

2018 Michigan Wheat Field Day

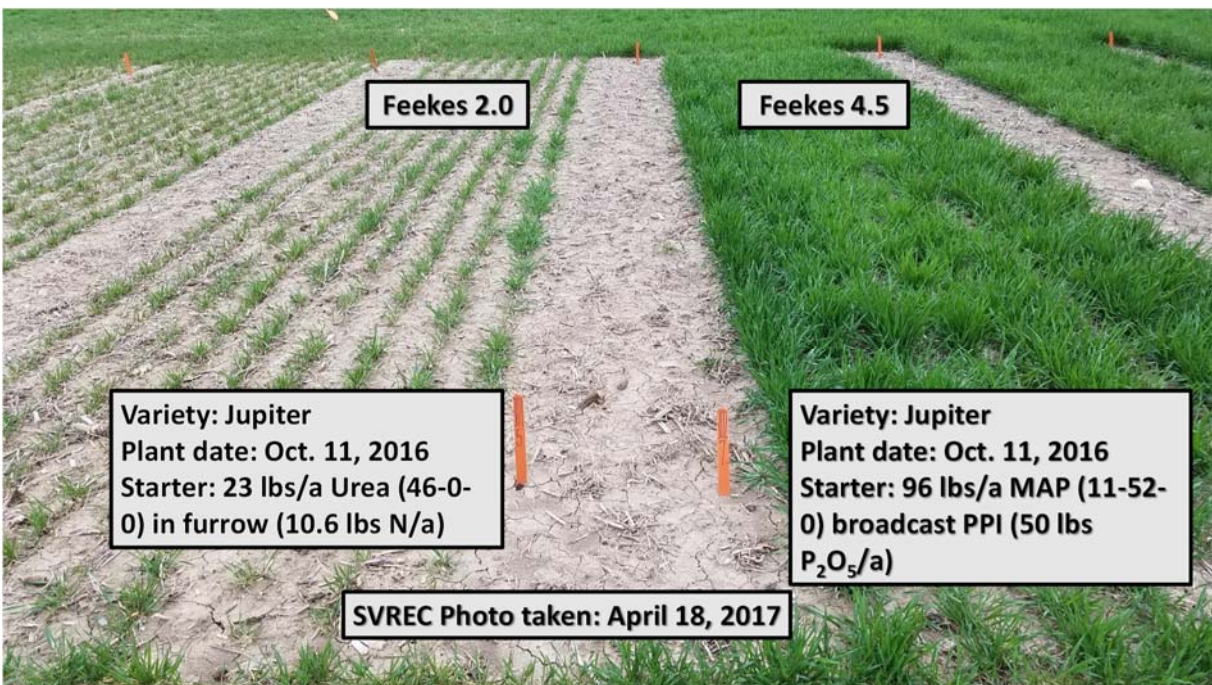
Wheat Starter Phosphorus

Kurt Steinke, Soil Fertility Specialist

Dennis Pennington, Wheat Extension Specialist



- Research in Ontario has shown adding 50 units of phosphorus in the furrow at wheat planting will produce 4-6 bu additional yield. This has **not** been observed in Michigan to date.
- The objective of this research was to evaluate the impact of putting starter phosphorus in the furrow with wheat seed on fall growth, winter survival, and overall yield. Data comparisons include: Planting date (early vs. late); Formulation (dry vs. liquid); Placement (in furrow vs. broadcast and incorporated)
- The current critical soil test phosphorus threshold is 25 ppm. Soil test levels greater than the 25-40 ppm maintenance threshold are not likely to result in a wheat grain yield response to P fertilizer application. As water quality concerns continue to increase, remember that soil testing for P indicates the likelihood of response to added P and not how much P is in the soil.



The plot on the left received 10.6 units of N (urea) in the furrow. This picture illustrates why urea is NOT recommended to be placed in contact with the seed as depending on soil moisture damage can occur even at modest N rates.

Treatments:

1. Control – no starter/no N
2. In Furrow Dry – 96 lb/a 11-52-0 (50 lb P/a) mixed with seed and planted with the drill
3. In Furrow Liquid – 12.7 gal/a 10-34-0 (50 lb P/a) drizzled in row between disc openers and press wheels
4. In Furrow Liquid – 6.3 gal/a 10-34-0
5. In Furrow Urea – 23 lb/a 46-0-0 (10.6 lb N/a)
6. In Furrow 28% UAN – 5 gal/a 28% UAN (14.72 lb N/a)
7. Broadcast incorporated – 96 lb/a 11-52-0 (50 lb P/a) disked in prior to planting
8. Broadcast incorporated – 12.7 gal/a 10-34-0 (50 lb P/a) disked in prior to planting
9. Control—no starter but received 90 units N

Plot data:

Planting dates: Early—September 24, Late—November 1

Variety: Starburst

Planting population: 1.3 mil seeds/a early, 2.1 mil seeds/a late

Soil test P level : 25 ppm

Planted with Great Plains 605NT drill outfitted with Keton seed firmers