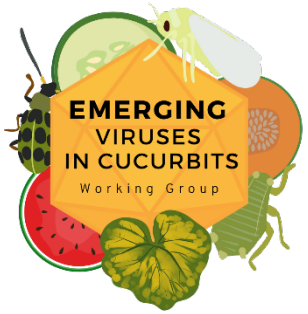
Cucurbit Viruses in the United States

Numerous viruses that impact cucurbit production or for which cucurbits are a primary host have been identified in one or more cucurbit-producing regions of the United States. Some of these viruses have been present for decades while others have only recently been introduced, and some are yearly production concerns while others have not been detected in years (**historic**) or are under official control in the United States (**transient**). These viruses, outlined below according to **mode of transmission** and **genus**, are primarily transmitted by various insect vectors. In some cases, the mode(s) of transmission have not yet been identified. Virus prevalence and impact varies by region and is influenced by crop, reservoir host, and vector presence and prevalence. Virus identification by symptoms alone is not possible due to symptom similarity and mixed infections. Contact your local Extension office or diagnostic laboratory for assistance with disease and virus diagnosis.



Insect

Whiteflies

Vector: Sweetpotato whitefly (*Bemisia tabaci*)

Begomovirus
Cucurbit leaf crumple virus (CuLCrV) ℹ
Squash leaf curl virus (SLCuV)
Watermelon chlorotic stunt virus (WmCSV)

Crinivirus
Cucurbit chlorotic yellows virus (CCYV) ℹ
Cucurbit yellow stunting disorder virus (CYSDV) ℹ
Lettuce infectious yellows virus (LIYV) [*historic*]

Ipomovirus
Squash vein yellowing virus (SqVYV)

Vector: Greenhouse whitefly (*Trialeurodes vaporariorum*)

Crinivirus
Beet pseudoyellows virus (BPYV)

Aphids

Vectors: Multiple aphid species, including melon (cotton) aphid (*Aphis gossypii*) and green peach aphid (*Myzus persicae*)

Cucumovirus
Cucumber mosaic virus (CMV)

Polerovirus
Cucurbit aphid-borne yellows virus (CABYV)

Potyvirus
Papaya ringspot virus (PRSV)
Watermelon mosaic virus (WMV)
Zucchini tigré mosaic virus (ZTMV)
Zucchini yellow mosaic virus (ZYMV)

Beetles

Vectors: Cucumber beetles, including the spotted cucumber beetle (*Diabrotica undecimpunctata howardi*) and striped cucumber beetle (*Acalymma vittatum*)

Comovirus
Squash mosaic virus (SqMV)

Beet Leafhopper

Vector: Beet leafhopper, *Neoalitarsus tenellus* (formerly *Circulifer tenellus*)

Curtovirus
Beet curly top virus (BCTV)

Thrips (+ Pollen)

Vector: Multiple thrips species

Ilarvirus
Tobacco streak virus (TSV)

Nematode

Vector: Dagger nematode (*Xiphinema americanum*)

Nepovirus
Tobacco ringspot virus (TRSV)
Tomato ringspot virus (ToRSV)

Fungus

Vector: *Leiolpidium bornovanum* (formerly *Olpidium bornovanus*)

Carmovirus
Melon necrotic spot virus (MNSV)

Not Identified/Confirmed

Coguvirus
Watermelon crinkle leaf-associated virus 1 (WCLaV-1) ℹ
Watermelon crinkle leaf-associated virus 2 (WCLaV-2) ℹ

Orthotospovirus
Melon severe mosaic virus (MSMV)
[*suspected thrips vector*]

Seed

Carmovirus MNSV
Comovirus SqMV
Potyvirus ZYMV

Tobamovirus
Cucumber green mottle mosaic virus (CGMMV) [*transient*] ℹ
Watermelon green mottle mosaic virus (WGMMV) [*transient*]

Mechanical

Comovirus SqMV
Cucumovirus CMV
Ipomovirus SqVYV
Potyvirus PRSV, WMV, ZTMV ZYMV
Tobamovirus CGMMV [*transient*] WGMMV [*transient*]

EVCWG Publication 2401 (June 2025).
Author: Rebecca A. Melanson, Extension Plant Pathologist, Mississippi State University Extension.
Acknowledgement: This is a publication of the Emerging Viruses in Cucurbits Working Group (EVCWG).

eCucurbitviruses.org