

Wisconsin Pest Survey Report

2013 SOYBEAN VIRUS SURVEY

In 2013 the annual soybean disease survey tested for three viruses and scouted for Asian soybean rust (*Phakopsora pachyrhizi*), frogeye leaf spot (*Cercospora sojina*) and any other unusual pest or disease encountered in fields. The Plant Industry Bureau Laboratory tested samples for soybean vein necrosis-associated virus (SVNaV), a virus that was identified in Wisconsin for the first time in 2012 (1), soybean dwarf virus (SbDV), a virus that the pest survey team has been tracking since 2003 (2) and alfalfa mosaic virus (AMV), a common virus in soybeans and many other crops and ornamentals. Asian soybean rust or frogeye leaf spot were not detected in 2013.

The pest survey team collected leaves from Aug 8 to 30, when most fields were in the R3-R6 stages. 151 fields were surveyed and sampled in 2013 following standard protocols described previously on this website, see pest survey report “Updated-2012 Soybean Virus Survey”.

The percentage of SbDV infected fields (9.3% or 14 of 151) remained fairly constant with last year’s 9.9%. SVNaV was found in 11.9% (18 of 151) of fields compared to a very high 35.4% in 2012. Although both viruses were fairly common in 2013, only SVNaV was observed to cause symptoms like vein necrosis and chlorosis, and many of the SVNaV positive testing samples were not symptomatic. This tospovirus, probably vectored by thrips, has been widely reported throughout the Midwest in the last two years. DATCP is collaborating with Prof. Damon Smith UW-Madison on further research.

Alfalfa mosaic virus (AMV) was detected in 5.3% (8 of 151) of the surveyed fields, higher than in 2012 when 1.5% of the fields were found infected with AMV. Over the last 10 years, AMV reached its highest levels in 2009, 2010 and 2011 with 19.2%, 12.9% and 11.6% of sampled fields testing positive. This virus is seed transmitted and vectored by several aphids found in Wisconsin.

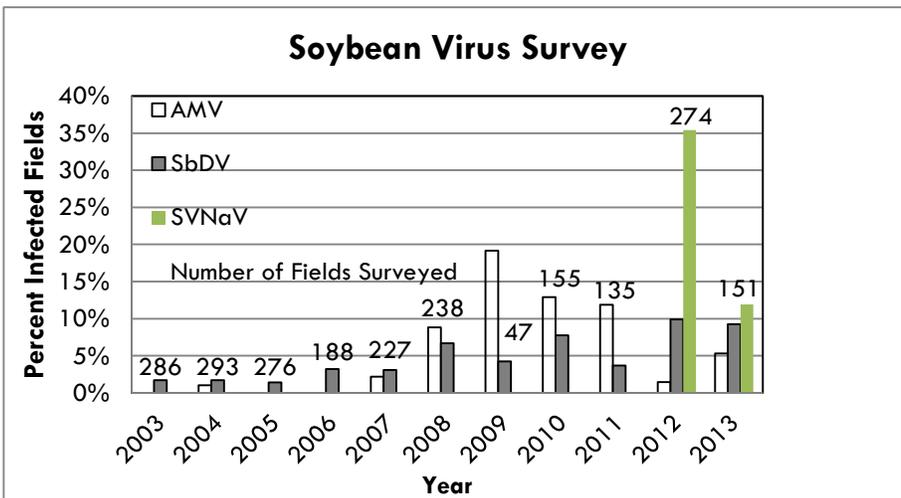
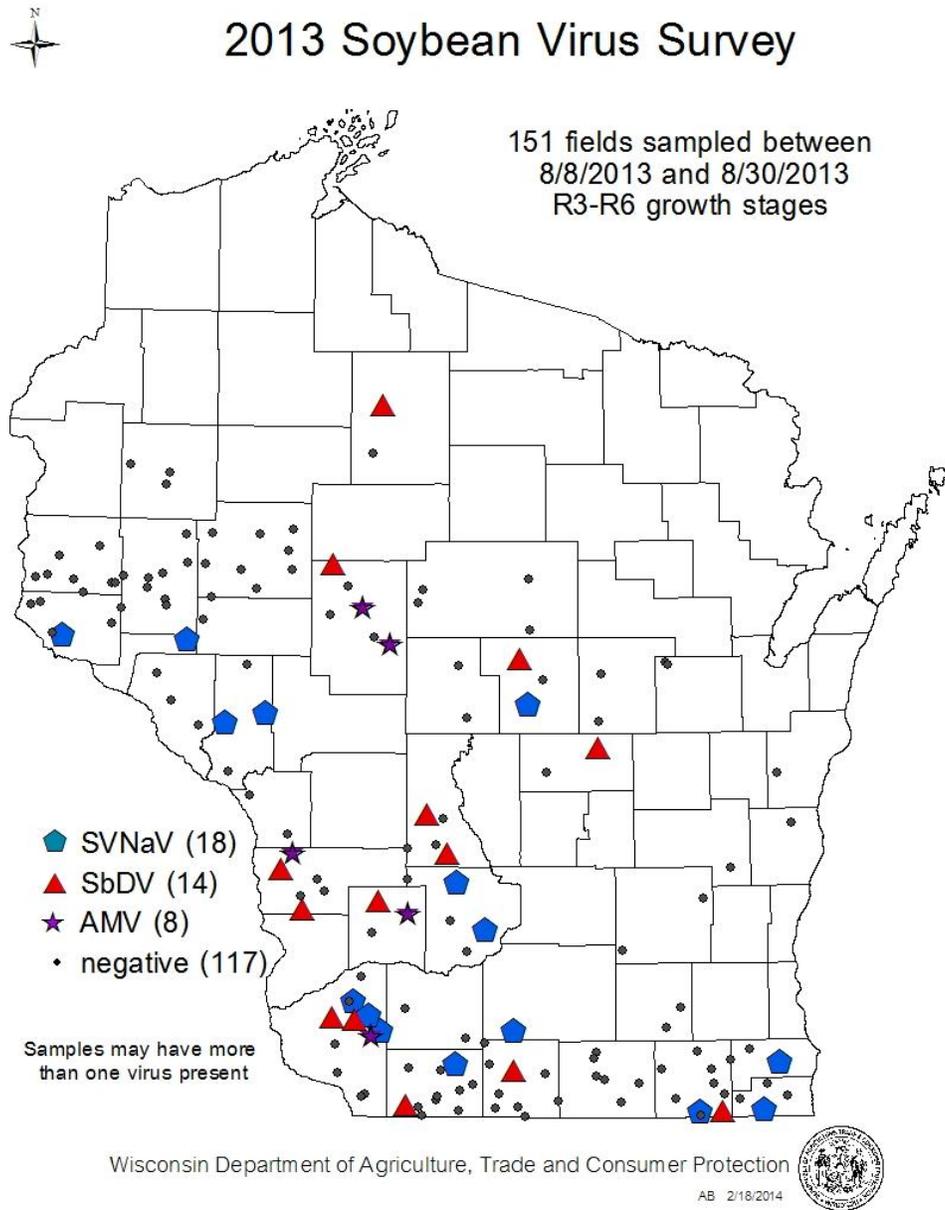


Figure 1 shows the total number of fields inspected each year and the percentage of fields that tested positive for AMV, SbDV and SVNaV from 2003 to 2013.

2012 and 2013 presented almost opposite growing conditions from the start. An early spring, followed by severe drought in 2012 created perfect conditions for certain pests and apparently also soybean vein necrosis disease. In 2013 we experienced a late and wet start to the growing season, conditions that delayed planting and soybean development throughout the season (3).



References

1. Smith et al. Plant Dis. 97: 693, 2013.
2. Phibbs et al. Plant Dis. 88:1285, 2004.
3. Wisconsin Crop Progress. December 2013. USDA NASS.

Authors:

Anette Phibbs, DATCP PIB LAB anette.phibbs@wisconsin.gov, Phone: 608-224-4600, Adrian Barta, Susan Lueloff.