

## Greenhouse and some early ornamental diseases

### Special points of interest:

- *Virus issues in greenhouse plants threaten ornamental beds and gardens. Action was taken to stop the dispersal of the potential virus outbreaks.*
- *Wheat crop moves forward with rains and mild temperatures. Wheat Streak Mosaic is a big issue in central Kansas.*

Contributions from Jeremy Maples, Cherie Copeland, and Tom Sanders, KDA and Erick DeWolf, KSU extension.

The last month has been busy for staff with greenhouse and retail lot inspections. A few uncommon diseases have been found along with the more common diseases of gray mold and damping off issues. For the most part, plant material appears relatively healthy and I attribute this to the mild winter and very favorable growing conditions. Of course, the growers deserve a lot of the credit.

I want to cover a few of these diseases that normally don't make an appearance annually. The first one that I will cover is **Cucumber Mosaic Virus CMV**. This virus was identified from Wandering Jew, propagated at a major greenhouse operation. Symptoms (arrows) included leaf deformation with edge curling and leaf stunting and mosaic of the leaf color. CMV has a very wide host range including many vegetables and can easily be transmitted via aphids or by sap transmission with cuttings or other means. CMV can also spread through the seed and parasitic plants. A concern with a disease of this nature, is the close proximity during growth to other host species including many garden plants. From one lot of infected plants, literally hundreds of new plants can become infected nearby. When



sold in the spring, these plants then can spread the disease to gardens and other plantings.

The next disease is **Tobacco Mosaic Virus TMV**. This virus is similar to CMV with having a wide host range and sap transmissible. This disease was found in petunia in a large operation and likely to have been brought in via the propagation cuttings from an outside source. TMV is very stable and can last many years in plant debris and then spread by human activity on hands and tools to living plants. The disease symptoms on this species were light yellow to white ring spots and curling of leaves. In addition to the CMV and TMV concerns, **Impatiens Necrotic Spot** was found and destroyed in several coleus plantings. This virus



again has a wide host range and is easily transmitted by the western flower thrips and propagation. It is responsible for hundreds of thousands of dollar loss if not millions here in the state.

In retail lots, the first major disease of the season was found in plants shipped into Wichita from Oklahoma. The disease was believed to be **Pseudomonas blight** on Bradford pear. It looks very similar in appearance to fire blight on apples with the Sheppard's crook of new shoots. Cool spring weather is ideal for symptom development. Other hosts include cherry, maple, and lilac. Bacterial streaming in affected tissue indicated disease but an ELISA test was not done to distinguish it from fire blight.



PLANT PROTECTION AND WEED CONTROL  
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## INVASIVE SPECIES

## Plant Protection and Weed Control Program

Plant Protection and Weed Control staff work to ensure the health of the state's native and cultivated plants by excluding or controlling destructive pests, diseases and weeds. Staff examine and analyze pest conditions in crop fields, rangelands, greenhouses and nurseries. Action taken to control potential infestations of new pests, whether they are insects, plants diseases or weeds, is beneficial to the economy and the environment.

### Our Mission is to:

- Exclude or control harmful insects, plant diseases, and weeds;
- Ensure Kansas plants and plant products entering commerce are free from quarantine pests;
- Provide customers with inspection and certification services.

The Plant Disease Survey in Kansas has been conducted since 1976. The survey addresses disease situations in field crops, native ecosystems, and horticultural trade. The Kansas Department of Agriculture works cooperatively with Kansas State University and Extension programs, United States Department of Agriculture, and various commodity groups.

## Wheat and disease conditions

The month of April has been interesting for many in wheat country. The wheat is about three weeks ahead of normal development in many areas, wheat virus issues have been significant, and tornadoes highlighted last weekend across much of Kansas.

I am going to stick with wheat diseases although I saw some damage in central Kansas from tornadoes that was interesting. **Wheat streak mosaic WSM** has really shown up this year in central Kansas counties. Quite frankly, the extent of it is much more than I expected. Last summer and fall, survey saw

very few fields of volunteer because of the dry conditions. Apparently there was enough to infect the new crop because of large acreages are being reported in central Kansas currently. It is possible the mild winter led to continued spread in these fields as cold weather puts a stop to the mite that transmits the disease. Personally I have seen numerous fields in Rice, Ellsworth, Russell, and McPherson with the disease but many more counties have been reported. Incidences in many of these fields are 60-100 per cent .

Last year, we saw an outbreak

in some of the NC and NW counties with WSM and also **Barley Yellow Dwarf**. BYD levels are way down so far this year but some reports have been made in Brown and Nemaha counties.

Growers also need to be aware of a couple foliar diseases. **Tan spot** is more active this year than in years past. Conditions must have ideal in March for the fungus to infect the crop from last years debris where it overwinters. Another disease of importance is **Stripe Rust** or Yellow Rust. It was reported in late March by KSU Extension. In some of my trav-

These observations tend to make us think the disease overwintered in the state which is unusual. Again the mild winter likely allowed the rust to overwinter. Yellow rust is now on mid canopy leaves. Some **leaf rust** is also being reported.

At this time wheat is flowering or in head in many areas of the state. Yields will be affected in the central production of the state from WSM and we are taking a wait and see with western Kansas. Stripe rust and tan spot also have potential to produce losses. **Root nematode** assay is ongoing and we expect to have loss numbers of 1-2%.