

California Pest Rating For
***Phosphila turbulenta* Hübner: Turbulent phosphila**
Lepidoptera: Noctuidae
Pest Rating: A

Comment Period: 01/29/2026 - 03/15/2026

Initiating Event:

This moth is occasionally intercepted on plant material. It has not been assessed with the pest rating system. Therefore, a pest rating proposal is needed.

History & Status:

Background: Larvae of the moth *Phosphila turbulenta* are reported to feed on *Smilax* species and *Solanum carolinense* (HOSTS). While *Smilax* species are widely reported as host plants of this moth, according to Moths of North Carolina, the *Solanum carolinense* report “needs confirmation” (Moths of North Carolina). No reports were found of any other *Solanum* species as hosts.

No reports were found of this moth, which is presumably native to the eastern United States and apparently not been spread further, causing impacts to agriculture or the environment.

Worldwide Distribution: North America: United States (Florida and Maryland) (Austin, 2010; Young, 2020). Based on iNaturalist reports, *P. turbulenta* appears to be widespread in the eastern United States (iNaturalist).

Official Control: *Phosphila turbulenta* is not known to be under official control.

California Distribution: *Phosphila turbulenta* is not known to be established in California.

California Interceptions: *Phosphila turbulenta* is occasionally intercepted on cut foliage of *Smilax* from Texas (California Department of Food and Agriculture).

The risk *Phosphila turbulenta* poses to California is evaluated below.

Consequences of Introduction:

- 1) **Climate/Host Interaction:** Two species of *Smilax* are native to California but are apparently limited to the northern part of the state. The wide distribution of *P. turbulenta* in the eastern United States suggests that the climate of much of California may be suitable. Therefore, it receives a **Medium (2)** in this category.
 - Low (1) Not likely to establish in California; or likely to establish in very limited areas.
 - **Medium (2) may be able to establish in a larger but limited part of California.**
 - High (3) likely to establish a widespread distribution in California.

- 2) **Known Pest Host Range:** Apart from one doubtful report of *Solanum carolinense* as a host, *Phosphila turbulenta* is only reported to feed on plants in the genus *Smilax*. Therefore, it receives a **Low (1)** in this category.
 - **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 and Dispersal Potential:** *Phosphila turbulenta* can fly. Therefore, it receives a **Medium (2)** in this category.

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

4) **Economic Impact.** *Phosphila turbulenta* is not known to feed on economically significant plants in California. Therefore, it receives a **Low (1)** in this category.

Economic Impact:

- A. The pest could lower crop yield.
- B. The pest could lower crop value (includes increasing crop production costs).
- C. The pest could trigger the loss of markets (includes 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

- **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.** There are two species of *Smilax* native to California, *S. californica* and *S. jamesii*. *Phosphila turbulenta* is known to feed on *Smilax*; if this moth can feed on these two California species, they may be impacted if it becomes established in the state. Therefore, this moth receives a **Medium (2)** in this category.

Environmental Impact: A

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: Medium (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 *Phosphila turbulenta*: Low (8)

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: *Phosphila turbulenta* is not known to be established in California. It receives a **Not established (0)** in this category.

–**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.

Final Score:

7) The final score is the consequences of introduction score minus the post-entry distribution and survey information score: Low (8)

Uncertainty:

There is some uncertainty regarding the host record of *Solanum carolinense*, but it seems very unlikely that *Solanum* species, at least tomato and potato, are hosts when it is considered that these crops are grown widely in the eastern United States, and no reports were found of impacts to them by *P. turbulenta*. There is more uncertainty regarding the potential for this moth to establish in California, both because the climate may be too dry over much of the state and the native *Smilax* species may not be suitable hosts.

Conclusion and Rating Justification:

Phosphila turbulenta could impact native *Smilax* species in California. This moth is not known to be present in the state. For these reasons, an “A” rating is justified.

References:

Austin, G. T. 2010. Scientific note: Moth community from a northcentral Florida location – A taxonomic checklist. *Tropical Lepidoptera Research* 20:41-44.

California Department of Food and Agriculture. Pest and Damage Record Database. Accessed January 9, 2026:

<https://pdr.cdfa.ca.gov/PDR/pdrmainmenu.aspx>

HOSTS. Accessed January 9, 2026:

<https://data.nhm.ac.uk/dataset/hosts/resource/877f387a-36a3-486c-a0c1-b8d5fb69f85a>

iNaturalist. Accessed January 9, 2026:

<https://www.inaturalist.org/>

Moths of North Carolina. Accessed January 9, 2026:

https://auth1.dpr.ncparks.gov/moths/host_moths.php?MONA_number=9618.00

Young, J. D. 2020. A survey of the Lepidoptera of the serpentine barrens area of Lake Roland Park. Baltimore County, Maryland. The Maryland Entomologist 7:65-80.

Responsible Party:

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***Comment Period: 01/29/2026 - 03/15/2026**

***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.

Pest Rating: A