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2017 Michigan Wheat Field Day

Soil Fertility & Nutrient Management Research

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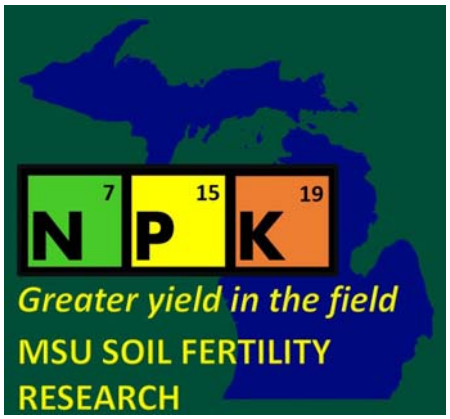
Macro's, Micro's, and Magical Mixes

- **WHAT?** Does applying multiple agronomic inputs increase grain yield or affect grain quality and profitability?
- **WHY?** Wheat may be perceived as requiring more intensive management through the application of additional inputs and greater management costs
- Second year (2017) of trials underway evaluating both soft red and soft white wheat response to traditional (i.e. low input) and enhanced (i.e. multiple input) strategies
- Inputs evaluated include: N-only, high-N, urease inhibitor, nitrification inhibitor, plant growth regulator, fungicide, and micronutrients

2016 Preliminary Results:

- 20% greater N in the presence of multiple inputs increased grain yield 8.4 and 14.5 bushel (bu) per acre in soft red and soft white wheat, respectively
- Addition of fungicide increased yield 11 bu per acre where disease incidence was present
- Enhanced and traditional management strategies produced similar yields for both soft red and soft white wheat
- Environmental conditions likely contributed to lack of input response across locations and varieties



2016 Preliminary Results (cont.)

Yield Change (bu/A) when Individually **Removed** from Enhanced Strategy

Richville, MI (Soft White)	
Treatment	**Grain Yield (bu/A)**
Enhanced (E)	**104.6**
E w/o UI†	-6.0
E w/o NI‡	-5.3
E w/o PGR¶	-8.4
E w/o Fungicide	-8.4
E w/o Micro	-2.8
E w/o High-N§	-14.5*

Lansing, MI (Soft Red)	
Treatment	**Grain Yield (bu/A)**
Enhanced (E)	**77.9**
E w/o UI	+5.7
E w/o NI	+2.2
E w/o PGR	-0.5
E w/o Fungicide	+0.3
E w/o Micro	+9.8
E w/o High-N	-8.4

† Urease Inhibitor, ‡ Nitrification Inhibitor, ¶ Plant Growth Regulator
§ High-N Treatment applied as 144 lbs N/A and 108 lbs N/A at Richville and Lansing locations, respectively.
* Statistically significant at α = 0.10.

Yield Change (bu/A) when Individually **Added** to the Traditional Strategy

Richville, MI (Soft White)	
Treatment	**Grain Yield (bu/A)**
Traditional (T)	**102.0**
T w/ UI	+6.2
T w/ NI	-5.2
T w/ PGR	+4.3
T w/ Fungicide	-1.0
T w/ Micro	-0.2
T w/ High-N	-0.6
E vs. T	NS

Lansing, MI (Soft Red)	
Treatment	**Grain Yield (bu/A)**
Traditional (T)	**81.0**
T w/ UI	-2.8
T w/ NI	+3.4
T w/ PGR	+1.1
T w/ Fungicide	+10.8*
T w/ Micro	+7.2
T w/ High-N	+4.1
E vs. T	NS

Additional research results and observations always available at soil.msu.edu