

Wisconsin Pest Survey Report

2011 PHYTOPHTHORA ROOT ROT SOYBEAN SEEDLING SURVEY

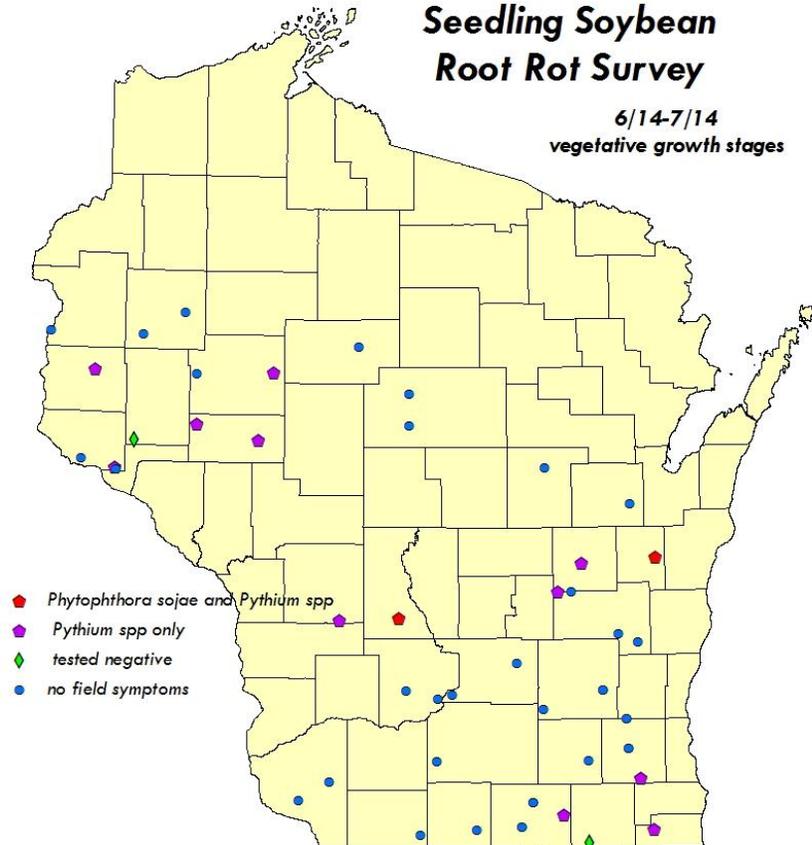
<http://pestsurvey.wi.gov/>

2011 was the fourth consecutive year in which the DATCP Pest Survey team conducted a statewide survey for Phytophthora root rot of soybeans caused by *Phytophthora sojae*. From June 16 to July 9th, 50 randomly selected soybean fields in early vegetative stages were visited throughout Wisconsin. While fields were selected randomly, surveyors chose seedlings from areas within each field that showed stunting or wilt symptoms.

Symptomatic seedlings were carefully dug up and transported to DATCP's Plant Industry Laboratory for testing. Symptomatic plants were observed in only 15 of the 50 fields visited.

2011 DATCP Seedling Soybean Root Rot Survey

6/14-7/14
vegetative growth stages



Wisconsin Dept of Agriculture, Trade and Consumer Protection



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Seedling roots were tested for the presence of the root rot pathogen, *P. sojae*, with molecular methods (PCR=polymerase chain reaction) using DNA extracted directly from symptomatic soybean root tissue. Two out of 15 samples tested positive for *P. sojae*. Historically *P. sojae* is known to occur in all soybean growing regions of the state. 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>.

Further PCR testing showed that 13 out of 15 soybean root samples processed were infected with *Pythium*. Two samples were infected with both *P. sojae* and *Pythium*. Sequencing allowed for the identification of several of these species as *Pythium*

arrhenomanes, *P. ultimum*, and *P. sylvaticum*. All three are pathogenic on soybean seed and seedlings.

Sequencing also revealed a new Phytophthora species described in 2009, *Phytophthora sansomeana*, a new pathogen on soybeans (Indiana) and corn (Ohio). In fall of 2011 this species was found by the authors on Fraser fir trees during a survey for root rot diseases of Christmas trees. No *P. sansomeana* was detected during the 2011 survey in soybean fields but we expect to continue checking for this emerging disease in 2012.

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