Plant Risk Evaluator -- PRE™
Evaluation Report

Melia azedarach -- California

2022 Western IPM Grant Project

PRE Score: 18 -- High Potential Risk
Confidence: 75 / 100
Questions answered: 20 of 20 -- Valid (80% or more questions answered)

Privacy: Private
Status: Completed

Evaluation Date: June 24, 2022

This PDF was created on May 23, 2025

This project was funded in part by the USDA National Institute of Food and Agriculture through the Western Integrated Pest Management Center, grant number 2018-70006-28881.

Plant Evaluated

Melia azedarach

Image by Forest & Kim Starr

Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Melia azedarach*) in an effort to understand the invasive history, reproductive strategies, and the impact, if any, on the region's native plants and animals. This research reflects the data available at the time this evaluation was conducted.

Summary

Chinaberry (Melia azedarach L.) is a tree considered native to southeastern Asia and eastern Australia. It is not native to North America, and occurs across the United States and Mexico. Chinaberry has a deciduous habit in North America, typically with a single trunk and rounded crown. It has dark green leaves that are 2 to 3 times compound, and a loose, many-flowered, stalked panicle inflorescence. Chinaberry flowers between late spring and early summer in California and other parts of the world. Plants can grow to 75 feet tall and have a 96 ft canopy spread in the U.S. Chinaberry can tolerate a wide range of climatic and soil conditions. Older trees resist frost. Temperature tolerance may be one factor that allows China berry to occupy a wide range of habitats across the world. Chinaberry was introduced in the U.S. as an ornamental plant, but easily escapes cultivation and invades disturbed areas and wildlands. It occupies a wide range of habitats across the U.S. In Texas and forms dense stands that reduce light for understory plants. In Hawaii, Chinaberry threatens native Hawaiian vegetation communities. In California, Chinaberry has started to invade wildands. In Georgia, Chinaberry is ranked as a Category 1 invasive species because it invades and displaces native plant communities. Although its growth habit and location are variable across different states, its impact remains the same: Chinaberry is a significant threat to native plant communities.

General Information

Status: Completed
Screener: Lauren Quon
Evaluation Date: June 24, 2022

Plant Information

Plant: *Melia azedarach*

If the plant is a cultivar, how does its behavior differs from its parent's?
Various cultivars of Chinaberry have been introduced into North America. These include 'Jade Snowflake' (cv. Floribunda) and 'Umbraculiformis' (cv. Umbraculifera). Both cultivars are morphologically different from the wild type. Melia azedarach 'Jade Snowflake' has variegated leaves and 'Umbraculiformis' is a rounded, deciduous small to medium size tree with an umbrella-like canopy. This evaluation focuses on Melia azedarach at the species level.

Regional Information

Region Name: California

Climate Matching Map

To answer four of the PRE questions for a regional evaluation, a climate map with three climate data layers (Precipitation, UN EcoZones, and Plant Hardiness) is needed. These maps were built using a toolkit created in collaboration with GreenInfo Network, USDA, PlantRight, California Invasive Plant Council, and The Information Center for the Environment at UC Davis.

Click here to see the generated climate matching map for this region. This climate match database is hosted by GreenInfo Network and publicly accessible.

Evaluation Questions

These questions are based on an article published by PLOS One, which can be found here: https://doi.org/10.1371/journal.pone.0121053.

Invasive History and Climate Matching (Questions 1 - 6)

1. Has the species (or cultivar or variety, if applicable; applies to subsequent "species" questions) become naturalized where it is not native?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry was introduced as an ornamental to the United States (specifically in South Carolina and Georgia) in 1830. Chinaberry is thought to be native to southeastern Asia and northern Australia (Preston and McClintock 2012, Flora of China). It readily escapes from cultivated areas, expanding into disturbed areas and wildlands in its introduced range (Becking 2021). Chinaberry is naturalized in parts of central and southern Australia, southern Europe, southern and eastern Africa, southern USA, Mexico, Central America, the Caribbean, tropical southern America, and many Pacific Islands- including Hawaii and Fiji (BioNET-EAFRINET 2011, PIER). Chinaberry is ranked as a high risk (score of 14) invasive plant on the Pacific Island Ecosystems at Risk (PIER) website (http://www.hear.org/pier/species/melia_azedarach.htm). It is also naturalized in California (McClintock and Preston 2012).

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Project, BNET-EAFRINET. U. V. I. M. A. (2011). Factsheet - Melia azedarach (Melia).
- Preston, R. E., & McClintock E. (2012). Jepson eFlora - Meliaceae.

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2. Is the species (or cultivar or variety) noted as being naturalized in the US or world in a similar climate?

- Answer: **Yes**, which contributes **2** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry is noted as naturalized in California wildlands (Preston and, 2012). It is also noted as being naturalized in Australia and south Africa, which have similar climates to the U.S. (see Climate Matching Map and other website sources). Other than the US, Chinaberry occurs in Mexico, South America, Europe, South Africa, and Australia (according to the Climate Matching Map).

Reference(s):

- GBIF (2022). GBIF - Melia azedarach.
- Preston, R. E., & McClintock E. (2012). Jepson eFlora - Meliaceae.
- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.

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3. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

- Answer: **Yes**, which contributes **2** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry is noted as being invasive in the U.S. It is a Category 1 weed in Georgia and is invading wildlands in California. In Georgia, a Category 1 weed is defined as an exotic plant that is a serious problem in natural areas by extensively invading native plant communities and displacing native species. It is also listed as invasive by the Florida Exotic Pest Plant Council and the Southeast Exotic Pest Plant Council. It displaces native vegetation in Hawaii and other Pacific Islands.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Center for Invasive Species and Ecosystem Health, University of Georgia (2017). List of Non-Native Invasive Plants in Georgia - Georgia Exotic Pest Plant Council.

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4. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

- Answer: **Yes**, which contributes **3** point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry has not been categorized as invasive yet in California but is broadly naturalized there (Preston and McClintock 2012, Calflora 2023). Chinaberry occurs in along the west coast, from southern to central California (Waggy 2009, Wiggins 1980, Preston and McClintock 2012). It is listed as an invasive species in Texas by the Texas Invasive Species Institute (2014), where climate is similar to California according to the Climate Match tool.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Preston, R. E., & McClintock E. (2012). Jepson eFlora - Meliaceae.
- Texas Invasive Species Institute (2014). Chinaberry Tree: Texas Invasive Species Institute.

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5. Are other species of the same genus (or closely related genera) invasive in a similar climate?

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

There are other Melia species that are cultivated for other uses, but there is not enough information about whether these species invade areas with similar climates. There are other species within the same family (Meliacaeae) that are listed as invasive (Guarea genus), but these species are not invasive in similar climates. There is currently not enough information available about whether other species in the genus Melia are also invasive in similar climates.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Randall, R.P. (2017). A Global Compendium of Weeds. Third Edition..

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6. Is the species (or cultivar or variety) found predominately in a climate matching the region of concern?

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry is found in climates matching the region of concern; plants occur in areas of similar climates to California, such as Australia, Europe, Mexico, and South Africa (see climate matching map). However, Chinaberry also occurs in a large range of environments that do not match that of California, including eastern North America and southeast Asia.

Reference(s):

- GBIF (2022). GBIF - Melia azedarach.
- Project, BNET-EAFRINET. U. V. I. M. A. (2011). Factsheet - Melia azedarach (Melia).
- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.

Impact on Native Plants and Animals (Questions 7 - 10)

7. Does this plant displace native plants and dominate (overtop or smother) the plant community in areas where it has established?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry tree grows as an overstory tree and readily establishes in sunlight. It invades native plant communities and can establish in early successional stages of communities in disturbed areas. It displaces native vegetation in Hawaii, where it was introduced in 1840.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Texas Invasive Species Institute (2014). Chinaberry Tree: Texas Invasive Species Institute.

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8. Is the plant noted as promoting fire and/or changing fire regimes?

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry can vigorously regenerate/sprout from roots and stumps after fire, and seeds can germinate and sprout after fire. Prescribed fire is not a recommended control method for Chinaberry infestations. There is not much information on whether Chinaberry changes fire regimes in North America.

Reference(s):

- Tourn, G. M., Menvielle M. F., Scopel A. L., & Pidal B. (2000). Clonal strategies of a woody weed: Melia azedarach. (Stokes, A., Ed.).The Supporting Roots of Trees and Woody Plants: Form, Function and Physiology. 137–143.
- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.

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9. Is the plant a health risk to humans or animals/fish? Has the species been noted as impacting grazing systems?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry fruit is toxic to humans and animals. The fruits cause gastrointestinal problems in livestock. China berry can invade grasslands and meadows, which may be areas where livestock graze and can be exposed to toxic fruits. Chinaberry can be used for wood, fuel, ornamental decoration, pesticides, and potential medicinal uses.

Reference(s):

- Texas Invasive Species Institute (0). Chinaberry Tree: Texas Invasive Species Institute.
- Project, BNET-EAFRINET. U. V. I. M. A. (2011). Factsheet - Melia azedarach (Melia).
- Center for Invasive Species and Ecosystem Health, University of Georgia (2017). List of Non-Native Invasive Plants in Georgia - Georgia Exotic Pest Plant Council.
- North Carolina State University Extension (0). Melia azedarach (Bead Tree, China Ball Tree, Chinaball Tree, Chinaberry, Chinaberry Tree, China Tree, Japanese Bead Tree, Paradise Tree, Persian Lilac, Pride-of-India, Syringa, Texas Umbrella Tree, White Cedar).
- Ferreiro, D., Orozco J. P., Mirón C., Real T., Hernández-Moreno D., Soler F., et al. (2010). Chinaberry tree (Melia azedarach) poisoning in dog: a case report. Topics in Companion Animal Medicine. 25, 64–67.

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10. Does the plant produce impenetrable thickets, blocking or slowing movement of animals, livestock, or humans?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry can form dense monocultures that impact animal/livestock movement and may cause safety issues on roadsides. It is often described as a "weedy tree" and has many qualities of a successful weed (Waggy 2009, North Caroline State University Extension, accessed 2022). Chinaberry where invasive, can grow in dense stands that outcompete native plant species and prevent regeneration of shrubs and trees (BNET).

Reference(s):

- Project, BNET-EAFRINET. U. V. I. M. A. (2011). Factsheet - Melia azedarach (Melia).
- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- North Carolina State University Extension (0). Melia azedarach (Bead Tree, China Ball Tree, Chinaball Tree, Chinaberry, Chinaberry Tree, China Tree, Japanese Bead Tree, Paradise Tree, Persian Lilac, Pride-of-India, Syringa, Texas Umbrella Tree, White Cedar).

Reproductive Strategies (Questions 11 - 17)

11. Does this species (or cultivar or variety) reproduce and spread vegetatively?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry can reproduce (produce seeds) and spread vegetatively to form dense stands restricting/crowding native species growth (BioNET-EAFRINET 2011, Waggy 2009). Trees produced from sprouts may grow faster and reproduce earlier than trees produced from seed (Tourn et al. 1999).

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Project, BNET-EAFRINET. U. V. I. M. A. (2011). Factsheet - Melia azedarach (Melia).
- North Carolina State University Extension (0). Melia azedarach (Bead Tree, China Ball Tree, Chinaball Tree, Chinaberry, Chinaberry Tree, China Tree, Japanese Bead Tree, Paradise Tree, Persian Lilac, Pride-of-India, Syringa, Texas Umbrella Tree, White Cedar).

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12. If naturally detached fragments from this plant are capable of producing new plants, is this a common method of reproduction for the plant?

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

There is no evidence that detached china berry fragments naturally produce new plants. Chinaberry can be propagated from cuttings, root suckers, and adventurous buds. Vegetative reproduction is likely common when plants are damaged at the stumps or roots, not so much from detached fragments in the wild (but probably more common in a nursery setting). Plants spread vegetatively in disturbed areas and wildlands.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.

13. Does the species (or cultivar or variety) commonly produce viable seed?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry seeds can be viable for at least 1 year kept in dry storage. A PRE evaluation from Georgia and Trees of Southern Africa state that seeds are viable up to 2 years.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.

14. Does this plant produce copious viable seeds each year (> 1000)?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry is a prolific seeder, producing many panicles with fruits that each contain up to six seeds (Bonner and Karrfalt 2008). Viability is also high: approximately 50% of seeds germinated (50% seed viability rate) in a laboratory setting within 4 weeks (Hong and Ellis 1998).

Reference(s):

- Bonner, F. T., & Karrfalt R. P. (2008). The Woody Plant Seed Manual. Agriculture Handbook 727,
- Hong, T. D., & Ellis R. (1998). Contrasting seed storage behaviour among different species of Meliaceae. Seed Science and Technology.

15. Is there significant germination (>25%) of seeds the next growing season, with no requirement of an infrequent environmental condition for seeds to germinate (i.e. fire) or long dormancy period?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry has a short period of dormancy prior to germination, and seeds can be expected to germinate within 3-4 weeks of sowing. In a controlled laboratory setting, approximately 50% of the seeds germinated within 4 weeks (Hong and Ellis 1998). Dormancy may be broken by warm or cold stratification.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Hong, T. D., & Ellis R. (1998). Contrasting seed storage behaviour among different species of Meliaceae. Seed Science and Technology.

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16. Does this plant produce viable seed within the first three years (for an herbaceous species) to five years (for a woody species) after germination?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Chinaberry may begin flowering while it is early in its development, thus producing fruit and seed if pollination is successful. There is not much information available on this subject, but trees produced from sprouts can also reproduce earlier than trees produced from seed (Tourn et al. 1999).

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Tourn, G. M., Menvielle M. F., Scopel A. L., & Pidal B. (2000). Clonal strategies of a woody weed: Melia azedarach. (Stokes, A., Ed.).The Supporting Roots of Trees and Woody Plants: Form, Function and Physiology. 137–143.

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17. Does this plant continuously produce seed for >3 months each year or does seed production occur more than once a year?

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

In California, chinaberry flowers between May through July, suggesting that seed production is once per year, but may happen over a long/extended period of time (Preston and McClintock 2012).

Reference(s):

- Preston, R. E., & McClintock E. (2012). Jepson eFlora - Meliaceae.

Dispersal (Questions 18 - 20)

18. Are the plant's propagules frequently dispersed long distance (>100 m) by mammals or birds or via domestic animals?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Propagules can be dispersed by birds and animals. In Texas, seeds are spread widely by birds and water, often far from the parent plant (Reemts 2008, Waggy 2009). Although the fruits are toxic to humans, birds are able to eat the fruit and disperse seed through their droppings, according to the Atlas of Living Australia. In Africa, seeds are dispersed by water and birds.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Reemts, C. (2008). Fact Sheet: Chinaberry.

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19. Are the plant's propagules frequently dispersed long distance (>100 m) by wind or water?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

In Texas, seeds are spread widely by water, often far from the parent plant (Reemts 2008, Waggy 2009). Seed dispersal by water may take place during flash flood events. In Africa, seeds are dispersed by water.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Reemts, C. (2008). Fact Sheet: Chinaberry.
- Texas Invasive Species Institute (2014). Chinaberry Tree: Texas Invasive Species Institute.

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20. Are the plant's propagules frequently dispersed via contaminated seed (agriculture or wildflower packets), equipment, vehicles, boats or clothing/shoes?

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Although plants and seeds have been consciously introduced by humans (brought over for cultivation in 1830 and dispersed further by humans), there is no evidence that Chinaberry is a seed contaminant of crops or spread significantly via equipment, clothing, or shoes.

Reference(s):

- Waggy, M. A. (2009). Melia azedarach. In Fire Effects Information System.
- Texas Invasive Species Institute (2014). Chinaberry Tree: Texas Invasive Species Institute.
- Project, BNET-EAFRINET. U. V. I. M. A. (2011). Factsheet - Melia azedarach (Melia).
- PIER (2004). Melia azedarach: info from PIER (PIER species info).

Evaluation Notes

* Note: Had some difficulty adding references- uploading links were not functioning at the time this evaluation was created and filled out.

Most information was sourced from: Waggy, Melissa, A. 2009. Melia azedarach. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: https://www.fs.fed.us/database/feis/plants/tree/melaze/all.html [2022, June 19].

A PRE evaluation completed by Lila Uzzell also informs the status of Chinaberrytree (Melia azedarach) in Georgia, U.S.A. Information provided in this evaluation is similar to the information in the PRE evaluation completed for Georgia, with the addition of a few details about seed dispersal and germination.

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May 24 2023 - J. Burger made some revisions to the text and scoring of this PRE based on available literature and reviewer feedback.

Total PRE Score

PRE Score: 18 -- High Potential Risk
Confidence: 75 / 100
Questions answered: 20 of 20 -- Valid (80% or more questions answered)

PRE Score Legend

The PRE Score is calculated by adding the point totals for each (answered) question.
< 13 : Low Potential Risk
13 - 15 : Moderate Potential Risk
> 15 : High Potential Risk

Questions Answered Legend

It is important to answer at least 16 questions to consider a PRE Score as "valid".
>= 16 : valid (80% or more questions answered)
<= 15 : invalid (not enough questions answered)

Organization Ownership and Content Privacy

Organization: 2022 Western IPM Grant Project
Content Privacy: Private

Evaluation Reviewers

The PRE approach is to base decisions on science and make decisions by consensus of diverse horticultural stakeholders. The literature review and process of answering PRE's questions are based on science; the decisions of which plants to prioritize are based on consensus. To ensure this process is in place and that PRE is collaborative, volunteer stakeholders are recruited from each region to review evaluations. The following experts in their profession (plant science, conservation, or horticultural trade) have participated as volunteer PRE reviewers for this evaluation:

• Michael Chamberland	May 24, 2023
• Elizabeth D. Brusati	March 1, 2023
• Jutta Burger	September 2, 2022
• Alex Simmons	August 10, 2022

This evaluation has a total of 4 reviewer(s).

Evaluation Issues

The following section lists all public issues for this evaluation. Issues provide a way for stakeholder reviewers to communicate any concerns or suggestions they might have with the plant or evaluation. Please email info@plantright.org if additional action is required to resolve open issues.

Issue ID # 8935

Date Created: March 1, 2023 - 3:19pm
Date Updated: March 19, 2023 - 9:42pm

Submitted by: Elizabeth D. Brusati

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q08. Is the plant noted as promoting fire and/or changing fire regimes?

Issue Description

This would be a good place to cite the USFS Fire Effects Information System report, as it specifically addresses fire concern.

Issue Resolution (Screener's Response to Issue) added Waggy reference.

Issue ID # 8934

Date Created: March 1, 2023 - 1:53pm
Date Updated: March 19, 2023 - 9:44pm

Submitted by: Elizabeth D. Brusati

Status: Fixed
Type: Suggestion
Severity: Minor

Scope: Q18. Are the plant’s propagules dispersed long distance (>100 m) by mammals or birds or via domestic animals?

Issue Description

Dispersal by humans, either accidentally or through cultivation, is not relevant to this question. "Mammals" in this case refers to mammals other than humans. Please remove the human dispersal information.

Issue Resolution (Screener's Response to Issue)

humans removed from dispersal of species.

Issue ID # 8933

Date Created: March 1, 2023 - 1:48pm
Date Updated: March 19, 2023 - 9:29pm

Submitted by: Elizabeth D. Brusati

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q19. Are the plant’s propagules frequently dispersed long distance (>100 m) by wind or water?

Issue Description

I'm not clear why this is answered yes when you state that dispersal by water is not typical in the US. (But this is then contradicted by the statement that it's spread by water in Texas.) Information on bird dispersal is not relevant to this question as birds are addressed in Q18. What is the type of seed? Does it have adaptations that would suggest it's spread by water?

Issue Resolution (Screener's Response to Issue) seeds may disperse by water during flash floods in Texas china berry fruits are drupes and can dry out quickly to be used as beads because they are small-seeds can also fall out and be dispersed when fruits are crushed

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Issue ID # 8931

Date Created: March 1, 2023 - 1:43pm
Date Updated: April 27, 2023 - 8:13am

Submitted by: Elizabeth D. Brusati

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q06. Is the species found predominately in a climate matching the region of concern?

Issue Description

I'm not convinced from the map that this qualifies as "predominantly" in a similar climate. Most of the locations in South America, Africa, and Asia do not match California's climate based on the map. I think this should be answered No with medium or high confidence.

I agree with Elizabeth on this. - Jutta

Issue Resolution (Screener's Response to Issue)

I'm confused- I looked at the climate matching map again, and there are occurrences of Chinaberry in regions that have similar climate to California....

Chinaberry is found in climates matching the region of concern; plants occur in areas of similar climates to California, such as Australia, Europe, Mexico, and South Africa (see climate matching map).

Issue ID # 8930

Date Created: March 1, 2023 - 11:10am
Date Updated: March 19, 2023 - 9:34pm

Submitted by: Elizabeth D. Brusati

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q03. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

Issue Description

Would be helpful to add a phrase defining what a Georgia Category 1 weed is, as you reference it several times. Also, specify that the listing is by the Georgia Exotic Pest Plant
Council. https://www.gaeppc.org/list/. Category 1 - Exotic plant that is a serious problem in Georgia natural areas by extensively invading native plant communities and displacing native species.

Issue Resolution (Screener's Response to Issue)

GA Category 1 weed definition and reference added.

Issue ID # 8929

Date Created: March 1, 2023 - 11:06am
Date Updated: May 24, 2023 - 3:45pm

Submitted by: Elizabeth D. Brusati

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q04. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

Issue Description

Be careful about the distinction between naturalized and invasive. I'm not clear from your wording if you are using "invading wildlands" to say that it is invasive in California. "Invading wildlands" does not necessarily translate to "invasive" in California (after all, that's what this evaluation is trying to determine). I think it would be better to say that the Jepson eflora lists it as naturalized.

I agree with Elizabeth here and moved the issue back to 'not fixed'. You still have a general statement that Chinaberry is invasive in the US, however it is not listed at the Federal level as a noxious weed. You can specifically list the states where it is considered invasive but shouldn't make broader statements than that. - Jutta

Issue Resolution (Screener's Response to Issue)

defined chinaberry is invasive in Georgia and other parts of SW US, but not yet categorized as invasive in CA and changed answer to no.

J Burger comment / edit - Changed answer back to "yes" because Chinaberry is listed as invasive in Texas, which has climate that matches CA.

Issue ID # 8928

Date Created: March 1, 2023 - 10:58am
Date Updated: March 19, 2023 - 9:31pm

Submitted by: Elizabeth D. Brusati

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Plant Information

Issue Description

Please specify that this evaluation is focused on the parent plant, not the cultivars. From the way this paragraph is written, it's not clear whether the parent plant or cultivars are being evaluated.

Issue Resolution (Screener's Response to Issue) language added to explicitly state that the evaluation is for M. azedarach.

Issue ID # 8927

Date Created: March 1, 2023 - 10:57am
Date Updated: March 18, 2023 - 9:23pm

Submitted by: Elizabeth D. Brusati

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q01. Has the species (or cultivar or variety, if applicable) become naturalized where it is not native?

Issue Description

Naturalized in California according to Jepson
eflora. https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=33069

Issue Resolution (Screener's Response to Issue)

added Jepson citation.

Issue ID # 8759

Date Created: February 5, 2023 - 7:42pm
Date Updated: May 24, 2023 - 3:16pm

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q20. Are the plant’s propagules frequently dispersed via contaminated seed, equipment, vehicles, boats or clothing/shoes?

Issue Description

In question 18 you state humans will disperse Melia seeds, but in question 20 you have a No answer to the various ways human activity might spread the seeds. - Michael Chamberland

Issue Resolution (Screener's Response to Issue)

J. Burger modified the answer to this question to "no" with an explanation that there is no concrete evidence for dispersal as a contaminant and inference from PIER that this is not a form of dispersal.

Issue ID # 8758

Date Created: February 5, 2023 - 7:39pm
Date Updated: February 13, 2023 - 12:06am

Submitted by: Michael Chamberland

Status: Fixed
Type: Comment
Severity: Minor
Scope: Q18. Are the plant's propagules dispersed long distance (>100 m) by mammals or birds or via domestic animals?

Issue Description

It would be good to elaborate more on how animals and humans spread the seeds, ie. internally? Externally? - Michael Chamberland

Issue Resolution
No resolution has been entered for this issue.

Issue ID # 8757

Date Created: February 5, 2023 - 7:37pm
Date Updated: May 24, 2023 - 3:40pm

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q17. Does this plant continuously produce seed for >3 months each year or does seed production occur more than once a year?

Issue Description

I am not sure where in Waggy it is suggested that Melia produces seed more than once per year? But if it does, that should warrant a Yes answer. - Michael Chamberland

Issue Resolution (Screener's Response to Issue)

The author has changed their answer to "no". - JB

Issue ID # 8756

Date Created: February 5, 2023 - 7:33pm
Date Updated: February 14, 2023 - 12:09am

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q17. Does this plant continuously produce seed for >3 months each year or does seed production occur more than once a year?

Issue Description

It is difficult to find info on the span of seed production, but the Jepson Manual (revised, blue cover edition) lists Melia as flowering Mar-Jul which suggests a similar extended seed production. - Michael Chamberland

Issue Resolution
No resolution has been entered for this issue.

Issue ID # 8755

Date Created: February 5, 2023 - 7:24pm
Date Updated: February 14, 2023 - 12:10am

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Evaluation as a whole

Issue Description

Almost every question cites Waggy, Melissa, A. 2009: Fire Effects Information System, as a reference. Many questions cite this as the only reference. This suggests a wider literature search would have been helpful, to bring in references from the PIER Report, various US state reports, and specific literature reports on clonal strategies and germination. Melia azedarach is a well-studied species. - Michael Chamberland

Issue Resolution
No resolution has been entered for this issue.

Issue ID # 8754

Date Created: February 5, 2023 - 7:16pm
Date Updated: May 24, 2023 - 3:31pm

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q14. Does this plant produce copious viable seeds each year (>1000)?

Issue Description

I am not sure where in Waggy there is a statement to be interpreted with High confidence of numerical seed production > 1000 per year. Waggy is saying "Available literature (2009) regarding Chinaberrytree seed production is inconsistent.". The percentage of seed germination is not relevant to this question. - Michael Chamberland

Issue Resolution (Screener's Response to Issue)

from J Burger - I've added a reference to Bonner in the Woody Plant Seed Manual that refers to Melia being a prolific nearly annual seed producer and modified the text accordingly.

Issue ID # 8753

Date Created: February 5, 2023 - 7:06pm
Date Updated: February 13, 2023 - 5:34pm

Submitted by: Michael Chamberland

Status: Fixed
Type: Comment
Severity: Minor
Scope: Q11. Does this species (or cultivar or variety) reproduce and spread vegetatively?

Issue Description

There is a publication by Tourn et al. about the clonal strategies of Melia. - Michael Chamberland

Issue Resolution
No resolution has been entered for this issue.

Issue ID # 8752

Date Created: February 5, 2023 - 6:55pm
Date Updated: February 14, 2023 - 12:16am

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion

Severity: Minor
Scope: Q04. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

Issue Description

You have mentioned Melia is invading wildlands in California. It would be good to have a direct reference to this, as CA is the state of concern here. - Michael Chamberland

Issue Resolution
No resolution has been entered for this issue.

Issue ID # 8751

Date Created: February 5, 2023 - 6:47pm
Date Updated: February 14, 2023 - 12:12am

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q03. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

Issue Description

It would be good to reference the invasiveness of Melia in Georgia or Florida with a direct reference to state reports. See this link:

https://gnps.org/wp-content/uploads/2020/02/LandscapingwNativePlantsBro_2019_FullBleed_LTR_FIN_WEB.pdf

. - Michael Chamberland

Issue Resolution
No resolution has been entered for this issue.

Issue ID # 8750

Date Created: February 5, 2023 - 6:43pm
Date Updated: February 13, 2023 - 12:09am

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q03. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

Issue Description

The confidence level here can be marked as Very High if the reports of naturalization meet the definition of "invasive" used by the PRE. - Michael Chamberland

Issue Resolution
No resolution has been entered for this issue.

Issue ID # 8749

Date Created: February 5, 2023 - 6:40pm
Date Updated: February 13, 2023 - 12:10am

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q02. Is the species (or cultivar or variety) noted as being naturalized elsewhere in the US or world in a similar climate?

Issue Description

The confidence level for this question can be marked as Very High. The Southeast USA has been mapped as a climate match for California and this is an area where Melia has been well documented as naturalized. Other parts of the world may support this too. - Michael Chamberland

Issue Resolution
No resolution has been entered for this issue.

Issue ID # 8748

Date Created: February 5, 2023 - 6:33pm
Date Updated: February 13, 2023 - 12:08am

Submitted by: Michael Chamberland

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q01. Has the species (or cultivar or variety, if applicable) become naturalized where it is not native?

Issue Description

This question should warrant a Very High confidence level. There is abundant literature documenting that Melia is naturalized in the New World. - Michael Chamberland

Issue Resolution
No resolution has been entered for this issue.

Issue ID # 8265

Date Created: October 10, 2022 - 4:05pm
Date Updated: December 24, 2022 - 8:46pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Evaluation as a whole

Issue Description

Jepson lists the bloom period in California to be from May - July (>3 mo). - Jutta

Issue Resolution (Screener's Response to Issue) added suggested edit for bloom period of plant in CA.

Issue ID # 8263

Date Created: October 10, 2022 - 3:41pm
Date Updated: December 24, 2022 - 8:46pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q12. If naturally detached fragments from this plant are capable of producing new plants, is this a common method of reproduction for the plant?

Issue Description

Unless you have found evidence that this species commonly reproduces by detached vegetative propagules, the answer to this question would be "no". - Jutta

See description of how to answer question below:

This should be a common method of reproduction for the plant – this means that it is a significant contributor to the spread of the plant (not just an occasional method of spreading). Answer yes if species is capable of naturally increasing its numbers by vegetative means from detached fragments that can produce new plants, including root or stem fragments. A yes answer for this question would typically be for species with a vine growth habit, some ground covers, or plants that could reproduce easily from nodes when the plant is fragmented (e.g., *Arundo donax*).

A no answer would be for plants that either do not fragment or reproduce vegetatively, or plants that could reproduce vegetatively if fragmented, but they rarely fragment naturally (e.g., many bunchgrasses).

The answer will be either yes or no, and should never go unanswered.

Issue Resolution (Screener's Response to Issue)

changed answer to "No" because there is little to no evidence that this species commonly reproduces by vegetative propagules. Current literature only suggests that plant can be propagated from cuttings in a greenhouse setting, but not in a natural setting.

Issue ID # 8090

Date Created: September 2, 2022 - 11:25am
Date Updated: December 24, 2022 - 9:43pm

Submitted by: Jutta Burger

Status: Fixed
Type: Comment
Severity: Minor
Scope: General Information

Issue Description

Make sure that all information in the Evaluation summary is covered in the answers to questions. Consider replacing "huge" with "significant" to reduce the impression of partiality and informality. - Jutta Burger

Issue Resolution (Screener's Response to Issue)

edited word choice.

Issue ID # 8089

Date Created: September 2, 2022 - 10:17am
Date Updated: December 24, 2022 - 9:41pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q06. Is the species found predominately in a climate matching the region of concern?

Issue Description

Again, revise based on new climate match. - Jutta Burger

Issue Resolution (Screener's Response to Issue) fixed.

Issue ID # 8088

Date Created: September 2, 2022 - 10:16am
Date Updated: December 24, 2022 - 9:40pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q05. Are other species of the same genus invasive in a similar climate?

Issue Description

Check the Randall (2017) The Global Compendium of Weeds. If there are other congenerics listed as invasive or even as naturalized elsewhere in the world, they will be listed here. Whatever your final answer is, you can move your confidence at least to Medium for this because you have checked a solid reference. Add this to your references. - Jutta Burger

Issue Resolution (Screener's Response to Issue) Melia azedarach is listed as invasive, and there are other species in the same family (Meliaceae) but not in the same genus, at least from what I've seen and researched.

Issue ID # 8087

Date Created: September 2, 2022 - 10:02am
Date Updated: December 24, 2022 - 8:50pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q04. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

Issue Description

Update response based on new climate match map. - Jutta Burger

Issue Resolution (Screener's Response to Issue) updated response.

Issue ID # 8086

Date Created: September 2, 2022 - 9:59am
Date Updated: December 24, 2022 - 9:40pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q02. Is the species (or cultivar or variety) noted as being naturalized elsewhere in the US or world in a similar climate?

Issue Description

Make sure to revise/update your answer based on the new state-wide climate map. - Jutta Burger

Issue Resolution (Screener's Response to Issue) fixed.

Issue ID # 8084

Date Created: September 2, 2022 - 9:57am
Date Updated: December 24, 2022 - 8:48pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q01. Has the species (or cultivar or variety, if applicable) become naturalized where it is not native?

Issue Description

Specify where the plant is native to and provide at least one reference. - Jutta Burger

Issue Resolution (Screener's Response to Issue) specified plant origin

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Issue ID # 8083

Date Created: September 2, 2022 - 9:54am
Date Updated: December 24, 2022 - 9:43pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Plant Information

Issue Description

Clarify in Plant Information section that the "wild type" is being evaluated and not the cultivars. - Jutta Burger

Issue Resolution (Screener's Response to Issue)

clarified wild type is being evaluated.

Issue ID # 8010

Date Created: August 10, 2022 - 1:35pm
Date Updated: December 24, 2022 - 8:50pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q04. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

Issue Description

Can you get more specific about where in the US has matching climate? -Alex Simmons

Issue Resolution (Screener's Response to Issue) specified matching climate locations in US.

Issue ID # 8009

Date Created: August 10, 2022 - 1:34pm
Date Updated: December 24, 2022 - 8:47pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Evaluation as a whole

Issue Description

Evaluation would benefit from more primary sources. -Alex Simmons

Issue Resolution (Screener's Response to Issue) added a few more primary sources.

Issue ID # 8008

Date Created: August 10, 2022 - 1:32pm
Date Updated: December 24, 2022 - 9:42pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q14. Does this plant produce copious viable seeds each year (>1000)?

Issue Description

Is there more specific information on how many seeds the Chinaberry produces? Germination is addressed in the next question. -Alex Simmons

Issue Resolution (Screener's Response to Issue)

did not find much information about how many seeds 1 chinaberrytree produces. I am guessing it can produce over 1000 seeds, but it is probably common in larger, mature plants.

Issue ID # 8007

Date Created: August 10, 2022 - 1:30pm
Date Updated: December 24, 2022 - 9:41pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q13. Does the species (or cultivar or variety) commonly produce viable seed?

Issue Description

Was the PRE from Georgia referencing a primary source for this information? It would be better to cite the primary rather than another PRE. -Alex Simmons

Issue Resolution (Screener's Response to Issue)

fixed. also cited Wagner source.

Issue ID # 8006

Date Created: August 10, 2022 - 1:25pm
Date Updated: December 24, 2022 - 8:49pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q03. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

Issue Description

Can you get more specific? States? Other countries? -Alex Simmons

Issue Resolution (Screener's Response to Issue) specified states and other countries.

Issue ID # 8005

Date Created: August 10, 2022 - 1:22pm
Date Updated: December 24, 2022 - 8:47pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Evaluation as a whole

Issue Description

Please enter references in to bibliography widget. - Alex Simmons

Issue Resolution (Screener's Response to Issue) added references to bibliography widget.

Issue ID # 8004

Date Created: August 10, 2022 - 1:21pm
Date Updated: December 24, 2022 - 8:48pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Evaluation as a whole

Issue Description

Need new Climate Map that is for all of California (not just Southern). For WIPM project, we're evaluating on a State-wide basis.

-Alex Simmons

Issue Resolution (Screener's Response to Issue) edited climate map to reflect state-wide analysis.

About PRE and this Plant Evaluation Report

The Plant Risk Evaluator (PRE) is an online database and platform designed to assess the risk of a plant becoming invasive in a given region.This tool offers many benefits, and we encourage you to visit the PRE website (https://pretool.org) for more information.

If you would like to learn more about PRE, please email us at info@plantright.org, requesting a PRE Account.

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