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 chalcoensis*

- 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
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

Soybean Cyst Nematode Confirmed Counties as of 2016

94% of state soybean acres are in counties with confirmed SCN detections.

Positive counties are colored.

Combined DATCP and UW data
Wisconsin Department of Agriculture, Trade and Consumer Protection
PHOTOPHTHORA 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*
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 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)
SOUTHERN RUST OF CORN

- WI detections of Southern rust *Puccinia polysora*
  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 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.
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