2012/13 Strawberry Virus Issue

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2012/13 Strawberry Viruses

In the Fall of 2012, reports from some Florida, North Carolina, Virginia and Maryland’s annual strawberry growers began seeing unusual growth in several common varieties grown for this system. Some plants were not growing as fast, some exhibited premature reddening of older leaves and leaf margins of both old and new leaves were yellowed.

Fungal root pathogens, nutritional toxicities and/or deficiencies were all look at as possible causes. Subsequent plant samples were sent to a West coast lab for possible virus infections.

Strawberry Mild Yellow Edge Virus (SMYEV) and Strawberry Mottle Virus (SMoV) were detected in samples submitted from the four states. To a lesser extent Strawberry Necrotic Shock Virus (SNSV) was found in some samples.

Strawberry plant material used for Fall planting can come from several sources within the USA and Canada. The Great Valley area of Nova Scotia which supplies some of the material used in the USA was found to be the source of the virus infection we are seeing.
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If we have it, what can we do?

These viruses are well known as strawberry viruses. Many plants with just one of these viruses will never show any symptoms and it’s impact on strawberry quality and yield appears to be nominal.

However, when strawberry plants have virus complexes (more than one type of virus) we begin to see symptoms, such as we are seeing now and yield reductions may be from 0-30%.

Strawberry Mild Yellow Edge Virus (SMYEV) is aphid transmitted, primarily through the strawberry aphid, *Chaetosiphon fraegolii*, and two related species *C. thomasi*, and *C. jacobi*. There are no known alternate host for this virus. This virus is “persistent, circulatively-transmitted” (aphid needs to feed for long time, but stays with the aphid for long time).

Strawberry Mottle Virus (SMoV), is also aphid transmitted (*C. fraegaefolii*, several other *Chaetosiphon* species, and the melon aphid, *Aphis gossypii*). Alternate host include several species of *Chenopodium*, including common lambsquarters. This virus is “semi-persistently transmitted” (aphid can pick up the virus quickly, but loses the virus quickly as it probes).

Strawberry Necrotic Shock Virus (SNSV). Not found in all samples, seed and pollen transmitted. Not sure how this on may contribute to plant performance.
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If we have it, what can we do? (cont.)

The biggest threat would be movement of the virus by aphids into other strawberry fields with perennial plantings being most at risk, but also having SMoV moving into on-farm weeds.

Treat for aphids, if you have Strawberry aphids.

Do not consider the field lost if you have plant symptoms. You should continue to manage the field as you have been doing from a fertility, freeze/frost and disease protection perspective.

At this point, we do not know what nursery producers may offer in compensation if any. And the only way to know what kind of loss you may incur is to take the crop through harvest with all the necessary inputs.

The Canadian plant producers are aware of the problem and are taking steps to reduce this type of outbreak. The Canadians do not want to loss the US customer base for their plants.
Questions