TAXON: Citrus latifolia (Yu. Tanaka) **SCORE**: -12.0 **RATING**: Low Risk

Tanaka

Taxon: Citrus latifolia (Yu. Tanaka) Tanaka

Family: Rutaceae

Common Name(s): Bearss lime

Synonym(s): Citrus aurantiifolia var. latifolia Yu.

Persian lime

Tahitian lime

Assessor: Chuck Chimera Status: Assessor Approved End Date: 13 Apr 2017

WRA Score: -12.0 Designation: L Rating: Low Risk

Keywords: Tropical, Tree, Unarmed (usually), Edible, Seedless

| Qsn # | Question | Answer Option | Answer |
|-------|---|--|--------|
| 101 | Is the species highly domesticated? | y=-3, n=0 | У |
| 102 | Has the species become naturalized where grown? | y=1, n=-1 | n |
| 103 | Does the species have weedy races? | y=1, n=-1 | n |
| 201 | Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical" | (0-low; 1-intermediate; 2-high) (See Appendix 2) | High |
| 202 | Quality of climate match data | (0-low; 1-intermediate; 2-high) (See Appendix 2) | Low |
| 203 | Broad climate suitability (environmental versatility) | y=1, n=0 | n |
| 204 | Native or naturalized in regions with tropical or subtropical climates | y=1, n=0 | У |
| 205 | Does the species have a history of repeated introductions outside its natural range? | y=-2, ?=-1, n=0 | У |
| 301 | Naturalized beyond native range | y = 1*multiplier (see Appendix 2), n= question 205 | n |
| 302 | Garden/amenity/disturbance weed | n=0, y = 1*multiplier (see Appendix 2) | n |
| 303 | Agricultural/forestry/horticultural weed | n=0, y = 2*multiplier (see Appendix 2) | n |
| 304 | Environmental weed | n=0, y = 2*multiplier (see Appendix 2) | n |
| 305 | Congeneric weed | n=0, y = 1*multiplier (see Appendix 2) | У |
| 401 | Produces spines, thorns or burrs | | |
| 402 | Allelopathic | | |
| 403 | Parasitic | y=1, n=0 | n |
| 404 | Unpalatable to grazing animals | | |
| 405 | Toxic to animals | | |
| 406 | Host for recognized pests and pathogens | | |
| 407 | Causes allergies or is otherwise toxic to humans | | |
| 408 | Creates a fire hazard in natural ecosystems | y=1, n=0 | n |
| 409 | Is a shade tolerant plant at some stage of its life cycle | y=1, n=0 | n |

Qsn# Question **Answer Option Answer** Tolerates a wide range of soil conditions (or limestone 410 y=1, n=0 У conditions if not a volcanic island) Climbing or smothering growth habit 411 y=1, n=0 n 412 Forms dense thickets y=1, n=0 n 501 Aquatic y=5, n=0 n 502 Grass y=1, n=0 n 503 Nitrogen fixing woody plant y=1, n=0 n Geophyte (herbaceous with underground storage organs 504 y=1, n=0n -- bulbs, corms, or tubers) Evidence of substantial reproductive failure in native 601 habitat 602 Produces viable seed y=1, n=-1 У 603 Hybridizes naturally 604 Self-compatible or apomictic y=1, n=-1 n 605 Requires specialist pollinators y=-1, n=0 n 606 Reproduction by vegetative fragmentation y=1, n=-1 n 607 Minimum generative time (years) 1 year = 1, 2 or 3 years = 0, 4+ years = -1>3 Propagules likely to be dispersed unintentionally (plants 701 y=1, n=-1 n growing in heavily trafficked areas) 702 Propagules dispersed intentionally by people y=1, n=-1 У 703 Propagules likely to disperse as a produce contaminant y=1, n=-1 n 704 Propagules adapted to wind dispersal y=1, n=-1 n 705 Propagules water dispersed y=1, n=-1 n 706 Propagules bird dispersed y=1, n=-1 n 707 Propagules dispersed by other animals (externally) y=1, n=-1 n 708 Propagules survive passage through the gut Prolific seed production (>1000/m2) 801 y=1, n=-1 n Evidence that a persistent propagule bank is formed (>1 802 y=1, n=-1 n yr) Well controlled by herbicides 803 804 Tolerates, or benefits from, mutilation, cultivation, or fire Effective natural enemies present locally (e.g. introduced 805 biocontrol agents)

Tanaka

Supporting Data:

| Qsn # | Question | Answer |
|-------|---|---|
| 101 | Is the species highly domesticated? | у |
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "The origin of the Tahiti lime is unknown. It is known only in cultivation. It is cultivated commercially in Tahiti, New Caledonia, Florida, California, Mexico, Brazil, Venezuela, Portugal and Australia. It is believed that the lime was introduced into the Mediterranean region by way of Iran (formerly called Persia) from Tahiti." |
| | Morton, J. 1987. Tahiti Lime. p. 172–175. In: Fruits of Warm Climates. Julia F. Morton, Miami, FL | [Known only from cultivation] "The origin of the Tahiti lime is unknown. It is presumed to be a hybrid of the Mexican lime and citron, or, less likely, the lemon, and it is genetically a triploid though only the normal 18 chromosomes have been reported. Dr. Groff, in a reference to Citrus aurantifolia in his "Culture and Varieties of Siamese Pummelos ", said: " it is represented by a large variety known as Manow klom and by a small one known as Manow yai." One might speculate as to whether the large variety might be the female parent of the Tahiti lime. At any rate, it is believed that the Tahiti was introduced into the Mediterranean region by way of Iran (formerly called Persia). It is said that, for some centuries, a virtually identical lime called 'Sakhesli' has been cultivated on the island of Djerba off the coast of Tunisia, and that the local name means "from Sakhos", an old Arabic name for Chios, a Grecian island. Portuguese traders probably carried it to Brazil, and it was apparently taken to Australia from Brazil about 1824. It reached California from Tahiti between 1850 and 1880 and had arrived in Florida by 1883. It was being grown at Lake Placid in 1897. This lime was adopted into cultivation in California but is not extensively grown there, the bulk of California's lime crop being mainly the Mexican lime. In Florida, the Tahiti quickly took the place of the more sensitive small lime and the lemon. Following World War I, the Tahiti lime became a wellestablished commercial crop. At first, there was market resistance, buyers viewing the Tahiti lime as a "green lemon", and, for some time, Canadians would not accept it because they were accustomed to the more flavorful Mexican lime. In the 1930's, many Florida citrus growers planted limes for extra income and, in 1949, the development of limeade concentrate provided further impetus to the Tahiti lime industry." |

| 102 | Has the species become naturalized where grown? | n |
|-----|---|--|
| | Source(s) | Notes |
| | Plants. Volume 4, Fruits. Springer, New York | "The origin of the Tahiti lime is unknown. It is known only in cultivation." |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |

| Tand | ıka | |
|-------|---|---|
| | | T |
| Qsn # | Question | Answer |
| 103 | Does the species have weedy races? | n |
| | Source(s) | Notes |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |
| 201 | Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical" | High |
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "The origin of the Tahiti lime is unknown. It is known only in cultivation. It is cultivated commercially in Tahiti, New Caledonia, Florida, California, Mexico, Brazil, Venezuela, Portugal and Australia. It is believed that the lime was introduced into the Mediterranean region by way of Iran (formerly called Persia) from Tahiti." |
| 202 | Overline of allowed a models date. | |
| 202 | Quality of climate match data | Low |
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "The origin of the Tahiti lime is unknown. It is known only in cultivation." |
| | | |
| 203 | Broad climate suitability (environmental versatility) | n |
| | Source(s) | Notes |
| | Morton, J. 1987. Tahiti Lime. p. 172–175. In: Fruits of Warm Climates. Julia F. Morton, Miami, FL | "The Tahiti lime is hardier than the Mexican lime and better adapted to the mainland of Florida. Most of the commercial groves are in Dade County, but, with some cold protection, this lime can be grown on the east and west coasts and the central ridge as far north as Winter Haven. Even in southern Florida, drastic drops in temperatur have made it necessary to protect lime groves with wind machines or overhead sprinkling," |
| | Learn 2 Grow. 2017. Citrus latifolia. http://www.learn2grow.com/plants/citrus-latifolia/. [Accessed 11 Apr 2017] | "USDA Hardiness Zone 9 - 11" |
| | | |
| 204 | Native or naturalized in regions with tropical or subtropical climates | у |
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "The origin of the Tahiti lime is unknown. It is known only in cultivation. It is cultivated commercially in Tahiti, New Caledonia, Florida, California, Mexico, Brazil, Venezuela, Portugal and Australia "Tahitian lime thrives in tropical or subtropical environments. It will tolerate cold temperatures but not frost and needs cold protection as seen in Florida." |
| 205 | Does the species have a history of repeated | у |

introductions outside its natural range?

TAXON: Citrus latifolia (Yu. Tanaka) Tanaka

SCORE: -12.0

RATING:Low Risk

| Qsn # | Question | Answer |
|-------|---|---|
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "It is cultivated commercially in Tahiti, New Caledonia, Florida, California, Mexico, Brazil, Venezuela, Portugal and Australia." |
| 301 | Naturalized beyond native range | n |
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "The origin of the Tahiti lime is unknown. It is known only in cultivation." |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |
| | Wagner, W.L., Herbst, D.R.& Lorence, D.H. 2017. Flora of the Hawaiian Islands. Smithsonian Institution, Washington, D.C. http://botany.si.edu/. [Accessed] | No evidence to date |
| | | |
| 302 | Garden/amenity/disturbance weed | n |
| | Source(s) | Notes |
| | Crane, J. H. 2016. Growing 'Tahiti' Limes in the Home Landscape. HS8 Revised. IFAS, University of Florida. http://edis.ifas.ufl.edu. [Accessed 13 Apr 2017] | "Invasive potential: 'Tahiti' lime (Citrus latifolia) has not yet beer assessed by the IFAS Invasive Plant Working Group on Non-Native Plants in Florida's Natural Areas and is not a considered a problem species at this time and may be recommended by IFAS faculty for planting." |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |

| 3 | 303 | Agricultural/forestry/horticultural weed | n |
|---|-----|---|-------------|
| | | Source(s) | Notes |
| | | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |

| 304 | Environmental weed | n |
|-----|---|-------------|
| | Source(s) | Notes |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |

| Tanc | nka | |
|-------|--|--|
| Qsn # | Question | Answer |
| 305 | Congeneric weed | У |
| | Source(s) | Notes |
| | Tye, A. 2001. Invasive plant problems and requirements for weed risk assessment in the Galapagos Islands. Pp. 153-175 in Groves, R.H. et al. (eds.) Weed risk assessment. Csiro Publishing, Collingwood, Australia | "Even before permanent settlement, Floreana contained large areas dominated by introduced plants such as Citrus spp. (Slevin 1959; Hamann 1984)." "Group 5, including Ochroma, Cordia, Persea, comprises trees which are invading slowly; they are either in the early stages of invasion (Ochroma, Cordia) or have heavy seeds and therefore naturally spread more slowly (Persea, the Citrus spp.). Most have not yet caused serious ecological damage, but any tree o their size will probably have dramatic effects on the lower growing native vegetation that it is invading, especially those species (Citrus, Persea) which tend to form dense monospecific stands." |
| | 1 | Υ |
| 401 | Produces spines, thorns or burrs | |
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "A vigorous, unarmed (thornless) shrub or small tree, 2–5 m high, with widespread, drooping branches. Young shoots are purplish. Leaves are unifoliolate, alternate, broad-lanceolate, medium green, glabrous, pellucid dotted, with acute apex and acute base, and slightly crenulate margin (Plate 1)." |
| | Morton, J. 1987. Tahiti Lime. p. 172–175. In: Fruits of Warm Climates. Julia F. Morton, Miami, FL | [Nearly thornless] "The Tahiti lime tree is moderately vigorous, medium to large, up to 15 or 20 ft (4.5-6 m), with nearly thornless, widespread, drooping branches." |
| | | |
| 402 | Allelopathic | |
| | Source(s) | Notes |
| | WRA Specialist. 2017. Personal Communication | Unknown |
| | | |
| 403 | Parasitic | n |
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "A vigorous, unarmed (thornless) shrub or small tree, 2–5 m high, with widespread, drooping branches." [Rutaceae. No evidence] |
| 404 | Handat-Maria anatu | T |
| 404 | Unpalatable to grazing animals | Nahaa |
| | Source(s) WRA Specialist. 2017. Personal Communication | Unknown. Spines on the trunk and/or oils in foliage may deter browsing |
| | • | , |
| 405 | Toxic to animals | |
| | Source(s) | Notes |

explains why when limes were grown commercially in Florida they

were packed in covered structures.)"

| Qsn # | Question | Answer |
|-------|----------|--|
| | | [Potentially] "Citrus aurantifolia (Key Lime) and Citrus latifolia (Tahiti or Persian Lime): Ingestion of both these types of limes can cause distress in dogs and cats, including depression, vomiting and diarrhea. Furthermore, as in humans, exposure in sunlight to psoralens, oils found in the rinds of these fruits, can set up a very strong allergic reaction. (The risk of photosensitive reactions |

| 406 | Host for recognized pests and pathogens | |
|-----|---|--|
| | Source(s) | Notes |
| | Crane, J. H. 2016. Growing 'Tahiti' Limes in the Home Landscape. HS8 Revised. IFAS, University of Florida. http://edis.ifas.ufl.edu. [Accessed 13 Apr 2017] | "Caution: Two diseases may limit or eliminate the potential for successful 'Tahiti' lime growing in the home landscape. Citrus canker—caused by Xanthomonas campestris pv. Citri—infects leaves, causing defoliation and reducing tree vigor and production (Spann et al. 2008a)." |
| | Morton, J. 1987. Tahiti Lime. p. 172–175. In: Fruits of Warm Climates. Julia F. Morton, Miami, FL | "The citrus red mite (purple mite, red spider, spider mite), and the broad mite may heavily infest Tahiti lime leaves and fruits. Formerly, the trees and fruits commonly evidenced lime blotch (yellow areas on leaves and fruits) but the replacing of susceptible trees has largely eliminated this problem. The tree is immune to withertip, moderately susceptible to scab and greasy spot. Red alga is a major problem, causing bark splitting and dieback of branches. It can be prevented by regular and thorough spraying with copper or other suitable fungicides. The tree is subject to several viruses: crinkly leaf, psorosis, tatterleaf, tristeza, exocortis and xyloporosis. The fruits are highly subject to oil spotting (oleocellosis), which occurs most frequently during rainy seasons and when limes are harvested when wet with dew. Stylar-end-breakdown, or stylar-end-rot, has been a very serious post-harvest disorder in the summer. It may develop within 2 hours after picking or several days later. It is apparently induced in oversize fruits, larger than 2 1/2 in (6.25 cm) picked early in the morning when internal pressure is high and left too long in the hot sun in the field boxes. The effect is an expansion and rupturing of juice vesicles and the development of a brown, soft area at the apex of the fruit, occasionally at the base also. Fruit losses have been as high as 40%. Precooling the fruits for 24 hours greatly reduces the incidence of this disease." |

| 407 | Causes allergies or is otherwise toxic to humans | |
|-----|---|---|
| | Source(s) | Notes |
| | Morton, J. 1987. Tahiti Lime. p. 172–175. In: Fruits of Warm Climates. Julia F. Morton, Miami, FL | [Potentially] "Excessive exposure to the peel oil of the Tahiti lime may cause dermatitis. Rolling the limes between the hands before squeezing in order to extract more of the juice will coat the hands with oil and this will be transferred to whatever parts of the body are touched before washing the hands. Subsequent exposure to sunlight often results in brown or red areas that itch intensely, and sometimes severe blistering. The sap of the tree and scratches by the thorns may cause rash in sensitive individuals." |

TAXON: Citrus latifolia (Yu. Tanaka) **SCORE**: -12.0 Tanaka

RATING:Low Risk

| Qsn # | Question | Answer |
|-------|---|---|
| 408 | Creates a fire hazard in natural ecosystems | n |
| | Source(s) | Notes |
| | Plants Volume 4 Fruits Springer New York | "The origin of the Tahiti lime is unknown. It is known only in cultivation." [No evidence that this tree occurs in fire prone ecosystems or otherwise contributes to increased fire risk] |

| 409 | Is a shade tolerant plant at some stage of its life cycle | n |
|-----|--|---|
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "It grows best in full sun on well-drained, sandy or calcareous soils but will not withstand water-logged soils or heavy clays." |
| | Dave's Garden. 2017. Bearss Lime, Tahitian Lime, Persian Lime - Citrus latifolia. http://davesgarden.com/guides/pf/go/54415/. [Accessed 13 Apr 2017] | "Sun Exposure: Full Sun" |
| | Learn 2 Grow. 2017. Citrus latifolia. http://www.learn2grow.com/plants/citrus-latifolia/. [Accessed 13 Apr 2017] | "They prefer full sun, well-drained soil and areas with warm, dry winters and cool summers. " "Sun Exposure: Full Sun, Partial Sun" |

| 410 | Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island) | у |
|-----|---|---|
| | Source(s) | Notes |
| | Crane, J. H. 2016. Growing 'Tahiti' Limes in the Home Landscape. HS8 Revised. IFAS, University of Florida. http://edis.ifas.ufl.edu. [Accessed 13 Apr 2017] | "'Tahiti' lime trees can be grown successfully in a variety of soils. However, well drained soils are essential for good fruit production and growth. Trees growing in high-pH, calcareous soils may be more susceptible to minor element deficiencies." |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "It grows best in full sun on well-drained, sandy or calcareous soils but will not withstand water-logged soils or heavy clays." |
| | Dave's Garden. 2017. Bearss Lime, Tahitian Lime, Persian Lime - Citrus latifolia. http://davesgarden.com/guides/pf/go/54415/. [Accessed 13 Apr 2017] | "Soil pH requirements: 6.1 to 6.5 (mildly acidic) 6.6 to 7.5 (neutral) 7.6 to 7.8 (mildly alkaline)" |
| | Learn 2 Grow. 2017. Citrus latifolia. http://www.learn2grow.com/plants/citrus-latifolia/. [Accessed 13 Apr 2017] | "Soil pH: Acidic, Neutral, Alkaline Soil Drainage: Well Drained Soil type: Clay, Loam, Sand" |

| 411 | Climbing or smothering growth habit | n |
|-----|-------------------------------------|--|
| | Source(s) | Notes |
| | | "A vigorous, unarmed (thornless) shrub or small tree, 2–5 m high, with widespread, drooping branches." |

TAXON: Citrus latifolia (Yu. Tanaka) **SCORE**: -12.0

RATING:Low Risk

| Tana | Tanaka | | |
|-------|--|--|--|
| Qsn # | Question | Answer | |
| 412 | Forms dense thickets | n | |
| 412 | Source(s) | Notes | |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | [No evidence] "The origin of the Tahiti lime is unknown. It is known only in cultivation." | |
| | rementation of the second of t | je, ce | |
| 501 | Aquatic | n | |
| | Source(s) | Notes | |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | [Terrestrial Tree] ""It grows best in full sun on well-drained, sandy or calcareous soils but will not withstand water-logged soils or heavy clays." | |
| | <u>, </u> | , | |
| 502 | Grass | n | |
| | Source(s) | Notes | |
| | USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 11 Apr 2017] | Family: Rutaceae Subfamily: Aurantioideae Tribe: Aurantieae Subtribe: Citrinae | |
| | | | |
| 503 | Nitrogen fixing woody plant | n | |
| | Source(s) | Notes | |
| | USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 11 Apr 2017] | Family: Rutaceae Subfamily: Aurantioideae Tribe: Aurantieae Subtribe: Citrinae | |
| 504 | Geophyte (herbaceous with underground storage organs bulbs, corms, or tubers) | n | |
| | Source(s) | Notes | |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "A vigorous, unarmed (thornless) shrub or small tree, 2–5 m high, with widespread, drooping branches." | |
| | <u> </u> | , _ | |
| 601 | Evidence of substantial reproductive failure in native habitat | | |
| | Source(s) | Notes | |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | [Not applicable] 'The origin of the Tahiti lime is unknown. It is known only in cultivation. It is cultivated commercially in Tahiti, New Caledonia, Florida, California, Mexico, Brazil, Venezuela, Portugal and Australia. It is believed that the lime was introduced into the Mediterranean region by way of Iran (formerly called Persia) from Tahiti." | |
| 602 | Produces viable seed | у | |

TAXON: Citrus latifolia (Yu. Tanaka) **SCORE**: -12.0 Tanaka

| Qsn # | Question | Answer |
|-------|---|--|
| | Source(s) | Notes |
| | Morton, J. 1987. Taniti Lime. p. 172–175. In: Fruits of | "usually seedless, rarely with one or a few seeds, especially if planted among a number of other Citrus species. The Tahiti lime flowers have no viable pollen." |

| 603 | Hybridizes naturally | |
|-----|---|---|
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "The pollens are not viable." "Citrus x latifolia is believed to be a hybrid of the Mexican lime, Citrus x aurantiifolia and lemon, Citrus x limon , or, the Mexican lime, Citrus x aurantiifolia and the citron, Citrus medica and is genetically a triploid (Mabberley 2004)." [Presumably cannot pollinate other trees, but may possibly be pollinated by other Citrus species] |
| | Crane, J. H. 2016. Growing 'Tahiti' Limes in the Home Landscape. HS8 Revised. IFAS, University of Florida. http://edis.ifas.ufl.edu. [Accessed 13 Apr 2017] | [Possibly] "When 'Tahiti' lime is grown in solid plantings, the fruit is seedless, but may produce a few seeds when planted along with other citrus species." |

| 604 | Self-compatible or apomictic | n |
|-----|---|--|
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "The pollens are not viable." |
| | | "When 'Tahiti' lime is grown in solid plantings, the fruit is seedless, but may produce a few seeds when planted along with other citrus species." |

| 605 | Requires specialist pollinators | n |
|-----|---|--|
| | Source(s) | Notes |
| | Crane, J. H. 2016. Growing 'Tahiti' Limes in the Home Landscape. HS8 Revised. IFAS, University of Florida. http://edis.ifas.ufl.edu. [Accessed 13 Apr 2017] | "'Tahiti' lime does not require pollination to set fruit although honey bees and other insects frequently visit the open flowers." |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "Flowers are axillary, hermaphrodite, white, fragrant, solitary or in a few-flowered clusters (Plates 1 and 2)." |

| 606 | Reproduction by vegetative fragmentation | n |
|-----|---|--|
| | Source(s) | Notes |
| | Lime - Citrus latifolia. http://dayasgarden.com/guides/nf/go/54415/ [Accessed] | "Propagation Methods: By grafting By budding Seed Collecting: N/A: plant does not set seed, flowers are sterile, or plants will not come true from seed" |

| Qsn # | Question | Answer |
|-------|--|---|
| 607 | Minimum generative time (years) | >3 |
| | Source(s) | Notes |
| | Daleys Fruit Tree Nursery. 2017. Lime - Tahitian. https://www.daleysfruit.com.au/buy/lime-tahitian- tree.htm. [Accessed 13 Apr 2017] | "Time to Fruit/Flower/Harvest: 4-5 Years" |

| 701 | Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas) | n |
|-----|---|---|
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "Fruit is a berry (hesperidium), oval, obovate, oblong or short- elliptical, usually rounded at the base and apex with papilla, 5–7.5 cm by 4–6.25 cm wide, vivid green to pale yellowish green and seedless" [Seedless] |

| 702 | Propagules dispersed intentionally by people | У |
|-----|--|--|
| | Source(s) | Notes |
| | | "It is cultivated commercially in Tahiti, New Caledonia, Florida, California, Mexico, Brazil, Venezuela, Portugal and Australia." |

| 703 | Propagules likely to disperse as a produce contaminant | n |
|-----|--|---|
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "Fruit is a berry (hesperidium), oval, obovate, oblong or short- elliptical, usually rounded at the base and apex with papilla, 5–7.5 cm by 4–6.25 cm wide, vivid green to pale yellowish green and seedless" [Seedless] |

| 704 | Propagules adapted to wind dispersal | n |
|-----|--|---|
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal | "Fruit is a berry (hesperidium), oval, obovate, oblong or short- elliptical, usually rounded at the base and apex with papilla, 5–7.5 cm by 4–6.25 cm wide, vivid green to pale yellowish green and seedless" [Seedless] |

| 70 | 05 | Propagules water dispersed | n |
|----|----|--|---|
| | | Source(s) | Notes |
| | | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal Plants. Volume 4, Fruits. Springer, New York | "Fruit is a berry (hesperidium), oval, obovate, oblong or short- elliptical, usually rounded at the base and apex with papilla, 5–7.5 cm by 4–6.25 cm wide, vivid green to pale yellowish green and seedless" [Seedless] |

Plants. Volume 4, Fruits. Springer, New York

but may produce a few seeds when planted along with other citrus

| Qsn # | Question | Answer |
|-------|--|---|
| 706 | Propagules bird dispersed | n |
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal | "When 'Tahiti' lime is grown in solid plantings, the fruit is seedless, |

species." [Seedless]

| 707 | Propagules dispersed by other animals (externally) | n |
|-----|---|--|
| | Source(s) | Notes |
| | II IM K JIII JI FAINIA MAAAICINSI SNA MAN-MAAACINSI | "When 'Tahiti' lime is grown in solid plantings, the fruit is seedless, but may produce a few seeds when planted along with other citrus species." |

| 708 | Propagules survive passage through the gut | |
|-----|--|---|
| | Source(s) | Notes |
| | Plants Volume 4 Fruits Springer New York | "When 'Tahiti' lime is grown in solid plantings, the fruit is seedless, but may produce a few seeds when planted along with other citrus species." [Seedless] |
| | Landscape. HS8 Revised. IFAS, University of Florida. | "When 'Tahiti' lime is grown in solid plantings, the fruit is seedless, but may produce a few seeds when planted along with other citrus species." [Viability of these "hybrid" seeds unknown. Unknown if they survive gut passage] |

| 801 | Prolific seed production (>1000/m2) | n |
|-----|---|---|
| | Source(s) | Notes |
| | Warm Climates Julia F. Morton, Miami, Fl. | "The seeds of the Tahiti lime are largely monoembryonic; few seeds are available for planting; and seedlings, for the most part, are exceedingly variable." |

| 802 | Evidence that a persistent propagule bank is formed (>1 yr) | n |
|-----|---|---|
| | Source(s) | Notes |
| | Lim, T.K. (2012). Edible Medicinal and Non-Medicinal | [Seedless] "Fruit is a berry (hesperidium), oval, obovate, oblong or short-elliptical, usually rounded at the base and apex with papilla, 5–7.5 cm by 4–6.25 cm wide, vivid green to pale yellowish green and seedless" |

| 803 | Well controlled by herbicides | |
|-----|---|---|
| | Source(s) | Notes |
| | IWRA Specialist 2017 Personal Communication | Unknown. No information on herbicide efficacy or chemical control of this species |

| | , | |
|-----|---|--|
| 804 | Tolerates, or benefits from, mutilation, cultivation, or fire | |

TAXON: Citrus latifolia (Yu. Tanaka) **SCORE**: -12.0 Tanaka

height will also facilitate harvesting of the fruit."

| Qsn # | Question | Answer |
|-------|---|--|
| | Source(s) | Notes |
| | Doyle, D. 2017. How to Force Blooms on a Lime Tree. http://homeguides.sfgate.com/force-blooms-lime-tree-53847.html. [Accessed 13 Apr 2017] | "Lime trees are very irritable and several common conditions cause the tree to not bloom, including over-pruning, inadequate water drainage and lack of sunlight." "Lime trees do not respond well to heavy pruning." |
| | Crane, J. H. 2016. Growing 'Tahiti' Limes in the Home Landscape. HS8 Revised. IFAS, University of Florida. http://edis.ifas.ufl.edu. [Accessed 13 Apr 2017] | [Tolerates pruning] "Generally, 'Tahiti' lime trees have a round canopy and need only limited pruning. Prune only to shape trees, to remove dead or diseased wood, to improve light and penetration of spray material, and to limit tree size. Keep the tree height in the range of 6–8 feet. Maintaining tree height in this range will reduce potential wind damage (e.g., uprooting) and help facilitate cultural practices such as spraying micronutrients onto the foliage. This tree |

| 805 | Effective natural enemies present locally (e.g. introduced biocontrol agents) | |
|-----|---|---------|
| | Source(s) | Notes |
| | WRA Specialist. 2017. Personal Communication | Unknown |

TAXON: Citrus latifolia (Yu. Tanaka) SCORE: -12.0 RATING: Low Risk

Summary of Risk Traits:

Tanaka

High Risk / Undesirable Traits

- · Able to grow and thrive in tropical climates
- Some Citrus species are regarded as weeds or invasive
- May have some spines (although often unarmed)
- May host pests and pathogens of other Citrus spp.
- · Exposure to oil may cause dermatitis
- Tolerates many soil types
- May produce seeds if pollinated by other Citrus species
- Dispersed intentionally by people

Low Risk Traits

- No reports of invasiveness or naturalization (only known from cultivation)
- Usually unarmed
- Edible fruit
- Requires full sun
- Seedless (unless pollinated by other Citrus spp.)
- Not reported to spread vegetatively
- Reaches maturity in 4+ years
- · Lack of seed production eliminates risk of inadvertent dispersal