

2009 PHYTOPHTHORA ROOT ROT SURVEY OF SOYBEAN SEEDLINGS

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

In 2009, the pest survey team conducted a statewide survey for *Phytophthora* root rot (*Phytophthora sojae*) of soybeans for the second consecutive year. Cool spring conditions deferred the start of the survey to the second week of July. From July 6 to 17, fifty randomly selected soybean fields in early vegetative stages were sampled throughout Wisconsin. While fields were selected randomly, surveyors chose seedlings from areas within each field that showed declining soybean seedlings. Symptomatic seedlings were carefully dug up and transported to DATCP's Plant Industry Laboratory for testing.

Seedling roots were tested for the presence of the root rot pathogen *Phytophthora* by culturing on semi-selective media and molecular methods (polymerase chain reaction, PCR). Results of culturing revealed only 3 out of 50 samples tested positive (6%). Results from molecular testing (PCR) of DNA extracted from cleaned root tissue showed 9 of 50 samples (18%) tested positive for *Phytophthora sojae*. For comparison, in 2008, 10 of 50 samples (20%) tested positive by PCR and only 4 (8%) cultures could be identified by morphology. Not surprisingly, PCR is a more effective method to determine seedling infections with this pathogen.

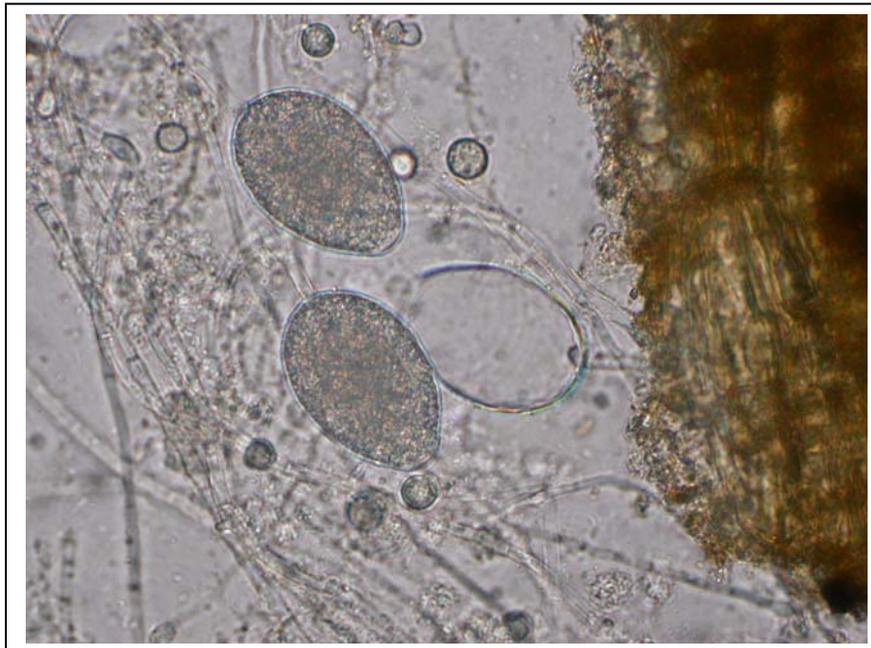


Figure 1. Sporangia of *Phytophthora sojae* growing out of soybean root tissue.

P. sojae infected fields were found in all soybean-growing regions of the state.

Roughly one fifth of randomly surveyed fields, tested positive for *P. sojae* consistently over two years.

More information on soybean plant health and root rot caused by *Phytophthora sojae* can be

found at this website: <http://www.plantpath.wisc.edu/soyhealth/prr.htm>.

