



***Plant Risk Evaluator -- PRETM
Evaluation Report***

Vitex agnus-castus -- Nevada

Nevada Department of Agriculture

PRE Score: 16 -- High Potential Risk

Confidence: 58 / 100

Questions answered: 20 of 20 -- Valid (80% or more questions answered)

Privacy: Public

Status: Completed

Evaluation Date: August 8, 2023

This PDF was created on April 01, 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

Vitex agnus-castus



Image by Cillas



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Vitex agnus-castus*) 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

Vitex agnus-castus, lilac chasteberry, is a perennial shrub from Southern Europe and Western Asia, and was brought to the United States as an ornamental plant in 1570. This species is listed as invasive in Cuba, Anguilla, and several U.S. states including: Arizona, California, Georgia, New Mexico, Oklahoma, Texas, and has naturalized in much of South America (CABI, 2020). This species has shown signs of high potential to become invasive due to its characteristics and adaptations. It has been shown that it can be easy to grow in any soil, is highly pest, saline, and drought tolerant, and readily spreads a large number of fertile seeds. It has shown to escape cultivation and establish in native habitats while outcompeting native plants for resources, therefore pushing the native plants out and changing the ecosystem. Due to these characteristics, this plant may have the potential to thrive and become invasive in the dry climate and saline soils found throughout Nevada.

General Information

Status: Completed

Screener: Whitney Nash

Evaluation Date: August 8, 2023

Plant Information

Plant: *Vitex agnus-castus*

Regional Information

Region Name: Nevada



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 *screeners* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

This species is native to both Southern Europe and Asia. It has become naturalized in North, Central and South America, the Caribbean, Hawaii and Southeastern United States in areas such as limestone outcrops and dry creek beds. It has been assumed that it might dominate in a riparian habitat as well.

Reference(s):

- CABI, Invasive Species Compendium (2021). *Vitex agnus-castus* (chaste tree).
-

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 *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

According to the climate matching map, it has become naturalized In areas similar to Clark County in Southern Nevada such as Western/Central Texas and parts of Southern California, New Mexico, and Arizona that all have a subtropical desert climate.



Reference(s):

- GBIF Backbone Taxonomy (2023). *Vitex agnus-castus* L..
-

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 *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

It is listed in the Invasive Plant Atlas of the United States (Invasive Plant Atlas of the United States, 2018). It is noted as being invasive by Oregon, California, Cuba, Texas, and Georgia (CABI, 2021). It is not, however, on an official prohibited list for either state or federal lists. It is mentioned that this plant has the characteristics that make it capable of becoming invasive. These characteristics include surviving and growing in a variety of soil types, drought tolerant, disease and pest tolerant, and readily produces copious amounts of fertile seeds Invasive Plant Atlas of the United States, 2018).

Reference(s):

- Invasive Plant Atlas of the United States (2018). lilac chastetree *Vitex agnus-castus* L..
 - CABI, Invasive Species Compendium (2021). *Vitex agnus-castus* (chaste tree).
-

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 *screeners* has a **Medium** confidence in this answer based on the available literature.



Answer / Justification:

California and Texas has noted this species as being invasive (CABI, 2021). There are similar climates in parts of these states to Southern Nevada according to the climate matching map. This might suggest that this plant could potentially become invasive in Southern Nevada only. It is noted that this species has the potential to become invasive in areas that have milder winters where it can survive the cold (Invasive Plant Atlas of the United States, 2018). This also indicates that it might have the potential to become invasive in Southern Nevada.

Reference(s):

- CABI, Invasive Species Compendium (2021). *Vitex agnus-castus* (chaste tree).
 - Invasive Plant Atlas of the United States (2018). lilac chastetree *Vitex agnus-castus* L..
-

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 *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

There are other species of same genus that are invasive in other climates that do not match the climate of concern. *Vitex rotundifolia* is found typically in sandy coastal areas in Japan, eastern Asia, Southeast Asia and India and along the shorelines in a large number of Pacific islands. This does not match *Vitex agnus-castus*, which typically grown in desert ecosystems that are much drier and more saline.

Reference(s):

- Invasive Plant Atlas of the United States (2018). lilac chastetree *Vitex agnus-castus* L..
-

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 *screeners* has a **Medium** confidence in this answer based on the available literature.



Answer / Justification:

According to the climate map, this species is found predominantly found in climates that match Western Asia's Mediterranean region. This ecozone in Western Asia is mostly subtropical desert and subtropical steppe. This does not match most of Nevada's climate, but it does match the climate in Southern Nevada. For this reason, it is believed it has the potential to become invasive in only Southern Nevada.

Reference(s):

- Gardenia.net (2023). Native Plant Alternatives to *Vitex agnus-castus* (Chaste Tree).
-

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 *screeners* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

This species has the ability to displace native plants and dominate native plant communities. It produces a large numbers of seeds, has high seedling recruitment rates, and may form dense monospecific thickets in plant communities.

Reference(s):

- CABI, Invasive Species Compendium (2021). *Vitex agnus-castus* (chaste tree).
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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 *screeners* has a **Medium** confidence in this answer based on the available literature.



Answer / Justification:

It is rated that this species does not promote or change fire changes in a natural ecosystem (PIER, 2011). However, it is also suggested that it might induce higher seed germination following a fire (Travlos, 2007). This could suggest that this species could establish quickly following a disturbance such as a fire and outcompete native plants for resources.

Reference(s):

- PIER (2011). *Vitex agnus-castus*: info from PIER (PIER species info).
 - Travlos, I. S., & Karamanos A. J. (2007). Influence of Heat on Seed Germination and Seedling Emergence of Chaste Tree (*Vitex agnus castus* L.). *Journal of Agronomy*. 6, 4.
-

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

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

Answer / Justification:

There is no evidence at this time that this species impacts grazing systems or poses a health risk to humans or animals/fish.

Reference(s):

- [Anonymous] .
-

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 *screeners* has a **High** confidence in this answer based on the available literature.



Answer / Justification:

This species has the potential to quickly take over native habitats and forms dense thickets effectively displacing native plant and animal species from the native ecosystem (CABI, 2021) (Gardenia.net, 2023). It is noted in the Central Texas Invasive Plants source that it takes over native habitats especially near water (Austin Invasive Management, 2013). This could block or slow animals, livestock or humans from accessing or crossing over the water.

Reference(s):

- CABI, Invasive Species Compendium (2021). *Vitex agnus-castus* (chaste tree).
 - Gardenia.net (2023). Native Plant Alternatives to *Vitex agnus-castus* (Chaste Tree).
 - Austin Invasive Management (2013). Central Texas Invasive Plants.
-

Reproductive Strategies (Questions 11 - 17)

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

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

Answer / Justification:

This plant reproduces primarily by seeds. In a nursery environment, new plants can form from pruning stems, but no information has been found about this species spreading vegetatively on its own in nature.

Reference(s):

- Zasada, J. C., & Schopmeyer C. S. (2023). *Vitex agnus-castus* L. lilac chastetree .
-

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 *screeners* has a **Low** confidence in this answer based on the available literature.



Answer / Justification:

There is some information that suggests detached branches that are replanted are capable of producing new plants from fibrous roots that form, but it is unclear if this would occur on its own in nature without the assistance of a person.

Reference(s):

- Myers, V. Richins (2022). How to Grow and Care for Chaste Tree (Vitex).
-

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 *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Chaste tree readily produces high numbers of fertile seeds per plant into the surrounding soil. This indicates that the species commonly produces viable seeds. CABI

Reference(s):

- Invasive Plant Atlas of the United States (2018). lilac chastetree *Vitex agnus-castus* L..
-

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

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

Answer / Justification:

There is no data that states exactly how many seeds the plant produces each year. Several sources claim a single plant produces a high number of seeds each year and those seeds have the ability to germinate readily (Gardenia.net, 2023). One study about a closely related plant in the same genus, *Vitex rotundifolia*, found 2,730 fruits per square meter on average on one plant (Glenn, 2009). The plant fruits are drupes, which contain up to 4 seeds per fruit.



Reference(s):

- Gardenia.net (2023). Native Plant Alternatives to *Vitex agnus-castus* (Chaste Tree).
 - Glenn, G. Moore Stev (2009). NEW YORK NON-NATIVE PLANT INVASIVENESS RANKING FORM.
-

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 *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

This plant has a high seedling recruitment rate, which means that many of the seeds are being germinated from the previous season (CABI, 2021). There is no stated environmental requirement for this to happen. This is probably due to the fact that this plant is extremely tolerant of several factors such as soil type, drought, and pests. Sources claim it commonly germinates fertile seeds readily into the soil, suggesting there is significant germination of seeds the next growing season (Gardenia.net) (Invasive Plant Atlas of the United States, 2018).

Reference(s):

- CABI, Invasive Species Compendium (2021). *Vitex agnus-castus* (chaste tree).
 - Gardenia.net (2023). Native Plant Alternatives to *Vitex agnus-castus* (Chaste Tree).
 - Invasive Plant Atlas of the United States (2018). lilac chastetree *Vitex agnus-castus* L..
-

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 *screeners* has a **Low** confidence in this answer based on the available literature.



Answer / Justification:

This plant produces seed crops almost every year under nursery conditions. It isn't made clear by literature how often this plant produces viable seeds in a natural setting that is not influenced by people. It is suggested that it can sprout germinated seeds within 2-3 weeks of planting if conditions are warm enough. It is also noted that this plant can act as a woody species or a herbaceous species depending on the environmental conditions.

Reference(s):

- Floral Encounters (2023). Chaste Tree (*Vitex agnus-castus*).
-

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

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

Answer / Justification:

Some sources suggest the blooming period can occur from May through September which may indicate the seed production can occur for longer than 3 months each year (White, 2013). Other sources state flowering only occurs for about one month in the year (Texas Master Gardener, 2023), so the flowering period may depend on the ecosystem and resources available.

Reference(s):

- Texas Master Gardener (2023). *Vitex* (Texas Lilac) *Vitex agnus-castus* .
 - White, M. (2013). Invasive Plants and Weeds of the National Forests and Grasslands in the Southwestern Region.
-



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 *screeners* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

This species is visited by pollinators (Hawkins & Robacker, 2019), but it is not made clear in the literature that it has a morphological adaptation that allows propagules to be transported long distance or that the fruits are eaten or transported by animals such as birds or mammals. However, multiple sources claim that small birds enjoy eating the seed heads that this species produces (Dial, 2014) (Wetherbee, 2022) (Smith, 2022) (UF/IFAS, 2021). It is possible that these seeds might be dropped by these birds a long distance away from the parent plant.

Reference(s):

- Hawkins, S. M., & Robacker C. D. (2019). Attractiveness of Species of Vitex (Chastetree) to Pollinators. *Journal of Environmental Horticulture*. 37(1),
 - Dial, M. T. (2014). An Avian Sanctuary How to attract birds to a winter garden.
 - Wetherbee, K. (2022). Drought Resistant Trees and Plants to Grow for Birds.
 - Smith, B. H. (2022). CHASTETREE.
 - UF/IFAS Extension (2021). Chastetree.
-

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

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



Answer / Justification:

There is no literature that explains wind or water as being a way of spreading its propagules. This species is found typically in areas that do not have a lot of bodies of flowing water. The berries found on chastetree do not appear to be light enough or seem adapted to spread long distances by wind as they are round and dense.

Reference(s):

- Dial, M. T. (2014). An Avian Sanctuary How to attract birds to a winter garden.
-

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 *screeners* has a **Very Low** confidence in this answer based on the available literature.

Answer / Justification:

There is no information that indicates the seeds spread by equipment, vehicles, shoes, boats or clothing/shoes. The seed heads do not have any barbs on them that cling to surfaces, animal hair, or clothing.

Reference(s):

- [Anonymous] .
-

Evaluation Notes

J. Burger addressed three remaining unresolved comments (initialed in screener response).



Total PRE Score

PRE Score: 16 -- High Potential Risk

Confidence: 58 / 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: Nevada Department of Agriculture

Content Privacy: Public



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:

- | | |
|-----------------------|-------------------|
| • Nicole Valentine | July 8, 2024 |
| • Jake Dick | March 1, 2024 |
| • Michael Chamberland | November 19, 2023 |
| • Jutta Burger | August 29, 2023 |
| • Alex Simmons | August 28, 2023 |

This evaluation has a total of 5 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 # 10217

Date Created: July 8, 2024 - 7:19am

Date Updated: March 19, 2025 - 11:01am

Submitted by: Nicole Valentine

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q05. Are other species of the same genus invasive in a similar climate?

Issue Description

I think you can up the confidence to at least medium here since it is based on observation occurrence data.
-NV

Issue Resolution (Screener's Response to Issue)

Confidence increased to medium. - JB

Issue ID # 10216

Date Created: July 8, 2024 - 7:16am

Date Updated: March 19, 2025 - 11:03am

Submitted by: Nicole Valentine

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

For Q3 and Q4 I think you could up the confidence. Both the Native Plant Society of Texas and Texas Invasives consider this species invasive ("For a plant to be considered invasive, it must cause significant economic or environmental damage"). This counts as "Other published material (reports or other non-peer-reviewed documents)," which would qualify the confidence as High. Currently the confidence for these two questions is "Low," which defaults your answer to a "No" when scoring. If you don't trust the references you can also explain this in the Notes section near the end of the evaluation if you don't trust the references. -NV

<https://www.npsot.org/posts/invasive-plant/vitex-agnus-castus/>

https://texasinvasives.org/plant_database/detail.php?symbol=VIAG

Issue Resolution (Screener's Response to Issue)

Agree. Upped confidence for both to medium. - JB

Issue ID # 10215

Date Created: July 8, 2024 - 6:54am

Date Updated: March 19, 2025 - 10:40am

Submitted by: Nicole Valentine

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

You can cite GBIF here. -NV

Issue Resolution (Screener's Response to Issue)



Added GBIF citation. JB

Issue ID # 9437

Date Created: November 19, 2023 - 8:22am

Date Updated: November 30, 2023 - 8:37am

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q10. Does the plant produce impenetrable thickets, blocking or slowing movement of animals, livestock, or humans?

Issue Description

Stick with using evidence that is for this species. - Jutta

Issue Resolution (Screener's Response to Issue)

I thought this information on the East Coast species was interesting, and as it is closely related to the species of concern, I inferred that this could mean the species of concern could act similarly. However, I removed that information and kept to the species of concern.

Issue ID # 9436

Date Created: November 19, 2023 - 8:13am

Date Updated: November 29, 2023 - 2:51pm

Submitted by: Jutta Burger

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

Check the references for invasiveness provided by CABI or elsewhere for their robustness. It is not listed as invasive in California by either Cal-IPC or CDFA. Would recommend at a minimum reducing confidence because of lack of concrete evidence. Lack of sufficient documentation may actually warrant a "no". I just checked the only reference provided in Randall 2017 for "Invasive" status and it was a newspaper article from 2003 from California. - Jutta

Issue Resolution (Screener's Response to Issue)

I switched the confidence level to low since there are no scientific articles or other evidence that have this plant listed on an official list. I kept the answer at "yes" because in CABI, this species is listed as invasive in some countries and states as invasive even though it isn't on an official list.

Issue ID # 9435

Date Created: November 19, 2023 - 7:24am

Date Updated: November 30, 2023 - 11:23am

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Regional Information

Issue Description

Add a direct link to the climate match results website by copying the link through the "share link" button in the climate match tool into the appropriate field. - Jutta

Issue Resolution (Screener's Response to Issue)

I added the link to the climate matching map.



Issue ID # 9434

Date Created: November 18, 2023 - 5:42pm

Date Updated: November 29, 2023 - 2:57pm

Submitted by: Michael Chamberland

Status: Fixed

Type: Suggestion

Severity: Major

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

Issue Description

While *Vitex* certainly is well-documented as naturalizing, it is debatable whether the ecological effect is significant enough to be rated as invasive per the high bar set by the definition of Invasive used by the PRE, especially if it has not been included in Noxious Weed lists. -Michael Chamberland

Issue Resolution (Screener's Response to Issue)

I changed the confidence rating to "low" but still a yes since the states that consider it invasive on CABI have similar climates in parts of the state as Southern Nevada. This includes Arizona and California, which are states that have milder winters in some parts of the state just like Southern Nevada.

Issue ID # 9433

Date Created: November 18, 2023 - 5:37pm

Date Updated: November 29, 2023 - 2:54pm

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

While *Vitex* certainly is well-documented as naturalizing, it is debatable whether the ecological effect is significant enough to be rated as invasive per the high bar set by the definition of Invasive used by the PRE, especially if it has not been included in Noxious Weed lists. -Michael Chamberland

Issue Resolution (Screener's Response to Issue)

I changed the confidence rating to "low" for my yes answer since this species isn't on an official list and no scientific literature. Even though it isn't listed on an official list, it is still considered invasive in some states and countries according to CABI. This is why I kept the answer at "yes".

Issue ID # 9432

Date Created: November 18, 2023 - 5:32pm

Date Updated: November 30, 2023 - 9:37am

Submitted by: Michael Chamberland

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q19. Are the plant's propagules frequently dispersed long distance (>100 m) by wind or water?

Issue Description

See the PIER report for a note on potential spread by water. -Michael Chamberland

https://www.hear.org/pier/species/vitex_agnus_castus.htm

Issue Resolution (Screener's Response to Issue)

For some reason, my VPN/Network won't allow me to view PIER. I haven't found any other sources that point to dispersal by water. I am going to mark this as 'fixed' for now.



Issue ID # 9431

Date Created: November 18, 2023 - 5:27pm

Date Updated: November 30, 2023 - 9:00am

Submitted by: Michael Chamberland

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

The fruits are eaten by birds, which should warrant a Yes rather than No, with some limited confidence.
-Michael Chamberland

Issue Resolution (Screener's Response to Issue)

Changed the response to "yes" with low confidence since there was little information on how far the seeds get transported.

Issue ID # 9430

Date Created: November 18, 2023 - 5:18pm

Date Updated: November 30, 2023 - 1:38pm

Submitted by: Michael Chamberland

Status: Fixed

Type: Suggestion

Severity: Minor

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

Flowers May to September (White, 2013). The fruits ripen in late summer and fall (PIER, 2011). -



Michael Chamberland

Reference(s):

White, M. (2013). Invasive Plants and Weeds of the National Forests and Grasslands in the Southwestern Region.

PIER (2011). *Vitex agnus-castus*: info from PIER (PIER species info).

Issue Resolution (Screener's Response to Issue)

I added more sources and clarified flowering period for this species. It seems as though flowering period differs depending on where it is since each source has slightly differing information.

Issue ID # 9429

Date Created: November 18, 2023 - 5:14pm

Date Updated: November 30, 2023 - 12:55pm

Submitted by: Michael Chamberland

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q11. Does this species (or cultivar or variety) reproduce and spread vegetatively?

Issue Description

I am not seeing information in the NC State reference supporting natural vegetative spread. Instead see PIER report (2011). These PIER reports are full of good, if brief, info applicable to other questions as well. -Michael Chamberland

https://hear.org/pier/species/vitex_agnus_castus.htm

Issue Resolution (Screener's Response to Issue)

I switched the answer to "no" since the only evidence found of reproducing vegetatively is in a nursery setting where it is not happening on its own in a natural environment.



Issue ID # 9428

Date Created: November 18, 2023 - 5:04pm

Date Updated: November 30, 2023 - 8:37am

Submitted by: Michael Chamberland

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q10. Does the plant produce impenetrable thickets, blocking or slowing movement of animals, livestock, or humans?

Issue Description

The impact of a different species on the activity of sea turtles probably has little relevance to southern Nevada. - Michael Chamberland

Issue Resolution (Screener's Response to Issue)

I thought this information on the East Coast species was interesting, and as it is closely related to the species of concern, I inferred that this could mean the species of concern could act similarly. However, I removed that information and kept to the species of concern.

Issue ID # 9427

Date Created: November 18, 2023 - 5:02pm

Date Updated: November 29, 2023 - 3:30pm

Submitted by: Michael Chamberland

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q08. Is the plant noted as promoting fire and/or changing fire regimes?

Issue Description



Here are some references to offer input on the fire potential: -Michael Chamberland

Rated as not creating a fire hazard in natural ecosystems (PIER, 2011). However fire and the heat produced may induce higher seed germination (Travlos, 2007).

Reference(s):

PIER (2011). *Vitex agnus-castus*: info from PIER (PIER species info).

Travlos, I. S., & Karamanos A. J. (2007). Influence of Heat on Seed Germination and Seedling Emergence of Chaste Tree (*Vitex agnus castus* L.). *Journal of Agronomy*. 6, 4.

Issue Resolution (Screener's Response to Issue)

I added the sources and changed my answer to reflect that while it does not promote fire or change fire regimes, fires may promote higher seed germination following an event.

Issue ID # 9426

Date Created: November 18, 2023 - 3:33pm

Date Updated: November 30, 2023 - 2:45pm

Submitted by: Michael Chamberland

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole

Issue Description

Within the text box with the answer/justification, include a reference citation with a format such as: (Rojas-Sandoval, 2020) which corresponds with the references listed below. This is useful to indicate which parts of the answer are supported by which reference, when multiple references are cited. -Michael Chamberland

Issue Resolution (Screener's Response to Issue)

I added the sources within answers that had more than one source to clarify where I found my answers.



Issue ID # 9425

Date Created: November 18, 2023 - 3:30pm

Date Updated: November 30, 2023 - 11:19am

Submitted by: Michael Chamberland

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole

Issue Description

Do not cite a zero (0) value for the date of references. This can be corrected by ensuring a date is referenced in the publication date field in the reference Source page. Be sure this field is not empty, which results in the zero. If the information comes from an undated web page, use the current year.
-Michael Chamberland

Issue Resolution (Screener's Response to Issue)

I added dates whether it was publishing date or access date to sources.

Issue ID # 9048

Date Created: August 28, 2023 - 9:20am

Date Updated: November 6, 2023 - 11:57am

Submitted by: Alex Simmons

Status: Fixed

Type: Suggestion

Severity: Major

Scope: Evaluation as a whole



Issue Description

Must add references even for "no" answers. Missing references on many questions. -Alex Simmons

Issue Resolution (Screener's Response to Issue)

I went back and added references for all of the questions that needed references. There were a couple of questions still that no information could be found to answer the question.

Issue ID # 9046

Date Created: August 28, 2023 - 9:15am

Date Updated: November 6, 2023 - 11:58am

Submitted by: Alex Simmons

Status: Fixed

Type: Suggestion

Severity: Major

Scope: Evaluation as a whole

Issue Description

Please add evaluation summary. -Alex Simmons

Issue Resolution (Screener's Response to Issue)

An evaluation summary was added.

Issue ID # 9045

Date Created: August 28, 2023 - 5:17am

Date Updated: November 6, 2023 - 12:09pm



Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole

Issue Description

See if you can find a little more literature to support your answers. Botanical lit also works, that describes the plant's characteristics. You can also check the other literature that has already been linked to this species in PRE for other evaluations. - Jutta

Issue Resolution (Screener's Response to Issue)

More research and information was added to pretty much each question.

Issue ID # 9044

Date Created: August 28, 2023 - 4:49am

Date Updated: November 6, 2023 - 12:07pm

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q14. Does this plant produce copious viable seeds each year (>1000)?

Issue Description

You may be able to use inference to answer this question by estimating number of flowers and seeds / fruit for this tree (and inference is medium confidence). - Jutta

Issue Resolution (Screener's Response to Issue)

I couldn't find a lot of information to make an accurate estimate of seed production, but found general information of it being a ready producer of many fertile seeds along with information on the fruits.



Issue ID # 9042

Date Created: August 28, 2023 - 4:44am

Date Updated: November 6, 2023 - 12:01pm

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q09. Is the plant a health risk to humans or animals/fish? Has the species been noted as impacting grazing systems?

Issue Description

Also make reference to what is known about health risk. - Jutta

Issue Resolution (Screener's Response to Issue)

I made note about what is know about health risks regarding this species.

Issue ID # 9041

Date Created: August 28, 2023 - 4:31am

Date Updated: November 6, 2023 - 11:59am

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Major

Scope: Evaluation as a whole

Issue Description

Review criteria for confidence rankings. Based on those definitions, your confidence could be increased



for several questions.

- VERY HIGH = Highly credible evidence; reviewed scientific publications
- HIGH = Other published material (reports or other non-peer-reviewed documents)
- MEDIUM = Observational (unpublished information confirmed by a professional in the field); inferences
- LOW = Question defaults to a “No” answer; unconfirmed information
- VERY LOW = Question left blank; no information

- Jutta

Issue Resolution (Screener's Response to Issue)

I believe I fixed the scale for screener confidence for each question.

Issue ID # 9040

Date Created: August 27, 2023 - 9:57pm

Date Updated: November 6, 2023 - 12:00pm

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

Add a description of where it is native to for clarity. - Jutta

Issue Resolution (Screener's Response to Issue)

I added where this species is native for clarification to the question and response.



Issue ID # 9039

Date Created: August 27, 2023 - 9:52pm

Date Updated: November 6, 2023 - 12:08pm

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: General Information

Issue Description

Add an Evaluation Summary that summarizes key findings for the species. - Jutta

Issue Resolution (Screener's Response to Issue)

Evaluation summary added.



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.

PRE beta funding was provided by Sustainable Conservation (<https://www.suscon.org/>) and a USDA Farm Bill grant. Additional funding has been provided by the Western Integrated Pest Management Center.