



Integrated community outreach programming to prevent spread of pine wilt into western Kansas

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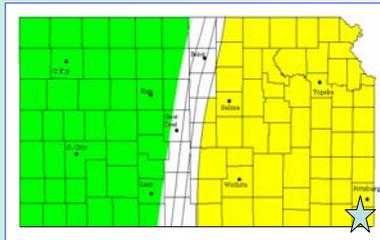
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History, current status, and future risk of pine wilt in Kansas

Pines represent an important component of the tree population in Kansas. The trees are highly valued in urban and farmstead settings as a landscape tree. They are common in windbreaks around farms and in large scale conservation plantings. Pine wilt, caused by the pinewood nematode (*Bursaphelenchus xylophilus*) and spread by the pine sawyer beetle (*Monochamus carolinensis* and other *Monochamus* spp.) is a fatal disease and poses a threat to Scots (*Pinus sylvestris*) and Austrian (*P. nigra*) pines in these plantings. Pine wilt was first discovered in 1979 in southeast Kansas (see star on map).



Pine trees killed by pine wilt

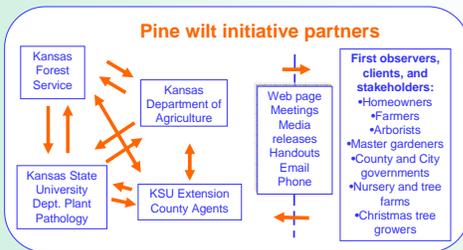


Since 1979, The disease has moved west at approximately 10 miles per year, killing thousands of pines, and is now present approximately halfway across the state. The yellow area on the map represents where pine wilt is already widespread. The white area is the transition zone. The green area is pine wilt free except for a few isolated introductions that have been eradicated.

Pine wilt initiative

The pine wilt initiative was begun in 2007 to help mitigate the risk of pine wilt in western Kansas. The initiative includes multiple partners. Timely sanitation (removal and destruction of infected pines) will reduce the likelihood of establishment in western KS plantings, where tree resources are scarce and thus highly valued. We have developed printed materials in English and Spanish (to reach a growing Spanish-speaking population in southwest Kansas). We have held several community-based workshops with homeowners, arborists, and city foresters to raise awareness of pine wilt and train them as early detectors.

The program closely integrates university, forest service, regulatory, and county personnel in addition to private tree care professionals and private landowners.



Surveillance plan

Resources from the Kansas Department of Agriculture (KDA), Kansas Forest Service (KFS), Kansas State Research and Extension (KSRE) county personnel, and first observers such as homeowners, arborists, and master gardeners are being used to monitor pine health in the pine wilt free area. Surveillance is conducted primarily from July 1 through December when symptoms are most likely to arise.

- Significant pine plantings in the border counties (white zone on map) have been identified. These plantings are at high risk and can serve as sentinel sites. KFS Rural Foresters have been key personnel.
- Other suspect pine samples (from homeowners, county Extension personnel, arborists, etc) are handled by the Plant Disease Diagnostic Clinic at KSU.
- Traps have been set in pine plantings to monitor for the pine sawyer beetle. (KDA)
- An update of results and areas surveyed is compiled and distributed to parties on at ~1 month intervals by the KDA.
- Pine samples collected by Kansas Forest Service are forwarded to KDA for analysis.

Field days and winter meetings

We have discussed pine wilt at numerous field days during the growing season. Special "pine nights" have been held to educate homeowners about pine problems. In addition, we have worked with the Kansas Arborists Association, the Kansas Christmas Tree Growers' Association, and the Kansas Nursery and Landscape Association to incorporate information about pine wilt into their summer field day events and winter educational conferences.



Concerned homeowners participate in Pine Night educational meeting in McPherson KS. Pine wilt is new to this area of Kansas.

Four special Pine Wilt Initiative meetings have also been held. The area around Hays, KS, was considered at high risk and therefore a pilot session was held in January 2007 with arborists, city tree board members, KFS and KSRE personnel, and homeowners. Trained KFS and KSRE personnel discovered infested pine trees in 2007 and 2008 which were then destroyed.

In February, 2008, three additional meetings were held in Mitchell, Barton, and Stafford counties with various partners. KDA worked with KSRE to scout and remove trees at one infested site in Pratt County. These sites are all just west of the white transition band on the map.

Publications

Several publications have been developed for different audiences. All materials are available in print and online.

- General fact sheet: *Pine Diseases in Kansas*. This revision of an older document is targeted at all audiences. It includes color images to help readers distinguish among the major pine diseases and environmental stresses. There was a major outbreak of Diploelia tip blight/canker in spring 2007 and this publication continues to help people distinguish between severe tip blight and pine wilt.



Front side of door-hanger

- Door hanger: This publication is intended for survey personnel to leave at residences where a suspected pine wilt infested tree has been observed.

- A Spanish-language fact sheet, *Preveniendo la marchitez del pino, una amenaza para árboles importantes en Kansas*, was developed in association with a native Spanish speaking graduate student. It was distributed to county KSRE personnel in southwest Kansas where there is a large Spanish-speaking population.



Pine diseases fact sheet

Challenges, Solutions, & Opportunities

The area of interest (western Kansas) is large and there are numerous locations to survey.

The general public needs to be educated about the potential impact of this disease, including an increasing number of Spanish and Vietnamese speakers in southwest Kansas.

Some landowners may be reluctant to participate in tree destruction/removal efforts due to costs or other reasons.

- We have a good understanding of the current location of the disease.
- We have identified and trained partners to aid in surveillance.

- Publications suitable for the general public have been developed, distributed, and made available on the internet. Spanish-language materials have been developed. Materials in Vietnamese should be pursued.
- The general public has been targeted at meetings as well as radio announcements and newspaper articles.

- Current Kansas plant health regulations and KDA Pest Emergency funds can be used to facilitate sanitation efforts and pay for tree removal by arborists.
- Most landowners are good stewards of the land and have been highly cooperative.