CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE PROPOSED CHANGES IN THE REGULATIONS

Title 3, California Code of Regulations
Section

Section 3423 Oriental Fruit Fly Interior Quarantine Section 3591.2 Oriental Fruit Fly Eradication Area

INITIAL STATEMENT OF REASONS/ POLICY STATEMENT OVERVIEW

<u>Description of the Public Problem, Administrative Requirement, or Other Condition or Circumstance the Regulation is Intended to Address</u>

This regulation is intended to address the obligation of the Department of Food and Agriculture (Department)to protect the agricultural industry of California from the movement and spread within California of injurious plant pests as required by Food and Agricultural Code (FAC) Sections 401 and 403.

<u>Purpose</u>

In Section 3423 (c)(1) Oriental Fruit Fly Interior Quarantine, the host list will be removed and a reference to Section 3591.2(b) will be added. Currently, the Section 3423 (c)(1) host list is missing multiple species, all of which are included in the host list in Section 3591.2 (b). An incomplete host list in Section 3423 provides a source of potential confusion to the public, and could result in host material unknowingly being moved, which could lead to furthering an infestation. By referencing the list in Section 3591.2 (b), the confusion is removed and the regulations can be harmonized.

In Section 3591.2(b) Oriental Fruit Fly Eradication Area, a portion of the host list is incorrect. Multiple species are listed twice. This portion will be removed as there is no purpose served by having these species double listed. Multiple species listed by the United States

Department of Agriculture (USDA) were not previously included in Section 3591.2, and these species will be added. A footnote regarding the regulation of mature pumpkins will also be added due to new study of the host potential of this species.

Factual Basis

The factual basis for the determination by the Department that the amendment of Section 3423 and 3591.2 necessary is as follows:

Oriental fruit fly (OFF) is a destructive insect pest of a large number of commercial agricultural crops. Fruits (including nuts, dates, and berries), many kinds of vegetables, and the fruiting bodies of many wild and ornamental plants are known to be hosts or possible hosts of the Oriental fruit fly. Larval feeding reduces the interior of fruit to a rotten mass. Egg punctures admit decay organisms that cause tissue breakdown. Damaged fruit is generally unfit for human consumption. It has been estimated that the cost of not eradicating Oriental fruit fly in California would be at least \$44 million in crop losses, additional pesticide use, and quarantine requirements (California Department of Food and Agriculture).

The host list for OFF was created to help prevent the spread of pests within California. Such lists are occasionally updated by the United State Department of Agriculture (USDA), at which point the regulations are updated to match. However, the duplication of the Department's lists in regulation means that two regulations need to be updated when USDA updates its list, and in the past some regulations have fallen out of sync as only one was updated.

To prevent this type of error from continuing in the future the Department is proposing to remove one of the duplicates and instead include text that directs the public to the host list.

Additionally, when species are listed multiple times, as in Section 3591.2, this can lead to confusion. To correct this, the duplicates are being removed. By removing duplicate occurrences of species in a single list, this error can be corrected.

The host list will also be updated to match the USDA list and to reflect a recent study that found mature undamaged pumpkins are not potential hosts for Oriental fruit fly.

Project Description

In Section 3423 (c)(1) Oriental Fruit Fly Interior Quarantine, the host list will be removed and a reference to Section 3591.2(b) will be added. Currently, the Section 3423 (c)(1) host list is missing multiple species, all of which are included in the host list in Section 3591.2 (b). An incomplete host list in Section 3423 provides a source of potential confusion to the public, and could result in host material unknowingly being moved, which could lead to furthering an infestation. By referencing the list in Section 3591.2 (b), the confusion i removed and the regulations can be harmonized.

The following species are missing from the current Section 3423 list:

Scientific Name	Common Name
Adenanthera pavonina L.	Red sandalwood
Adenia cissampeloides (Planch. ex Hook.) Harms	N/A
Adonidia merrillii (Becc.)	Becc. Manila palm
Aegle marmelos (L.)	Corrêa Baeltree
Afzelia xylocarpa (Kurz)	Craib Doussie
Alangium chinense (Lour.) Harms	Begonia-leaf alangium
Alangium salviifolium (L. f.) Wangerin	Sage-leaf alangium
Alpinia mutica Roxb.	Small shell ginger
Ananas comosus (L.) Merr.	Pineapple ¹
<i>Annona</i> ×atemoya Mabb.	Atemoya
Annona glabra L.	Pond-apple
Annona macroprophyllata Donn. Sm.	Llama
Annona montana Macfad.	Mountain soursop
Annona mucosa Jacq.	Wild sweetsop
Annona senegalensis Pers.	Wild custard-apple

Antidesma ghaesembilla Gaertn.	Black currant tree
Aporosa villosa (Lindl.) Baill.	Ye-mein
Ardisia crenata Sims	Hen's eye, coralberry
Areca catechu L.	Areca palm, betel nut
Arenga engleri Becc.	Formosan sugar palm
Arenga pinnata (Wurmb) Merr.	Sugar palm
Arenga westerhoutii Griff.	N/A
Artabotrys monteiroae Oliv.	N/A
Artabotrys siamensis Miq.	N/A
Artocarpus dadah Miq.	N/A
Artocarpus elasticus Reinw. ex Blume	Terap
Artocarpus integer (Thunb.) Merr.	Chempedak
Artocarpus lacucha BuchHam.	Monkeyfruit
Artocarpus lanceifolius Roxb.	Keledang
Artocarpus lanceolatus Trécul	N/A
Artocarpus odoratissimus Blanco	Marang
Artocarpus rigidus Blume	Monkey-jack
Artocarpus sericicarpus F. M. Jarrett	N/A
Averrhoa bilimbi L.	Bilimbi
Averrhoa carambola L.	Carambola, starfruit
Azadirachta excelsa (Jack) M. Jacobs	N/A
Baccaurea angulata Merr.	Red angled tampoi
Baccaurea motleyana Müll. Arg.	Rambai
Baccaurea racemosa Müll. Arg.	Menteng
Baccaurea ramiflora Lour.	Burmese grape
Bactris gasipaes Kunth	Peach palm
Balakata baccata (Roxb.) Esser	Jiang guo wu jiu
Barringtonia edulis Seem.	Cutnut
Benincasa hispida (Thunb.) Cogn.	Ash gourd, ash pumpkin
Bischofia javanica Blume	Java-cedar, needlebark
Blighia sapida K. D. Koenig	Akee
Borassus flabellifer L.	Toddy palm
Bouea macrophylla Griff.	Gandaria
Bouea oppositifolia (Roxb.) Meisn.	Plum mango
Breynia reclinata (Roxb.) Hook. f.	N/A
Bridelia stipularis (L.) Blume	Lulalub
Callicarpa longifolia Lam.	Chukin
Canarium album (Lour.) Raeusch	Chinese olive
Capparis sepiaria L.	Hedge caper bush

Capparis tomentosa Lam.	African capar
	African caper
Capsicum chinense Jacq.	Bonnet pepper
Capsicum pubescens Ruiz & Pav.	Hairy pepper
Careya arborea Roxb.	N/A
Careya sphaerica Roxb.	Kra doon
Carissa carandas L.	Carandas-plum
Carissa spinarum L.	Currentbush
Caryota mitis Lour.	Burmese fishtail palm
Celtis tetrandra Roxb.	Si rui po
Chionanthus parkinsonii (Hutch.) Bennet & Raizada	N/A
Choerospondias axillaris (Roxb.) B. L. Burtt & A. W. Hill	N/A
•	Coco plum
	Athapala
Chukrasia tabularis A. Juss.	Burmese almondwood
Cinnamomum yabunikkei H. Ohba Y	Yabu-nikkei
Cissus repens Lam.	N/A
Citrullus colocynthis (L.) Schrad.	Bitter apple, wild gourd
Citrullus lanatus (Thunb.) Matsum. & V	Watermelon
Citrus ^x floridana (J. W. Ingram & H. E. Moore) Mabb.	Limequat
Clusia rosea Jacq.	Balsam apple
Coccinia grandis (L.) Voigt	vy gourd
Coffea canephora Pierre ex A. Froehner	Robusta coffee
Cordia dentata Poir.	English clammy berry
Cordyla pinnata (A. Rich.) Milne-Redh.	N/A
Crescentia cujete L.	Calabash
Crinum asiaticum L.	Asiatic spider lily
Cucumis ficifolius A. Rich.	Cucumis
Cucumis melo L.	Cantaloupe, melon
Cucurbita argyrosperma C. Huber	Cushaw
Cucurbita maxima Duchesne	Squash
Cucurbita moschata Duchesne	Butternut squash
Cucurbita pepo L.	Pumpkin, zucchini squash
Desmos chinensis Lour. J	Jia ying zhua
Dillenia obovata (Blume) Hoogland	Simpoh padang
	Abyssinin persimmon

	Table 1
Diospyros areolata King & Gamble	N/A
Diospyros castanea (Craib). H. R.	NVA
Fletcher	N/A
Diospyros dasyphylla Kurz	N/A
Diospyros diepenhorstii Miq.	Kaya malam
Diospyros digyna Jacq.	Black persimmon, black sapote
Diospyros glandulosa Lace	Mai kua thoun
Diospyros japonica Siebold & Zucc.	Ryukyu-mamegaki
Diospyros kaki Thunb.	persimmon, kaki
Diospyros malabarica (Desr.) Kostel.	Indian persimmon
Diospyros maritima Blume	Sea ebony
Diospyros mespiliformis Hochst. Ex A. DC.	Jackalberry, African ebony
Diospyros mollis Griff.	Ma kluea
Diospyros montana Roxb.	Mountain persimmon
Diospyros sandwicensis (A. DC.) Fosberg	Elama, Hawaiian persimmon
Diospyros virginiana L.	American persimmon
Diplocyclos palmatus (L.) C. Jeffrey	Striped-cucumber
Dracaena steudneri Schweinf. ex Engl.	Northern large leave dragon tree
Drypetes floribunda (Mull. Arg.) Hutch.	N/A
Ehretia microphylla Lam.	Philippine tea
Elaeocarpus hygrophilus Kurz	Ma-kok-nam
Elaeocarpus serratus L.	Ceylon olive
Erycibe subspicata Wall. ex G. Don	Zhui xu ding gong teng
Eugenia megacarpa Craib	Giant lau lau
Eugenia palumbis Merr.	Chamorro
Excoecaria agallocha L.	Blind-your-eye mangrove
Fagraea berteroana A. Gray ex Benth.	Pua kenikeni
Fagraea ceilanica Thunb.	Hui li
Fibraurea tinctoria Lour.	Sekunyit
Ficus auriculata Lour.	Roxburgh fig
Ficus benjamina L.	Weeping fig
Ficus chartacea (Wall. ex Kurz) Wall. ex King	Zhi ye rong
Ficus erecta Thunb.	Ai xiao tian xian guo
Ficus fistulosa Reinw. ex Blume	Yellow stem fig
Ficus hirta Vahl	Cu ye rong
Ficus hispida L. f.	Hairy fig
riodo mopida E. I.	1 1411 7 119

Ficus lepicarpa Blume	Leprous fig
Ficus microcarpa L. f.	Chinese banyan
Ficus obpyramidata King	N/A
Ficus ottoniifolia Miq.	N/A
Ficus pumila L.	Bi li, creeping fig
Ficus racemosa L.	Cluster fig
Ficus religiosa L.	Sacred fig
Ficus septica Burm. f.	Septic fig
Ficus sycomorus L.	Sycamore fig, mulberry fig,
Ficus virgata Reinw. ex Blume	Dao rong
Flacourtia indica (Burman f.) Merrill	Ramontehi, rukam
Flacourtia rukam Zoll. & Moritzi	Prunier café
Flueggea virosa (Roxb. ex Willd) Royle	Common bushweed
Garcinia atroviridis Griff. ex T. Anderson	Gelugor
Garcinia speciosa Wall.	Ma pong
Garcinia costata Hemsl. ex King	N/A
Garcinia cowa Roxb. ex DC.	Cowa
Garcinia dulcis (Roxb.) Kurz	Eggtree
Garcinia griffithii T. Anderson	N/A
Garcinia hombroniana Pierre	N/A
Garcinia intermedia (Pittier) Hammel	N/A
Garcinia mannii Oliv.	Kar
Garcinia parvifolia Miq.	Kandis
Garcinia prainiana King	Button mangosteen
Garcinia subelliptica Merr.	N/A
Garcinia venulosa (Blanco) Choisy	N/A
Garuga floribunda Decne.	Garuga, nemismis
Glochidion littorale Blume	Saka saka
Glycosmis pentaphylla (Retz.) DC.	Shan xiao ju
Gmelina elliptica Sm.	Badhara bush
Gmelina philippensis Cham.	N/A
Gymnopetalum scabrum (Lour.) W. J. de Wilde & Duyfjes	Feng gua
Gynochthodes umbellata (L.) Razafim. & B. Bremer	Indian mulberry
Haematostaphis barteri Hook. f.	N/A
Hanguana malayana (Jack) Merr.	N/A
Hexalobus monopetalus (A. Rich.) Engl. & Diels	N/A

Flueggea virosa (Roxb. ex Willd) Royle	Bushweed
Garcinia atroviridis Griff. ex T. Anderson	Gelugor
Garcinia speciosa Wall.	Ma pong
Garcinia costata Hemsl. ex King	N/A
Garcinia cowa Roxb. ex DC.	Cowa
Garcinia dulcis (Roxb.) Kurz	Eggtree
Garcinia griffithii T. Anderson	N/A
Garcinia hombroniana Pierre	N/A
Garcinia intermedia (Pittier) Hammel	N/A
Garcinia mangostana L.	Mangosteen
Garcinia mannii Oliv.	Kar
Garcinia parvifolia Miq.	Kandis
Garcinia prainiana King	Button mangosteen
Garcinia subelliptica Merr.	N/A
Garcinia venulosa (Blanco) Choisy	N/A
Garuga floribunda Decne.	Garuga, nemismis
Glochidion littorale Blume	Saka saka
Glycosmis pentaphylla (Retz.) DC.	Shan xiao ju
Gmelina elliptica Sm.	Badhara bush
Gmelina philippensis Cham.	N/A
Gymnopetalum scabrum (Lour.) W. J. de	
Wilde & Duyfjes	Feng gua
Gynochthodes umbellata (L.) Razafim. & B. Bremer	Common Indian mulberry
Haematostaphis barteri Hook. f.	N/A
Hanguana malayana (Jack) Merr.	N/A
Hexalobus monopetalus (A. Rich.) Engl. & Diels	N/A
Heynea trijuga Roxb. ex Sims	N/A
Holigarna kurzii King	N/A
Horsfieldia subglobosa Warb.	Penarahan
Hylocereus undatus (Haw.) Britton & Rose	Dragon fruit
Icacina oliviformis (Poir.) J. Raynal	False yam
Inocarpus fagiferus (Parkinson) Fosberg	Marrup, Tahitian chestnut
Irvingia gabonensis (Aubry-Lecomte ex	• 1
O'Rorke) Baill.	Dikanut
Irvingia malayana Oliv. ex A. W. Benn.	Kabok
Ixora javanica (Blume) DC.	N/A

Ixora macrothyrsa (Teijsm. & Binn.) R. Br.	Santan-pula
Juglans hindsii (Jeps.) R. E. Sm.	California walnut, Hinds's walnut
Kedrostis leloja (Forssk.) C. Jeffrey	N/A
Knema globularia (Lam.) Warb.	Xiao ye hong guang shu
Lagenaria siceraria (Molina) Standl.	Bottle gourd
Lansium domesticum Corrêa	Langsat, lanzones
Lansium parasiticum (Osbeck) K. C.	G ,
Sahni & Bennet	N/A
Lepisanthes alata (Blume) Leenh.	Sinpaju
Lepisanthes fruticosa (Roxb.) Leenh.	N/A
Lepisanthes rubiginosa (Roxb.) Leenh.	Kelatiayu
Lepisanthes tetraphylla (Vahl) Radlk.	N/A
Litsea glutinosa (Lour.) C. B. Rob.	Bolly-beech
Litsea salicifolia (J. Roxb. ex Nees) Hook.	
f.	Hei mu jiang zi
Luffa acutangula (L.) Roxb.	Ribbed loofah
Luffa aegyptiaca Mill.	Loofah
Lycianthes biflora (Lour.) Bitter	Hong si xian
Machilus thunbergii Siebold & Zucc.	Tabu
Maclura cochinchinensis (Lour.) Corner	Cockspurthorn
Maerua duchesnei (De Wild.) F. White	N/A
<i>Malpighia</i> glabra L.	Acerola, Barbados cherry
Malus pumila Mill.	Apple, domestic apple
Mammea siamensis T. Anderson	N/A
Mangifera caesia Jack	Wani
Mangifera caloneura Kurz	Mamuangpa
Mangifera foetida Lour.	Bachang mango
Mangifera griffithii Hook. f.	Rawa
Mangifera indica L.	Mango
Mangifera laurina Blume	Boa pow, mangga
Mangifera longipetiolata King	Asam damaran, asam kumbang
Mangifera odorata Griff.	Kuine, Saipan mango
Mangifera pajang Kosterm.	Bambangan
Manilkara jaimiqui (C. Wright) Dubard	Wild sapodilla
Merremia vitifolia (Burm. f.) Hallier f.	Zhang ye yu huang cao
Microcos tomentosa Sm.	N/A
Mitrephora maingayi Hook. f. & Thomson	Thabut-net
Momordica balsamina L.	Balsam apple, bitter melon

Momordica charantia L.	Balsam pear, bitter melon
Momordica cochinchinensis (Lour.)	Daisam pear, bitter meion
Spreng.'	Balsam apple
Morella rubra Lour.	Chinese bayberry, Yumberry
Morinda citrifolia L.	Noni, Indian mulberry
Morinda coreia BuchHam.	N/A
Morus alba L.	White mulberry
Muntingia calabura L.	Jamaica cherry
Murraya exotica L.	Chinese-boxwood
Musa balbisiana Colla	Plantain
Musa basjoo Siebold & Zucc. ex Linuma	Japanese banana
Musa troglodytarum L.	Fe'i banana
Myxopyrum smilacifolium Blume	N/A
Nauclea orientalis L.	Canary wood
Neolamarckia cadamba (Roxb.) Bosser	Burflower tree
Neolitsea sericea (Blume) Koidz.	Shirodamo
Nephelium cuspidatum Blume	Panungaian
Nephelium lappaceum L.	Rambutan
Nestegis sandwicensis (A. Gray) O. Deg.,	
I. Deg. & L. A. S. Johnson	Olopua, Hawallan-olive
Ochreinauclea maingayi (Hook. f.)	
Ridsdale	N/A
Ochrosia mariannensis A. DC.	N/A
Olax scandens Roxb.	Dheniani
Opilia amentacea Roxb.	N/A
Palaquium maingayi (C. B. Clarke) King	
& Gamble	Nyatoh
Pandanus fragrans Gaudich	Screw pine
Pandanus odorifer (Forssk.) Kuntze	Hala, pandanus, screw pine
Parinari anamensis Hance	N/A
Parkia biglobosa (Jacq.) R. Br. ex G. Don	
Parkia speciosa Hassk.	Petai
Passiflora caerulea L.	N/A
Passiflora foetida L.	Love-in-a-mist, pohapoha, stinking passion fruit
Passiflora incarnata L.	Maypop, wild passion fruit
Passiflora quadrangularis L.	Giant granadilla
Passiflora suberosa L.	Corky passion vine
Physalis minima L.	Green gooseberry

Pimenta dioica (L.) Merrill Planchonella duclitan (Blanco) Bakh. f. Polyalthia simiarum (BuchHam. ex Hook. f. & Thomson) Benth. ex Hook. f. & Thomson Pometia pinnata J. R. Forst. & G. Forst. Poncirus trifoliata (L.) Raf. Pouteria alnifolia (Baker) Roberty Pouteria alnifolia (Baker) Roberty Pouteria caimito (Ruiz & Pav.) Radlk. Pouteria sapota (Jacq.) H. E. Moore & Steam Mamey sapote, marmalade fruit Pouteria viridis (Pittier) Cronquist Premna serratifolia L. Coastal premna Prunus campanulata Maxim. Prunus cerasifera Ehrh. Prunus cerasides D. Don Prunus cerasides D. Don Prunus cerasides D. Don Prunus cerasidicina Lindl. Prunus salicina Lindl. Prunus salicina Lindl. Prunus salicina Lindl. Prunus salicina BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sauropus androgynus (L.) Merr. Schoepfia fragrans Wall. Sclerocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser Solanum aethiopicum L. Kumba	Physalis peruviana L.	Ground cherry, poha
Planchonella duclitan (Blanco) Bakh. f. Polyalthia simiarum (BuchHam. ex Hook. f. & Thomson) Benth. ex Hook. f. & Thomson Pometia pinnata J. R. Forst. & G. Forst. Poncirus trifoliata (L.) Raf. Pouteria alnifolia (Baker) Roberty Pouteria caimito (Ruiz & Pav.) Radlk. Pouteria sapota (Jacq.) H. E. Moore & Steam Mamey sapote, marmalade fruit Pouteria viridis (Pittler) Cronquist Premna serratifolia L. Prunus campanulata Maxim. Prunus carasifera Ehrth. Prunus cerasifera Ehrth. Cherry plum Prunus cerasides D. Don Sour cherry, wild Himalayan cherry Prunus mume Siebold & Zucc. Prunus mume Siebold & Zucc. Prunus salicina Lindl. Prunus salicina Lindl. x Prunus cerasifera Ehrm. Methley plum Prunus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sarocephalus latifolius (Sm.) Bruce Sauropus androgynus (L.) Merr. Schoepfia fragrans Wall. N/A Simarouba glauca DC. Pichon don celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant N/A Solanum aculeatissimum Jacq. Dutch eggplant N/A Sumba	•	
Polyalthia simiarum (BuchHam. ex Hook. f. & Thomson) Benth. ex Hook. f. & Thomson Pometia pinnata J. R. Forst. & G. Forst. Poncirus trifoliata (L.) Raf. Pouteria alnifolia (Baker) Roberty Pouteria caimito (Ruiz & Pav.) Radlk. Pouteria sapota (Jacq.) H. E. Moore & Steam Mamey sapote, marmalade fruit Pouteria viridis (Pittler) Cronquist Prema serratifolia L. Prunus campanulata Maxim. Prunus carasifera Ehrh. Prunus cerasoides D. Don Prunus cerasoides D. Don Sour cherry, wild Himalayan cherry Prunus mume Siebold & Zucc. Japanese apricot Prunus salicina Lindl. x Prunus cerasifera Ehrn. Methley plum Prunus salicina Lindl. x Prunus cerasife (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Schaen Alexandra (Silac) Silacia Callida (Willd.) Esser N/A Simarouba glauca DC. Paradise tree Silacia N/A Solanum aethiopicum L. Kumba	, ,	•
Thomson N/A Pometia pinnata J. R. Forst. & G. Forst. Poncirus trifoliata (L.) Raf. Pouteria alnifolia (Baker) Roberty Pouteria caimito (Ruiz & Pav.) Radlk. Pouteria sapota (Jacq.) H. E. Moore & Stearn Pouteria viridis (Pittier) Cronquist Premna serratifolia L. Prunus campanulata Maxim. Prunus cerasifera Ehrh. Prunus cerasoides D. Don Prunus cerasoides D. Don Sour cherry, wild Himalayan cherry Prunus cerasus L. Prunus salicina Lindl. Prunus salicina Lindl. Prunus salicina Lindl. Prunus salicina BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Balacia verrucosa Wight Saba senegalensis (A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sarcocephalus latifolius (Sm.) Bruce Sauropus androgynus (L.) Merr. Schirakiopsis indica (Willd.) Esser N/A Solanum aculeatissimum Jacq. Solanum aethiopicum L. Kuba	,	IN/A
Pometia pinnata J. R. Forst. & G. Forst. Poncirus trifoliata (L.) Raf. Pouteria alnifolia (Baker) Roberty Pouteria caimito (Ruiz & Pav.) Radlk. Pouteria sapota (Jacq.) H. E. Moore & Steam Pouteria viridis (Pittier) Cronquist Premna serratifolia L. Prunus campanulata Maxim. Prunus cerasifera Ehrh. Prunus cerasides D. Don Prunus cerasides D. Don Prunus mume Siebold & Zucc. Prunus salicina Lindl. Prunus salicina Lindl. Prunus salicina Lindl. Pryrus pashia BuchHam. ex D. Don Himalayan pear Saba comorensis (Bojer ex A. DC.) Pichon Saba senegalensis (A. DC.) Pichon Salacia verrucosa Wight Sarrous alicina Stiffolius (Sm.) Bruce Sauropus androgynus (L.) Merr. Schirakiopsis indica (Willd.) Esser N/A Solanum aculeatissimum Jacq. Dutch eggplant	The state of the s	
Poncirus trifoliata (L.) Raf. Pouteria alnifolia (Baker) Roberty Pouteria caimito (Ruiz & Pax.) Radlk. Pouteria sapota (Jacq.) H. E. Moore & Stearn Mamey sapote, marmalade fruit Pouteria viridis (Pittier) Cronquist Green sapote Premna serratifolia L. Coastal premna Prunus campanulata Maxim. Prunus cerasifera Ehrh. Prunus cerasoides D. Don Prunus cerasoides D. Don Prunus salicina Lindl. Prunus salicina Lindl. Prunus salicina Lindl. x Prunus Cerasifera Ehrn. Methley plum Prunus pashia BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Salacia verrucosa Wight Saba senegalensis (A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sarcocephalus latifolius (Sm.) Bruce Sauropus androgynus (L.) Merr. Scherocarya birrea (A. Rich.) Hochst. Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aethiopicum L. Flying dragon N/A Abiu Abiu Abiu Abiu Abiu Abiu Abiu Abi		1
Pouteria alnifolia (Baker) Roberty Pouteria caimito (Ruiz & Pav.) Radlk. Pouteria sapota (Jacq.) H. E. Moore & Stearn Mamey sapote, marmalade fruit Pouteria viridis (Pittier) Cronquist Premna serratifolia L. Coastal premna Prunus campanulata Maxim. Prunus cerasifera Ehrh. Cherry plum Prunus cerasoides D. Don Prunus cerasus L. Prunus mume Siebold & Zucc. Prunus salicina Lindl. Prunus salicina Lindl. Prunus salicina Lindl. x Prunus Cerasifera Ehrn. Methley plum Prunus pashia BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Sarcocephalus latifolius (Sm.) Bruce Sauropus androgynus (L.) Merr. Scherocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser Sighonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Sunda Mamey sapote, marmalade fruit Green sapote Coastal premna Mamey sapote, marmalade fruit Green sapote Coastal premna Mamey sapote, marmalade fruit Green sapote Coastal premna Prunus denens Mamey sapote, marmalade fruit Green sapote Coastal premna Prawa apote Mamey sapote, marmalade fruit Green sapote Coastal premna Prunus cerasifer Spote Mamey sapote, marmalade fruit Green sapote Coastal premna Prunus denens Mamey sapote, marmalade fruit Green sapote Mamey sapote, marmalade fruit Green sapote Mamey sapote, marmalade fruit Green sapote Mamey sapote, marmalade fruit Bount Hamalayan cherry Prunus denens Mamey sapote, marmalade fruit Bount Hamalayan cherry Prunus denens Prunus cerasifer Spour cherry Napanese apricot Prunus denense plum Prunus cerasifer Spour cherry, wild Himalayan cherry Bour cherry Prunus denense plum Prunus cerasifer Spour cherry Mamey sapote Mamey sapote Tawan cherry Prunus cerasifer Spour cherry Prunus ceras	•	
Pouteria caimito (Ruiz & Pav.) Radlk. Pouteria sapota (Jacq.) H. E. Moore & Stearn Pouteria viridis (Pittier) Cronquist Premna serratifolia L. Prunus campanulata Maxim. Prunus cerasifera Ehrh. Prunus cerasifera Ehrh. Prunus cerasus L. Prunus cerasus L. Prunus mume Siebold & Zucc. Prunus salicina Lindl. Prunus salicina Lindl. Pryunus pashia BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Saba senegalensis (A. DC.) Pichon Saba senegalensis (A. DC.) Pichon Sauropus androgynus (L.) Mer. Salicina yavanica (Willd.) Esser Sur cherry, wild Himalayan cherry Sour cherry, wild Himalayan cherry Punus reasifera Ehrn. Methley plum Himalayan pear Sand pear Sand pear Sand pear Sand pear Sand pear Saba comorensis (Bojer ex A. DC.) Pichon Sur cherry, wild Himalayan cherry Methley plum Himalayan pear Sand pear Sand pear Sand pear Sand pear Sand pear Sand pear Saba senegalensis (A. DC.) Pichon Saba senegalensis (A. DC.) Pichon Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Chinese elder Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Sclerocarya birrea (A. Rich.) Hochst. Maroola plum Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Paradise tree Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Kumba	,	
Pouteria sapota (Jacq.) H. E. Moore & Stearn Mamey sapote, marmalade fruit Pouteria viridis (Pittier) Cronquist Green sapote Premna serratifolia L. Coastal premna Prunus campanulata Maxim. Taiwan cherry Prunus cerasifera Ehrh. Cherry plum Prunus cerasoides D. Don Sour cherry, wild Himalayan cherry Prunus cerasus L. Sour cherry, maraschino cherry Prunus mume Siebold & Zucc. Japanese apricot Japanese apricot Prunus salicina Lindl. Japanese plum Methley plum Prunus salicina Lindl. X Prunus cerasifera Ehrn. Methley plum Methley plum Prunus pashia BuchHam. ex D. Don Himalayan pear Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Chinese elder Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Schoepfia fragrans Wall. N/A Simarouba glauca DC. Paradise tree Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Kumba	` , ,	N/A
Stearn Mamey sapote, marmalade fruit Pouteria viridis (Pittier) Cronquist Green sapote Premna serratifolia L. Coastal premna Prunus campanulata Maxim. Taiwan cherry Prunus cerasifera Ehrh. Cherry plum Prunus cerasoides D. Don Sour cherry, wild Himalayan cherry Prunus cerasus L. Sour cherry, maraschino cherry Prunus mume Siebold & Zucc. Japanese apricot Prunus salicina Lindl. Prunus salicina Lindl. x Prunus cerasifera Ehrn. Methley plum Pyrus pashia BuchHam. ex D. Don Himalayan pear Pyrus pyrifolia (Burm. f.) Nakai Sand pear Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Chinese elder Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Sclerocarya birrea (A. Rich.) Hochst. Maroola plum Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Paradise tree Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Kumba	,	Abiu
Pouteria viridis (Pittier) Cronquist Premna serratifolia L. Coastal premna Prunus campanulata Maxim. Prunus cerasifera Ehrh. Prunus cerasoides D. Don Prunus cerasus L. Prunus cerasus L. Prunus mume Siebold & Zucc. Prunus salicina Lindl. Prunus salicina Lindl. Prunus salicina Lindl. Prunus pashia BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sauropus androgynus (L.) Merr. Schoepfia fragrans Wall. Schierakiopsis indica (Willd.) Esser Signal made septant N/A Simarouba glauca DC. Siphonodon celastrineus Griff. Sour cherry Cherry plum Sour cherry, wild Himalayan cherry Sour cherry, wild Himalayan cherry Methley plum Methley		
Premna serratifolia L. Coastal premna Prunus campanulata Maxim. Taiwan cherry Prunus cerasifera Ehrh. Cherry plum Prunus cerasoides D. Don Sour cherry, wild Himalayan cherry Prunus cerasus L. Sour cherry, maraschino cherry Prunus mume Siebold & Zucc. Japanese apricot Prunus salicina Lindl. Japanese plum Prunus salicina Lindl. X Prunus cerasifera Ehrn. Methley plum Pyrus pashia BuchHam. ex D. Don Himalayan pear Pyrus pyrifolia (Burm. f.) Nakai Sand pear Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Chinese elder Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Sclerocarya birrea (A. Rich.) Hochst. Maroola plum Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Paradise tree Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Kumba		
Prunus campanulata Maxim. Prunus cerasifera Ehrh. Prunus cerasoides D. Don Prunus cerasus L. Prunus mume Siebold & Zucc. Prunus salicina Lindl. Prunus pashia BuchHam. ex D. Don Pichon Saba senegalensis (A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sauropus androgynus (L.) Merr. Schoepfia fragrans Wall. Schoepfia fragrans Wall. Schoen in James Alicina Prunus Contents Prunus Paradise tree Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Sour cherry, wild Himalayan cherry Methley plum Himalayan cherry Methley plum Himalayan cherry Sand pear Methley plum Himalayan cherry Methley plum Methley plum Prunus carsifer a Cherry Methley plum Methley plum Methley plum Prunus carsifer a Cherry Methley plum Meth		·
Prunus cerasifera Ehrh. Prunus cerasoides D. Don Sour cherry, wild Himalayan cherry Prunus cerasus L. Sour cherry, maraschino cherry Prunus mume Siebold & Zucc. Prunus salicina Lindl. Prunus salicina Lindl. x Prunus cerasifera Ehrn. Methley plum Pyrus pashia BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sarcocephalus latifolius (Sm.) Bruce Sauropus androgynus (L.) Merr. Schoepfia fragrans Wall. Schirakiopsis indica (Willd.) Esser Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aethiopicum L. Cherry plum Sour cherry, wild Himalayan cherry Suprace (Arich) Homalayan cherry Methley plum Himalayan pear Sand	Premna serratifolia L.	•
Prunus cerasoides D. Don Sour cherry, wild Himalayan cherry Prunus cerasus L. Sour cherry, maraschino cherry Prunus mume Siebold & Zucc. Japanese apricot Prunus salicina Lindl. Japanese plum Prunus salicina Lindl. x Prunus cerasifera Ehrn. Methley plum Pyrus pashia BuchHam. ex D. Don Himalayan pear Pyrus pyrifolia (Burm. f.) Nakai Sand pear Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Chinese elder Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Sclerocarya birrea (A. Rich.) Hochst. Maroola plum Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Paradise tree Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Solanum aethiopicum L. Kumba	Prunus campanulata Maxim.	Taiwan cherry
Prunus cerasus L. Prunus mume Siebold & Zucc. Prunus salicina Lindl. Prunus salicina Lindl. x Prunus cerasifera Ehrn. Pyrus pashia BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Saba senegalensis (A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sauropus androgynus (L.) Merr. Schoepfia fragrans Wall. Schirakiopsis indica (Willd.) Esser Siplanum aculeatissimum Jacq. Sour cherry, maraschino cherry Japanese apricot Methley plum Phimalayan pear Sand pear Methley plum Pyrus pyrifolia (Nimaleyan pear Eduation Methley plum Pyrus pyrifolia (Nimaleyan pear Sand pear San	Prunus cerasifera Ehrh.	Cherry plum
Prunus mume Siebold & Zucc. Prunus salicina Lindl. Prunus salicina Lindl. x Prunus cerasifera Ehrn. Pyrus pashia BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sauropus androgynus (L.) Merr. Schoepfia fragrans Wall. Schoepfia fragrans Wall. Schoepfia fragrans (Willd.) Esser Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L.	Prunus cerasoides D. Don	
Prunus salicina Lindl.	Prunus cerasus L.	Sour cherry, maraschino cherry
Prunus salicina Lindl. x Prunus cerasifera Ehrn. Methley plum Pyrus pashia BuchHam. ex D. Don Himalayan pear Pyrus pyrifolia (Burm. f.) Nakai Sand pear Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Chinese elder Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Sclerocarya birrea (A. Rich.) Hochst. Maroola plum Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Paradise tree Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Solanum aethiopicum L. Kumba	Prunus mume Siebold & Zucc.	Japanese apricot
cerasifera Ehrn. Pyrus pashia BuchHam. ex D. Don Pyrus pyrifolia (Burm. f.) Nakai Sand pear Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sarcocephalus latifolius (Sm.) Bruce Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. Sclerocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L.	Prunus salicina Lindl.	Japanese plum
Pyrus pashia BuchHam. ex D. Don Himalayan pear Pyrus pyrifolia (Burm. f.) Nakai Sand pear Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Chinese elder Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Sclerocarya birrea (A. Rich.) Hochst. Maroola plum Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Paradise tree Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Solanum aethiopicum L. Kumba	Prunus salicina Lindl. x Prunus	
Pyrus pyrifolia (Burm. f.) Nakai Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Sclerocarya birrea (A. Rich.) Hochst. Maroola plum Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Kumba	cerasifera Ehrn.	
Saba comorensis (Bojer ex A. DC.) Pichon Bungo fruit Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Chinese elder Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Sclerocarya birrea (A. Rich.) Hochst. Maroola plum Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Siphonodon celastrineus Griff. N/A Solanum aculeatissimum Jacq. Dutch eggplant Kumba		
Pichon Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. Sclerocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. Kumba	Pyrus pyrifolia (Burm. f.) Nakai	Sand pear
Saba senegalensis (A. DC.) Pichon Liane saba, mad, made Salacia verrucosa Wight N/A Sambucus javanica Reinw. ex Blume Chinese elder Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk N/A Schoepfia fragrans Wall. Sclerocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. Liane saba, mad, made N/A Chinese elder Country fig Star gooseberry, katuk N/A Paraola plum Paradise tree N/A Dutch eggplant Kumba		
Salacia verrucosa Wight Sambucus javanica Reinw. ex Blume Chinese elder Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk Schoepfia fragrans Wall. N/A Sclerocarya birrea (A. Rich.) Hochst. Maroola plum Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. Kumba		G .
Sambucus javanica Reinw. ex Blume Sarcocephalus latifolius (Sm.) Bruce Country fig Sauropus androgynus (L.) Merr. Star gooseberry, katuk N/A Schoepfia fragrans Wall. Sclerocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser N/A Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. Chinese elder Country fig N/A N/A N/A Paradise tree N/A Dutch eggplant Kumba		
Sarcocephalus latifolius (Sm.) Bruce Sauropus androgynus (L.) Merr. Star gooseberry, katuk N/A Sclerocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. Country fig Star gooseberry, katuk N/A Maroola plum N/A Paradise tree N/A Dutch eggplant Kumba	<u> </u>	N/A
Sauropus androgynus (L.) Merr. Star gooseberry, katuk N/A Sclerocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. Star gooseberry, katuk N/A Maroola plum N/A Paradise tree N/A Dutch eggplant Kumba	Sambucus javanica Reinw. ex Blume	
Schoepfia fragrans Wall. Sclerocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. N/A N/A Paradise tree N/A Dutch eggplant Kumba	Sarcocephalus latifolius (Sm.) Bruce	Country fig
Sclerocarya birrea (A. Rich.) Hochst. Shirakiopsis indica (Willd.) Esser Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. Maroola plum N/A Paradise tree N/A Dutch eggplant Kumba	Sauropus androgynus (L.) Merr.	Star gooseberry, katuk
Shirakiopsis indica (Willd.) Esser Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. N/A Dutch eggplant Kumba	Schoepfia fragrans Wall.	
Simarouba glauca DC. Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. Paradise tree N/A Dutch eggplant Kumba	Sclerocarya birrea (A. Rich.) Hochst.	Maroola plum
Siphonodon celastrineus Griff. Solanum aculeatissimum Jacq. Solanum aethiopicum L. N/A Dutch eggplant Kumba	Shirakiopsis indica (Willd.) Esser	N/A
Solanum aculeatissimum Jacq. Dutch eggplant Kumba	Simarouba glauca DC.	Paradise tree
Solanum aethiopicum L. Kumba	Siphonodon celastrineus Griff.	N/A
	Solanum aculeatissimum Jacq.	Dutch eggplant
Solanum americanum Mill. American nightshade	Solanum aethiopicum L.	Kumba
<u> </u>	Solanum americanum Mill.	American nightshade

Solanum betaceum Cav. Solanum capsicoides All. Solanum donianum Walp. Solanum erianthum D. Don Solanum granulosoleprosum Dunal	African eggplant Tree tomato Cockroach berry Mullein, nightshade Big eggplant N/A Bitter apple Indian nightshade
Solanum capsicoides All. Solanum donianum Walp. Solanum erianthum D. Don Solanum granulosoleprosum Dunal	Cockroach berry Mullein, nightshade Big eggplant N/A Bitter apple
Solanum donianum Walp. Solanum erianthum D. Don Solanum granulosoleprosum Dunal	Mullein, nightshade Big eggplant N/A Bitter apple
Solanum erianthum D. Don Solanum granulosoleprosum Dunal	Big eggplant N/A Bitter apple
Solanum granulosoleprosum Dunal	N/A Bitter apple
3	Bitter apple
0.1	• •
	Indian nightshade
-	Devil's apple
	Gboma eggplant
Solanum mammosum L.	Macawbush
Solanum mauritianum Scop.	Bugtree
Solanum melongena L.	Eggplant
Solanum nigrescens M. Martens & Galeotti	Divine nightshade
	Black nightshade
-	Currant tomato
	Naranjilla
•	Black nightshade
	Cocona, peach tomato
	Coconilla
Solanum torvum Sw.	Devil's fig, turkeyberry
	Thoodhuvalai
Sorindeia madagascariensis DC.	Sondriry
Spondias mombin L.	Jamaica plum, yellow mombin
	Common hog plum
Spondias purpurea L.	Purple mombin, Spanish plum
Streblus asper Lour.	N/A
Strychnos mellodora S. Moore	N/A
Strychnos nux-vomica L.	Strychnine tree
Syzygium aromaticum (L.) Merr. & L. M. Perry	Clove
•	N/A
	Tai wan pu tao
,	N/A
	Rose apple
Syzygium lineatum (DC.) Merr. & L. M.	N/A

Syzygium malaccense (L.) Merrill & L. M. Perry	Mountain apple, Malay apple
Syzygium nervosum DC.	Daly River, satin-ash
Syzygium samarangense (Blume) Merr. & L. M. Perry	Java apple, water guava
Terminalia bellirica (Gaertn.) Roxb.	Belleric, beach almond
<i>Terminalia citrina</i> (Gaertn.) Roxb. ex Fleming	Black chuglam
Theobroma cacao L.	Cocoa
Toddalia asiatica (L.) Lam.	N/A
Trichosanthes costata Blume	N/A
Trichosanthes pilosa Lour.	Snake gourd
Triphasia trifolia (Burm. f.) P. Wilson	Limeberry
Turpinia ternata Nakai	San ye shan xiang yuan
Uvaria grandiflora Roxb. ex Hornem.	N/A
Uvaria littoralis (Blume) Blume	N/A
Vaccinium reticulatum Sm.	Ohelo
Viburnum japonicum (Thunb.) Spreng.	Hakusan-boku
Vitellaria paradoxa C. F. Gaertn.	Shea-butter tree
Wikstroemia uva-ursi A. Gray	Akia, false ohelo
Willughbeia cochinchinensis (Pierre) K. Schum.	N/A
Willughbeia coriacea Wall.	Borneo rubber
Xanthophyllum flavescens Roxb.	N/A
Ximenia americana L.	Yellow plum
Zehneria mucronata (Blume) Miq.	N/A
Zehneria wallichii (C. B. Clarke) C. Jeffrey	N/A
Ziziphus mucronata Willd.	N/A
Vaccinium reticulatum Sm. Viburnum japonicum (Thunb.) Spreng. Vitellaria paradoxa C. F. Gaertn. Wikstroemia uva-ursi A. Gray Willughbeia cochinchinensis (Pierre) K. Schum. Willughbeia coriacea Wall. Xanthophyllum flavescens Roxb. Ximenia americana L. Zehneria mucronata (Blume) Miq. Zehneria wallichii (C. B. Clarke) C. Jeffrey	Ohelo Hakusan-boku Shea-butter tree Akia, false ohelo N/A Borneo rubber N/A Yellow plum N/A

In Section 3591.2(b) Oriental Fruit Fly Eradication Area, the host list will be edited to remove species that are listed twice. These species are listed below.

Flueggea virosa (Roxb. ex Willd) Royle	Bushweed
<i>Garcinia atroviridis</i> Griff. ex T. Anderson	Gelugor
Garcinia speciosa Wall.	Ma pong
Garcinia costata Hemsl. ex King	N/A

Garcinia cowa Roxb. ex DC.	Cowa
Garcinia dulcis (Roxb.) Kurz	Eggtree
Garcinia griffithii T. Anderson	N/A
Garcinia hombroniana Pierre	N/A
Garcinia intermedia (Pittier) Hammel	N/A
Garcinia mangostana L.	Mangosteen
Garcinia mannii Oliv.	Kar
Garcinia parvifolia Miq.	Kandis
Garcinia prainiana King	Button mangosteen
Garcinia subelliptica Merr.	N/A
Garcinia venulosa (Blanco) Choisy	N/A
Garcinia xanthochymus Hook. f.	Gourka, gamboge tree
Garuga floribunda Decne.	Garuga, nemismis
Glochidion littorale Blume	Saka saka
Glycosmis pentaphylla (Retz.) DC.	Shan xiao ju
Gmelina elliptica Sm.	Badhara bush
Gmelina philippensis Cham.	N/A
Gymnopetalum scabrum (Lour.) W. J. de Wilde & Duyfjes	Feng gua
Gynochthodes umbellata (L.) Razafim. & B. Bremer	Common Indian mulberry
Haematostaphis barteri Hook. f.	N/A
Hanguana malayana (Jack) Merr.	N/A
Hexalobus monopetalus (A. Rich.) Engl. & Diels	N/A

In Section 3591.2(b) Oriental Fruit Fly Eradication Area, the host list will be updated to match the USDA list so it accords with the most current information that furthers an effective response to the pest. The entry restrictions for pumpkin, (*Cucurbita pepo* L.), has also been updated with a footnote stating that mature pumpkins that are fresh and undamaged are not regulated. This addition was made because a recent study found that undamaged mature pumpkins are not hosts for OFF.

All changes are shown below:

Citrus aurantium L.	Sour orange
Citrus clementina Hort. Ex Tanaka	<u>Clementine</u>

<u>Citrus deliciosa Ten</u>	Italian tangerine, willow-leaf mandarin
Citrus depressa Hayata	<u>N/A</u>
Citrus hystrix DC.	Kaffir lime
Citrus jambhiri Lush.	Rough lemon
Citrus keraji Hort. Ex Tanaka	Kabuchi, keraji
Citrus latifolia (Yu. Tanaka) Tanaka	Persian lime
<u>Citrus limetta Risso</u>	Sweet lime
<u>Citrus limettioides Tanaka</u>	Indian sweet lime
Citrus limon (L.) Burm. F	<u>Lemon</u>
Citrus limonia Osbeck	Rangpur lime
Citrus maxima (Burm.) Merrill	Pummelo, shaddock
<u>Citrus natsudaidai Hayata</u>	<u>Japanese summer grapefruit, natsu-daidai</u>
Citrus nobilis Lour.	King orange
Citrus oto Hort. Ex Yu. Tanaka	<u>N/A</u>
<u>Citrus paradisi Macfady</u>	<u>Grapefruit</u>
Citrus reticulata Blanco	Mandarin orange, tangerine
Citrus sinensis (L.) Osbeck	Common, Kona, or sweet orange
Citrus × tangelo J. W. Ingram & H. E. Moore	<u>Tangelo</u>
Citrus unshiu Marcow.	Satsuma orange, unshū-mikan
Cucurbita pepo L.	Pumpkin, zucchini squash ²
Fortunella japonica (Thunb.) Swingle	Calamondin orange, Chinese orange,
	<u>kumquat</u>
Fortunella margarita (Lour.) Swingle	Nagami kumquat
Fortunella polyandra (Ridl.) Tanaka	<u>Malayan kumquat</u>

² Mature pumpkins that are fresh and undamaged are not regulated

Current Laws & Regulations

Existing law, FAC Section 407, provides that the Secretary may adopt such regulations as are reasonably necessary to carry out the provisions of this code that the Secretary is directed or authorized to administer or enforce.

Existing law, FAC Section 5301, provides that the Secretary may establish, maintain, and enforce such quarantine regulations as they deem necessary to protect the agricultural industry of this state from pests. The regulations may establish a quarantine at the boundaries of this state or elsewhere within the state.

Existing law, FAC Section 5302, provides that the Secretary may make and enforce such regulations as they deem necessary to prevent any plant or thing which is, or is liable to be, infested or infected by, or which might act as a carrier of, any pest, from passing over any quarantine line which is established and proclaimed pursuant to this division.

Existing law, FAC Section 5322, provides that the Secretary may establish, maintain, and enforce quarantine, eradication, and such other regulations as are in their opinion necessary to circumscribe and exterminate or prevent the spread of any pest that is described in FAC Section 5321.

Existing law, FAC Section 5761, provides that the Secretary may proclaim any portion of the state to be an eradication area with respect to the pest, prescribe the boundaries of such area, and name the pest and the hosts of the pest which are known to exist within the area, together with the means or methods which are to be used in the eradication or control of such pest.

Existing law, FAC Section 5762, provides that the Secretary may proclaim any pest with respect to which an eradication area has been proclaimed, and any stages of the pest, its hosts and carriers, and any premises, plants, and things infested or infected or exposed to infestation or infection with such pest or its hosts or carriers, within such area, are public nuisances, which are subject to all laws and remedies which relate to the prevention and abatement of public nuisances.

Existing law, FAC Section 5763, provides that the Secretary, or the commissioner acting under the supervision and direction of the director, in a summary manner, may disinfect or take such other action, including removal or destruction, with reference to any such public nuisance, which he thinks is necessary.

Existing law, FAC Section 5764, provides that if an eradication area has been proclaimed

with respect to a species of fruit flies and the removal of host plants of such species is involved, the director may enter into an agreement with the owner of such host plants to remove and replace them with suitable nursery stock in lieu of treatment.

The existing law obligates the Secretary to investigate and determine the feasibility of controlling or eradicating pests of limited distribution but establishes discretion with regard to the establishment and maintenance of regulations to achieve this goal. This amendment provides the necessary regulatory authority to prevent the artificial spread of a serious insect pest, which is a mandated statutory goal.

Evaluation of Inconsistency/Incompatibility with Existing State Regulations

The Department is the only agency that can implement plant quarantine and eradication areas, which the host lists are part of. As required by Gov. Code Section 11346.5(a)(3)(D), the Department has conducted an evaluation of these regulations and has determined that it is not inconsistent or incompatible with existing state regulations.

Anticipated Benefits from This Regulatory Action

The implementation of this amendment will help prevent potential future issues when the Oriental Fruit Fly host list needs to be amended and removes duplicate species. Functional and accurate host lists will help prevent the spread of pests within California, which will prevent:

- direct damage to the agricultural industry growing host fruits
- indirect damage to the agricultural industry growing host fruits due to the
 implementation of quarantines by other countries and loss of export markets
- increased production costs to the affected agricultural industries
- increased pesticide use by the affected agricultural industries
- increased costs to the consumers of host fruits
- increased pesticide use by homeowners and others

- the need to implement a State interior quarantine
- the need to implement a federal domestic quarantine

Mandate on Local Agencies or School Districts

The Department has determined that this regulation does not impose a mandate on local agencies or school districts.

Economic Impact Analysis (Government Code 11346.3(b))

The prevention of the spread of pests in California through regulation of Oriental Fruit Fly host material via the amendment and implementation of this regulation prevents economic harm to:

- the general public
- homeowners and community gardens
- agricultural industry
- the State's general fund.

By neglecting to correctly regulate hosts of Oriental Fruit Fly there is a higher risk the pests could spread into the local environment via the surrounding non-agricultural ecosystems. This could adversely impact private and commercial landscape plantings, local, regional, state and national parks, other recreational sites, open habitats, and wild lands. Affected plants could become less vigorous and may produce fewer seeds. Plants/trees with low propagule output can result in major changes to plant community structure.

The Creation or Elimination of Jobs within the State

The amendment is to remove the host list of Oriental Fruit Fly in Section 3423 and direct the public to the same host list in the corresponding Eradication Area regulation, Section 3591.2, update the host list, and remove species listed twice. Therefore, the Department has determined that this regulatory proposal will not have a significant impact on the

creation or elimination of jobs in the state of California.

The Creation or Elimination of Businesses in California

The amendment is to remove the host list of Oriental Fruit Fly in Section 3423 and direct the public to the same host list in the corresponding Eradication Area regulation, Section 3591.2, update the host list, and remove species listed twice. Therefore, the Department has determined that this regulatory proposal will not have a significant impact on the creation of new businesses in the state of California.

The Expansion of Businesses in California

The amendment is to remove the host list of Oriental Fruit Fly in Section 3423 and direct the public to the same host list in the corresponding Eradication Area regulation, Section 3591.2, update the host list, and remove species listed twice. Therefore, the Department has determined that this regulatory proposal will not have a significant impact on the expansion of businesses currently doing business in the state of California.

Worker Safety

The amendment of this regulation is not expected to have an effect on worker safety.

Estimated Cost or Savings to Public Agencies or Affected Private Individuals or Entities

The Department has determined that Sections 3423 and 3591.12 do not impose a mandate
on local agencies or school districts. All eradication activities shall be conducted by the
Department. Therefore, no reimbursement is required under Section 17561 of the
Government Code.

The Department also has determined that no reimbursable costs or savings under Part 7 (commencing with Section 17500) of Division 4 of the Government Code to local agencies or school districts and no nondiscretionary costs or savings to local agencies or school districts, will result from the amendment of 3423 and 3591.2.

There are no reimbursable costs or savings under Part 7 (commencing with section 17500) of Division 4 of the Government Code to local agencies or school districts and no nondiscretionary costs or savings to local agencies or school districts anticipated from the adoption of this amendment.

The Department has determined that the proposed action will not have a significant adverse economic impact on housing costs or California business, including the ability of California businesses to compete with businesses in other states.

Potential Impact to Homeowners and Community Gardens

The amendment is to remove the host list of Oriental Fruit Fly in Section 3423 and direct the public to the same host list in the corresponding Eradication Area regulation, Section 3591.2, update the host list, and remove species listed twice. By maintaining host lists that contain up-to-date information, the Department has a higher likelihood of keeping the pest out of California.

Potential Impacts to General Fund and Welfare

The proposed regulation does not have immediate or definitive impact to the general fund or general welfare. The amendment is to remove the host list of Oriental Fruit Fly in Section 3423 and direct the public to the same host list in the corresponding Eradication Area regulation, Section 3591.2, update the host list, and remove species listed twice. Programmatic delays, such as having host lists out of date, can potentially lead to pest quarantines, as well as increased production costs and potential job loss. The agricultural industry is one of the economic engines in California. Negative impacts to agriculture impact the state's economic recovery and the general welfare of the State. Additionally, any further job losses in this area would likely be felt by low-skilled workers whose employment options are already limited. The loss of any additional agricultural jobs would likely result in an increase in the State's public assistance obligations which would also negatively impact the state's economic recovery.

Assessment

These conclusions are based upon the same analysis related to the adverse economic impact on business above. Further the Department doesn't expect these actions to create jobs or businesses.

The Department has made an assessment that the amendment to this regulation would: (1) not create or eliminate jobs within California, (2) not create new business or eliminate existing businesses within California,(3) not affect the expansion of businesses currently doing business within California, (4) is expected to benefit the health and welfare of California residents, (5) is expected to benefit the state's environment, and (6) not expected to benefit workers' safety.

The health and welfare of California residents: The proposed action will benefit the health and welfare of California residents by preventing programmatic delays, such as having host lists out of date, that can potentially can lead to pest quarantines, as well as increased production costs and potential job loss. The agricultural industry is one of the economic engines in the State. Negative impacts to agriculture impact the State's economic recovery and the general welfare of the State.

The state's environment: The amendment of this regulation benefits the environment as correctly regulating hosts of OFF lowers the risk that the pests could spread into the local environment via the surrounding non-agricultural ecosystems. OFF spreading could adversely impact private and commercial landscape plantings, local, regional, state and national parks, other recreational sites, open habitats, and wild lands. Affected plants could become less vigorous and may produce fewer seeds. Plants/trees with low propagule output can result in major changes to plant community structure.

Alternatives Considered

The Department of Food and Agriculture must determine that no alternative would be more

effective in carrying out the purpose for which the action is proposed or would be as effective as well as less burdensome to affected private persons than the proposed actions.

The Department considered taking no action. If no action is taken the host lists will continue to be repeated in multiple places. This could lead to the host lists becoming out of sync as the updates are applied, which could lead to the Department not correctly applying any quarantines to all potential host material. This would potentially result in further quarantines throughout the State with the concomitant economic and operational impacts on host commodity producers, venders, and home growers.

Information Relied Upon

The Department is relying upon the following studies, reports, and documents in the amendment of Section 3423 and 3591.2:

Animal and Plant Health Inspection Service (APHIS), *Oriental Fruit fly, Bactrocera dorsalis, Host List*, August 2016

Email "Pumpkin experiment" from Richard N Johnson, 11/20/2019