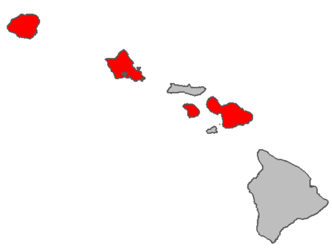
Fire risk report for *Clitoria ternatea*

Full Species Name *Clitoria ternatea* L.	
Family: Fabaceae	
Common names: butterfly pea blue pea	
Synonyms:	
Known occurrences (as of 2020) 	
Year first documented as naturalized in Hawai'i: 1937	
This species has been ranked by the Hawai'i Weed Risk Assessment program as High Risk with a score of 11.	
View photos on Starr Environmental	
View on Wikipedia	
View occurrences on iNaturalist	
View at Plants of Hawaii	
View photos on Flickr	

0 .5 1

Lowest risk ⇔ Highest risk

This species is likely a **low** fire risk in Hawai'i with a fire risk score of **0.22**.

This species was ranked by our machine learning algorithm using the data presented on the next page. A predicted score of > .34 suggests the plant is a high fire risk.

Summary of Fire ecology	
Native habitat fire proneness	No Data
Fire promoting plant in its native range	No
Fire promoting plant in its introduced range*	No
Regenerates after fire	Yes
Promoted by fire	No Data
Reported flammable*	No Data
Relative is flammable*	Yes

*These values were used by the model to predict fire risk

Detailed summary of Fire Ecology

Native habitat fire proneness (In any part of the plant's native range is its habitat described as fire prone due to natural or human caused fires?)	No Data	
Fire promoting plant in its native range (Does the species act as a major fuel source, increase fire severity, frequency, or modify fuel bed characteristics within its native range?)	No	
Fire promoting plant in its introduced range (Same as Fire Promoting Native but within the species introduced range)	No	
Regenerates after fire (Does the plant regrow after fire by any means? This includes resprouters, reseeders, and recruiters which dispersed into the area within approximately one year post fire)	Yes	"Downes (1966) reported clitoria had fiar recovery in the dry season from frost and fire" http://tropicalgrasslands.info/public/journals/4/Historic/Tropical%20Grasslands%20Journal%20archive/PDFs/Vol_19_1985/Vol_19_04_85_pp156_163.pdf Hall, T. J. (1985). Adaptation and agronomy of Clitoria ternatea L. in northern Australia. Tropical Grasslands, 19(14), 156-163.
Promoted by fire (Does the plant increase in abundance after a fire?)	No Data	
Reported flammable (Is the species described as being flammable, being a major wildfire fuel, or high fire risk?)	No Data	

Relative is flammable (Does a plant in the same genus meet the Reported Flammable criteria?)	Yes	"Because it was found in Henley Park plots which were burned every one to two years in the winter, it is fire-tolerant. [8] It resprouts quickly after fire, which can be supported by the fact that it resprouted within a month after fire in Pavon's study. [18] It attained its peak in two-year rough plots at one study in Henley Park and another near Bainbridge GA, which are plots that had undergone two growing seasons since the last burn.[8][19] This is supported by Greenberg's study, which shows the peak percent cover to be 16 months after fire around 80% [7] As well, one study found C. mariana to establish at sites after a burn that was rare or absent before the fire.[20] In Kush's study, this species along with milk-pea became the dominant species proceeding plots that were burned in the winter.[21]" http://coastalplainplants.org/wiki/index.php/Clitoria_mariana

Text in quotes are direct quotes from the source
Text in square brackets was added by the assessor to clarify something or to summarize from a figure.
Text preceded by a "#" is comment from the assessor

The data presented were assembled from literature and database searches for each species using as much data as could be collected regarding the plant's fire ecology under natural conditions. Searches aimed to be exhaustive and consist of as much data as could be located in 2020. Our machine learning algorithm was trained on 49 species of plants which had their fire risk ranked by 49 managers in Hawai'i in November 2020. The model used a conditional random forest regression algorithm to predict scores for each species using the manager score as the response variable and the fire ecology traits of each plant as the predictor variables to generate a fire risk score. This trained model was then used to predict the fire risk for all species which were not ranked by managers. The model was calibrated such that it is 90% accurate at predicting high fire risk plants and 79% accurate at predicting low fire risk plants. This research and the resulting fire risk model has been published in the journal Biological Invasions by Kevin Faccenda and Curt Daehler (both at the University of Hawaiʻi at Mānoa).

Note that the analysis doesn't account for a plant species' spatial distribution, population density, or distinct climate and ecosystem conditions (which can also influence fire risk). The fire risk of these species are mostly under "worst case" environmental conditions where the climate is dry enough to maintain fire, but wet enough to allow for plant growth and fuel accumulation. The fire risk ranking should not be taken as a stand-alone risk metric in prioritizing weed control efforts. Rather, this information may also be useful for determining if a newly discovered species poses a potential fire threat in wildland areas.

More general information on the weed risks and ecology of non-native plants in Hawaiʻi is available from the Hawaiʻi Invasive Species Committee's Weed Risk Assessment database.

View more fact sheets at https://www.pacificfireexchange.org/weed-fire-risk-assessments

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Fact sheet prepared by Kevin Faccenda (faccenda@hawaii.edu) in November 2021. Data were prepared by Kevin Faccenda in 2020.

This research was funded by the Department of the Interior Pacific Islands Climate Adaptation Science Center. The project described in this publication was supported by Grant or Cooperative Agreement No.G20AC00073 to Curt Daehler from the United States Geological Survey. The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Geological Survey. Mention of trade names or commercial products does not constitute their endorsement by the Pacific Islands Climate Adaptation Science Center or the National Climate Adaptation Science Center or the US Geological Survey.