2012 DATCP WISCONSIN CROP DISEASE SURVEY

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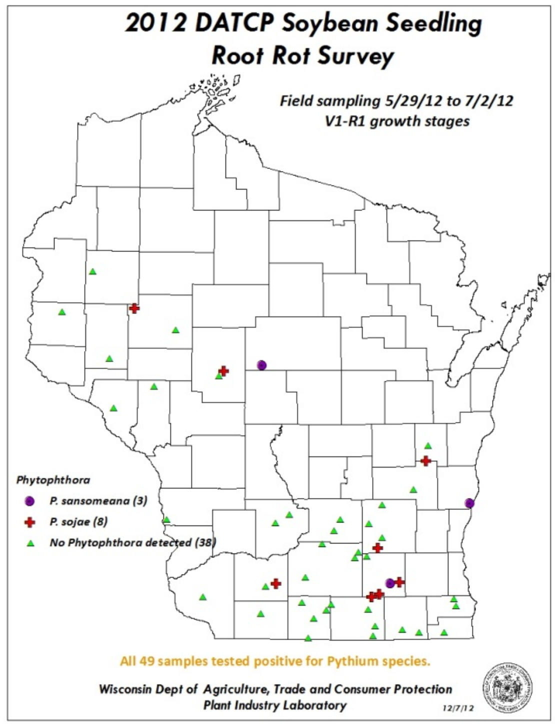
The Pest Survey Program of the Wisconsin Department of Agriculture, Trade and Consumer Protection conducts monitoring and detection surveys for targeted exotic and key endemic agricultural and wildland plant pests. For more information on programs and results, please visit http://pestsurvey.wi.gov/

Phytophthora Root Rot of Seedling Soybeans

A new Phytophthora species was detected in Wisconsin soybean fields during the annual early season survey for soybean root rot diseases. Soybean roots from three fields in Jefferson, Marathon and Sheboygan counties tested positive for *Phytophthora sansomeana*, a species of Phytophthora previously unreported on soybean in Wisconsin. From May 29 to July 2, 49 randomly selected soybean fields in early vegetative stages were visited throughout Wisconsin. At each field, 20 soybean plants were carefully dug up and transported to DATCP's Plant Industry Laboratory for testing.



Seedling roots were tested for the presence of the Phytophthora and Pythium pathogens using DNA-based techniques. Out of 49 total samples, eight (16%) tested positive for *P. sojae*, the primary causal agent of soybean root rot in Wisconsin. Three of the 49 samples tested positive for *Phytophthora sansomeana*.

It remains to be seen what effect this new species has on soybean production in Wisconsin and if resistance to *P. sojae* will also be effective against *P. sansomeana*. The reported host range of the pathogen besides soybeans includes corn, white cockle and white clover and Douglas fir. Plant Industry Laboratory reported isolation of the organism from Fraser firs grown in Wisconsin for Christmas trees in 2011.

All samples also tested positive for a variety of Pythium species, and most of these species are known to cause damping-off in soybeans.
More information on soybean plant health and root rot caused by *P. sojae* can be found at this University of Wisconsin website: http://www.plantpath.wisc.edu/soyhealth/prr.htm.

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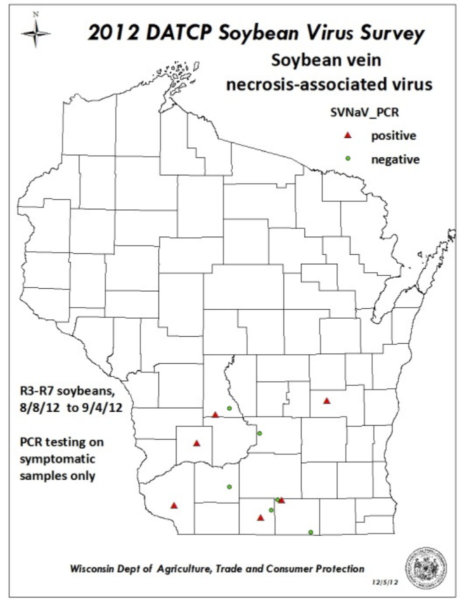
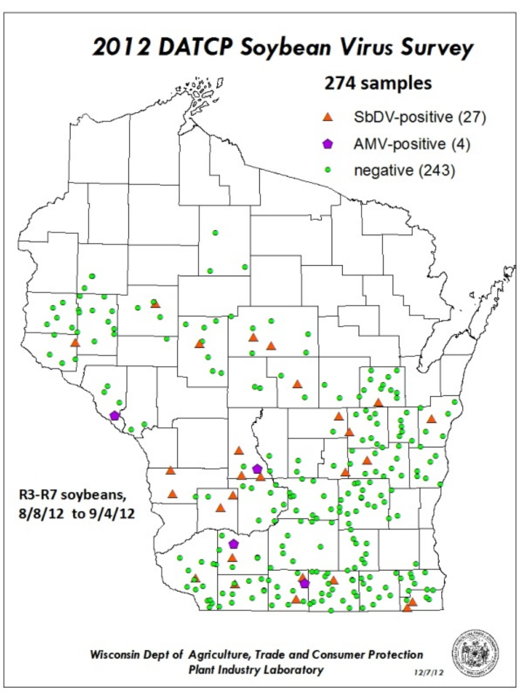
Soybean Virus Survey

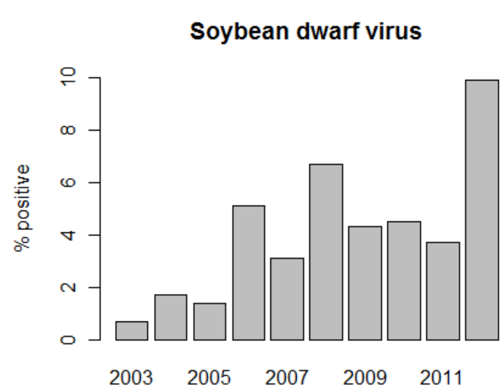
A new virus, the soybean vein necrosis-associated virus (SVNaV), was detected in Wisconsin soybean fields in summer of 2012. Soybean leaflets with unusual symptoms alerted UW researchers and DATCP Plant Pathologists to check for this virus, which that was first found in TN in 2008. The DATCP summer survey collected 274 soybean samples from soybean growing counties in the state (August 8 to September 6). A subset of six leaf samples that showed vein necrosis and chlorosis tested positive for SVNaV. SVNaV is a tospovirus, a group of viruses that are often transmitted by thrips. How SVNaV spreads in soybeans needs to be studied further. UW and DATCP are collaborating on this survey for SVNaV. See this UW article by Profs. D. Smith and K. Willis



http://fyi.uwex.edu/fieldcroppathology/files/2012/10/SVNaV.pdf

Plant Industry Laboratory continued a multi-year survey for virus diseases of soybeans using RT-PCR. Twenty-seven (9.9%) samples tested positive for soybean dwarf virus (SbDV). This is an increase from 2010 (7.7%) and 2011 (3.7%).

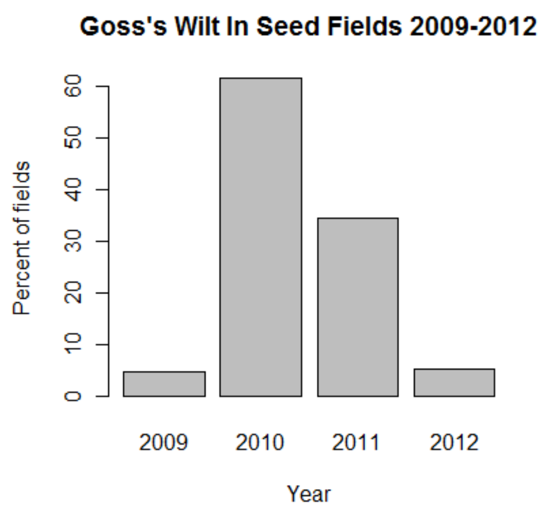




Detection of AMV was comparatively low in 2012, with only 4 samples testing positive. Statewide average soybean aphid counts were at the lowest level since the original detection in 1999.

Seed Corn Survey

A total of 57 corn samples from seed plots in five counties (Columbia, Dane, Eau Claire, La Crosse, and Rock) were tested to meet export requirements. Stewart's wilt (caused by *Pantoea stewartii*) was not detected in any sample. Three of the 57 samples (5%) tested positive for Goss's wilt (*Clavibacter michiganensis* pv. *nebraskensis*). In 2012 Goss's wilt was found in Dane, Eau Claire, and La Crosse Counties. Wheat streak mosaic virus (WSMV), maize dwarf mosaic virus (MDMV) and high plains virus (HPV) were not detected in corn. WSMV and its vector the wheat leaf curl mite are not known to occur in Wisconsin.



Soybean Cyst Nematode Survey

No new counties were confirmed for soybean cyst nematode in 2012, leaving the number of Wisconsin counties where the nematode is known to occur at 50, comprising 92% of the soybean acreage in the state. Soybean growers in any part of the state are strongly urged to test fields for the presence of soybean cyst nematode. Information on testing is available at http://soybean.uwex.edu/documents/SoybeanCystNematodeSampling_2011b.pdf