



Plant Disease in Kansas

Thousands of Petunias Destroyed because of Tobacco Mosaic Virus

Special points of interest:

- *Tobacco mosaic threatens greenhouse production of ornamental and vegetable plants in Kansas.*
- *Pine wilt clean up time is here.*
- *Wheat health, still in dormancy.*

Since mid February, KDA staff have been working tirelessly with several production greenhouse operations regarding virus infected petunias.

The Kansas greenhouses unknowingly received TMV plants from Dummen Corporation Las Mercedes plant in El Salvador. These petunias were cleared by USDA inspectors at the Miami port and then shipped to Kansas production facilities. Dummen initially informed select greenhouses of a possible problem with one variety in early January. Unknown to Dummen, the infection in their production facility was more widespread than initial evaluation tests revealed.

As of this report, KDA has identified almost 30 varieties or planting combinations of the Red Fox brand and ordered destruction of thousands of petunias with TMV. Kansas Plant Pest Freedom Standards have a 0% tolerance for TMV.

In addition to facilities in Kansas that received *cuttings for rooting* directly from Dummen El Salvador, other Kansas greenhouses have received *rooted cuttings* that indirectly came from El Salvador. These rooted cuttings were sourced from Welby Greenhouse in Colorado and Timbuk II in Ohio. Many of these have been tested TMV positive and again of the Red Fox brand. KDA staff is now focusing on identifying those operations and working with the operators in containing the virus. Later in the spring as retailers fill up, staff will be monitoring sale lots for

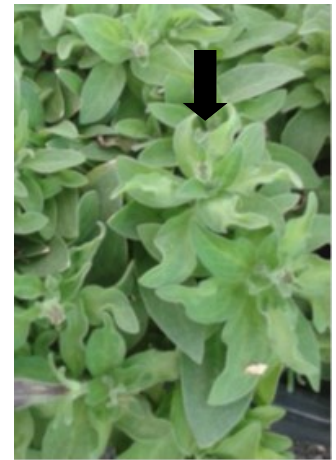
TMV infected plants. Many of these plants come from neighboring states that lack inspection programs.

Dummen has since stopped shipping plants from El Salvador and now sourcing orders from other facilities in the world that are TMV free.

Tobacco mosaic virus is transmitted plant to plant by tools and worker hands or by propagative material. In some species, seed transmission is known. The virus is highly contagious in sap and growers once the virus is detected must make concerted efforts to sanitize such things as pots, door knobs, knives, benches, etc...to keep the sap transmitted virus from infecting other plants. The virus has an extremely wide host range including the majority of ornamental and vegetable bedding plants and can remain dormant for years in plant debris unlike other viruses. The virus is a documented threat in food production systems of tomato, pepper, potato, and soybeans. TMV does not infect wheat or corn.

Petunia TMV symptoms include leaf mosaic and vein clearing, leaf margin curling or distortion, puckering, stunted plants, and are susceptible to damping off since the plants grow poorly. Infection of other species of plants have not yet been ob-

served in Kansas facilities and attributed in large part to efforts of greenhouse operators and KDA staff to limit the disease by inspections, testing, and best management practices. Below is an image of petunias with the leaf margin curling symptom (Dummen) .



Tomatoes plants if infected in greenhouses will go to consumers and will be stunted and bear few fruit. Below is an image of a TMV infected tomato leaf. The virus has caused puckering, leaf necrosis, and distorted leaf margins (source unknown).



PLANT PROTECTION AND WEED CONTROL
PROGRAM

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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.



INVASIVE SPECIES

Now is Time for Pine Wilt Clean Up!

PINE WILT: As spring is nearing, it is a great time to scout for pine wilt infected trees.

Landowners or property managers will want to remove these infected trees (mugo, Scotch, and Austrian pines) from their property and properly dispose of said trees. The sawyer beetle that transmits the disease causing plant feeding nematode, emerges as young adults from tree trunks and branches beginning in mid-May and into early July. By removing PWN trees and destroying the wood before sawyer insects emerge, the disease cycle is broken and transmission is stopped for the following year.

Landowners should look for PWN trees that are dead and needles attached (see photo). Contact your local extension agent for help in sampling to confirm the disease. Wood should be disposed in the local county land fill, burned, chipped, or buried.



Wheat still in dormancy

WHEAT: Cold weather still has a strong grip on wheat fields throughout the state. Recent warm up of two weeks ago allowed some green up of fields till temperatures again plummeted to 0 F or below. In fields observed in central Kansas during the warm up, wheat appeared to have some winterburn/browning on terraces and hill tops as compared to green areas less exposed. It was difficult to distinguish how severe the cold injury was to the crown of the plant.

In fall wheat survey, wheat streak mosaic was found in a low percentage of fields in central and western Kansas at less than 2% field incidence. Cold winter weather has cleaned up leaf rust and tan spot leaf infections from the fall by pruning back leaf tissue shedding the majority of fungal infections. Kansas farmers are anxiously awaiting warmer temperatures and new growth with the coming Spring to assess the wheat crop.