

Family: *Myrtaceae*

Taxon: *Pimenta racemosa*

Synonym: *Caryophyllus racemosus* Mill.
Pimenta acris auct.

Common Name: Bay rum tree
West Indian bay

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| Questionnaire : | current 20090513 | Assessor: | Chuck Chimera | Designation: H(HPWRA) |
| Status: | Assessor Approved | Data Entry Person: | Chuck Chimera | WRA Score 7 |
| 101 | Is the species highly domesticated? | | y=-3, n=0 | n |
| 102 | Has the species become naturalized where grown? | | y=1, n=-1 | |
| 103 | Does the species have weedy races? | | y=1, n=-1 | |
| 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) | High |
| 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 | y |
| 205 | Does the species have a history of repeated introductions outside its natural range? | | y=-2, ?=-1, n=0 | y |
| 301 | Naturalized beyond native range | | y = 1*multiplier (see Appendix 2), n= question 205 | y |
| 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) | y |
| 305 | Congeneric weed | | n=0, y = 1*multiplier (see Appendix 2) | y |
| 401 | Produces spines, thorns or burrs | | y=1, n=0 | n |
| 402 | Allelopathic | | y=1, n=0 | |
| 403 | Parasitic | | y=1, n=0 | n |
| 404 | Unpalatable to grazing animals | | y=1, n=-1 | |
| 405 | Toxic to animals | | y=1, n=0 | |
| 406 | Host for recognized pests and pathogens | | y=1, n=0 | y |
| 407 | Causes allergies or is otherwise toxic to humans | | y=1, n=0 | |
| 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 | |
| 410 | Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island) | | y=1, n=0 | y |
| 411 | Climbing or smothering growth habit | | y=1, n=0 | n |

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| 412 | Forms dense thickets | y=1, n=0 | |
| 501 | Aquatic | y=5, n=0 | n |
| 502 | Grass | y=1, n=0 | n |
| 503 | Nitrogen fixing woody plant | y=1, n=0 | n |
| 504 | Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers) | y=1, n=0 | n |
| 601 | Evidence of substantial reproductive failure in native habitat | y=1, n=0 | n |
| 602 | Produces viable seed | y=1, n=-1 | y |
| 603 | Hybridizes naturally | y=1, n=-1 | n |
| 604 | Self-compatible or apomictic | y=1, n=-1 | |
| 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 |
| 701 | Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas) | y=1, n=-1 | n |
| 702 | Propagules dispersed intentionally by people | y=1, n=-1 | y |
| 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 | y |
| 707 | Propagules dispersed by other animals (externally) | y=1, n=-1 | n |
| 708 | Propagules survive passage through the gut | y=1, n=-1 | y |
| 801 | Prolific seed production (>1000/m2) | y=1, n=-1 | n |
| 802 | Evidence that a persistent propagule bank is formed (>1 yr) | y=1, n=-1 | |
| 803 | Well controlled by herbicides | y=-1, n=1 | |
| 804 | Tolerates, or benefits from, mutilation, cultivation, or fire | y=1, n=-1 | y |
| 805 | Effective natural enemies present locally (e.g. introduced biocontrol agents) | y=-1, n=1 | |

Designation: H(HPWRA)

WRA Score 7

Supporting Data:

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| 101 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Esia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Is the species highly domesticated? No] No evidence |
| 102 | 2011. WRA Specialist. Personal Communication. | NA |
| 103 | 2011. WRA Specialist. Personal Communication. | NA |
| 201 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Esia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Species suited to tropical or subtropical climate(s)? 2-high] "P. racemosa occurs naturally in northern South America and throughout the Caribbean." |
| 202 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Esia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Quality of climate match data? 2-high] "P. racemosa occurs naturally in northern South America and throughout the Caribbean." |
| 203 | 1964. Little, Jr. E.L./Wadsworth, F.H.. Common trees of Puerto Rico and the Virgin Islands. Agriculture Handbook No. 249. U.S.D.A. Forest Service, Washington, D.C | [Broad climate suitability (environmental versatility)? No] "Confined chiefly to dry slopes" [In Puerto Rico, low elevation] |
| 203 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Esia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Broad climate suitability (environmental versatility)? No] "P. racemosa prefers an annual rainfall of 2500 mm evenly distributed over the year with few months with less than 200 mm rainfall, but natural stands occur in areas with only 750 mm annual rainfall. Although trees grow well with 1250-1500 mm annual rainfall, regrowth following pruning is too slow for commercial plantations to be profitable. It grows best at temperatures of 15-35-35 ^o C; temperatures below 15 ^o C having a more adverse effect on growth than temperatures higher than 35 ^o C. Frost is not tolerated. Trees are found up to 750 m altitude. Clear sunny weather promotes leaf growth and reduces the incidence of leaf diseases." |
| 204 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Esia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Native or naturalized in regions with tropical or subtropical climates? Yes] "P. racemosa occurs naturally in northern South America and throughout the Caribbean." |
| 205 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Esia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Does the species have a history of repeated introductions outside its natural range? Yes] "It is cultivated in the Caribbean, south-eastern United States, Cameroon and India." |
| 301 | 2003. Space, J.C./Waterhouse, B./Miles, J.E./Tiobech, J./Rengulbai, K.. Report to the Republic of Palau on invasive plant species of environmental concern. USDA Forest Service, Honolulu, HI | [Naturalized beyond native range? Yes] "Pimenta dioica (allspice, pimento) is an invasive forest tree. The seeds are bird dispersed. It is widespread in Tonga ('Eua), planted in Hawai'i (where it is naturalizing) and reported to be planted in French Polynesia and Fiji as well. Pimenta racemosa (bay tree), while less of a problem, readily naturalizes as well; for example, in the Cook Islands." |
| 301 | 2007. McCormack, G.. Cook Islands Biodiversity Database, Version 2007.2.. Cook Islands Natural Heritage Trust, Rarotonga http://cookislands.bishopmuseum.org | [Naturalized beyond native range? Yes] Cook Islands Status: Introduced - Recent, Naturalised; Land, lowlands - mountains (+++) (mid-elev.). Significance List: (Cond 1+); Invasive - serious (Rarotonga - inland) |
| 302 | 2007. Randall, R.P.. Global Compendium of Weeds - Pimenta racemosa [Online Database]. http://www.hear.org/gcw/species/pimenta_racemosa/ | [Garden/amenity/disturbance weed? No] No evidence |
| 303 | 2007. Randall, R.P.. Global Compendium of Weeds - Pimenta racemosa [Online Database]. http://www.hear.org/gcw/species/pimenta_racemosa/ | [Agricultural/forestry/horticultural weed? No] No evidence |
| 304 | 2003. BEST Commission. The National Invasive Species Strategy for The Bahamas. BEST, Nassau, The Bahamas | [Environmental weed? Yes] "XVI. List of Known Invasive Alien Species in The Bahamas" [includes P. racemosa, which is also listed as one of several plants "Recommended for Control"] |
| 304 | 2007. McCormack, G.. Cook Islands Biodiversity Database, Version 2007.2.. Cook Islands Natural Heritage Trust, Rarotonga http://cookislands.bishopmuseum.org | [Environmental weed? Yes] "Negative Significance: Invasive - serious (Rarotonga - inland). Comments: Commonly invasive in the lower inland forest of Rarotonga, probably spread by the Fruit-Dove or Pigeon." |
| 304 | 2007. Randall, R.P.. Global Compendium of Weeds - Pimenta racemosa [Online Database]. http://www.hear.org/gcw/species/pimenta_racemosa/ | [Environmental weed? Yes] |

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| 304 | 2011. DOFAW. Hawaii's Most Invasive Horticultural Plants - bay-rum - <i>Pimenta racemosa</i> . http://www.state.hi.us/dlnr/dofaw/hortweeds/species/pimrac.htm | [Environmental weed? Yes] "Similar to <i>Pimenta dioica</i> but leaves blunter and rounder, and flowers with 5 petals instead of 4...Risk areas: Dry and moist forests and open areas, up to 3000 ft. elevation." |
| 305 | 2001. Space, J.C./Flynn, T.. Report to the Kingdom of Tonga on invasive plant species of environmental concern. USDA Forest Service, Honolulu, HI | [Congeneric weed? Yes] " <i>Pimenta dioica</i> (sipsaisi, allspice, pimento) is widely planted and naturalized in Tonga. We were shown one area on 'Eua where it had naturalized as a dense thicket of saplings. Given its demonstrated aggressive nature this species may well become a major problem in the future. The use of allspice as a desirable medicinal plant is recognized but its presence in areas of intact native forest should be monitored and efforts made to eradicate it from these areas. The seeds are bird dispersed." |
| 401 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Produces spines, thorns or burrs? No] "Erect, evergreen tree, up to 15(-25) m tall; trunk up to 20 cm in diameter, often slightly ridged and grooved; bark smooth, grey to light brown, peeling off in thin strips; inner bark pinkish; crown dense, columnar, dark green; young branchlets flattened, 4-angled. Leaves opposite, simple, entire, highly aromatic; petiole 3-12 mm long, green with reddish tinge; blade elliptical to obovate or elliptical-oblong, 4-18 cm x 3-8 cm, base attenuate, obtuse or rounded, margins often recurved, apex rounded, emarginate, stiff, leathery, with very numerous, minute glandular dots, shining green above, paler beneath, midrib sunken, lateral veins prominent on both surfaces." |
| 402 | 2003. Fujii, Y./Parvez, S. S./Parvez, M.M./Ohmae, Y./Iida, O.. Screening of 239 medicinal plant species for allelopathic activity using the sandwich method. Weed Biology and Management. 3: 233-241. | [Allelopathic? Unknown] "We studied the leaf litter of a large number of medicinal plants using the sandwich method. For the present paper we examined 239 plant species of different families for their allelopathic effects under laboratory conditions." [Table 1. <i>Pimenta racemosa</i> showed some negative effects on lettuce hypocotyl length in a laboratory experiment. Unknown under field conditions] |
| 403 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Parasitic? No] "Erect, evergreen tree, up to 15(-25) m tall" [Myrtaceae] |
| 404 | 2011. WRA Specialist. Personal Communication. | [Unpalatable to grazing animals? Unknown] No direct evidence, however the rich essential oil (1-3.5%) in leaves may deter animals from browsing on leaves |
| 405 | 2008. Lewis Sr., R.J.. Hazardous chemicals desk reference. Sixth Edition. John Wiley & Sons, Hoboken, NJ | [Toxic to animals? Unknown] " <i>Pimenta racemosa</i> oil...Moderately toxic by ingestion. A skin irritant. When heated to decomposition it emits acrid smoke and irritating fumes." [Description of oil extract, but no direct evidence from plant itself] |
| 406 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Host for recognized pests and pathogens? Yes] "Diseases and pests: The most serious disease of <i>P. racemosa</i> is a leaf rust caused by <i>Puccinia psidii</i> , which covers young leaves, shoot and inflorescences with a bright yellow mass of spores... Severe infection results in defoliation and successive attacks severely weaken tree and may kill young ones. The disease is most common in areas where fog or heavy dew occurs frequently. A dieback or canker, known in the Caribbean as fireblight, caused by <i>Ceratocystis fimbriata</i> affects older trees. The disease is widespread, but outbreaks can be very local. Leaf-eating caterpillars are the most damaging pests. Bag-worms (<i>Oeceticus abboti</i>) and related species are often recorded. Whiteflies, thrips and weevils also cause some damage. Black ants cause damage by transferring scale insects between trees and by making harvesting unpleasant." |
| 407 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Causes allergies or is otherwise toxic to humans? No] No evidence |
| 407 | 2008. Lewis Sr., R.J.. Hazardous chemicals desk reference. Sixth Edition. John Wiley & Sons, Hoboken, NJ | [Causes allergies or is otherwise toxic to humans? Potentially] " <i>Pimenta racemosa</i> oil...Moderately toxic by ingestion. A skin irritant. When heated to decomposition it emits acrid smoke and irritating fumes." [Description of oil extract, but no direct evidence from whole plant itself] |
| 407 | 2011. Top Tropicals. <i>Pimenta racemosa</i> . Top Tropicals Botanical Garden, https://toptropicals.com/cgi-bin/garden_catalog/cat.cgi?uid=Pimenta_racemosa | [Causes allergies or is otherwise toxic to humans? No] "The fruit is not edible, the bay rum (used for cologne) and essential oil itself are toxic and should not be ingested. However, leaves of <i>Pimenta racemosa</i> can be used in cooking and tea." |
| 408 | 1964. Little, Jr. E.L./Wadsworth, F.H.. Common trees of Puerto Rico and the Virgin Islands. Agriculture Handbook No. 249. U.S.D.A. Forest Service, Washington, D.C | [Creates a fire hazard in natural ecosystems? No] No evidence |

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| 408 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Creates a fire hazard in natural ecosystems? No] No evidence |
| 408 | 2000. Elevitch, C.R./Wilkinson, K.M.. Agroforestry guides for Pacific Islands. Permanent Agriculture Resources, Holualoa, HI | [Creates a fire hazard in natural ecosystems? No] No evidence |
| 409 | 2009. Kirk, T.K.. Tropical Trees of Florida and the Virgin Islands: A Guide to Identification, Characteristics and Uses. Pineapple Press Inc., Sarasota, FL | [Is a shade tolerant plant at some stage of its life cycle? Unknown] "...grows best in full sun or light shade or sheltered sites in well-drained soils." |
| 409 | 2011. Top Tropicals. <i>Pimenta racemosa</i> . Top Tropicals Botanical Garden, https://toptropicals.com/cgi-bin/garden_catalog/cat.cgi?uid=Pimenta_racemosa | [Is a shade tolerant plant at some stage of its life cycle? Unknown. Possibly] "Grow this tree in full sun or light shade" |
| 410 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Tolerates a wide range of soil conditions? Yes] "Growth is best on deep fertile loamy soils with a slightly acid to neutral pH, but most plantations are on marginal soils on slopes, better soils being allocated to food crops." [Ability to tolerate both fertile and marginal soils] |
| 411 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Climbing or smothering growth habit? No] "Erect, evergreen tree, up to 15(-25) m tall" |
| 412 | 1987. Weaver, P.L./Chinea-Rivera, J.D.. A phytosociological study of Cinnamon Bay Watershed, St. John, U.S. Virgin Islands. Caribbean Journal of Science. 23(2): 318-336. | [Forms dense thickets? No] " <i>Pimenta racemosa</i> - Is common in dry evergreen woodland and frequent in moist upland forest at elevations above 150 m. Although, it was most common on ridges in the Cinnamon Bay watershed, it is reported for all topographic positions except the littoral area....Appendix Table A... <i>Pimenta racemosa</i> ...Density (No./ha) = 193.8" [No evidence from St. John island] |
| 412 | 2008. Glenn, M.E./Bensen, K.J.. Forest structure and tree species composition of the Grand Etang Forest on Grenada, West Indies, pre-Hurricane Ivan. Caribbean Journal of Science. 44(3): 395-401. | [Forms dense thickets? No] "TABLE 1. Structural summary of trees in the Grand Etang Forest...Density = Number of trees per species per hectare... <i>Pimenta racemosa</i> = 60/hectare" [No evidence from Grenada, West Indies] |
| 412 | 2011. Lau, A.. Oahu Early Detection Botanist. Pers. Comm. 31 May 2011. | [Forms dense thickets? Potentially in Hawaii] "...found this rarely planted tree locally naturalized in Moanalua valley recently...it was forming dense, small (10 x 10 foot) patches. Also it was growing in the partial shade of overstory trees, seemingly preferring sun" |
| 501 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Aquatic? No] "Erect, evergreen tree, up to 15(-25) m tall" [terrestrial] |
| 502 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Grass? No] Myrtaceae |
| 503 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Nitrogen fixing woody plant? No] Myrtaceae |
| 504 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Erect, evergreen tree, up to 15(-25) m tall" |
| 601 | 1964. Little, Jr. E.L./Wadsworth, F.H.. Common trees of Puerto Rico and the Virgin Islands. Agriculture Handbook No. 249. U.S.D.A. Forest Service, Washington, D.C | [Evidence of substantial reproductive failure in native habitat? No] No evidence |
| 601 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Evidence of substantial reproductive failure in native habitat? No] No evidence |
| 602 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Produces viable seed? Yes] "Propagation of <i>P. racemosa</i> is mostly by seed." |
| 603 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Hybridizes naturally? No] No evidence of hybridization in this well studied species |

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| 604 | 1996. Lughadha, E.N./Proenca, C.. A Survey of the Reproductive Biology of the Myrtoideae (Myrtaceae). 83 (4): 480-503. | [Self-compatible or apomictic? Unknown] "In the Myrtoideae, cryptic dioecy has been reported in <i>Pimenta dioica</i> (Chapman, 1964), in <i>Decaspermum parviflorum</i> (Kevan & Lack, 1985), and in all 15 species of <i>Eugenia</i> native to South Africa (van Wyk & Lowrey, 1988). With the exception of <i>Pimenta dioica</i> , which has structurally hermaphroditic flowers in both sexes, all of these species have male flowers with greatly reduced pistils, while female flowers appear perfect but generally have fewer stamens whose anthers do not produce viable pollen. In the typically small myrtaceous flower with its many stamens, both types of cryptic dioecy (apparently hermaphrodite and apparently androdioecious) may easily be overlooked by the casual observer and are probably more common than the few literature reports suggest" |
| 604 | 2009. Kirk, T.K.. Tropical Trees of Florida and the Virgin Islands: A Guide to Identification, Characteristics and Uses. Pineapple Press Inc., Sarasota, FL | [Self-compatible or apomictic? Unknown] "The flowers are bisexual" [but unknown if plants are self-fertile] |
| 605 | 1995. Roubik, D.W.. Pollination of cultivated plants in the tropics. FAO Services Bulletin 118. FAO, Rome, Italy | [Requires specialist pollinators? No] " <i>Pimenta racemosa</i> ...Pollinators...Insect, bee?" |
| 605 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Requires specialist pollinators? No] "Inflorescence a terminal or subterminal corymbiform panicle, 3-12 cm long; flowers 10 mm or more in diameter, white; hypanthium obconical, about 1.5 mm long, subglabrous, sepals 5, up to 1.5 mm long, wider than long, spreading; petals 5, 3-4 mm long, spreading; stamens numerous, 4-5 mm long, white; pistil with 2-celled ovary, slender style 4-5 mm long." [floral morphology does not suggest requirement for specialized pollinators] |
| 606 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Reproduction by vegetative fragmentation? No] "Propagation of <i>P. racemosa</i> is mostly by seed...Vegetative propagation is rarely practiced, but budding which is applied successfully to <i>P. dioica</i> is probably suitable for <i>P. racemosa</i> as well." [No evidence of natural vegetative spread] |
| 607 | 2000. Elevitch, C.R./Wilkinson, K.M.. Agroforestry guides for Pacific Islands. Permanent Agriculture Resources, Holualoa, HI | [Minimum generative time (years)?] " <i>Pimenta racemosa</i> ...Growth Rate = M...0.75-1.5 meters (2-5 ft) per year...Height at Maturity (meters) = 5-12 m" [At a maximum growth rate of 1.5 m/year, and at a minimum mature height of 5 m, <i>P. racemosa</i> could potentially reach maturity in just over 3 years, but more likely will reach maturity in 4+ years] |
| 701 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Propagules likely to be dispersed unintentionally? No] "Fruit a fleshy, subglobose to ellipsoid berry, 8-12 mm long, red-brown to black, with 1-3 seeds and sepals persistent at apex. Seed 4-7 mm long, brown" [No evidence, and no means of external attachment] |
| 702 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Propagules dispersed intentionally by people? Yes] "It is cultivated in the Caribbean, south-eastern United States, Cameroon and India." [propagated for essential oils, and the production of bay rum] |
| 703 | 2011. WRA Specialist. Personal Communication. | [Propagules likely to disperse as a produce contaminant? No] No direct evidence - seeds may be collected along with leaves for oil extraction. Green fruits are used for spice and these would not contain mature seeds. |
| 704 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Propagules adapted to wind dispersal? No] "Fruit a fleshy, subglobose to ellipsoid berry, 8-12 mm long, red-brown to black, with 1-3 seeds and sepals persistent at apex. Seed 4-7 mm long, brown" [fleshy-fruited, adapted for vertebrate dispersal] |
| 705 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Propagules water dispersed? No] "Fruit a fleshy, subglobose to ellipsoid berry, 8-12 mm long, red-brown to black, with 1-3 seeds and sepals persistent at apex. Seed 4-7 mm long, brown" [Although fruits may potentially float, distribution does not suggest that water dispersal is an unlikely vector for seed transport] |
| 706 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Propagules bird dispersed? Yes] "Fruit a fleshy, subglobose to ellipsoid berry, 8-12 mm long, red-brown to black, with 1-3 seeds and sepals persistent at apex. Seed 4-7 mm long, brown...Fruits are eaten by birds, which are the main dispersal agents for the seed." |
| 707 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Propagules dispersed by other animals (externally)? No] "Fruits are eaten by birds, which are the main dispersal agents for the seed" [Seeds are adapted for internal transport, with no means of external attachment] |
| 708 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Propagules survive passage through the gut? Yes] "Fruits are eaten by birds, which are the main dispersal agents for the seed." |
| 801 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Prolific seed production (>1000/m ²)? Unlikely] "Fruit a fleshy, subglobose to ellipsoid berry, 8-12 mm long, red-brown to black, with 1-3 seeds and sepals persistent at apex." [few seeds per fruit] |

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| 802 | 1988. Devadas, V.S./Manomohandas, T.P.. Studies on the viability of allspice seeds. Indian Cocoa, Arecanut and Spices Journal. 11(3): 99. | [Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "93% germination after 3 weeks storage in polyethylene bag at room temperature (22°C to 30°C), 53% after 9 weeks, and none survive after 11 weeks" [Probably not, based on comparison with related <i>Pimenta dioica</i>] |
| 802 | 2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/ | [Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "Short-lived in open storage at room temperature (Purseglove, 1968b) [Probably not, based on comparison with related <i>Pimenta dioica</i>] |
| 803 | 2011. WRA Specialist. Personal Communication. | [Well controlled by herbicides? Unknown] No information found on herbicide efficacy or chemical control of this species |
| 804 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] "The life of plantations is indeterminate, as trees regenerate from stumps, but the effect of regular harvesting on the life expectancy is not known... <i>P. racemosa</i> coppices well and misshapen or diseased trees can be cut back to ground level, allowing a new shoot to grow from the stump." |
| 805 | 1999. Oyen, L.P.A/Dung, N. X. (eds.). Plant Resources of South-East Asia 19, Essential-oil Plants. Prosea Foundation, Bogor, Indonesia | [Effective natural enemies present locally? Possibly] "The most serious disease of <i>P. racemosa</i> is a leaf rust caused by <i>Puccinia psidii</i> , which covers young leaves, shoot and inflorescences with a bright yellow mass of spores... Severe infection results in defoliation and successive attacks severely weaken tree and may kill young ones." [Unknown if the strain of <i>Puccinia psidii</i> in the Hawaiian Islands affects <i>P. racemosa</i> with the same severity as in other areas] |