Fragaria Chiloensis Virus

a. Virus/pathogen name, including accepted acronyms and synonyms

Fragaria chiloensis latent virus (FCiLV); syn: Potato yellowing virus, Family *Bromoviridae*, Genus *Ilarvirus*

b. Host range, including resistance or tolerance within the crop hosts, alternate hosts

The virus is latent in *Fragaria chiloensis*, and *F. x ananassa*, but did cause mild in *F. vesca* 'UC-4'. The can be transmitted mechanically to *Chenopodium quinoa*, *C. amaranticolor* and *Cucumis sativus*. The potato strain (Potato yellowing virus) is aphid transmissible (Sylvestre et al., 2020) but such experiments have not been done with the strawberry isolates

c. Symptoms on crop host including varietal differences with images of symptoms when available

The virus causes mild chlorosis and leaf distortion in *F. vesca* 'UC-4'. On *Cucumis sativus* it causes chlorosis of the cotyledons and true leaves. FCiLV is symptomless in *F. chiloensis* and there is little information on symptoms in commercial cultivars of strawberry.

d. Geographic distribution:
Isolated from *F. chiloensis* plants collected in southern Chile (Spiegel et al., 1993) and has been detected at low levels in the upper Midwest of the United States (Martin and Tzanetakis, 2013).

e. Means of spread:
The virus was seed transmitted in *F. chiloensis*, 23/42 seedlings grown from seeds collected from an infected plants tested positive for FCiLV (Spiegel et al., 1993).
Methods of field spread have not been determined.

f. Recognized diagnostic tests with cited references:
FCiLV can be detected by ELISA (Spiegel et al., 1993) and by RT-PCR or immunocapture RT-PCR (Tzanetakis et al., 2005).

g. Sampling recommendations for each pathogen including timing and tissue to be sampled

h.

The youngest fully expanded leaves collected early in the growing season or in the autumn should be used for detection. Three leaves per plant should be used for detection by ELISA or RT-PCR.

i. Management strategies for the pathogen and the vector(s) of the pathogen

The use of virus-indexed planting stock is the most critical step in virus management. In annual production systems, viruses are less importance especially in areas where there is a strawberry free period between production cycles.

References:

Martin, R. R. and Tzanetakis, I. E. 2013. High risk strawberry viruses by region in the United States and Canada: Implications for certification, nurseries, and fruit production. Plant Disease 97:1358-1362.

Spiegel, S., Martin, R. R., Legget, F., ter Borg, M. and Postman, J. 1993. Characterization and geographical distribution of a new ilarvirus from *Fragaria chiloensis*. Phytopathology 83:991-995.

Silvestre, R., Fuentes, S., Risco, R., Berrocal, A., Adams, I., Fox, A., Cuellar, W.J. and Kreuze, J., 2020. Characterization of distinct strains of an aphid-transmitted ilarvirus (Fam. Bromoviridae) infecting different hosts from South America. Virus Res. 282: 197944

Tzanetakis, I. E. and Martin, R. R 2005. New features in the genus Ilarvirus revealed by nucleotide sequence of Fragria chiloensis latent virus. Virus Research 112:32-37.

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