



Diagnostics of Wheat Samples

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MSU Plant & Pest Diagnostics

Number of Wheat Samples

2015	2016	2017	2018	2019
24	33	28	12	11

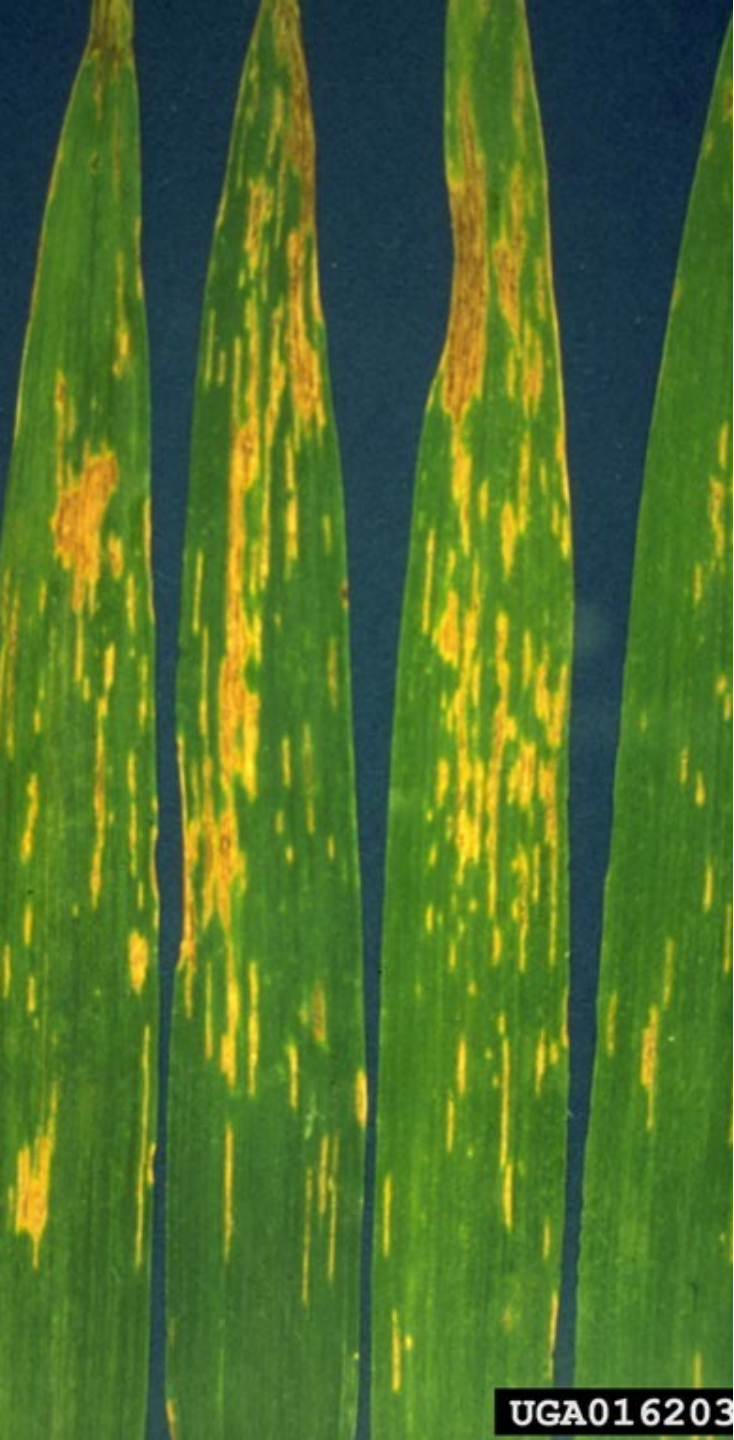
Findings in 2019

Diseases

- Bacterial leaf streak (*Xanthomonas*)
- Take all
- Pythium root rot (9/6/2019)

Nutritional

- Many of the samples submitted
- Low pH related
- High pH



Bacterial leaf streak (black chaff)



Good - pH 6.1

Bad - pH 7.0

**Very low in boron and
manganese**

(case 201901371)



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Soil compaction

Good – pH 6.3

Bad – pH 6.8

Low in zinc and boron

Funding proposed to continue to program

- Maximum 50 diagnostic samples
 - 5 samples for nematode analysis
- In-house ELISA testing for 4 pathogens
 - based on diseases found in 2013
 - BYD – pav
 - BYD – mav
 - WSM
 - *Clavibacter michiganensis* pv. *tessellarius*
- 5 samples Agdia wheat screen

Funding proposed to continue the program

- Nutrient Testing

- Testing to be done by A&L Great Lakes labs
 - Facilitate sample handling and rapid turn around
 - Manganese, sulfur, zinc
- 15 samples
 - Soil nutrient analysis
 - Tissue nutrient analysis
- Shipping costs from field and lab
- Nutrient testing results are generally shared with Dennis for help with follow up.

- MSU Plant & Pest Diagnostics bills the MI Wheat Program for work done annually

Current (Covid) Lab Situation

- The lab staff were given essential status.
- Initially lab was limited to 1 person at a time.
- Recently increased to 3 people at a time.
- Commercial and perishable samples prioritized.
- Diagnosticians can be reached by email
 - Digital diagnostics