care should be taken to minimize the soil/trash particles washing down into the drain. A build-up of sediment can ultimately hamper the tank and the waste water pump capabilities. The sediment trap is to be cleaned out once a month and the contents autoclaved @ 121 degrees C for 2 hours before discarding.

The sink drain is not serviced by the sediment trap, so extra care should be exercised to prevent particles from entering the drain. Any trash collected in the screen drainer shall be emptied daily into a plastic bag and sealed, then autoclaved @121 degrees C for 2 hours.

Trash Removal

All plants, potting materials, and trash must first be sealed in autoclavable plastic bags before leaving Greenhouse #4. The plastic bags shall then be taken to Laboratory #3 and autoclaved @ 121 degrees C for 2 hours before discarding.

SECURITY, NEGATIVE PRESSURE AND POWER MONITORING SYSTEM

The Plant Pathology Building is monitored by a security alarm system. The zones that are monitored are:

1. Entrance (front) door and corridor #1 for intrusion.
2. Electrical power failure.
3. Emergency Exit (rear) door for opening.
4. Room Pressure in Laboratory #3 for an increase in pressure to a gauge reading of -0.05 inches of water, (Normal reading is -0.10 inches of water).
5. Room Pressure in Greenhouse #4 for an increase in pressure to a gauge reading of -0.05 inches of water, (Normal reading is -0.10 inches of water).
6. Fire in all rooms.

Zone 1 is monitored during non-working hours; Zones 2, 3, 4, 5, and 6 are monitored at all times.

If an alarm situation arises, the alarm system responds simultaneously in the following manner:

1. A loud blast sounds from the horn at rooftop for 7 minutes. (Zones 1, 2, and 6)
2. At the alarm panel in Corridor #1, a buzzer is activated. (Zones 1, 2, and 6)
3. At the alarm panel in Corridor #1, a blinking red indicator light for the alerted zone is activated.
4. A strobe light located at the King Street Side of the Building is activated. (Zones 1, 2, and 6)
5. The alarm condition is automatically relayed to a Central Station (Custom Security Inc.), which telephones PPQF personnel in the following order,

    a. Plant Pathologist
    b. Insectary Supervisor
    c. Quarantine Officer

    either at work or at their residences, and informs them of the alerted zone(s).

The alarm panel located in Corridor #1 is monitored twice daily by PPQF staff. This serves as a check on any zone that is alerted.

In case of a power failure, the alarm system is automatically powered by a reserve battery. This battery is a rechargeable lead acid type, however its reserve power cannot be ascertained or tested, it may provide emergency power for 6-12 hours. A steady light at AC on security panel indicates power is from AC voltage.

If AC light is flashing, then the system is on back-up battery power. When the battery gets low in power, a signal is sent to the Central Monitoring Station, which will inform PPQF staff of the alert situation.

Refer to handbook of Security System for detailed information on operation.

ENTRY OF MAINTENANCE (REPAIR) PERSONNEL

All maintenance personnel:

1. Must follow ENTRY protocol; read and sign "Protocol for Visitors."

2. Must log in/out at every entry/exit.

3. Must be accompanied by authorized PPQF personnel.

4. Shall inform the Quarantine Officer or Plant Pathologist what repairs are necessary and whether or not the power or water needs to be turned off. No equipment should be moved, unplugged, or opened without permission.

5. Shall use basic tools provided in the containment area (see PPQF Personnel).

   If additional tools or repair equipment are needed, the repair person should be warned that everything must be sterilized before coming out of the quarantine area. This sterilization is by steam at 121 degrees C for 2 hours. This process may damage some plastics, rubber, electrical equipment, etc., and the items may not be ready for release immediately.

DAILY OPERATION/MAINTENANCE OF BUILDING

1. Remove leaves and debris from the moat and add water if necessary.

2. Check outside electrical panel lights to be sure EF and SF fans are operational. Red lights indicate malfunction, call for repair immediately.

3. Check and record retention tank fluid level, treat contents, and discharge as necessary.

4. Check propane tanks for "empty" indicator.

5. Record pressure readings at all 7 negative pressure control system gauges. If rooms are not entered, pressure readings need not be recorded. Data from quarantine rooms should be faxed out as needed, and added to copy for files.

6. Autoclave all discarded materials and/or any lab apparel in Locker Room #2 hamper.

7. Wet mop all rooms from shower inward with 10% clorox solution or approved disinfectant.

8. When leaving for the day:

    a. turn off all lights.
    b. lock the doors to the labs.
    c. activate the intrusion alarm.
    d. exit, lock and engage the deadbolt of the entrance door.

WEEKLY AND MONTHLY OPERATION/MAINTENANCE OF BUILDING

WEEKLY:

1. Clean moat of debris. Do not add chemicals to moat, fishes are controlling algae growth.
2. Start emergency power generator (rooftop) to test under load.
3. Check and record readings on both exhaust filter air flow gauge and supply filter air flow gauge, located in filter compartment. Report any significant changes to Quarantine Officer.

4. Empty contents of UV light insect traps (3) into autoclavable bag and autoclave for 2 hours @ 121 C. Submit contents to the Insect Taxonomist for examination. Do likewise with the sticky traps.

5. Wash all laboratory apparel after autoclaving.

6. Clean and disinfect the Shower and Locker Room #1.

7. Inspect waste water system for leaks, open up underground cachement and check pipes.

MONTHLY:

1. Check and add distilled water to the emergency generator batteries, as needed.

2. Test emergency power reserve battery for the intrusion/fire alarm system. See Manual.

3. Change A/C filters in Greenhouse #4 and Lab #3. See Appendix I- Filters and Filter Change.

4. Change prefilters in Exhaust Air System. See Air Handling System - Replacing Filters, and Appendix I - Filters and Filter Change.

5. Empty contents of the sediment trap in Greenhouse #4 into an autoclavable bag. Autoclave contents @ 121 deg C for 2 hours before discarding.

DUTIES OF PLANT PATHOLOGIST

The HDOA Plant Pathologist directs and conducts research on the biological control of weeds in the PPQF.

In addition, the Plant Pathologist:

1. Maintains the Protocol requirements established for the PPQF.

2. Supervises the PC technician.

3. Informs USDA of any research and change of research conducted in the PPQF. Research proposal must be submitted to:
   Dr. Bhisham Singh
   Plant Pathologist
   National Germplasm Quarantine Center
   Bldg. 580, BARC- EAST
   Beltsville, MD 20705

4. Keeps a log of all foreign shipments of plant material/ microorganisms received in the PPQF, as well as any released or shipped out of State.

5. Keeps a log of every personnel entry and exit into and out of the PPQF.

6. Immediately informs State PQ Officials and Federal PPQ Officials of any

   a. discrepancy/ malfunction in the PPQF.
   b. changes in the design of the PPQF.
   c. changes in protocol.

DUTIES OF PLANT PATHOLOGY LAB TECHNICIAN

The Plant Pathology Lab Technician is under the supervision of the HDOA Plant Pathologist. The overall responsibility of the Technician is to assist the Plant Pathologist, the Quarantine Officer, and the Insectary Supervisor in the operation and maintenance of the PPQF.

This Technician is an authorized keyholder with access to the PPQF and whose duties include:

1. Understands and abides by the Protocol of the PPQF.
2. Assists in the Daily, Weekly, Monthly operations and maintenance of the PPQF.
3. Performs various laboratory and greenhouse assignments.

DUTIES OF QUARANTINE OFFICER

The Quarantine Officer oversees the management of the Plant Pathology Building. He coordinates the efforts of the Plant Pathologist and the Insectary Supervisor in the maintenance and operation of the Building, including the Plant Pathology Quarantine Facility (PPQF).

In addition, the Quarantine Officer regulates the entry of persons into the Quarantine Facility.

DUTIES OF INSECTARY SUPERVISOR

The Insectary Supervisor serves primarily as a back-up to the Plant Pathologist in the event that the Pathologist is unable to perform the responsibilites relating to the maintenance and operation of the Building, including the PPQF.

RESEARCH PROCEDURES

The following research guidelines are an important part of the containment aspect of the Plant Pathology Quarantine Facility. All personnel using the PPQF must follow these procedures while they are conducting any type of research.

1. ENTRY OF MICROORGANISMS/PATHOGENS INTO THE FACILITY

   a. Entry requires current permit and other pertinent documentation on file.

   b. Cultures, vials, and plant specimens should be properly packaged before shipping; PPQ Form 574 (red & white label) should be pasted on the face of the package, the shipment should be addressed to the PPQF, and a copy of the permit should accompany the shipment.

   c. Upon arrival, packages must immediately be placed in Quarantine Lab #3, and logged in on the entry sheet.

   d. Care should be taken when opening the packages.

   e. Discarded packaging materials must be properly disposed of (autoclaved) as soon as practical.

2. QUARANTINE LABORATORY PROCEDURES - any attempt to minimize the aerosolization/dissemination of microorganisms in the Laboratory is applicable here.

   a. Countertops must be disinfected prior to and at the conclusion of any work period.

   b. Microscopes must also be disinfected after use.

   c. Any spill must first be sprayed with disinfectant before clean up commences.

   d. All discarded materials shall be promptly placed in decontamination bags and sealed, then autoclaved.

   e. Research data are to be transmitted to the non-quarantine side via fax machine located in Laboratory #3.

   f. The plant growth chamber must be decontaminated between use. (10% sodium hypochlorite)

g. All test plants must either be propagated or observed for 2 weeks in the non-quarantine greenhouse for insect infestation or diseases prior to transfer to the quarantine greenhouse. Only disease free/arthropod free plants will be allowed entry.

3. QUARANTINE GREENHOUSE PROCEDURES - any attempt to minimize the aerosolization/dissemination of microorganisms is also applicable here.

a. See "g." above for entry of test plants.

b. Only sterile pots and potting media should be used.

c. Plants will be irrigated by the drip method.

d. To inoculate plant/host materials, first enclose the plant in a plastic bag and secure it to the pot. Portholes can then be made through which the aerosol can be applied. Seal holes and incubate for the specified time.

e. All discarded materials shall be placed in decontamination bags, sealed and autoclaved.

f. Care should be taken to avoid water run off from pots to the greenhouse floor. "Saucers" should be placed under pots.

g. If arthropod infestations should occur, appropriate spray measures should be undertaken to control the problems.

h. Wash hands prior to leaving the greenhouse.

4. RELEASE OF MICROORGANISMS/PATHOGENS FROM FACILITY

The intentional removal of living microorganisms from the Facility requires authorization from State PQ and USDA/APHIS-PPQ.

If permission is granted:

a. The organism should either be:
(1) grown on media in a screw capped test tube for an appropriate length of time to eliminate any possibility of cross contamination, or

(2) for obligate parasites, spores should be collected in a screw capped test tube.

b. The test tube can then be carried into the Shower, washed thoroughly and exited.

5. REMOVAL OF MICROORGANISMS/PLANT MATERIAL, NOT APPROVED FOR RELEASE, FROM THE FACILITY FOR HISTOLOGICAL AND PHOTOGRAPHIC STUDY

a. For slide mounts, organisms or plant tissue must be mounted in a media that will kill living tissue, e.g. lactophenol. Coverslips must be ringed twice with either Glyptal (insulating paint) or nail polish and dried thoroughly. Slides may then be removed from the PPQF after thoroughly washing via the shower.

b. Infected plant material must be place in a jar or vial containing a killing/fixing reagent or solution such as 95% ethyl alcohol or formalin-aceto-alcohol (FAA). The containers must be filled to capacity and sealed. They may be removed from the PPQF after thoroughly washing via the shower.

Prior to removing organisms/plant material using the above methods, researchers must consult the Quarantine Officer or the Plant Pathologist for approval.

VISITING RESEARCHERS

Due to the limited confines of the PPQF, researchers must obtain prior approval by the Quarantine Officer in reserving space and time for research purposes.

In addition, visiting researchers:

1. Must obtain approval from the USDA by permit to conduct research in the PPQF.

2. Must read, understand, and abide by the Protocol.

3. Must log in/out at each entry/exit.

4. Must be aware that any tools, equipment, or notes brought into the PPQF cannot be removed unless sterilized by steam or thoroughly washing in the Shower. The Facility is not equipped with cold gas sterilization, so that heat/steam sensitive articles cannot be removed from the PPQF.

5. Are responsible for the maintenance (clean up, disinfecting, etc.) at the conclusion of each work period, as well as at the conclusion of the research project.

6. Need to provide their own appropriate, laboratory apparel for use in the PPQF.

Failure to comply with Protocol will result in expulsion/ban from Facility.

Refer also to Protocol section - RESEARCH PROCEDURES.

TOILET IN QUARANTINE AREA

The PPQF does not have a toilet. In case of an emergency, there are two alternatives:

1. Exit by showering to use the toilet in the non-quarantine area.

2. Use the portable toilet stored in the Filter Compartment in Locker Room #2 as follows:

    a. Unfold the toilet apparatus and line the bucket with an autoclavable plastic bag.
    b. Remove the bag when finished, seal, and autoclave at 121 degrees C for 2 hours.
    c. Discard the contents into the toilet (non-containment), and clean the toilet with an antibiotic detergent.

For privacy, be sure to switch on "ROOM IN USE" light while using the portable toilet.

VISITORS

Visitors to the PPQF must make prior arrangements with the Quarantine Officer for a tour of the Facility and must have a valid reason for entry.

In addition, visitors must meet the following requirements:

1. Read, understand, and abide by the Protocol of the PPQF.
2. Sign the "Protocol for Visitors".
3. Be accompanied by authorized PPQF Personnel at all times.
4. Not open nor touch anything in the PPQF without obtaining permission.
6. Not take anything with them into the PPQF. This includes jewelry, cameras, notes, purses, and other personal items.
7. Be aware of the limitations of the toilet facilities in the PPQF.

Exception: The Quarantine Facility is accessible during working hours to designated State PQ Officers and Federal PPQ Officers for inspection purposes. Prior notification is not necessary. However, this does not exclude the Officers from abiding by the Protocol.

WASTE WATER SYSTEM - MAINTENANCE

All waste water (effluent) from Laboratory #3, Greenhouse #4, Locker Room #1 and Shower, is collected in either of two 550 gallon retention tanks, located behind the Plant Pathology Building in an underground cachement which is securely locked at all times. Refer to Schematic Diagram of Waste Water System, p. 46.

Contaminated waste water is treated with Sodium Hypochlorite prior to discharge into the city sewer system.

Maintenance of:

The waste water system is under a maintenance/service contract with a plumbing company (currently Au's Plumbing) which inspects and services the waste water system in the PPQF every 2 months. PPQF personnel are responsible for the following:

1. Sediment trap in Greenhouse #4 should be cleaned out once a month.

2. All drains should be checked weekly to make sure that none are slow draining. Do not use caustic drain cleaners in the system to unclog drains.

3. The two retention tanks and all pipe connections should be inspected once a week.

Procedures in case of a break or leak in the waste water system:

1. Stop all discharge into drains.

2. Treat contaminated tank immediately: add sodium hypochlorite at 2 times rate in schedule, p. 55. Follow procedures for treating retention tanks. Note: the pumps may not prime because of the leaks, in which case, proceed to #3.

3. Spray leaking areas with 10% sodium hypochlorite, and continue to spray until leak subsides.

4. Call for emergency repair.

WASTE WATER SYSTEM - TREATMENT PROCEDURES

PARAMETERS FOR TREATING RETENTION TANK

Chemical: Sodium Hypochlorite (NaOCL), @ 12.5% a.i.
Minimum chlorine concentration in treatment: 3000 ppm (0.3%)
Contact time: 2 hours, or overnight

PROCEDURE

When a retention tank is at maximum capacity (approx. 600 gallons), a valve automatically switches the flow of effluent to the second tank. A warning system indicates high level status in the tank as follows: at the 500 gallon level, a red light blinks constantly at the control panel and at the 580 gallon level, a piercing, audible alarms sounds in Laboratory #3.

A tank holding contaminated water must be treated before reaching the 500 gallon level to allow for treatment additives. The waste water inlet valve can be manually switched from one tank to another by depressing the "manual switch" button at the waste water pump control panel in Laboratory #3.

Tank levels must be monitored daily. Retention tank gauges are located outside in a secured panel at the rear of the building.

A portable, corrosion resistant pump with suction and discharge hoses is used to circulate and discharge waste water from the quarantine facility. Refer to Schematic Diagram of Waste Water Treatment System, p. 46.

PROCEDURE FOR WASTE WATER TREATMENT

1. Determine how many gallons of waste water are in the tank. Read the water level by turning the black pointer to tank #1 or #2 and pumping the pneumatic gauge until the reading stabilizes.

2. Calculate the amount of NaOCL solution needed. See Appendix V, p.55, for chart.

3. Open the manual inlet valve to the appropriate tank. Attach the diaphragm pump and flow meter to the drum of containing NaOCL. Remove the plug in the chemical fill funnel (access to tanks) and dispense the calculated amount of NaOCl. Rinse the pump and flow meter.

4. Remove the steel plate covering the retention tank pit so that the the tank's clean out pipe is exposed. Insert the suction end of the hose down into the clean out pipe. The end of the hose should be kept 4 inches above the bottom of the tank. (Refer to the pump manual for priming procedure.)

5. Insert the discharge end of the hose into the chemical fill funnel. Start the pump and circulate the waste water for 12 minutes before proceeding to the next step.

6. Take a water sample (200 mls) from the spigot on the discharge end of the hose and cover the sample container immediately. The container must be taken to Laboratory #2 for testing.

7. Using the Chemetrics Chlorine Kit, determine the concentration of chlorine in ppm in the water sample. If it is below 3000 ppm, add more NaOCl to the tank. Retest after 12 minutes of additional circulation time. Repeat as necessary.

8. When the concentration of chlorine has reached a minimum of 3000 ppm, determine the pH of the water sample, turn off the pump and wait a minimum of 2 hours before proceeding further.

9. After the 2 hour treatment period, the pH of the waste water must be adjusted between 5.5 and 9.5 before discharging. This is done by adding approximately 800 mls HCl (muriatic acid) and circulating for 12 minutes. Check the pH before discharging.

10. To discharge the waste water, insert the discharge end of the hose into the sewer clean out access located near the emergency exit doors and start the pump. Drain the tank to approximately 40 gallons.

11. Rinse pump and hoses with clean water before storing.

WASTE WATER SYSTEM - EFFICACY TESTING

Chemical treatment of the waste water must be shown to be effective against pathogens, particularly the pathogens undergoing research in the quarantine facility. This efficacy test must be performed twice a year, December and June, and the results forwarded to USDA APHIS PPQ.

PROCEDURE:

1. Have ready a 2-week old culture of the test pathogen or a small amount of mature, dry spores (e.g. rusts and other obligates) in a vial.

2. On the day that waste water is treated, procure a sample (20 mls) of treated waste water in which the chlorine concentration has been determined at 3000 ppm. Pour 10 mls into each of 2 sterile test tubes with caps. Also prepare 2 controls with sterile water.

3. Proceed into the quarantine laboratory.

4. Remove plugs (1 cm) from the test culture and place one into each test tube. With dry spores, use a metal spatula half full of spores for each test tube.

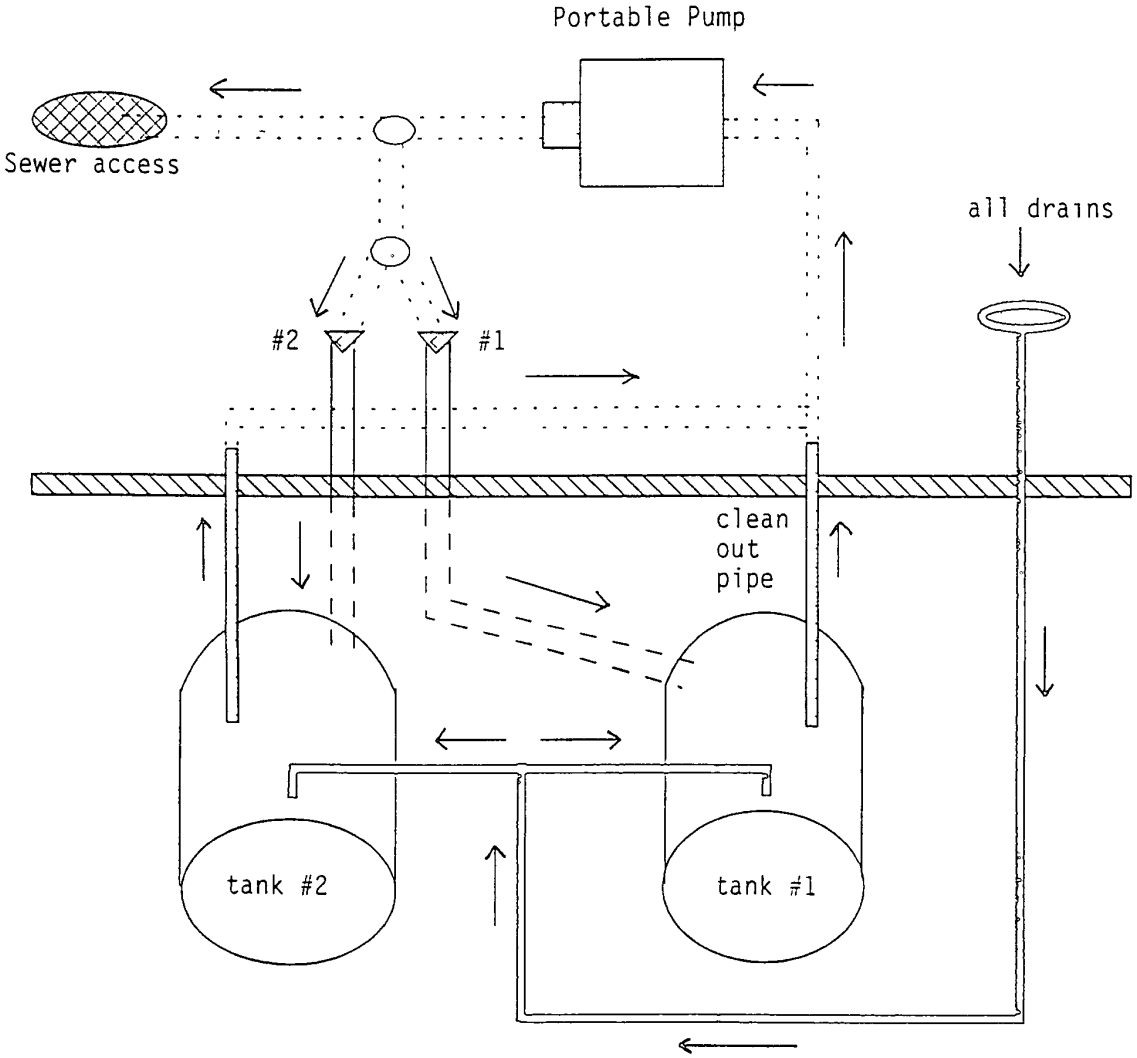
5. Shake well for several minutes and let stand for 30 minutes.

6. Centrifuge and decant supernatant.

7. Add 5 mls of sterile water to each test tube and shake for several minutes.

8. With a sterile pipette, remove 0.5 ml of the suspension from each test tube and pour onto PDA plates and observe for growth. For the dry spores, pour into small, sterile petri dishes and observe spores for germination.

Schematic Diagram of Waste Water System



circulation

discharge

diverting point

access to tank

Appendix I - Filters and Filter Change

AIR CONDITIONER FILTERS IN QUARANTINE FACILITY

1. Greenhouse #4: one 12x45x1 inch FARR 30/30 pleated
   access: at unit above sink, look for 3x45 inch slit in overhead unit.

2. Laboratory #3: two 16x20x2 inch FARR 30/30 pleated
   access: on pump side of A/C overhead box, remove access door.

Refer to PPQF A/C service manual for detailed information.

PREFILTERS

1. Supply air fan: two 24x24x2 inch FARR 30/30 pleated

2. Exhaust air fan: four 12x24x1 inch FARR 30/30 pleated

HEPA FILTERS

Flanders Filters Inc.
P. O. Box 1708
Washington, NC 27889
(919) 946-8081

Call Flanders Filter, Pacific and Western States Office, phone (415) 499-3383 to order filters

1. EXHAUST AIR (HEPA #1) : 007-C-04-05-IL size GNF (24 x 30 x 11.5 inch)
2. SUPPLY AIR (HEPA #2) : 007-C-04-05-IL size GGF (24 x 24 x 11.5 inch)

The above filters are rated as follows:

Efficiency: 99.97% 0.3 micron, fluid seal, with crank type sidelock housing.

3. RETENTION TANK VENT (HEPA #3) : Flanders model no. BB-D. 8x8x6 inches, THK filter, 99.97% EFF, 0.3 micron

This filter is located adjacent to the Waste Water Control Panel in Laboratory #3, and is installed in the vent pipe leading from the 2 retention tanks. This is a contaminated filter. This filter should be replaced every 5 years.

Replacement of the retention tank HEPA filter.

a. Close the two isolation valves in the vent pipe: one below the HEPA filter and one above it.

b. Spray a 10% solution of NaOCL (5.25 a.i.) throughout the vent pipe via the two decontamination ports.

c. Remove the contaminated filter and place into an autoclavable plastic bag and seal. Later, autoclave @ 121 degrees C for 2 hours.

d. Install new filter.

e. Open the two isolation valves.

Appendix II - Glass Clad Polycarbonate

Measurement, order and installation can be handled by most local glass companies, see Yellow Pages.

The source of our glass-clad polycarbonate is:

Sierracin/Trans Tec
12780 San Fernando Road
Sylmar, California 91342
(818)362-6811
Telex: 677122

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Appendix IV Emergency Generator

The Facility is equipped with an Onan 7.5 kw generator located on the roof. It is powered by liquid propane (tanks on side of building). See following page for further information.

In the event of an electrical power failure, the generator automatically starts up and provides power to the exhaust fan and the room pressure control systems. When power is resumed, the generator automatically shuts down. Unless the generator is reset at this point, it will not start up again. It is critical that the generator be reset after each run. Refer to No. 5 below for reset instructions.

Every week, the generator is tested under emergency conditions as follows:

1. On the rooftop, turn Switch #8 off at Panel R. This simulates a power failure.

2. The red and orange light indicators on Transfer Switch box glow, and the generator should start (5 sec delay).

3. Let generator run for 5-10 minutes.

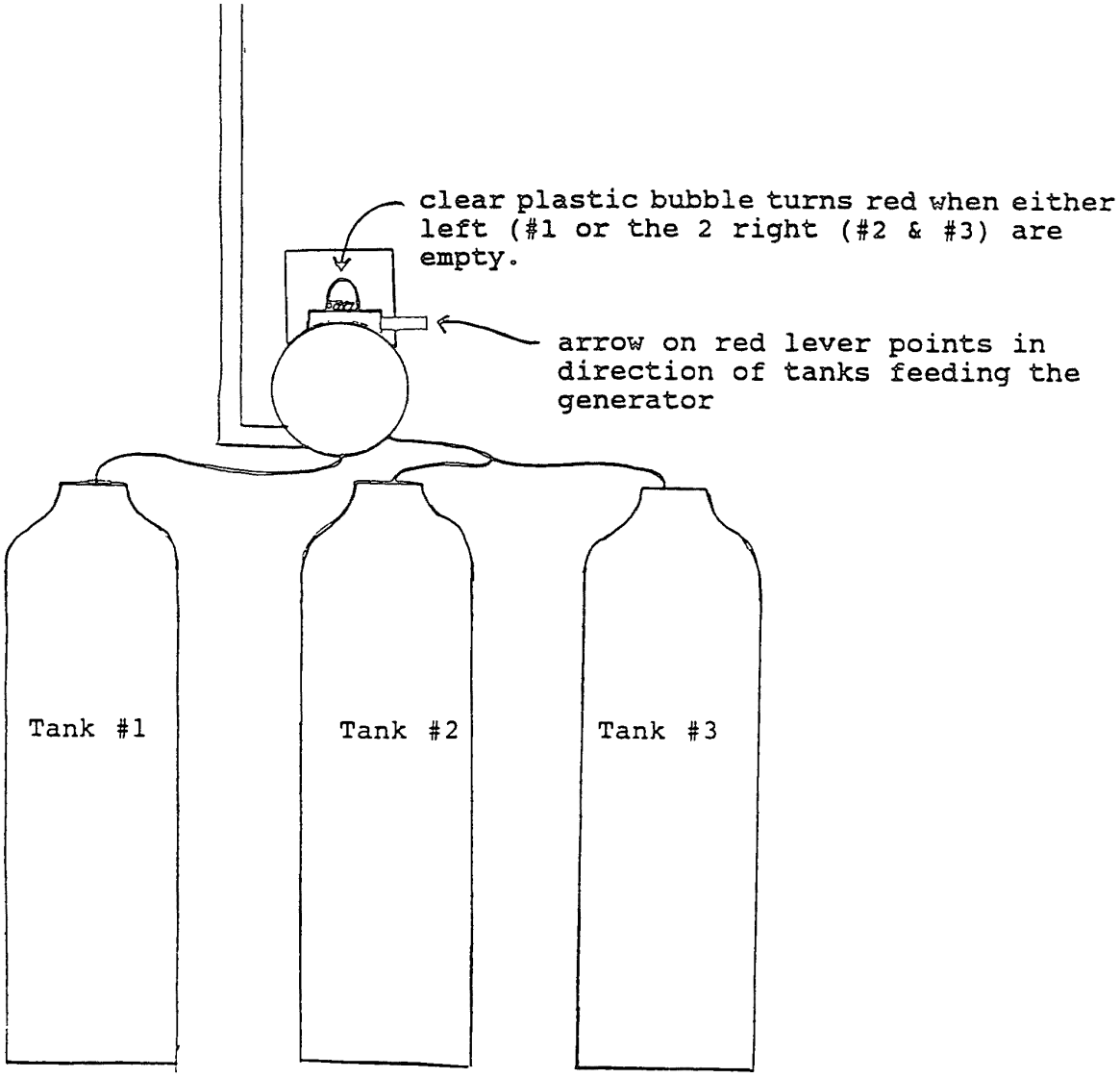
4. Turn Switch #8 on and wait until generator stops.

5. Open up Transfer Switch box and <u>push overcrank reset button</u> on the door panel. Please use extreme caution in this procedure. The high voltage in OT transfer switch components presents serious shock hazards that can result in severe personal injury or death.

Every month, check oil, oil pressure meter, and water level in the two batteries.

Appendix IV (cont.)

The generator is powered by Liquid Propane gas. Three tanks are located on the side of the Building. There are no gauges to indicate the level of gas. Refer to the following diagram:



Check indicator for empty tank(s) daily.
Call GASCO, 526-0066, to order new tanks: 100# cylinders, type HD-5 fuel

Gasco provides 24 hr/7 days a week service. As of June 26, 1991, the rates are: same day service M-F $40.00 per hr
Sat 60.00
Sun 80.00

08/20/91

Appendix V - Addition of NaOCl for Tank Treatment

Waste Water in gallons	NaOCl (12.5% a.i.) in gallons to be added to reach 3000 ppm of Chloride ion in tank
260	1.50
280	1.75
300	2.00
320	2.25
340	2.50
360	2.75
380	3.00
400	3.25
420	3.50
460	3.75
480	4.00
500	4.25
520	4.50
540	4.75
560	5.00

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ATTACHMENT A

PROTOCOL FOR VISITORS

The Plant Pathology Quarantine Facility (PPQF) was built in order to study microorganisms that may be of beneficial use in controlling weeds in our State. These microorganisms must pass rigid testing before release. Some may be potentially dangerous to agriculture and the environment.

It is very important that you understand the following protocol before you enter the Quarantine area, so that you do not unwittingly breach the containment of the microorganisms in the PPQF.

Please read the following protocol. If you do not understand any part(s), please ask PPQF personnel for clarification.

1. Please state the purpose of your visit to the PPQF. Use the following space.

---

2. Any tool or instrument that is brought into the Quarantine area must be sterilized (by steam at 121 degrees C) before release. Please ask Quarantine personnel what tools are already available inside the quarantine area.

3. You must be accompanied by Quarantine personnel.

4. Log in the time and date of entry, and your initials.

5. Before opening the glass door to the corridor, your guide will check to see that the pressure gauge above the door is reading slightly negative to zero. Both of you will enter and close the door behind you.

6. Your guide will enter the quarantine area first; while you await your turn, take this opportunity to use the toilet, if needed.

7. When the "DO NOT ENTER-ROOM IN USE" light goes off, Quarantine personnel will unlock the door for you to enter Locker Room #1. Turn on the BOTH switches on the left wall, and close the door securely behind you.

8. Remove all clothing - including watches, shoes, jewelry, etc. Place in locker and secure.

9. Proceed through the Shower, first closing the steel door, and then the glass door securely behind you.
   Showering is not necessary upon entry.

10. In Locker Room #2, put on laboratory apparel (in lockers). Turn off the 2 light switches as you open the steel door and proceed into the next room, the Vestibule, where your guide awaits you.

Exiting the Quarantine Area

1. Any tools brought with you must be left in the greenhouse or laboratory for sterilizing before release.

2. In the Vestibule, Check the "ROOM IN USE" light over the steel door, making sure that it is not lit. Enter Locker Room #2 and close the steel door securely behind you.
   Turn on the 2 light switches.
   Remove and deposit your laboratory apparel in the hamper.

3. Enter the Shower and draw the shower curtain across the stainless steel door. Wash thoroughly, including hair, nostrils, ears and eyeglasses, if applicable.

4. Withdraw the shower curtain, open the steel door and enter Locker Room #1. Dry off with a towel provided and dress.
   Upon exiting, TURN OFF THE 2 LIGHT SWITCHES.

5. Log out, indicating the time of exit.

I have read the foregoing protocol. I swear that I will abide by it and all directions of the HDOA Quarantine Personnel during my visit.

_____
SIGNATURE

_____
COMPANY/ORGANIZATION

_____
DATE

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WEB SITES OF INTEREST

1 Centers For Disease Control And Prevention, Office of Health and Safety Information System (OhASIS) – The CDC's Office of Health and Safety's page linking related health and safety sites.

(http://www cdc gov/od/ohs/hslinks htm)

2 Safety Online -- Safety information for Occupational Safety & Health Industry professionals

(http //www safetyonline com/Content/HomePage)

3. American Biological Safety Association – Biological Safety professionals

(http://www absa org)

4. U S. Department of Labor -- U.S. Department of Labor homepage

(http://www.dol gov)

5. OSHA Computerized Information System (OCIS) – OSHA's homepage

(http://www osha-slc.gov)

6. NIOSH (National Institute for Occupational Safety and Health) – NIOSH homepage

(http://www cdc gov/niosh/homepage.html)

7. Material Safety Data Sheets (MSDS) for Infectious Agents – Office of Biosafety, Laboratory Centre for Disease Control (LCDC) (Canada's CDC)

(http://www hc-sc gc ca/main/lcdc/web/biosafty/msds/index html)

8. United States Postal System – gives access to the latest version, updates to the DMM (Domestic Mail Manual)

(http://www.pe.usps.gov)

9 International Air Transport Association – IATA information

(http://www iata.org)

10 Code of Federal Regulations – Site to access latest available CFRs, including 49 CFR, 42 CFR.

(http://www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1)

11. Canada Office of Biosafety
(http://www.hc-sc.gc.ca/hpb/lcdc/biosafty/index.html)

Online Safety Library: Biosafety

Articles and Information

- NIH's Biological Safety Page
- Biosafety (Collection from CDC)
- Laboratory Biosafety Guidelines (LCDC Canada)
- Biosafety Related MSDSs (LCDC Canada)
- Biosafety in Microbiological and Biomedical Laboratories (CDC)
- Biosafety Information (Collection from VT SIRI)
- Bloodborne Pathogens Info
- Guidelines for Research Involving Recombinant DNA (NIH)
- Methodology for Optimization of Laboratory Hood Containment (NIH)
- Importation Permits for Etiologic Agents (CDC)
- Interstate Shipment of Etiologic Agents (CDC)
- Laboratory Registration/ Select Agent Transfer Program (CDC)
- NIH Biosafety Information (Collection from VT SIRI)
- Packaging and Shipping of Biomedical Material (CDC)
- Proceedings of the 4th National Symposium on Biosafety Working Safely w/Animals (CDC)
- Risk Group Classification for Infectious Agents (????)
- Risk Group Classification for Infectious Agents (ABSA)
- Selection, Installation and Use of Biological Safety Cabinets (NIH)
- 7 CFR 340 0 Restrictions on the Introduction of Regulated Articles (MSU)
- 7 CFR 340 0 Introduction of Genetically Engineered Organisms (NIH)

NIH/CDC Manuals also available from:
Laboratory Biosafety Guidelines (MSU)
Laboratory Biosafety Guidelines (ABSA)

Other Online Manuals:
Biological Hygiene Plan OSU EHS
Biological Safety Manual (Auburn)
Biological Safety Manual (Univ Penn)
Biosafety Manual (MSU)
Biosafety Manual (Univ Arizona)
Biosafety Manual (TAMU)
Biosafety Manual (Univ Maryland)
Biosafety Manual (Univ Miss)
Biosafety Reference Manual (Princeton)

Resources

American Biological Safety Association
Association for Professionals in Infection Control and Epidemiology, Inc

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ANIMAL QUARANTINE STATION

Information Brochure

This brochure contains important information about pre- and post-arrival requirements, quarantine station procedures, policies, rules, operations and fees.

It is strongly advised that you read and retain this information brochure for future reference.

Department of Agriculture
STATE OF HAWAII

Animal Quarantine Station
99-951 Halawa Valley Street
Aiea, Hawaii 96701-5602
Telephone (808) 483-7151
FAX (808) 483-7161

Rev 07/00

ANIMAL QUARANTINE STATION
Information Brochure

Table of Contents

ANIMAL QUARANTINE STATION
LOCATION AND CONTACT INFORMATION

Department of Agriculture
Animal Quarantine Branch
99-951 Halawa Valley Street
Aiea, Hawaii 96701-5602

Telephone Number
(808) 483-7151 FAX: (808) 483-7161
24-Hour Emergency number (808) 837-8092

Bus Routes
For information about bus transportation, call The Bus at 848-5555.

HOURS OF OPERATION

PET VISITING

Tuesday, Thursday
1:00 pm to 4:30 pm
Wednesday
1:00 pm to 5:30 pm
Saturday, Sunday
12:00 pm to 3:30 pm

BUSINESS COUNTER

Monday, Tuesday, Thursday, Friday
8:00 am to 11:00 am 1:00 pm to 4:30 pm
Wednesday
8 00 am to 11:00 am 1:00 pm to 5:30 pm
Saturday and Sunday, State Holidays
7:00 am to 10:00 am 12.00 pm to 3:30 pm

PET RELEASES

Monday through Friday
9:00 am to 11:00 am 1:00 pm to 4:30 pm
Saturday, Sunday, State Holidays
8:00 am to 10:00 am 12:00 pm to 3:30 pm

THE STATION IS CLOSED ON MONDAYS, FRIDAYS AND STATE HOLIDAYS FOR VISITING AND GROOMING

ALOHA!

Hawaii is a rabies free state Hawaii's quarantine law is designed to protect residents and pets from potentially serious health problems associated with the presence and spread of rabies. Success of the quarantine program is dependent on maintaining isolation of your pet from other animals for the required quarantine period.

We are proud of our record of pet health and animal care Our trained animal caretakers are concerned about the animals in their charge, and are available to help ease the transition to your new home in Hawaii. Experienced and knowledgeable people at the Animal Quarantine Station are available by letter or telephone to assist you with any additional information you may need.

IT'S THE LAW

Importation of dogs, cats and other carnivores into Hawaii is governed by Chapter 4-29 of the State of Hawaii, Department of Agriculture Administrative Rules. This law says that these animals are required to complete a 120-day confinement in the State Animal Quarantine Station If specific pre-arrival and post-arrival requirements are met, animals may qualify for a 30-day quarantine

The animal quarantine program began in 1912 with a quarantine period of 120 days. A 30-day quarantine alternate program was approved in 1997.

IMPORTATION OF HYBRID ANIMALS IS GENERALLY NOT ALLOWED

For further information on importation of hybrid animals (such as dogs crossed with wolf, coyote, fox, etc. and cats crossed with lynx, ocelot, bobcat, etc) into Hawaii, contact the Plant Quarantine Branch at the following address 701 Ilalo Street, Honolulu, Hawaii 96813-5524, or by fax at (808) 586-0864, or by phone at (808) 586-0844

Exemptions

Animals entering Hawaii on direct flights from the British Isles, Australia and New Zealand may be exempt from quarantine requirements after meeting shipment requirements. If you are planning to import animals from these areas, please contact the Animal Quarantine Station for instructions regarding pre-entry requirements

Users of service dogs and guide dogs may wish to have their animals qualified to allow them to enter the State without being held in strict quarantine at the Quarantine Station. Please contact the Animal Quarantine Station for more information

All other dogs and cats, regardless of purpose or health status are required to comply with Hawaii's quarantine law.

Pets En Route to Other Destinations

Pets passing through Hawaii are required to be quarantined at the State facility for the transit layover period. Be sure to provide the Animal Quarantine Station with a complete itinerary at least 72-hours prior to departure from Hawaii. Advance notice is required so your pet can be transported to the Airport Holding Facility in preparation for departure. Owners of pets in transit are charged the same fees as regular quarantine.

PLANNING YOUR PET'S MOVE

Your veterinarian can help you with the pre-arrival requirements.

Determine If Your Pet Should Move to Hawaii

Very old, very young (less than 9 weeks of age), chronically ill, or debilitated animals should not be shipped to quarantine. Pregnant animals, past 45 days gestations, are prohibited entry into quarantine. Owners with pets that experience difficulties during hot periods should use caution whenever shipping pets to Hawaii. High temperatures associated with high humidity usually reach their peak during the months of May through October.

Persons importing pets into the State of Hawaii do so at their own risk. Aside from negligence, the State will not assume liability for any consequences for shipment or confinement. The owner assumes all liability by presenting the animal for quarantine.

IMPORTANT: To qualify for the 30-day quarantine period, all general and specific pre- and post-arrival requirements must be met. Owners are responsible to ensure that all documents are in order and all requirements are met. Deficiencies in any of the requirements will result in 120-day quarantine period.

General Pre-Arrival Requirements

Please review the enclosed Pet Owner's Statement (form AQS-2). If possible, complete and return this form with a notarized signature by mail to the Animal Quarantine Station at least one week prior to your pet's arrival in Hawaii. The information you provide will assist us in processing the arrival of your pet. If this is not possible, bring it with you along with your valid photo identification card when you come to the Animal Quarantine Station to register your pet. In the latter case, the signature does not need to be notarized.

The following requirements shall be met for all dogs and cats entering quarantine.

1. **HEALTH CERTIFICATE** - A health certificate issued by an accredited veterinarian within 14 days prior to arrival is required. (Check with the specific airline regarding their health certificate time requirements.) The health certificate must be written in English, be an original document (not a facsimile or photocopy), bears an original or carbon signature and legible name, address and telephone number of the certifying veterinarian The health certificate must also contain the following information:

   a A complete description of your pet including age, markings, sex, breed and any additional identifying characteristics.
   b. Written declaration by issuing veterinarian that the animal was treated to kill all ticks and other external parasites within 14 days prior to arrival except when a veterinarian provides a written statement that such treatment may be detrimental to the animal's health. List the name of the treatment used and the date of treatment.
   c. Certification that your pet is free of any evidence of infectious or contagious disease.
   d. Certification by the issuing veterinarian to the accuracy of the information stated on the health certificate.
   e. Record of all required vaccinations. For rabies vaccinations, the name of the vaccine, lot/serial number, expiration date of the lot and date of vaccination must be included. **To qualify for 30-day quarantine,** list information on the two (2) most recent rabies vaccinations
   f. The microchip number and date of implantation.

2. **ELECTRONIC MICROCHIP** - All dogs and cats attempting to qualify for the 30-day quarantine program are required to have an implanted electronic microchip. The microchip does not have to be purchased from the State of Hawaii, but must be U.S made and readable with an AVID universal scanner (AVID chip, Home Again chip). If you wish to order microchips from the State of Hawaii, refer to the enclosed Request for Electronic Microchip (form AQS-73).

   It is the owners responsibility to have the microchip implanted by a veterinarian and ensure the microchip number is recorded on the serum sample submitted for the rabies testing. The microchip number must be included on the results of the rabies antibody test.

3. **VACCINATIONS** - All dogs and cats entering Hawaii are required to be vaccinated for common infectious agents.

   Rabies Vaccination. All dogs and cats 90 days of age or older at the time of entry must be vaccinated against rabies with an approved inactivated rabies vaccine (listed in the most recent Compendium of Animal Rabies Control prepared by the National Association of State Public Health Veterinarians) within 12 months prior to arrival.

   Rabies vaccination status is important in assigning the length of the quarantine period.

   a. For 120-day quarantine: rabies vaccination within the previous 12 months with an approved monovalent inactivated rabies vaccine
   b. For 30-day quarantine· see following section on Specific Requirements to Qualify for 30-day Quarantine.

Failure to comply with general pre-arrival requirements listed below may result in your pet being refused entry into the State or pet requiring 120-day quarantine. The owner, consignee, handler, or carrier shall pay all expenses including private veterinary examinations, vaccinations, microchip implantation, hospitalization, testing, medication, treatment, transportation, and returned shipments to shipper or consignor for animals failing to meet pre-arrival requirements.

Other Dog Vaccinations - Dogs 90 days of age or older at the time of arrival shall be vaccinated not less than ten days and not more than 180 days prior to arrival against

a. Canine distemper virus,
b. Canine infectious hepatitis virus or canine adenovirus-2,
c Canine parvovirus,
d. Canine parainfluenza virus,
e. Canine coronavirus; and
f. Bordetella bronchiseptica (kennel cough).

Heartworm Testing - Dogs six months of age or older at the time of arrival shall be tested for heartworms not more than 14 days prior to shipment to determine if monthly heartworm preventive medication can be safely administered. While in Hawaii, all dogs should remain on heartworm prevention.

Other Cat Vaccinations. Cats 90 days of age or older at the time of arrival shall be vaccinated not less than ten days and not more than 180 days prior to arrival for·

a. Feline panleukopenia virus (feline viral enteritis);
b. Feline viral rhinotracheitis (feline herpesvirus-1);
c. Feline calicivirus, and
d Chlamydia psittaci (pneumonitis).

For better protection, vaccination for common infectious agents 2-3 weeks prior to shipping is highly recommended.

Specific Requirements to Qualify for 30-day Quarantine

In addition to the general requirements, the following requirements are used to determine qualification for 30-day quarantine period.

30-DAY PRE-ARRIVAL REQUIREMENTS

The following requirements shall be met to qualify for 30-day quarantine.

1. **A minimum of two (2) rabies vaccinations not less than 3 months apart with an approved monovalent inactivated rabies vaccine.**

   a. The first vaccination shall not be given less than 3 months of age;
   b. The second or subsequent vaccination shall be given no less than 90 days and no more than 12 months before arrival in Hawaii;
   c. The name, serial or lot number, expiration date of the lot and date of vaccination must appear on the health certificate; and
   d. Information for the two most recent rabies vaccinations shall be recorded on the health certificate.

2. **OIE-Fluorescent Antibody Serum Neutralization Test (OIE-FAVN test)**

   A rabies blood test (**requiring 1 to 3 ml. of serum**) to determine if dogs and cats have responded adequately to rabies vaccination is required prior to arrival as the first step to qualifying for the 30-day quarantine. **The testing laboratory must submit the test results directly to the Animal Quarantine Branch, 99-951 Halawa Valley Street, Aiea, Hawaii 96701.**

   a. The OIE-FAVN test must be conducted no less than 90 days and no more than 12 months prior to arrival in Hawaii A result of 0.5 I U per milliliter of rabies antibodies or greater is required. The day following the date the laboratory receives the OIE-FAVN sample is the beginning date for the 90-day countdown.
   b To be considered valid, the test results must include the number of the implanted microchip and a completed description of the animal (sex, breed, color or color pattern, any visible unique identifying characteristics, etc.).

Meeting all general and pre-arrival requirements is an essential first step for qualifying for 30-day quarantine.

LABORATORIES WHERE THE PRE-ARRIVAL OIE-FAVN TEST IS AVAILABLE

Dr. Deborah Briggs
Department of Pathobiology/Diagnostic Medicine
1800 Denison Avenue
Kansas State University
Manhattan, KS 66506-5600

For information on procedures, please have your veterinarian call (785) 532-4455

Military Personnel Only·

USA Veterinary Laboratory
Attn MCVS-SCL-D
2472 Scholfield Road, Bldg. 2630
Fort Sam Houston, TX 78234-6232

For instructions, contact your nearest Military Veterinary Service;
Fax: (210) 270-2559 or e-mail rgvetlab@bamc-amedd army mil

30-DAY POST-ARRIVAL REQUIREMENTS

OIE-Fluorescent Antibody Serum Neutralization Test (OIE-FAVN test)

To qualify for 30-day quarantine, a post-arrival rabies blood test (OIE-FAVN) is required. A result of 0.5 I.U. per milliliter of rabies antibodies or greater is required. **IMPORTANT:** Failure to meet required OIE-FAVN test will result in 120-day quarantine.

Blood is not collected until payment for the 30-day qualification and testing fee is made. Owners are required to submit a signed consent form allowing the State to sedate your pet, if necessary, to collect a blood sample. Blood collection from some dogs and cats can occasionally be very difficult without sedation. If no such signed consent is received, blood may not be obtained from your pet. Private veterinarians will be allowed to collect blood for OIE-FAVN testing only at the quarantine station by appointment. Payment for services provided by private veterinarians is the responsibility of the owners

PET ADMISSIONS

Pets move to Hawaii year round The quarantine facility is operated seven days a week, 365 days a year. About 4000 dogs and cats are admitted to the quarantine station each year

Shipping Procedures

Pets may only enter Hawaii at the Honolulu International Airport, Oahu. Upon arrival in Hawaii, airline personnel will transport all dogs and cats directly to the Airport Animal Holding Facility. Your pet will be received by a state employee and then transported to the Animal Quarantine Station in Halawa. The State will provide all necessary transportation for your pet during the quarantine period You do not have to be present when your pet arrives. Label your pet's airline crate with the full names of owners and co-owners.

Include complete local addresses and phone numbers to be used in case of emergency. Note that only the name appearing on the shipping documents (Shipmaster's Declaration) will be recognized as legal owners of your pet.

Arrival Examination

Upon entry, all dogs and cats are given arrival examinations to evaluate their general condition and are tested for internal parasites. A blood sample may be taken for rabies testing. If any conditions are noted that require care, you will be notified

For out-of-state or neighbor island owners, notification of medical problems may be made by telephone and treatment arrangements will be discussed. It is important that we have a current telephone number.

For owners residing on Oahu, a red tag will be placed on your pet's kennel asking that you visit the veterinary dispensary to discuss any medical concerns and arrange for follow-up care. For more urgent matters, owners will be contacted by the veterinary staff by telephone

During the first week after arrival, the veterinary and caretaker staff will be monitoring your pet closely. During this time, your pet may be bathed and groomed only in the kennel When parasite evaluations are completed and there is no indication of any infectious or contagious disease (usually 10 days), you will have access to a grooming station by appointments as described later in this brochure.

Airline Animal Crates

The airline crate that your dog arrives in will be kept outside of its kennel. Please remove it as soon as possible. Dog carriers are allowed to remain in the kennel upon owner's request or if station veterinarians deem is necessary for your dogs well-being. **We are not responsible for any crates left at the Station.** When you remove the crate, you must stop at the AQS Business Window to sign it out.

Airline crates for cats are kept inside your cat's kennel. We ask that you leave it for use when we periodically disinfect the kennel. Many owners use their crate as sleeping quarters for their cat. For neighbor island pet owners, our Station will store your airline crate at no additional cost until quarantine is completed.

Kennel Accommodations

- Dogs are assigned to kennels according to their size. Kennels are approximately six feet wide and vary in length from 14 feet (small dogs) to 25 feet (large dogs), and are seven feet high. Each has a run in front and a completely sheltered area in the rear Very small dogs and puppies may be housed in a kennel similar in size to cat kennels.
- Cat kennels are approximately five feet wide, ten feet long and include platforms, a completely sheltered area and a catwalk.
- Dog and cat kennels contain platforms which may be used for bedding materials. Owners should change and wash bedding regularly.
- Each dog and cat kennel contains a bench for owner seating.
- Only one animal is allowed in each kennel. Multiple pets in a kennel do not allow for accurate caretaker evaluation of appetite, bowel movement and urination which may lead to delayed recognition of medical problems **Only animals under complete care can be permanently housed together (see Complete Care and Multiple Pet Visitation section).**
- **Pets may not be exercised outside of their assigned kennels.** Kennels are large enough to afford dogs the opportunity for adequate exercise. In addition, dogs outside of their kennels present a potential safety hazard to other dogs, visitors and employees.

The State assumes no responsibility for any items such as transport carriers, bedding, collars, toys, leashes, etc. Owners are requested to remove such articles from the Station on their first visit. Items that are difficult to disinfect or that create a safety hazard for employees, such as wet bedding, rubber floor mats with grooves or holes, foam mats, large platform beds, chaise lounges and chairs, etc. may be removed from kennels by quarantine station personnel.

CARE OF YOUR PET

If you have any questions or concerns about station procedures or your pet, check with caretakers in your area, the veterinary staff or management.

Co-Owners

Listed owners (from Shipmaster's Declaration) and designated co-owners are responsible for shipping, health care, fee payment and release at the end of the quarantine period.

- Co-owners have the same responsibilities and duties as owners and can act in the owners behalf
- Co-owners must be listed on the Pet Owner Statement (AQS-2).
- Registered visitors do not have the authority to act on behalf of the owner.

Animal Medical Care

You are responsible for your pet's health while in quarantine. When visiting, it is helpful to check for ticks (dogs), skin or ear problems, or any other abnormality which may indicate a potential medical concern. Animal caretakers will alert dispensary staff of any noticable medical problems. The station dispensary employs two veterinarians and two veterinary technicians and is designed and equipped to manage minor medical problems.

If you believe a problem exists, submit a written request for a veterinary check by station veterinarians:

- All examination request submitted will be attended to the following morning (except in emergencies).
- Provide all owner and pet information and describe the condition you wish checked as clearly as possible (use form AQS-12 available at the AQS Business Window)
- For minor problems, treatment may be initiated following examination unless you specify otherwise
- Results of the exam and associated charges, if any, can be obtained by visiting the dispensary during afternoon visiting hours or by telephoning the dispensary after 1 00 p m.

Animal Hospital

Owners must select, contact and register with a state approved private veterinary facility (refer to enclosed List of Approved Animal Clinics)

Animals not registered may be refused medical evaluation and treatment by private veterinary facilities or required care may be delayed. Most private hospitals require a refundable or a partially refundable deposit prior to accepting an animal for evaluation. You may want to contact several hospitals to obtain deposit and price information

If your pet requires evaluation at a private veterinary facility or becomes seriously ill, quarantine station veterinary staff will contact you as soon as possible. Depending on the circumstances, your pet may be sent to a private hospital at the discretion of the station veterinarian if we are unable to contact you in a timely manner Pet owners and co-owners are responsible for transportation fees and all charges accrued at private veterinary facilities.

You may also send your pet to a private hospital for examination at any time. You are responsible for arranging for your pet's hospitalization. This is best accomplished by notifying the hospital you have registered with that you wish to have your pet evaluated. Your hospital will call the station to request transport. Delivery will be the next day except in emergencies.

Your pet will be delivered to the hospital and returned to the quarantine station by qualified personnel for a nominal charge Animals will remain at the hospital overnight and are returned to quarantine following notification of station personnel by your private veterinarian.

If you change your hospital at a later date, notify the Animal Quarantine Station so that our records can be updated.

Please notify the AQS Business Window regarding any changes in your home or work telephone numbers and addresses. We know that you want to be reached quickly in case of an emergency or if there is a concern about your pet.

Medication

Quarantine does not provide routine vaccinations. You may have your vaccination prescription filled by a private veterinarian. We will administer vaccines, at a nominal charge, when vaccines are delivered by owners along with a written request.

Questions regarding pet medications can be directed to the veterinary staff. In general, nonprescription medications, such as vitamins, nutritional supplements, etc., are not administered by station employees.

If you provide medication for your pet, it must be in a plastic bottle. Pills must be sized to the proper dosage. Please label medication containers with your last name, pet's entry and kennel number. Feeding instructions, changes in feeding instructions, food, medications and medication instructions must be submitted on the appropriate form available from the AQS Business Window.

Please notify the veterinary staff if you administer any medications to your pet.

Protect Your Pet from Heartworm

Heartworm disease is a serious consequence for dogs not on monthly preventive while in Hawaii. Dog owners are required to have their pet tested prior to entry into the State We recommend that owners administer monthly heartworm medication themselves.

For pet owners who reside outside of Hawaii or on a neighbor island, heartworm preventive will be administered by station personnel upon receipt of medication. Please provide a supply of a monthly heartworm preventive medication (such as Interceptor or Heartgard) to protect your pet. Heartworm medication is given by station personnel the first day of the month for simplicity

Tick Control

During the spring and summertime the number of brown dog ticks increases in Hawaii and at the Animal Quarantine Station. Tick control products are recommended to prevent your pet from getting ticks. Two products work well to prevent ticks in Hawaii. The first is the Preventic tick collar which contains Amitraz that can be used on dogs over 3 months of age. When using a Preventic collar, be certain the dog cannot get the collar off and chew on it. The second product is Frontline Spray or Frontline Topspot containing Fipronil. Frontline Spray is applied to small dogs over 8 weeks of age Frontline Topspot can be used for larger dogs over 10 weeks of age Either product can be purchased at veterinary clinics Cats generally do not get ticks and do not need tick control products

Feeding Your Pet

Your pet will be fed a nutritionally complete and balanced commercial dog or cat food formulated for adults. Food consumption is closely monitored and dogs and cats are weighed at least once a month to determine if food intake is optimal.

If your pet will not eat quarantine provided food or requires a special diet, you are required to supply the food and feeding instructions. Owners should provide puppy or kitten food for young animals. No adjustment of quarantine fees are made for those supplying special food to their animals. Food containers must be individually labeled with your last name and kennel number in black, indelible ink.

If you are supplying dry food, it must be submitted in a secure vermin-proof heavy plastic or metal container, with a tightly fitting cover, and be large enough to hold the entire amount of food supplied.

You will be notified by a staff veterinarian if your pet has problems with the diet during quarantine.

Complete Care

Owners or designated co-owners may accept the responsibility for feeding, cleaning, health monitoring, medicating and grooming their pets during quarantine. Persons doing complete care must attend to their pets needs daily, seven days a week. Removal of waste must be done both in the morning and afternoon. Feeding must be done in the morning and may also be done in the afternoon if desired.

Complete care requires a major commitment. Please make sure that you are able to fulfill your obligations before assuming all care for your pet. A list of regulations pertaining to complete care will be provided, on request, when you arrive. Only animals of the same species, and in complete care, can be kenneled together.

Grooming

Owners are responsible for grooming their own pets. Please make your grooming appointments early since grooming station space is limited. Appointments must be scheduled at least one day in advance Please call 483-7151 before 9 00 a.m. or after 11·00 a.m. You may schedule two grooming appointments per week, per pet.

- Grooming hours are· Tuesday, Wednesday, Thursday, from 9·00 a.m. to 11 00 a.m., Saturday and Sunday from 8·00 a.m. to 10.00 a m.
- Grooming stations have tubs, warm water, electrical outlets and a holding cage.
- You will be permitted to walk your dog, with a properly fitting collar and leash, to the nearest grooming station. Dogs must be under control and walked by the shortest route
- You may bathe your dog within the kennel at any time during afternoon visiting hours
- Cat grooming, including bathing, is done in the kennel or cattery. Cats are not allowed out of their assigned kennel or cattery If you wish to bathe your cat, please bring your own supplies, including a bucket. Most catteries are equipped with a water heater and tub for bathing cats. Check with your caretaker about proper procedures for use

Owners and groomers are responsible for the proper handling of pets during the grooming period and when walking to and from the grooming station. In addition, owners are expected to maintain the grooming station in a tidy condition Revocation of grooming privileges may result if animals are not handled in accordance with station rules or tubs are left dirty.

If you are unable to visit and groom your pet, please arrange for a groomer to provide grooming services Check with the AQS Business Window for more information

Visiting Your Pet - Visiting hours are provided on page 3

To register others to visit your pet, the owner must inform the AQS Business Window in person, or with a notarized Pet Owner's Statement (AQS-2), or by forwarding a notarized letter to the Quarantine Station registering the individuals who may visit your pet.

- No one, including groomers, will be allowed to visit your pet without your registered permission on file.
- Authorized visitors must be 18 years or older. Minors are allowed to visit while accompanied by owner or authorized visitor.
- **Please be prepared to present AQS-issued visitor pass and valid photo identification** (State driver's license, state or military ID or passport) **each time you visit our facilities.** Only authorized individuals may gain access to your pet

Multiple Pet Visitation (MPV) Program

During the afternoon visiting, owner may be allowed to put their pets in the same kennel for visiting. It is mandatory that owners attend a MPV orientation program, or discuss the MPV requirements with the VIP coordinator, before a pass is issued allowing pets to be put together

Please check with the AQS Business Window about the requirements and procedures required to be authorized for multiple pet visitation. An MPV Visitation Request Form must be completed and submitted to the dispensary before an MPV pass can be issued. The MPV program is coordinated through the Volunteers Interested in Pets (VIP) program. Summary of the policy allowing for MPV is as follows·

1. Only same species pets may be combined, must be owned by the same owner/family and have arrived in quarantine on the same day.
2. Pets must be deemed compatible and free of contagious diseases by the AQS veterinarian and if of opposite sex, one must be spayed or neutered.
3. MPV will only take place during owner visitation and will end when the owner leaves the kennel for any reason.
4. All pet owners will strictly abide by the rules for engaging in MPV. If any of these rules are broken, MPV privileges will be terminated for the remainder of the quarantine period.

SUMMARY OF STATION RULES

The following is a partial list of rules that owners and visitors are expected to comply with while on the quarantine station grounds Caretakers and management personnel will notify owners and visitors when they observe violation of station rules. Each owner and visitor shall abide by all station rules and policies.

1. Any person who fails to present acceptable picture identification upon request may be denied admission.
2. While on the premises, please go directly to your kennels to avoid disturbing other pets.
3. **For the health and safety of all persons and animals, all kennel doors must be properly latched and doors completely closed in order to prevent escapes and injuries.**
4. Please do not feed, handle or visit the pets of others unless you have received permission from the owner and this authorization is recorded at the AQS Business Window.
5. Walking or removing dogs from kennels is prohibited, except taking shortest distance to and from grooming station for grooming appointments.
6. No one is allowed to leave dogs tied to the outside of the kennel
7. Cats may not be removed from kennels for any reason. The walkway in the catteries may not be used as an exercise area.
8. No one is allowed to exercise pet outside of a kennel without written permission from the station veterinarian.
9. Minors may be admitted to the station only in the company of an authorized adult who shall be responsible for the minor's behavior and safety. Please restrict children from running, playing, behaving boisterously or putting fingers through the wire mesh.
10. Skateboards, skates of any type, bicycles, etc. are not allowed on the station grounds.
11. The quarantine station is a family-type environment. Please wear appropriate clothing while on the station grounds.
12. No other animals are allowed on the quarantine station premise.
13. Consumption of alcoholic beverages is not allowed on State property, including the Animal Quarantine Station grounds

14. Any person parking in a space designated as a disabled person parking space shall prominently display a disabled persons parking placard on the dashboard or visor, so that it is visible through the front windshield

The Animal Quarantine Manager may deny admission to the state quarantine station to any person who violates chapter 29 or chapter 142, Hawaii Revised Statutes, or who disrupts or impedes the activities of the department's employees or the animal owners, visitors, or groomers; or who behaves in any manner detrimental to the operation of the station or to the animals confined there.

VOLUNTEERS INTERESTED IN PETS (VIP) PROGRAM

Volunteers Interested in Pets is an organization of people, dedicated to positively enhancing the quarantine experience for both owners and their pets, through information, communication and emotional support.

In part, these goals are achieved by administering the Multiple Pet Visitation (MPV) program described on page 11 of this booklet. In addition, the program organizes a pool of volunteers who have expressed a willingness to visit dogs or cats, other than their own, during the quarantine period For more information on the VIP program or on becoming a volunteer, please contact the AQS Business Window when you arrive.

FINANCIAL INFORMATION

Fee payment deadlines and policies

Fees are subject to change without notice

- Microchip· $17 (U S. mailing address); $27 (Foreign) includes shipping and handling. To order prior to arrival, refer to Request for Electronic Microchip (form AQS-73).

Quarantine Fees (due at the time your pet enters quarantine)

◦ Registration fee·	$25 entry fee for each pet to be quarantined.
◦ Health Record fee	$10 for each pet to be quarantined
◦ Overhead Expense·	$145
◦ Daily fee for each pet	$7 50 (or total either $225 or $900)
◦ 30-day qualification fee	$250 for each pet (for 30-day qualifiers only)

Fees are not adjustable. There is no discount for owners providing their own food or doing complete care.

Other Fees and Penalties (due prior to the release of your pet)

The veterinary dispensary or quarantine staff may charge additional fees for required services, medications or certain procedures, particularly if they involve entry requirements or the health of your pet.

◦ Microchip:	$18 (includes implantation, for pets arriving without State-issued microchip)
◦ Bathing:	$14 for each bath as prescribed by station veterinarian
◦ Grooming	$18 for each grooming session as prescribed by station veterinarian
◦ OIE-FAVN Test fee:	$60 for each pet

- Vaccination: $ 6 for administration of each vaccination
  $ 5 for each vaccine not provided by owner
- Daily insulin injections: $1 per day (for diabetic pets only)
- Dipping, spraying, dusting, or sponging to control external parasites: $12 for each treatment
- Worming. $12 for each worming treatment
  $20 for each three-day treatment
- Giardia: $10 for each course of treatment
- Health Certificate issued by quarantine station veterinarians: $15
- General veterinary services: $40 per hour, $10 minimum charge
- Fecal testing for intestinal parasites: $8 (at owner's request)
- Heartworm testing: $8 (at owner's request)
- Ground transportation for quarantined pets between approved hospital on Oahu and station. $4 (round trip)
- Other approved ground transportation for quarantined pets (i.e. transportation to harbor): $20 (one way)
- Duplication of receipts: $4
- Copies of records: 50 cents per page copied
- Each offspring born to pets at the Animal Quarantine Station: adult daily rate
- There is an additional $7 50 per day penalty for pets left in the Quarantine Station beyond their scheduled release date or for pets that arrive pregnant, past 45 days gestation.
- A service fee of $15.00 will be assessed for any check, draft, certificate of deposit, or other negotiable instrument that is dishonored for any reason.

Fees are payable by cash, check, credit card (VISA or Mastercard), money order, bank draft or travelers' check . Payment plans are not available. Release of your pet may be delayed if fees are not paid in full. Personal checks are not accepted within 30 days of the scheduled release date of your pet.

Refunds

Fee refunds will be made only to the owners of animals that:

- are exported prior to completion of the quarantine period
- are housed at a satellite facility (if available)
- are hospitalized during the quarantine period for three days or more
- die during quarantine (for the remaining balance)
- make any type of overpayment

Refunds are not processed until the official release date. Thereafter, refund checks will be issued in six to eight weeks. It is important that we have a current address. Refunds of less than $15.00 will not be processed except after written request to the Animal Quarantine Manager within one (1) year of the animals release date.

Please note:

Owners who abandon their pets in quarantine are still liable for all fees and charges accrued

PET RELEASE

Pets will be released after quarantine to owners, co-owners or properly designated representatives, such as intermediate handlers A picture identification is required, and **all fees must be paid before release.** Please make arrangements to check your pet out of quarantine and for shipment to a neighbor island, if required

- Bring a picture identification.
- Be sure to bring a suitable transport crate or leash for your pet on its release date
- Persons to whom we may release your pet must be registered prior to the date of release

SATELLITE QUARANTINE STATION

There is a Satellite Quarantine Station on the Island of Hawaii. It is the Bar-King Dog Kennel (BDK), P O. Box 1184, Keaau, HI 96749, phone (808) 966-8733. If you wish to quarantine your pet at this facility, you must make prior arrangements with BDK. You should note; however, your pet will still have to come first to the Animal Quarantine Station (AQS) on Oahu Your pet will be checked into the system, and in the case of 30-day quarantine, the post arrival OIE-FAVN sample will be drawn. In addition to the fee charged by the BDK, you will be required to pay the Animal Quarantine Station,

- for 30-day quarantine, approximately $300 ($25 registration fee, $10 health records fee, $250 30-day qualification fee, and a $7 50 kennel fee for each day spent at the AQS); or
- for 120-day quarantine, approximately $50 ($25 registration fee, $10 health records fee, and a $7 50 kennel fee for each day spent at the AQS).

ADVISORY COMMITTEE

The Animal Quarantine Station is advised by a group of citizens who volunteer their time and expertise They represent the following organizations and the public at large

Commission on Persons with Disabilities
Hawaii Cat Fanciers
Hawaii Dog Breeders
Hawaiian Humane Society
Hawaii Veterinary Medical Association
U.S. Military

(Information included in this publication is subject to change and revision at any time without notice.)

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AQS-73
07/00

REQUEST FOR ELECTRONIC MICROCHIP

dogs and cats attempting to qualify for the 30-day quarantine program are required to have an implanted electronic crochip. The microchip does not have to be purchased from the State of Hawaii, but must be U S. made and readable th an AVID universal scanner (AVID chip, Home Again chip).

For 30-day quarantine, the microchip **MUST** be obtained before the OIE-Fluorescent Antibody Serum Neutralization Test (OIE-FAVN test). The OIE-FAVN test must be completed between 90 and 365 days prior to arrival in Hawaii.

ease allow one-to-two weeks for processing and delivery of microchip.

ail completed form and payment to. Department of Agriculture
Animal Quarantine - Microchip Request
99-941 Halawa Valley Street
Aiea, HI 96701-5699

or fax to (808) 483-7110
(credit card payments only)

NO REFUNDS
ALL SALES FINAL

OST: **Microchip to United States Location** (includes APO's and FPO's) $17 00 each
Microchip to Foreign Country Address $27.00 each (U.S. currency)

ease print

WNER: _____ Telephone· (_____) _____
(Last name) (First) (MI)

JMBER OF MICROCHIPS REQUESTED: _____ X $ _____ = $ _____
Cost per microchip Total Cost

yment in advance required *(Check one)*:

☐ Money order, cashiers' check, or bank draft (Payable to Department of Agriculture) No Personal Checks.

☐ Credit Card (complete the following information)

Name on Credit Card: _____ ☐ VISA ☐ Mastercard

Credit Card Number· _____ Expiration Date: _____

Signature: _____

ET INFORMATION *(Complete for each microchip requested)*

Pet's Name	Dog	Cat		Breed	Sex	Age	Color	Markings
_____	☐	☐	1.	_____				
_____	☐	☐	2.	_____				
_____	☐	☐	3.	_____				
_____	☐	☐	4.	_____				
_____	☐	☐	5.	_____				
_____	☐	☐	6.	_____				

MAILING LABEL
(Print or Type)

Please fill out carefully. The microchip will be mailed to the address on the mailing label.

The State is not responsible for microchips lost or damaged during shipment.

TO· _____

_____

_____

_____

Request For FAVN-OIE Testing

Send to: Dr. Deborah Briggs, Director Rabies/FAVN Lab
Mosier Hall, Dept. of Diagnostic Medicine
Kansas State University
1800 Denison Avenue
Manhattan, Kansas 66506-5600
Tele: (785) 532-4483/4455, Fax: (785) 532-4298

Lab No._____

--Please Print Legibly or Type; Illegible Information and Blank Field May Delay Processing--

DESTINATION of ANIMAL BEING EXPORTED:_____
From: (unless otherwise specified, this address will be used for billing and results)
Submitting Clinic:_____Date._____

Name of Veterinarian:_____Phone/Fax:_____

Street Address:_____

City:_____State/Country:_____Zipcode:_____

Name of Owner:_____

Street Address:_____

City:_____State/Country:_____Zipcode:_____

Name of Animal:_____ **Microchip No.**_____

Species/Breed:_____Date of Birth:_____Sex:_____

Color and Unique Markings:_____

Rabies Vaccination History:_____

Serum Draw Date:_____Approx. Depart Date._____

Signature of Veterinarian:_____Date._____
Veterinarian signing form acknowledges identity of pet and confirms microchip identification

Results of Test: (For Lab Use Only)

Opened by _____ Processed by _____ Computer Entry _____ Verified by _____ Reviewed by_____

REV. 07/00

Serologic Testing by the Fluorescent Antibody Virus Neutralization (FAVN) Method

The Fluorescent Antibody Virus Neutralization (FAVN) test is a virus neutralization assay developed at CNEVA in Malzeville, France. The FAVN consists of a three-fold serum dilution series. It is used to detect rabies virus neutralizing antibody after vaccination and is required by the state of Hawaii in order for dogs and cats to qualify for a reduced quarantine period. Dogs and cats must demonstrate one titer of at least 0.5 I.U./mL to qualify. Eligible service dogs and exempt guide dogs need to be implanted with a microchip and have two FAVN tests conducted prior to arrival.

Results will be reported as one of the following: Less Than 0.5 I.U. or >/= 0.5 I.U. Copies of the results will be mailed directly to Hawaii as well as to the submitting veterinarian. Submissions must be on our "Request for FAVN Testing" form.

Specimen Requirement

. 1ml serum without preservatives; spun and separated from the clot.
. Serum sample must be identified with animal's microchip number.
. Microchip identification **must** be implanted prior to sample draw. Microchip must be U.S. made and readable with an AVID universal scanner (AVID chip, Home Again chip)

Note: A waiting period of at least 14-21 days between rabies vaccination and sample draw is advised.

Shipping Information

Serum should be packed in a cushioned leak-proof container with absorbent material. This should then be placed inside a second container with dry ice or ice packs. We recommend that an overnight or next day carrier be used since the regular mail can take up to two weeks.

Cost

$35.00 by check, money order or credit card made payable to FAVN Please include payment at time of submission. A delay in testing may occur if payment is not included. Please see the "payment by credit card" form for charging payment.

Processing Time

The test is initiated each week on Monday and Wednesday mornings. Results can be expected in the mail ten to fourteen days after their set-up date. We will also fax and/or phone results upon request. The 90-day pre-export countdown period begins the date that the sample is received in our laboratory. KSU receives packages 24 hours per day, 7 days per week. However, the lab is only open Monday through Friday and the sample will not be dated until it has reached our laboratory.

Send Samples To

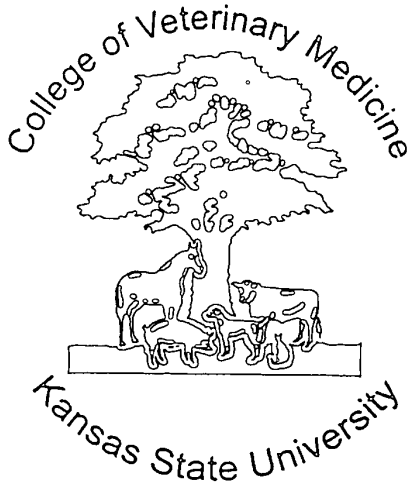
Attn: Dr. Deborah J. Briggs, FAVN
1800 Denison Avenue
Mosier Hall
Kansas State University
Manhattan, KS 66506-5600

If you have additional questions, please call (785) 532-4455 or email rabies@vet.ksu.edu

Rabies Serology Laboratory
College of Veterinary Medicine
Kansas State University
1800 Denison Avenue
Manhattan, Kansas 66506-5606

Director: Professor Deborah J Briggs

Phone: *(785) 532-4483*
Fax: *(785) 532-4474*



For credit card payment please complete the following information.

Name: _____

Address: _____

_____

_____

_____

Daytime telephone: ( ) _____

Evening telephone ( ) _____

Fax number: ( ) _____

Method of payment:

☐ Visa ☐ Mastercard

Card # : _____

Authorized signature._____ Expiration date: _____

FAVN TESTING REQUEST FOR DOD MEMBERS

TO:
DOD VETERINARY LABORATORY
2472 SCHOFIELD RD BLDG 2632
FORT SAM HOUSTON, TX 78234-6232
Comm: (210) 295-4604 DSN: 421-4604

Instructions for Submitting Samples Are On The Back of This Form

DOD VET LAB ACCESSION #. _____

Name of Owner: _____ Rank: _____
(First Name, Middle Initial, Last Name)

Street Address: _____ Phone: _____

City: _____ State: _____ Zip: _____

Name of Animal: _____ Micro Chip # _____

Dog / Cat *(Circle One)* Breed: _____ Age: _____ Sex: _____

Color and unique markings: _____

_____

Name of Veterinarian: _____ Phone: _____

Submitting Clinic: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Signature of Veterinarian: _____ Date: _____

Results of Test:

PROTOCOL FOR SUBMISSION OF SAMPLES TO DOD FOR RABIES OIE-FAVN TESTING

1) SUBMIT A SERUM SAMPLE WITH A MINIMUM OF ONE MILLILITER (1.0) OF CLEAR, NON-HEMOLYZED SERUM. THE SAMPLE SHOULD BE SENT REFRIGERATED, NOT FROZEN, VIA A NEXT DAY DELIVERY SERVICE.

2) A COMPLETE OIE-FAVN FORM REQUEST AND A PHOTOCOPY OF THE MEMBER'S MILITARY ORDERS OR ALERT NOTIFICATION IN WRITING BY THEIR PERSONNEL OFFICE SHOULD ACCOMPANY THIS REQUEST.

3) SAMPLES *SHOULD NOT* BE SENT TO THE LABORATORY TO ARRIVE ON THE WEEKEND OR FEDERAL HOLIDAYS.

4) ONE FORM SHOULD BE FILLED OUT FOR EACH ANIMAL TO BE TESTED. THE FORM MUST BE FILLED OUT COMPLETELY (TYPED OR NEATLY PRINTED), AND SIGNED BY THE ATTENDING VETERINARIAN.

5) FOR THOSE PERSONNEL FROM OVERSEAS EVERY EFFORT SHOULD BE MADE TO UTILIZE THE FASTEST AIRMAIL SERVICE AVAILABLE. USE PLENTY OF FROZEN GEL PACKS TO KEEP THE SPECIMEN IN A CHILLED CONDITION. FOR FURTHER INFORMATION CALL COMMERCIAL (210) 295-4604 OR DSN: 421-4604.

REV. 7/00

QS 39
)0

ANIMAL QUARANTINE BRANCH
99-951 Halawa Valley Street
Aiea, HI 96701
Phone (808) 483-7151
Fax (808) 483-7161

EAR PET OWNER: PLEASE PRESENT THIS FORM TO THE VETERINARIAN WHO WILL REPARE THE HEALTH CERTIFICATE FOR YOUR PET.

ear Doctor:

ıe checklist below is provided to assist in the process of qualifying your clients pet for Hawaii's 30-day quarantine ogram. Please fill it in and sign ıt. The signature must be the same as the one on the health certificate. It ıs ıportant to fill this form out as completely as possible. Please fill out one form for each animal. Do not hesitate to ll or fax us with any questions. Thank you.

Owners Name:
Pet Name:
Microchip Number:
Species (Canine or Feline):

Current rabies vaccination
(At least 90 days prior to arrival)
Product or Mfg name
Date Administered.
Serial or Lot Number:
Expiration date of the Lot:

Previous Rabies Vaccination[1]
(At least 3 months prior to current rabies vaccination)
Product or Mfg name:
Date Administered:
Serial or Lot Number:
Expiration date of the Lot.

HEALTH CERTIFICATE MUST:
Be filled out in English ☐
Have the microchip number listed ☐
Have veterinary identifying info. ☐
Have animal identifying info. ☐
Have necessary rabies vacc[2].info ☐

Signature

[1]If detailed information is not available for this vaccination, documentation of administration of the vaccine will suffice.

[2]Properly executed rabies vaccination certificates will suffice.

30-DAY QUARANTINE PRE-ARRIVAL WORKSHEET

1. RABIES VACCINATION
   a. Is the animal less than 1 year of age?
      i. **Yes**
      A puppy or kitten cannot be vaccinated for rabies until it is at least 3 months old. A second rabies vaccination must then be given at least 3 months after the first. *Note At least 90 days must have passed between the last rabies vaccination and the arrival of the animal in Hawaii. Based on the above then, it is not possible for an animal to qualify for the 30-day quarantine if it is less than 9 months of age on arrival in Hawaii.*
      ii. **No**
      Go to 1 b.
   b Has the animal ever been vaccinated for rabies?
      i. **Yes**
      An animal that has had only one rabies vaccination in its life must have a second rabies vaccination and it must be given at least 3 months after the first. For an animal with a regular history of rabies vaccination, the 3 month interval does not apply. The concern then is for the most recent rabies vaccination and the previous one. *The most recent cannot have occurred less than 90 days nor more than 12 months prior to arrival in Hawaii*
      ii. **No**
      An adult animal that has never been vaccinated for rabies must have 2 rabies vaccinations with an interval of at least 3 months between them. *The most recent cannot have occurred less than 90 days nor more than 12 months prior to arrival in Hawaii.*

2. MICROCHIP IDENTIFICATION
   a. Does the animal have a microchip implanted?
      i. **Yes**
      Go to 2.b.
      ii. **No**
      To qualify for the 30-day quarantine option, an animal must have implanted a microchip. *The microchip does not have to be purchased from state of Hawaii, but must be U S made and readable with an AVID universal scanner (AVID chip, Home Again chip)*
   b. Does the microchip match the requirements listed in 2 ii above?
      i. **Yes**
      The microchip number must be recorded on the health certificate and must accompany the request for an OIE-FAVN test as described below
      ii. **No**
      Go to item 1 ii. above.

3. PRE-SHIPMENT OIE-FAVN TEST
   a. Does the animal have a microchip implanted in accordance with 2. above?
      i. **Yes**
      Requisite serum samples should be submitted to the appropriate laboratory. Microchip number must accompany the test request (be recorded on the request form). *The test requirements showing a serum antibody level of 0.5 or more international units must be completed not less than 90 days and not more than 12 months prior to arrival of the animal in Hawaii.*
      ii. **No**
      To be considered valid, the number on the microchip described in 2 a.ii. above must be recorded on the test results reported by the laboratory and therefore must be recorded on the test request form.

NOTE: Both the rabies vaccination requirement and the OIE-FAVN testing requirement must have been satisfied within the window of *not less than 90 days and not more than 12 months prior to arrival!*

If all of the above listed requirements have been met, then after arrival a second or post-arrival OIE-FAVN test will be administered. If the results of the post-arrival test show the serum rabies antibodies to be equal to or greater than 0.5 international units the animal will be released from quarantine 30 days after arrival.

Division of Animal Industry
Animal Quarantine Branch
99-951 Halawa Valley Street
Aiea, HI 96701-5602

PET OWNER STATEMENT

rochip number _____ Estimated Date of Arrival _____
(Microchip is required to qualify for 30-day quarantine)

s form MUST be completed and RETURNED to the Animal Quarantine Station. If the form is returned by mail, it should be mailed ie above address and THE SIGNATURE MUST BE NOTARIZED.

CTION 1 PRIMARY OWNER INFORMATION - Person whose name appears on the Shipmaster's Declaration (form used by airlines or other transportation provider during transport of your pet) and is authorized to make decisions regarding the health and care of the pet. The name listed below should be the same as the name on the Shipmaster's Declaration

1 _____
Last Name First Name M I

_____ I D Exp Date____/____/____ Date of Birth____/____/____
Social Security No./ID

2. Residence Address _____

_____ _____ _____
City State ZIP Code

_____ _____
Island Country

Telephone Business (_____)_____ Home (_____)_____

Is your residence permanent? ☐ Yes ☐ No

3 Mailing Address _____

_____ _____ _____
City State ZIP Code

_____ _____
Island Country

4. Owner Group ☐ C-Civilian ☐ A-Army ☐ N-Navy For military personnel
☐ M-Marines ☐ G-Coast Guard ☐ F-Air Force Grade. _____ Rank. _____

CTION 2 CO-OWNERS - List of person(s) in priority order (other than primary owner) who have authorization to make decisions on the health and care of your pet and to act in the owner's behalf, having the same duties and responsibilities as the owner. Must be 18 years of age or older

a _____ _____
Last Name First M I Social Security No./ID

Telephone. Business (_____)_____ Home (_____)_____

b. _____ _____
Last Name First M I Social Security No./ID

Telephone: Business (_____)_____ Home (_____)_____

c. _____ _____
Last Name First M I Social Security No./ID

Telephone. Business (_____)_____ Home (_____)_____

d _____ _____
Last Name First M I Social Security No./ID

Telephone Business (_____)_____ Home (_____)_____

SECTION 3 AUTHORIZED VISITORS - Person(s) you allow to visit your pet but do not have authority to act in your behalf Must be 18 years of age or older to be an authorized visitor (Minors allowed to visit while accompanied by owner or authorized visitor)

	Last Name	First Name	M I	Social Security No./ID
1				
2				
3				
4				

SECTION 4 PET INFORMATION

1 Name of Pet _____

2. Species: ☐ D-Dog ☐ C-Cat ☐ O-Other _____

3 Sex· ☐ M-Male ☐ F-Female Neutered. ☐ Yes ☐ No

4 Breed ___ ___ ___ *(Refer to Breed code list)* Age _____

5 Color (up to 3). 1) ___ ___ ___ 2) ___ ___ ___ 3) ___ ___ ___ *(Refer to Color Code list)*

6 State/Country pet arriving from _____

7 Physical Characteristics (Physical blemishes, scars or distinguishing marks) _____

_____

8 Are there any special medication/major medical problems? _____

_____

9 Special Diet. (If any, owner needs to provide) _____

_____

IMPORTANT· ORIGINAL HEALTH CERTIFICATE INCLUDING PROOF OF VACCINATIONS MUST BE SUBMITTED WITH PET FOR BETTER PROTECTION, VACCINATION 2-3 WEEKS PRIOR TO SHIPPING IS HIGHLY RECOMMENDED.

SECTION 5 ANIMAL CLINIC (In case of an emergency where it is determined that your pet requires hospitalization, please indicate which animal hospital you wish your pet to attend Refer to List of Approved Animal Clinics **Owner must register pet with clinic and provide AQS Business Window with proof of registration** Hospital will not accept unregistered pets.)

Code ___ ___ ___ ___ ___ Name of Hospital _____

Having intention of entering the above described animal into the State of Hawaii under the provision of Administrative Rule 4-29 of the Department of Agriculture, the undersigned does hereby agree and covenant to pay to the Department of Agriculture the prescribed $25 00 registration fee, $10 00 health record fee, $145 00 overhead expense fee, and the $7 50 daily fee in full at the time the animal enters quarantine A $250 00 30-day qualification and testing fee will be assessed for owners attempting to qualify their pet for the 30-day quarantine period also to be payed at the time the animal enters quarantine The undersigned further agrees to pay, prior to the release of the animal, any additional owner approved services and for services deemed necessary by the station veterinarian to ensure the health and safety of the animal The undersigned further agrees that failure to pay said fees within the time limit set forth above shall constitute forfeiture of said animal to the State of Hawaii for disposal by means at the discretion of the State, without any further notice and without liability on the part of the State. **FEES ARE SUBJECT TO CHANGE WITHOUT NOTICE.**

hereby authorize and certify the above to be true

_____ _____

Signature of Primary Owner Date

_____ _____

Authorized AQB Employee or Notary Public Date

BREED CODE LIST

Effective July 11, 2000

CODE	BREED DESCRIPTION
	FELINE BREEDS
ABY	ABBYSSINIAN
AB	AMERICAN BOBTAIL
AC	AMERICAN CURL
ASH	AMERICAN SHORTHAIR
BAL	BALINESE
BEN	BENGAL
BIR	BIRMAN
BOM	BOMBAY
BS	BRITISH SHORTHAIR
BUR	BURMESE
CHA	CHARTRAUX
CPH	COLOR-POINT SHORTHAIR
REX	CORNISH REX
CYM	CYMRIC
DEV	DEVON REX
DLH	DOMESTIC LONGHAIR
DMH	DOMESTIC MEDIUM HAIR
DSH	DOMESTIC SHORTHAIR
MAU	EGYPTIAN MAU
XOT	EXOTIC SHORTHAIR
HVA	HAVANA BROWN
HIM	HIMALAYAN
JBT	JAPANESE BOBTAIL
JAV	JAVANESE
KOR	KORAT
LHS	LONGHAIRED SCOTTISH FOLD
CON	MAINE COON
MAN	MANX
NOR	NORWEGIAN FOREST CAT
OCI	OCICAT
OLH	ORIENTAL LONGHAIR
OSH	ORIENTAL SHORTHAIR
PER	PERSIAN
RAG	RAGDOLL
RUS	RUSSIAN BLUE
SHS	SHORTHAIRED SCOTTISH FOLD
SI	SIAMESE
SNG	SINGAPURA
SNO	SNOSHOE
SOM	SOMALI
SPH	SPHYNX
TIF	TIFFANY
TON	TONKINESE
TUR	TURKISH ANGORA
VAN	TURKISH VAN
	CANINE BREEDS
AFF	AFFENPINSCHER
AKI	AKITA
MAL	ALASKAN MALAMUTE
AW	AMERICAN WIREHAIRD
ARG	ARGENTINE DOGO
ACD	AUSTRALIAN CATTLE DOG
BJI	BASENJI
BEA	BEAGLE
BEL	BELGIAN TERVERUEN
BER	BERNESE MOUNTIAN DOG
BIC	BICHON FISE
BOL	BOLOGNESE
BRZ	BORZOI
BDF	BOUVIER DES FLANDERS
BOX	BOXER
BRI	BRIARD
ABD	BULLDOG, AMERICAN
EBD	BULLDOG, ENGLISH
FBD	BULLDOG, FRENCH
CSH	CHIHUAHUA, SHORTHAIR
CLH	CHIHUAHUA, LONGHAIR
CCR	CHINESE CRESTED
CHW	CHOW CHOW
BDC	COLLIE, BEARDED
BOR	COLLIE, BORDER
CLR	COLLIE, ROUGH
CLS	COLLIE, SMOOTH
CDT	COTON DE TULEIRE

CODE	BREED DESCRIPTION
	CANINE BREEDS
CWC	CORGI, CARDIGAN WELSH
PEM	CORGI, PEMBROKE WELSH
DCL	DACHSHUND, LONGHAIR
DSM	DACHSHUND, MINIATURE
DSC	DACHSHUND, SMOOTH
DCW	DACHSHUND, WIREHAIRED
DAL	DALMATIAN
DOB	DOBERMAN PINSCHER
DDB	DOGUE DE BORDEAUX
ESK	ESKIMO, AMERICAN
FIL	FILA BRASILEIRO
FHA	FOXHOUND, AMERICAN
FHE	FOXHOUND, ENGLISH
GRT	GREAT DANE
GRP	GREAT PYRANESE
BRS	GRIFFON, BRUSSELS
PBG	GRIFFON VENDEEN, PETITE BASSETT
WPG	GRIFFON, WIREHAIRED POINTING
HAR	HARRIER
HAV	HAVANESE
AFG	HOUND, AFGHAN
BAS	HOUND, BASSET
BLD	HOUND, BLOOD
CAT	HOUND, CATAHOULA
COH	HOUND, COON
GRY	HOUND, GREY
IBI	HOUND, IBIZAN
WOF	HOUND, IRISH WOLF
IT	HOUND, ITALIAN GREY
NEH	HOUND, NORWEGIAN ELK
OTT	HOUND, OTTER
PHA	HOUND, PHAROAH
DER	HOUND, SCOTTISH DEER
CHN	JAPANESE CHIN
JIN	JINDO
KEE	KEESHOUND
KEL	KELPIE
KOM	KOMONDOR
KUV	KUVASZ
KYU	KYUSHU
LAN	LANDSEER
LEO	LEONBERGER
LAS	LHASA APSO
LOW	LOWCHEN
MLT	MALTESE
BMS	MASTIFF, BULL
DOG	MASTIFF, FRENCH
NEO	MASTIFF, NEAPOLITAN
MAS	MASTIFF, OLD ENGLISH
SAB	MASTIFF, S AFRICAN BOERBOEL
MIN	MINIATURE PINSCHER
MIX	MIXED BREED
NEW	NEWFOUNDLAND
NGU	NEW GUINEA SINGING
PAP	PAPILLION
PEK	PEKINGESE
PPC	PERRO DE PRESA CANARIO
PNT	POINTER
GSP	POINTER, GERMAN SHORTHAIRED
GWP	POINTER, GERMAN WIREHAIRED
POM	POMERANIAN
MPO	POODLE, MINIATURE
SPO	POODLE, STANDARD
TPO	POODLE, TOY
PWD	PORTUGESE WATER DOG
PUG	PUG
PUL	PULI
CBR	RETRIEVER, CHESAPEAKE BAY
CUR	RETRIEVER, CURLY COAT
FCR	RETRIEVER, FLATCOATED
GLD	RETRIEVER, GOLDEN
LAB	RETRIEVER, LABRADOR
ROD	RHODESIAN RIDGEBACK

CODE	BREED DESCRIPTION
	CANINE BREEDS
ROT	ROTTWEILER
SAL	SALUKI
SAM	SAMOYED
SKP	SCHIPPERKE
GTS	SCHNAUZER, GIANT
MIS	SCHNAUZER, MINIATURE
STS	SCHNAUZER, STANDARD
EST	SETTER, ENGLISH
GDS	SETTER, GORDON
SET	SETTER, IRISH
ANA	SHEPHERD, ANATOLIAN
ASI	SHEPHERD, AUSTRALIAN
BSH	SHEPHERD, BELGIAN
GER	SHEPHERD, GERMAN
SPI	SHAR-PEI
SHP	SHEEPDOG, BELGIAN
OLD	SHEEPDOG, OLD ENGLISH
SHT	SHEEPDOG, SHETLAND
SBA	SHIBA-INU
SHI	SHIH-TZU
SIB	SIBERIAN HUSKY
AWS	SPANIEL, AMERICAN WATER
BRT	SPANIEL, BRITTANY
CLM	SPANIEL, CLUMBER
COC	SPANIEL, COCKER
ECS	SPANIEL, ENGLISH COCKER
ESS	SPANIEL, ENGLISH SPRINGER
ETS	SPANIEL, ENGLISH TOY
FLD	SPANIEL, FIELD
IWS	SPANIEL, IRISH WATER
KCS	SPANIEL, KING CHARLES
SUS	SPANIEL, SUSSEX
TBS	SPANIEL, TIBETAN
WTR	SPANIEL, WATER
WSS	SPANIEL, WELSH SPRINGER
SPZ	SPITZ
STB	ST BERNARD
AIR	TERRIER, AIRDALE
AUS	TERRIER, AUSTRALIAN
BED	TERRIER, BEDLINGTON
BDT	TERRIER, BORDER
BOS	TERRIER, BOSTON BULL
BUL	TERRIER, BULL
CRN	TERRIER, CAIRN
DAN	TERRIER, DANDIE DINMONT
GJT	TERRIER, GERMAN JAGD
IRS	TERRIER, IRISH
JRT	TERRIER, JACK RUSSELL
KBT	TERRIER, KERRY BLUE
LLT	TERRIER, LAKELAND
MCT	TERRIER, MANCHESTER
NFT	TERRIER, NORFOLK
NWT	TERRIER, NORWICH
PIT	TERRIER, PIT BULL
RAT	TERRIER, RAT
SCT	TERRIER, SCOTTISH
SLY	TERRIER, SELYHAM
SLK	TERRIER, SILKY
SKY	TERRIER, SKYE
SFT	TERRIER, SMOOTH FOX
WET	TERRIER, SOFT COATED WHEATEN
SBT	TERRIER, STAFFORDSHIRE BULL
TIB	TERRIER, TIBETAN
TMT	TERRIER, TOY MANCHESTER
WEL	TERRIER, WELSH
WES	TERRIER, WEST HIGHLAND WHITE
WFT	TERRIER, WIREHAIRED FOX
YRK	TERRIER, YORKSHIRE
AST	TERRIER,AMERICAN STAFFORD SHIRE
TOS	TOSA
VIZ	VIZSLA
WEI	WEIMARANER
WHP	WHIPPET

COLOR CODE LISTING

Effective July 11, 2000

CODE	COLOR DESCRIPTION
APR	APRICOT
BGE	BEIGE
BLK	BLACK
BLD	BLONDE
BLE	BLUE
MER	BLUE MERLE
BPT	BLUE POINT
BLT	BLUE TICK
BRD	BRINDLE
BRZ	BRONZE
BRN	BROWN
BUF	BUFF
CAL	CALICO
CHM	CHAMPAGNE
CHT	CHESTNUT
CHN	CHINCHILA
CHO	CHOCOLATE
CPT	CHOCOLATE POINT
CIN	CINNAMON
CRM	CREAM

CODE	COLOR DESCRIPTION
FWN	FAWN
FLP	FLAME POINT
GLD	GOLD
GRY	GRAY
HAR	HARLEQUIN
HNY	HONEY
IVY	IVORY
LEM	LEMON
LET	LEMON TICK
LIC	LILAC
LIV	LIVER
LIT	LIVER TICK
LPT	LYNX POINT
MNK	MINK
MRL	MERLE
ONG	ORANGE
PLT	PLATINUM
RED	RED
RBN	REDDISH BROWN
RDG	REDDISH GOLD

CODE	COLOR DESCRIPTION
RON	ROAN
RUS	RUST
SAB	SABLE
SLT	SALT & PEPPER
SP	SEAL POINT
SIL	SILVER
SMK	SMOKE
SBL	STEEL BLUE
TAB	TABBY
TAN	TAN
TWY	TAWNY
TGR	TIGER
TPT	TORTIE POINT
TOR	TORTOISE SHELL
TRI	TRI-COLOR
WHN	WHEAT
WHT	WHITE
YEL	YELLOW

APPROVED ANIMAL HOSPITALS

Effective December, 2000

AQS-20
Rev 12/00

ı accordance with provisions of paragraph (2), Section 4-29-13 of Chapter 29, Title 4, Administrative Rules of the Department of Agriculture, ıe following animal hospitals are approved for treatıng and hospitalizıng dogs and cats from the Animal Quarantine Station. These hospitals ave facilities which meet the premises securıty requirements established by the Board of Agriculture to receive quarantined dogs and cats ·r hospitalization. (Please indicate the hospital you have selected on the enclosed AQS-2 "Pet Owner's Statement")

CODE	NAME AND ADDRESS	TELEPHONE
AHPH	AINA HAINA PET HOSPITAL 5140 KALANIANAOLE HWY HONOLULU, HI 96821	(808) 373-2111
AC	ANIMAL CLINIC 3270 WAIALAE AVENUE HONOLULU, HI 96816	(808) 734-0255
ACWAP	ANIMAL CLINIC WAIPAHU, INC 94-806 MOLOALO STREET WAIPAHU, HI 96797	(808) 671-1751
AHH	ANIMAL HOSPITAL OF HAWAII 3111 CASTLE STREET HONOLULU, HI 96815-3818	(808) 732-7387
COAH	COMPANION ANIMAL HOSPITAL 1090-J KEOLU DRIVE KAILUA, HI 96734	(808) 262-8141
EHPH	EAST HONOLULU PET HOSPITAL 6650 HAWAII KAI DRIVE HONOLULU, HI 96825	(808) 396-3333
FVC	FEATHER & FUR CLINIC 25 KANEOHE BAY DRIVE KAILUA, HI 96734	(808) 254-1548
KAHUL	KAHULUI ANIMAL HOSPITAL 111 HANA HWY #106 KAHULUI, MAUI, HI 96732	(808) 871-7387
KAPPH	KAPALAMA PET HOSPITAL 551 DILLINGHAM BLVD HONOLULU, HI 96817	(808) 841-2861
KEAUH	KEAUHOU VETERINARY CLINIC 78-6728 WALUA ROAD KAILUA-KONA, HI 96740	(808) 322-2988
KVC	KIHEI VETERINARY CLINIC 1476 S KIHEI ROAD KIHEI, MAUI, HI 96753	(808) 879-5777
LPC	LEEWARD PET CLINIC 593 KAMEHAMEHA HWY PEARL CITY, HI 96782	(808) 456-2121
NVC	NEWTOWN VETERINARY CLINIC 98-1247 KAAHUMANU STREET AIEA, HI 96701	(808) 488-3667
TCCL	THE CAT CLINIC, LTD 1131 KAPAHULU AVENUE HONOLULU, HI 96816	(808) 732-8884
THPC	THE HONOLULU PET CLINIC 1115 YOUNG STREET HONOLULU, HI 96814	(808) 593-9336
TPC	THE PET CLINIC 1947 SO BERETANIA STREET HONOLULU, HI 96826	(808) 946-5096
UPC	UNIVERSITY PET CLINIC 2728 WOODLAWN DRIVE HONOLULU, HI 96822	(808) 988-2111
VAI	VETERINARY ASSOCIATES, INC P O BOX 839 KAMUELA, HI 96743 *30 Days Only*	(808) 885-7941
VCA	VETERINARY CENTERS OF AMERICA 45-608 KAMEHAMEHA HWY KANEOHE, HI 96744	(808) 236-2414
WAH	WAHIAWA ANIMAL HOSPITAL 823-A OLIVE AVENUE WAHIAWA, HI 96786	(808) 621-7000
WLVC	WAIPAHU-LEEWARD VETERINARY CLINIC, INC 94-801 FARRINGTON HWY, STE 3 WAIPAHU, HI 96797	(808) 671-4095

S IMPORTANT THAT YOU SELECT A PRIVATE HOSPITAL IMMEDIATELY UPON ARRIVAL.

ən though your pet is in quarantine and observed daily for abnormalities, you are still responsible for its health **Owners must select, ıtact and register with a hospital** from the above list of security-approved veterinary hospitals The Quarantine Station operates a ɔensary to provide care for minor ailments and is not equipped to handle major medical problems Should your pet become seriously ill le in quarantine, our veterinarian will call you as soon as possible You are responsible to call the hospital to arrange for your pet's ;pitalization The hospital will call the station to confirm arrangement and request transport. We will transport your pet to the approved ;pital at a nominal fee Depending on the circumstances, your pet may be sent to the hospital it is registered at the discretion of the ;ion veterinarian if we are unable to contact you in a timely manner **For the welfare of your pet, it is important that you update our ce regarding your current home/work phone numbers and addresses.** Those who do not reside on Oahu must make special ıngements to handle health problems We also suggest that you consult with your private veterinarian about the health care of your pet le in quarantine.

ners are responsible for transportation fees and all charges accrued at the hospital **No refunds will be granted for the first two (2) 's of hospitalization.** Refunds will be granted for each hospital day, at the daily quarantine rate, in excess of two (2) days during one od of hospitalization

CASE OF EMERGENCY: Private veterinary hospitals **WILL NOT** accept animals without prior contact with owners Please make ;ngements with one of the Approved Animal Hospitals to accept your pet(s) in case of emergency **We will not be able to deliver your ·nal to a private hospital in case of sudden illness or serious injury if pet is not registered.**

·lication of this list does not imply that these hospitals are in any way superior to other veterinary hospitals in the State of Hawaii It ·ely reflects the presence of adequate facilities which meet the premises security requirements established by the Board of Agriculture ɔceive quarantine dogs and cats for hospitalization.

附件九

附件九

Considerations for A Detector Dog Program

Prepared by Todd M. Kikuta, Canine Instructor, Hawaii Department of Agriculture, Plant Quarantine Branch

The purpose of this document is to serve as a guideline to be used in the design and implementation of a Detector Dog Program.

One of the first things to consider when implementing a detector dog program is the task that you expect the detector dogs to accomplish and the manner in which you will approach that goal.

Some of the questions you need to answer before starting are:
Where will the dogs be working?
What sort of response do you want the dogs to display when detecting a target?
What sort of environment will the dogs be working in?
What would you like the dog program to accomplish in its mission?
How many dog teams do we want to begin with?
How will the dog handlers be selected?
What do we need to set up before starting?

The next thing to consider is: How to implement a detector dog program that will be of first quality and to accomplish your intended goal in doing so. One of the most important considerations is the fact that any top notched program needs to have support. This means the support of the administration of the highest level down to the workers at the bottom of the ladder. If there is no financial backing for the program, the program will have an auspicious start and the final result will be mediocre at best. It is strongly emphasized here that the implementation of a detector dog program is no small undertaking and takes considerable capital to do so. To take the attitude that doing something is better than doing nothing is absolutely false. The truth is that you are better off doing nothing. The money wasted on the program could be put to better use instead of wasting it away on a mediocre program. When you build your program on a strong foundation, the program will withstand much abuse and not collapse. If you build a program on a weak foundation, the program will collapse at the first sign of trouble.

The next step would be to set up a good infrastructure. The cornerstone of any good program is its foundation. What is needed for a detector dog program is as follows: A good location for the animals, close to the work site, isolated enough to allow training to take place uninterrupted, and in a suitable clime. The kenneling facility should have an indoor/outdoor run. The indoor portion of the kennel should be able to withstand the elements and provide shelter for the dogs. It should also be well ventilated to allow drying after cleaning. Standing puddles of water are breeding places for diseases. Heat should be incorporated into the kennel design if necessary. The outdoor portion of the kennel should be long enough to allow the dog to walk around. The facility should also have a section where dogs may be examined, weighed, bathed, and groomed. There should also be room for food storage. It should be mentioned here that there is a need for

a few extra kennel spaces of the same design away from the regular kennels. This is to provide a quarantine area in case an outbreak of some kind should occur. It also allows new dogs to be isolated in quarantine if necessary. There should also be a large exercise yard for the animals.

The training area should be adjacent to the kenneling facility and should have the following considerations: A large open bay for training, a target preparation room, a storage room, a dog quiet room, perhaps a small office, and a classroom. The training area should be clear and well lit. There should be windows for sunlight/ventilation but the glass should be frosted to prevent the dogs viewing outward during training. There should be a facility to allow large deliveries.

The entire complex should be fenced in, to prevent intruders as well as to prevent dog escapes. It would be silly not to protect such a large investment. To prevent dog escapes, the entire perimeter should have a mechanism to prevent the dogs from digging their way out. It is highly recommended that some sort of security system be installed at the complex.

Next to be considered is medical attention for the animals. There should be a veterinarian available 24 hrs. in case of injury or health problems. Medical records should be maintained in a central location. Annual health checks and inoculations should be administered.

There should be consideration given to the mechanism by which the program will operate. There must be some sort of organization of the program by which line personnel can communicate with administration to make adjustments. The art of dog handling is very subjective and it is often difficult to demonstrate the discipline by which a detector dog operates. In other words, it is very difficult for a non-dog handler to understand the problems that the actual dog handlers face in their day to day duties as well as long term forecasts, expectations, and goals. A non-dog handler has no concept of what it takes to become a proficient dog handler and the reasons why things are done. The productivity or efficacy of a program is only as good as its weakest link.

A decision has to be made as to where the dogs will come from, how to maintain a minimum number of dog teams, expansion possibilities, and so forth to keep the program afloat. Records need to be kept and someone needs to be trained to become an instructor. Mid term goals should be to maintain a constant supply of dogs, improving training, possibly starting a breeding program, and expanding the goals of the program.

Next would be to secure the services of an experienced instructor to train your personnel to become dog handlers and with the intent of having one of them becoming an instructor themselves. You need to consider how many dogs you want to begin with and how to expand the dog teams to meet your requirements. The instructor would probably have to provide the first batch of dogs to your program.

Methods for the selection of dog handler candidates should be determined so that when you can assemble new dog teams to meet your needs. The instructor can probably help you in this area and give pointers as to the selection of good dog handler. Some of the characteristics you may be interested in for your handlers are: Previous animal handling experience, sound judgement, schooling, physical ability/dexterity, personality, etc.

Along the way, your program needs to secure more resources to acquire more dogs until needs are met. It must also keep in mind that it takes more dogs to keep the program afloat. Good detector dog candidates are difficult to find and the larger pool that you have to choose from, the better off your program will be in the long run.

Finally, once the program is implemented, the instructor should return for follow up visits and help with problems that arise. The next goal would be to have the program stand on its own with its own people running the entire program.