

2016
CROP DISEASE
Surveys

DATCP Plant Industry Bureau Laboratory
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CROP DISEASE SURVEY IN 2016

Overview

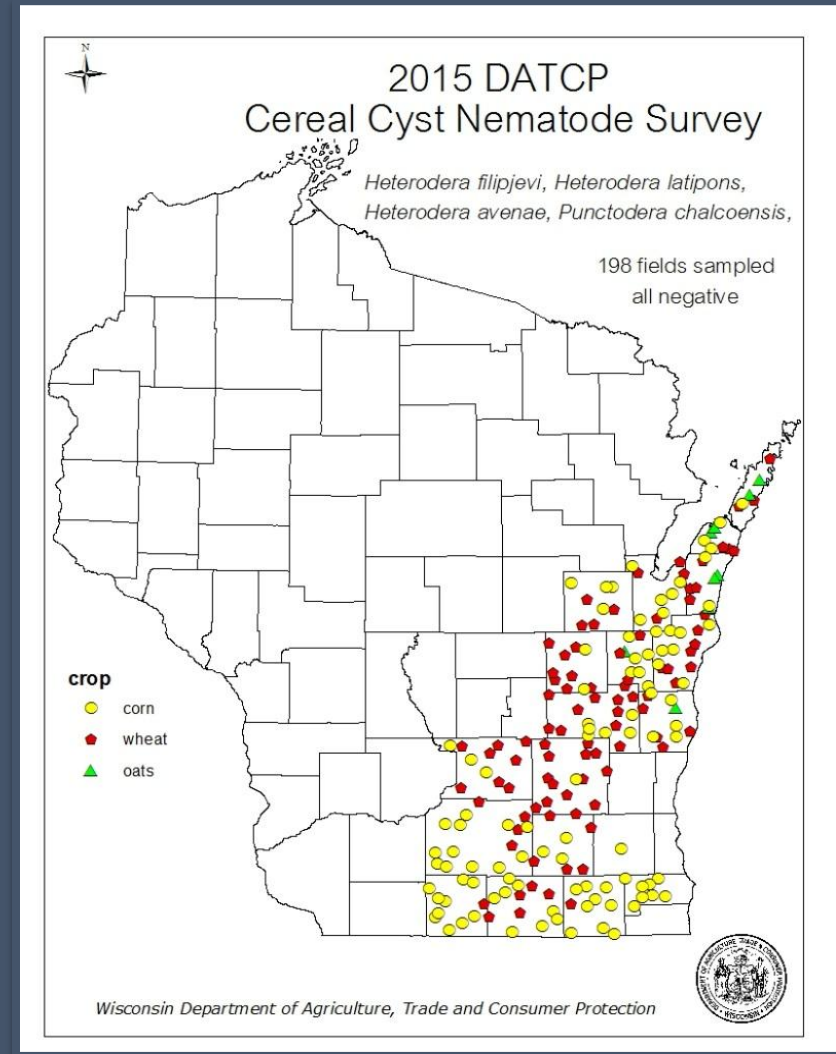
- Cereal cyst nematodes
- Soybean cyst nematode
- Phytophthora of soybeans
- Emerging corn diseases
- Emerging potato diseases



CEREAL CYST NEMATODES

- CAPS survey of field soil for:
- Exotic cereal cyst nematode
Heterodera filipjevi
- Mediterranean cereal cyst nematode
Heterodera latipons
- Mexican corn cyst nematode
Punctodera chalconensis

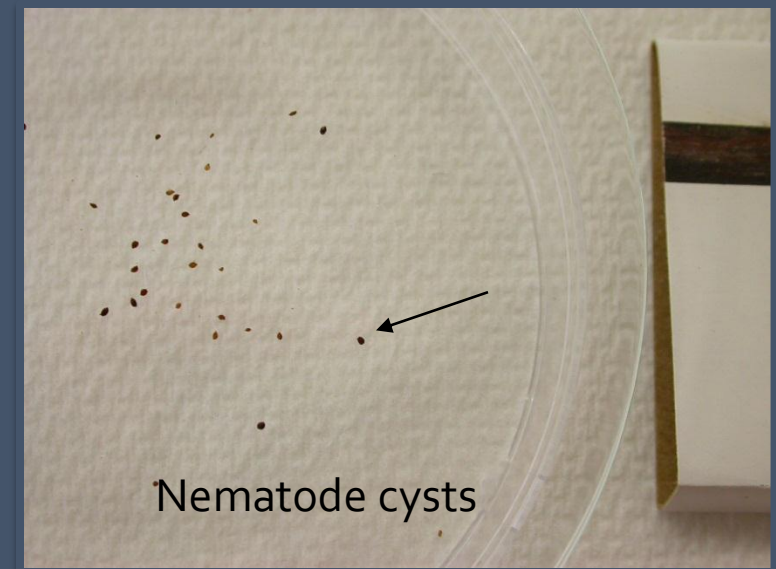
- No exotic cereal cysts found including cereal cyst nematode
Heterodera avenae



CEREAL CYST NEMATODES

- 198 Total fields surveyed (91 wheat, 9 oat 98 corn)
- Soybean cyst nematode
Heterodera glycines in 15% (29 fields).
- Clover cysts
Heterodera trifolii in 2.5% (5 fields).
- *Cactodera spp.* in 6% (12 fields).
- Most *Cactodera spp.* on non-crop hosts:
knotweed, lambsquarter, cactus.

BUT ONE



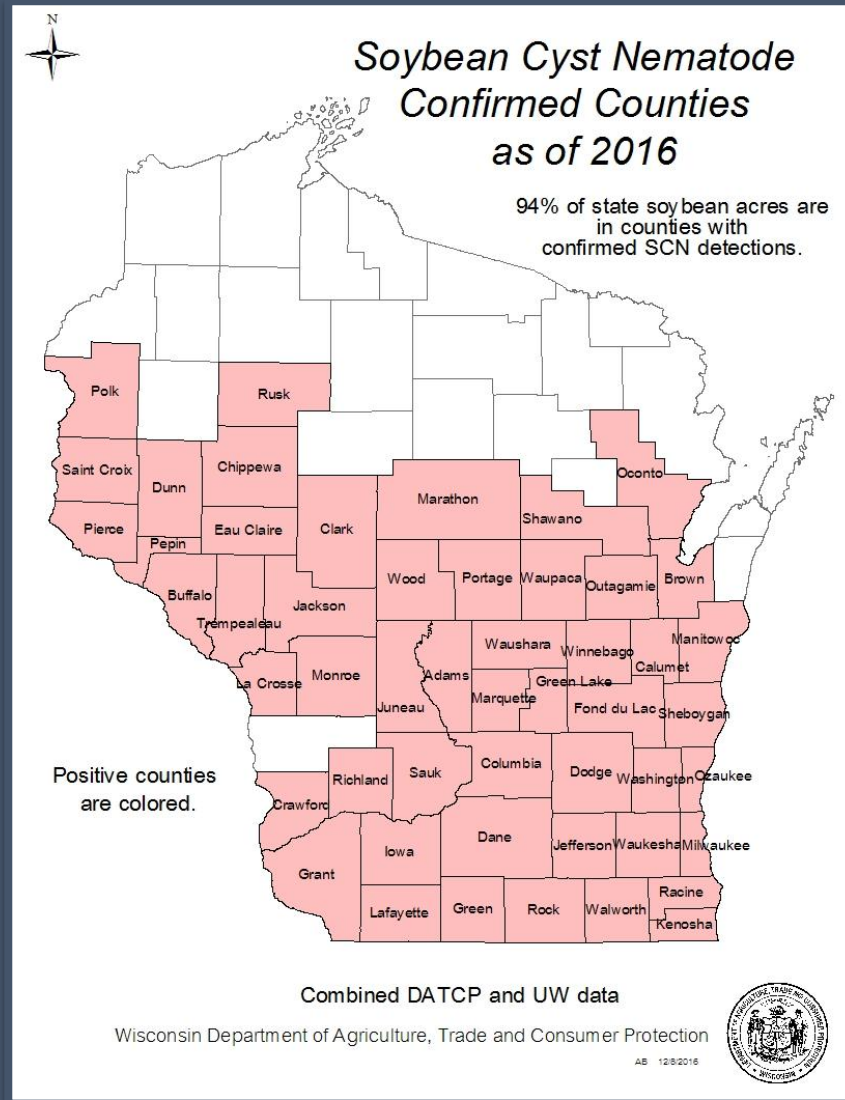
CEREAL CYST NEMATODES

- First detection of *Cactodera rosae* in U.S.
- ID confirmed by USDA Nematologist.
- In Racine Co. corn field.
- New species reported on barley in Mexico.
- No regulatory significance.
- No effect on corn yield.



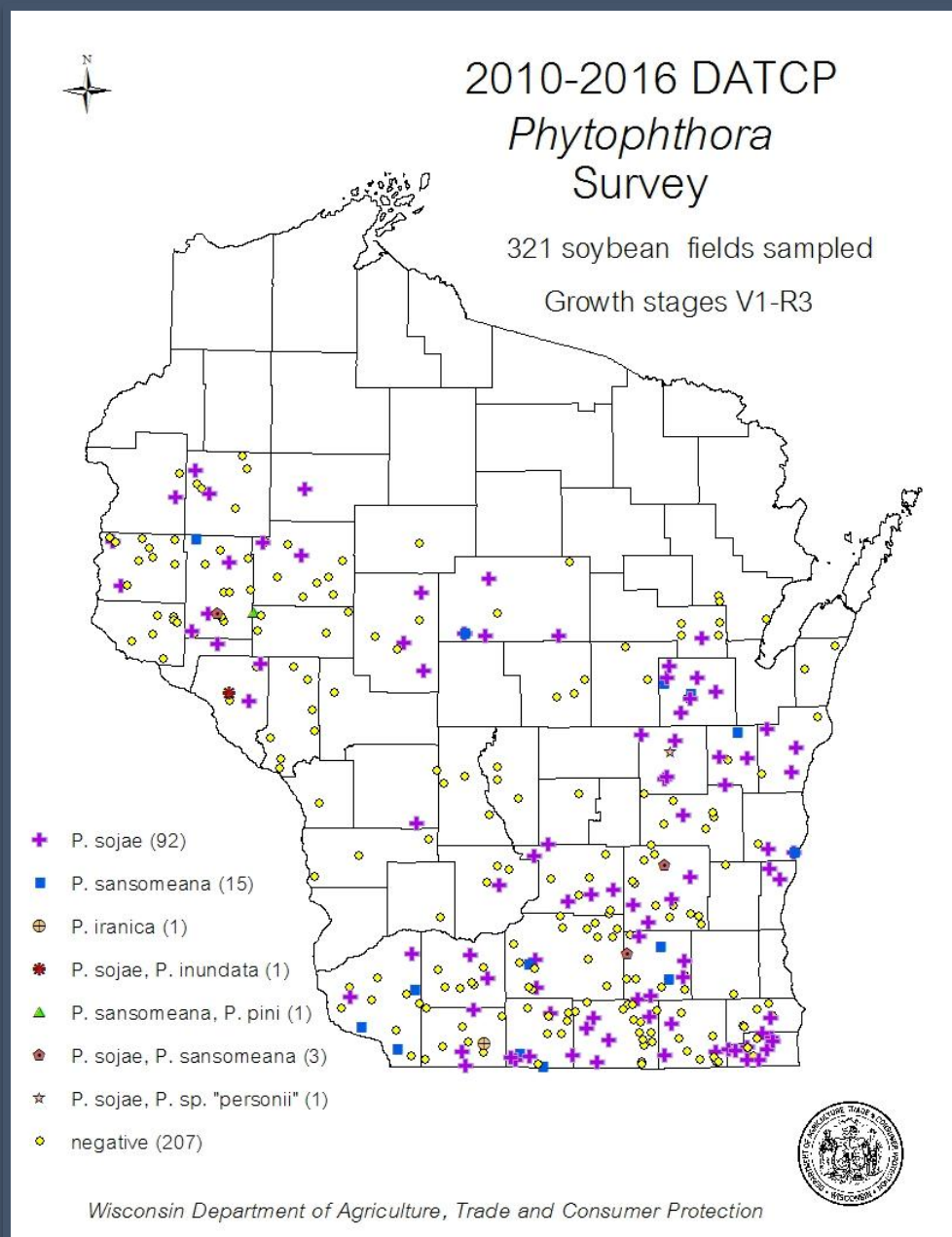
Hatching
Cactodera juvenile

SOYBEAN CYST NEMATODE



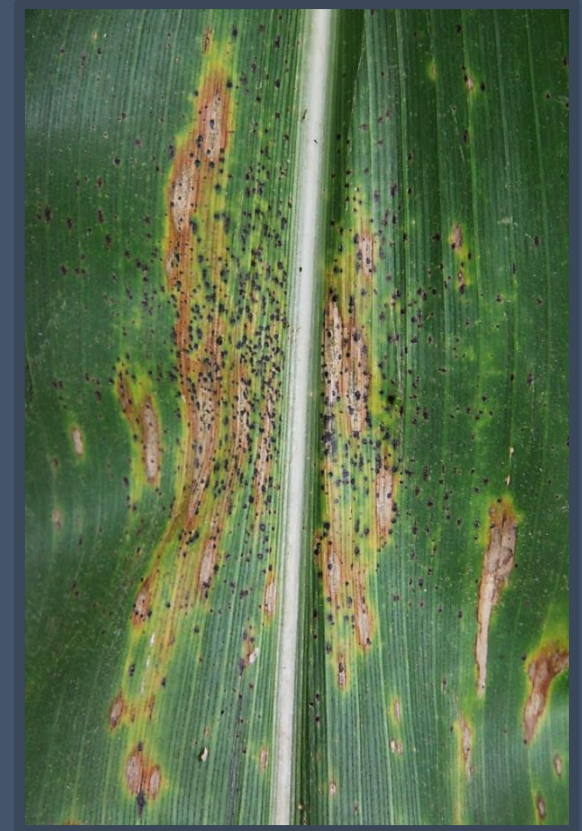
PHYTOPHTHORA OF SOYBEAN

- In 2016 32% of surveyed fields positive for *P. sojae* (17/53).
- In 2015: 38% *P. sojae*
- Five other Phytophthora species documented on soybeans in WI.
- *P. sansomeana* in 10 counties.
- Pathogenicity on corn and soy.
- 2014: *P. pini*, *P. sp. personii*
- 2015: *P. inundata*, *P. iranica*



TAR SPOT OF CORN

- New corn disease in Wisconsin,
Phyllachora maydis
- Found in Green and Iowa Co.
(DATCP Sep 12 and UW Sep 20, 2016)
- First reported in 2015 in IL and IN.
- WI find confirmed by USDA Mycologist.
- Disease of minor importance in WI.



Tar spot symptoms on corn leaf

TAR SPOT OF CORN

- Crop losses are reported from Mexico.
- Only when tar spot infections are colonized by second fungus *Monographella maydis* which is not in WI.
- Occurs at high elevations of Mexico, Central and South America.
- Tar spot only infects corn.
- Not seed borne.
- Spreads with fresh or dried corn leaves and husks.



BACTERIAL BLIGHTS OF CORN

- Bacterial blight of corn
Xanthomonas vasicola pv. vasculorum.
- Not found in Wisconsin in 2016.
- USDA confirmed finds in CO, NE, IL, IA, KS on Aug 26, 2016.
- Negligible disease importance.
- No significance in trade.

- Symptoms may be confused with fungal gray leaf spot.
- Fungicide are not effective since it is a bacterial disease.

BACTERIAL BLIGHTS OF CORN

- No **Stewart's wilt** since 2010.
- **Goss's wilt** was found in 6 counties (Dane, Fond du Lac, Eau Claire, Grant, Pierce)
- 2016: 14% of inspection samples (11/78).
- 2015: 38.5% of inspection samples (15/39).

VIRUSES OF CORN

- No Maize Chlorotic Mottle Virus (**MCMV**)
- No High Plains Virus (**HPV**)
- No Wheat Streak Mosaic virus (**WSMV**)
- Few Sugarcane Mosaic Virus (**SCMV**)
syn. Maize Dwarf Mosaic Virus (**MDMV**)



Sugarcane Mosaic Virus (**SCMV**)

SOUTHERN RUST OF CORN

- WI detections of Southern rust *Puccinia polysora*
Rock Co. , Aug 25, 2016
LaFayette Co., Sept 9, 2016
Grant Co., Sept 15, 2016
- Blows up from southern U.S. and tropics.
- Less of a threat after corn is in milk stage (R3).
- Rare in Wisconsin, unlike Common rust.
- Southern rust pustules are round, orange and on top of leaf.



Common rust pustules
(*Puccinia sorghi*)

BLACKLEG DISEASE OF POTATO

- Emerging new potato pathogen *Dickeya dianthicola* causing blackleg disease in U.S.
- 2015 Outbreak on the East Coast and Midwest.
- Causing extensive crop losses.
- Non-regulated disease.
- Symptomless tubers can spread disease.
- PIB Lab screening WI seed potatoes in collaborations with UW Seed Potato Cert. Program.



Potato tubers with soft rot symptoms

POTATO LATE BLIGHT

- Not in major potato production areas in 2016.
- UWEX reported late blight *Phytophthora infestans* on potatoes and tomatoes in only two counties: Dane and Polk.
- Late blight look-alike on potato leaves in Adams Co.
 - *Phytophthora nicotianae*
- May be first report of this species on potato in Wisconsin.
- Reported from FL, MO, NE, MI.



Potato leaflets with *P. nicotianae* blight.

PLANT INDUSTRY LABORATORY

https://datcp.wi.gov/Pages/Programs_Services/PlantIndustryLab.aspx



Thank you:

Susan Lueloff, Adrian Barta, Krista Hamilton, Tracy Schilder
John Domino, Nick Clemens, Brittanie McGuire.

Funding provided by USDA APHIS CAPS programs and DATCP.