CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Proposal

Aceria annonae (Keifer): Annona mite

Acari: Eriophyidae

Current Rating: Q

Proposed Rating: A

Comment Period: 06/11/2026 through 07/26/2026

Initiating Event:

Aceria annonae is occasionally intercepted on *Annona* plant material. It has not been through the pest rating proposal system. A pest rating proposal is needed.

History & Status:

Background: *Aceria annonae* is a tiny mite reaching approximately 0.2 mm in length. Its reported hosts include *Annona muricata*, *Annona reticulata*, *Carica papaya* (Diaz-Tejeda et al., 2010; Flores-Canales et al., 2018). Feeding causes deformation of the leaves (erinea) described as rounded protuberances on the upper surfaces and abnormal trichomes on the lower surfaces (Flores-Canales et al., 2018). In some cases, almost all leaves may be affected by these erinea. The leaves can be stunted (Keifer et al., 1982).

Aceria annonae is not reported to cause economic damage to its hosts (Carrillo et al., 2006; Flores-Canales et al., 2019).

Worldwide Distribution: **Caribbean:** Cuba; **North America:** Mexico; **South America:** Venezuela (Diaz-Tejeda et al., 2010; Flores-Canales et al., 2018; Keifer et al., 1982).

Official Control: *Aceria annonae* is on the A1 list in Chile (EPPO Global Database).

California Distribution: *Aceria annonae* is not known to be present in California.

California Interceptions: *Aceria annonae* is occasionally intercepted on *Annona* leaves and plants, e.g., from Puerto Rico (California Department of Food and Agriculture).

The risk *Aceria annonae* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** *Aceria annonae* is reported to live on *Annona* species and papaya, which are grown on a limited scale in coastal southern California. Climate may limit this mite to this area as well. Therefore, it receives a **Low (1)** 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:** Only *Annona* species and papaya are reported as hosts for *A. annonae*. 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:** Other eriophyids disperse via wind and possibly insects. Movement of infested ornamental plants could introduce this mite to new areas as well. 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**. *Aceria annonae* is not reported to cause economic damage. However, the galling and leaf stunting could impact the growth of *Annona*, which could lower yield and trigger treatments. Although it is regulated by Chile, this leaf-feeding mite appears unlikely to trigger a quarantine by Chile or countries or states. Therefore, it receives a **Medium (2)** in this category.

Economic Impact: A, B

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: Medium

– 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**. *Aceria annonae* is not reported to cause significant impacts to its host plants, and its reported hosts are not native to California. Therefore, *A. annonae* receives a **Medium (2)** in this category.

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

Environmental Impact: D

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 *Aceria annonae*: 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:** *Aceria annonae* is not known to be 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 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.

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Final Score:

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

Uncertainty:

Eriophyid mites tend to be host-specific, so while there is some uncertainty regarding the full potential host range of *A*. *annonae*, especially given the report on papaya, this uncertainty appears to be low.

Conclusion and Rating Justification:

Aceria annonae is an eriophyid mite that causes deformation of host leaves. It is not reported to cause significant impacts to the host or to be an economically-significant pest. However, it is possible that impacts could be different in California. For example, natural enemies that limit population densities of this mite where it is currently established may not be present in California. The reported hosts, *Annona* species and papaya, are grown on a limited scale in southern California. *Aceria annonae* is not known to be in California. For these reasons, an "A" rating is justified.

References:

California Department of Food and Agriculture. Pest and damage record database. Accessed May 15, 2026: https://pdr.cdfa.ca.gov/PDR/pdrmainmenu.aspx

Carrillo, D., Peña, J. E., Crane, J. H., and Duncan, R. E. 2006. Pollinator and insect/mite management in *Annona* spp. Accessed May 15, 2026: https://ask.ifas.ufl.edu/publication/IG166

Diaz-Tejeda, Y., de la Torre-Santana, P. E., Beltrán-Castillo, A., Hernández-Espinosa, D., Rodriguez-Tapia, J. L., Rodriguez-Morell, H., and Pérez-Madruga, Y. 2010. Acarofauna asociada a frutales, plantas ornamentals y arvenses presents en localidades de la region occidental y central de Cuba. CitriFrut 27:54-63.

EPPO Global Database. Accessed May 15, 2026: https://gd.eppo.int/taxon/ACEIAN/categorization

Flores-Canales, R., Acuña-Soto, J. A., Hernández-Rincón, R., Isiordia-Aquino, N., Robles-Bermúdez, A., Santillán-Ortega, C., and Hernández-Zarazoga, R. 2018. Primer registro para Nayarit de *Aceria annonae* (Keifer, 1973) (Trombidiformes: Eriophyidae). Acta Zoológica Mexicana 34:1-4.

Flores-Canales, R. J., Acuña-Soto, J. A., Santillán-Ortega, C., Isiordia-Aquino, N., Sotelo-Montoya, A. M., and Hernández-Zaragoza, R. D. 2019. Population fluctuation of *Aceria annonae* (Keifer, 1973)

(Prostigmata: Eriophyidae), in three municipalities of Nayarit, Mexico. Revista Mexicana de Ciencias Agrícolas 10:177-186.

Keifer, H. H., Baker, E. W., Kono, T., Delfinado, M., and Styer, W. E. 1982. An illustrated guide to plant abnormalities caused by eriophyid mites in North America. United States Department of Agriculture Agriculture Handbook 573:1-178.

Responsible Party:

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***Comment Period: X through X**

***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.

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: A