

California Pest Rating Proposal for

Jasmine virus T

Current Pest Rating: Q

Proposed Pest Rating: Q

Kingdom: Viruses and viroids, Category: Riboviria,
Category: Orthornavirae, Phylum: Pisuviricota,
Class: Stelpaviricetes, Order: Patatavirales,
Family: Potyviridae, Genus: Potyvirus

Comment Period: 10/27/2026 through 12/11/2026

Initiating Event:

In December 2025, the San Joaquin County dog team intercepted an unmarked package of *Jasmine sambac* plants at a UPS sorting facility. The plants had been shipped from a resident of Travis County, Texas, to a resident of San Joaquin County. The plants were submitted to CDFA's Plant Pest Diagnostics Center at Meadowview. CDFA virologist Tongyan Tian detected Jasmine virus T by RT-PCR and gene sequencing, and he assigned it a temporary Q rating. The diagnosis was confirmed by USDA APHIS PPQ's Plant Pathogen Confirmatory Diagnostics Laboratory in Maryland. This virus is currently uncategorized for CONUS. This pathogen has not been through the pest rating system. The risk to California from Jasmine virus T is described herein.

History & Status:

Background:

Jasminum sambac is known by the common names Arabian jasmine, mogra, or pikake jasmine. Despite being named 'Arabian', its native range is from Bhutan to India. It is in the olive family, Oleaceae. *Jasminum sambac* is an evergreen or semi-evergreen scrambling shrub, sometimes behaving like a weak climber. This species is one of the most culturally important jasmines. Flowers are used for garlands, leis, religious offerings, perfumery, and scenting tea. It is important in horticultural trade, and plant cuttings are moved around the world.

Jasmine virus T (JaVT) is a positive-sense, single-stranded RNA virus in the genus Potyvirus, family Potyviridae. It was first detected from *J. sambac* in Taiwan (Lin et al., 2004). A virus associated with yellow mosaic disease of *J. sambac* was subsequently reported from India (Sudheera et al., 2014). The

complete genome of a JaVT isolate from a plant exhibiting yellow ringspot symptoms was characterized in China in 2016 by Tang et al. These isolates are now considered members of the same virus species.

Published reports have associated JaVT infection with foliar disease symptoms in jasmine. Because information on the virus remains limited, its economic significance is not fully understood, and its potential impact in California is uncertain.

Hosts: Jasminum sambac

Symptoms: JaVT infection has been associated with mosaic, mottling, yellowing, and yellow ringspot symptoms. Field studies with JaVT-infected plants show symptoms can range from severe to mild to asymptomatic. There are unresolved questions about whether JaVT alone causes the disease symptoms seen in field-infected plants or if symptoms are seen mainly when plants are infected with multiple viruses, with JaVT present as part of a complex (Chang et al., 2016; Tang et al., 2016; Zhang et al., 2024).

Transmission: Published information on the transmission of JaVT is limited. Because *J. sambac* is commonly propagated vegetatively, movement of infected cuttings, rooted plants, and other propagative nursery material presents a plausible pathway for dissemination. Non-persistent aphid transmission is common among members of the genus *Potyvirus*, but an aphid vector has not been reported for JaTV. Movement of infected nursery stock is therefore considered the most likely pathway for long-distance dissemination based on currently available information.

Damage Potential: Potyviruses can cause serious losses in their hosts by damaging the leaves, flowers, and fruits and by causing yellowing and stunting of the plants. The losses are greatest when the plants are infected young. Infections at later stages of growth cause smaller losses (Revers and Garcia, 2015). From a field study by Chang et al. (2016), severe symptoms were associated with mixed infections by JaVT and Jasmine virus C. Mixed infections are very common in field-grown Jasmine and can include JaVT, Jasmine virus H, Jasmine virus V, Jasmine virus C, and cucumber mosaic virus occurring in multiple combinations. Mixed infections of Jasmine Mosaic-Associated Virus (JMaV) and Jasmine Virus H (JaVH) have been found in Jasmine species in Florida (Dey et al., 2024).

Worldwide Distribution: China, India, Taiwan (Lin et al., 2004; Sudheera et al., 2014; Tang et al., 2016).

Official Control: none

California Distribution: none

California Interceptions: In addition to the interception described in ‘initiating events’, a second detection was made in 2026. It was also a dog-team interception, this time at a Los Angeles County USPS facility. The origin of the plant was from an online store previously associated with a Los Angeles County wholesale nursery. No additional plants were found in the nursery, and no additional tracebacks could be made.

The risk that Jasmine virus T poses to California is evaluated below.

Consequences of Introduction:

- 1) Climate/Host Interaction:** Jasmine virus T could be distributed within California wherever *J. sambac* is grown. *Jasminum sambac* grows outdoors as a permanent perennial only in USDA zones 9-11. Plants suffer at temperatures lower than 40°F and are killed by temperatures of 32°F or lower.

Evaluate if the pest would have suitable hosts and climate to establish in California.

Score: 2

- Low (1) Not likely to be established in California, or likely to establish in very limited areas.
- **Medium (2) may be able to be established in a larger but limited part of California.**
- High (3) likely to establish a widespread distribution in California.

- 2) Known Pest Host Range:** Jasmine virus T has a host range limited to *J. sambac*.

Evaluate the host range of the pest.

Score: 1

- **Low (1) has a very limited host range.**
- Medium (2) has a moderate host range.
- High (3) has a wide host range.

- 3) Pest Reproductive Potential:** This virus is highly likely to spread primarily through infected propagative material. A vector may or may not be found. Without definite answers, it is not possible to adequately evaluate this category.

Evaluate the natural and artificial dispersal potential of the pest.

Score: #

- Low (1) does not have high reproductive or dispersal potential.
- Medium (2) has either high reproductive or dispersal potential.
- High (3) has both high reproductive and dispersal potential.

- 4) Economic Impact:** It is not known what effect JaVT could have on crop yield. It is important for ornamentals to have clean and uniformly green foliage. It remains to be determined if management of the virus would change certain cultural practices to reduce/eliminate incidence and spread. It is highly unlikely that there will be any cure once JaVT has infected plants. Until definite information becomes available, several criteria listed below are not known to allow an accurate evaluation of the virus within this category.

Evaluate the economic impact of the pest on California using the criteria below.

Economic Impact:

- A. The pest could lower crop yield.
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- B. The pest could lower crop value (including increasing crop production costs).
- C. The pest could trigger the loss of markets (including quarantines).
- D. The pest could negatively change normal cultural practices.
- E. The pest can vector, or is vectored, by another pestiferous organism.
- F. The organism is injurious or poisonous to agriculturally important animals.
- G. The organism can interfere with the delivery or supply of water for agricultural uses.

Economic Impact Score: #

- Low (1) causes 0 or 1 of these impacts.
- Medium (2) causes 2 of these impacts.
- High (3) causes 3 or more of these impacts.

5) Environmental Impact: JaVT can impact ornamental plantings

Evaluate the environmental impact of the pest on California using the criteria below.

Environmental Impact: E

- A. The pest could have a significant environmental impact such as lowering biodiversity, disrupting natural communities, or changing ecosystem processes.
- B. The pest could directly affect threatened or endangered species.
- C. The pest could impact threatened or endangered species by disrupting critical habitats.
- D. The pest could trigger additional official or private treatment programs.
- E. The pest significantly impacts cultural practices, home/urban gardening, or ornamental plantings.**

Environmental Impact Score: 2

- Low (1) causes none of the above to occur.
- Medium (2) causes one of the above to occur.**
- High (3) causes two or more of the above to occur.

Consequences of Introduction to California for Jasmine virus T:

Add up the total score and include it here. #

- Low = 5-8 points
- Medium = 9-12 points
- High = 13-15 points

- 6) Post-Entry Distribution and Survey Information:** Evaluate the known distribution in California. Only official records identified by a taxonomic expert and supported by voucher specimens deposited in natural history collections should be considered. Pest incursions that have been eradicated, are under eradication, or have been delimited with no further detections should not be included.

Evaluation is 'not established'.

Score: 0

-Not established (0) Pest never detected in California or known only from incursions.

-Low (-1) Pest has a localized distribution in California or is established in one suitable climate/host area (region).

-Medium (-2) Pest is widespread in California but not fully established in the endangered area, or pest is established in two contiguous suitable climate/host areas.

-High (-3) Pest has fully established in the endangered area, or pest is reported in more than two contiguous or non-contiguous suitable climate/host areas.

7) The final score is the consequences of the introduction score minus the post-entry distribution and survey information score: (Score)

Final Score: *Score of Consequences of Introduction – Score of Post-Entry Distribution and Survey Information* = Not determined

Uncertainty:

JavT is one of several viruses that have been described from *Jasminum sambac*. Disease symptoms are most often seen in plants co-infected with several viral species, making it difficult to determine the contribution of each separately. Since it was recognized over 20 years ago, there have been only a few additional scientific publications, mainly to describe the genomic sequence and as first reports of detections in new areas (Zhu et al., 2024; Zhang et al., 2024; Liu et al., 2025).

Conclusion and Rating Justification:

Based on the evidence provided above, the proposed rating for **Jasmine virus T is Q.**

References:

Chang, C.A., Lin, Y.C., Lin, Y.Y. and Wang, S.M., 2016. Etiological study of viruses associated with yellow mosaic disease in jasmine. In XIV International Symposium on Virus Diseases of Ornamental Plants 1193 (pp. 47-54).

Chen, S., Zheng, L., Lin, L., Chen, J. and Shen, J., 2023. Identification and molecular characteristics of viruses infecting *Jasminum sambac* in Fuzhou. Shengwu Jishu Jinzhan [Progress in Biotechnology], 13(4), pp. 611-619.

Dey, K., Velez-Climent, M., Soria, P., McVay, J.M. and Adkins, S.T. 2024. First report of mixed infection of jasmine mosaic-associated virus (JMaV) and jasmine virus H (JaVH) in jasmine species in Florida, United States. Plant Health Progress, 25(2), pp. 210–211.

Lin, Y.Y., Chen, T.H. and Chang, C.A., 2004. Characterization of a new potyvirus isolated from jasmine (*Jasminum sambac* (L.) Ait) in Taiwan. Plant Pathology Bulletin. Vol. 13, No. 1, 69-84

Liu, X., Jin, Y., Li, W., Fu, Y., Chen, J., He, H., Li, M., Hu, M., Gao, F. & Shen, J. Identification and Phylogenetic Analysis of Virus Species Infecting Ornamental *Jasminum sambac* in Fuzhou Region. *Current Biotechnology* 15:874–881.

Revers, F. and García, J.A., 2015. Molecular biology of potyviruses. *Advances in virus research*, 92, pp.101-199.

Sudheera, Y., Vishnu Vardhan, G.P., Hema, M., Krishna Reddy, M. and Sreenivasulu, P., 2014. Characterization of a potyvirus associated with yellow mosaic disease of jasmine (*Jasminum sambac* L.) in Andhra Pradesh, India. *Virus Disease*, 25(3), pp.394-397.

Tang, Y., Gao, F., Yang, Z., Wu, Z. and Yang, L. 2016. Complete genome analysis of jasmine virus T from *Jasminum sambac* in China. *Archives of Virology* 161: 2033–2036. <https://doi.org/10.1007/s00705-016-2811-1>

Zhu, L.J., Bai, Y.N., Su, L.Y., Wang, C., Han, Y.H. and He, S.Y., 2024. Establishment of a rapid one-step multiplex RT-PCR assay for simultaneous detection of four viruses infecting jasmine.

Responsible Party:

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***Comment Period: 10/27/2026 through 12/11/2026**

*NOTE:

You must be registered and logged in to post a comment. If you have registered and have not received the registration confirmation, please contact us at [permits\[@\]cdfa.ca.gov](mailto:permits[@]cdfa.ca.gov).

Comment Format:

- ❖ Comments should refer to the appropriate California Pest Rating Proposal Form subsection(s) being commented on, as shown below.

Example Comment:

Consequences of Introduction: 1. Climate/Host Interaction: [Your comment that relates to “Climate/Host Interaction” here.]

- ❖ Posted comments will not be able to be viewed immediately.
- ❖ Comments may not be posted if they:

Contain inappropriate language which is not germane to the pest rating proposal;

Contains defamatory, false, inaccurate, abusive, obscene, pornographic, sexually oriented, threatening, racially offensive, discriminatory or illegal material;

Violates agency regulations prohibiting sexual harassment or other forms of discrimination;

Violates agency regulations prohibiting workplace violence, including threats.

- ❖ Comments may be edited prior to posting to ensure they are entirely germane.
- ❖ Posted comments shall be those which have been approved in content and posted to the website to be viewed, not just submitted.

Proposed Pest Rating: Q
