

FIELD EXPERIMENT HISTORY

Title: Reduced Phosphore Rates and Additive Effects
Experiment: 12Fertilizer **Trial ID:** 6329 **Year:** 2018
Personnel: Joe Lauer, Thierno Diallo, Kent Kohn
Location: Arlington, WI **County:** Columbia
Supported By: Rosen

Site Information

Field: ARS 374 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: Date: 11/12/18 **pH:** 6.6 **OM (%)** 2.8 **P (ppm)** 31 **K (ppm)** 107

Plot Management

Tillage Operations: Spring Field Cultivator 5/16/18

| | | | |
|--------------------|----------------------------------|--------------------------------|----------------------|
| Fertilizer: | Preplant Analysis: 46-0-0 | Product Rate lbs/A: 325 | Date: 5/16/18 |
| | Starter Analysis: N/A | Product Rate lbs/A: N/A | Date: N/A |
| | Post plant Analysis: N/A | Product Rate lbs/A: N/A | Date: N/A |
| | Manure: N/A | Product Rate lbs/A: N/A | Date: N/A |

| | | |
|-------------------|---------------------------------|--------------------------------|
| Herbicide: | 2.4D Low Vol 4 @ 16 oz/A 5/8/18 | Insecticide: N/A |
| | Tomahawk 5 @ 32 oz/A 5/8/18 | Hybrid: Jung 53SS517RIB |
| | Tomahawk 5 @ 32 oz/A 6/12/18 | |
| | Laudis @ 3 oz/A 6/12/18 | |

Irrigation: None
Planting Date: 5/18/2018 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 35000 plants per acre **Planting Method:** JD1700 w RTK
Harvest Date: 10/24/18 **Harvest Method:** MF 8XP

Experimental Design

| | |
|------------------------------------|---|
| Design: RCB | Replications: 4 |
| Plot Size Seeded: 10' x 50' | Experiment Size: 0.5 A |
| Harvest Plot Size: 5' x 50' | Harvest Plant Density: 33107 plants per acre |

Factors/Treatments:

Treatment

- 1) Check @ 0 lbs P / A NA
- 2) MAP @ 150 lbs/A Preplant
- 3) MAP @ 100 lbs/A Preplant
- 4) MAP @ 50 lbs/A Preplant
- 5) MAP @ 150 lbs/A Preplant + DEV UMP @ 3 qt/ton Preplant
- 6) MAP @ 100 lbs/A Preplant + DEV UMP @ 3 qt/ton Preplant
- 7) MAP @ 50 lbs/A Preplant + DEV UMP @ 3 qt/ton Preplant

Results: Table 1812-14

**Table:1812-14 .Reduced Phosphore Rates and Additive Effects in corn.
Arlington, WI - 2018.**

| Treatment | Yield bu/A | Moisture % | Test weight lbs/bu | Lodged | | | Harvest density plants/A | AGI \$3.44/bu \$/A |
|---|---------------|---------------|--------------------------|------------|-----------|------------|--------------------------------|--------------------------|
| | | | | Total % | Root % | Stalk % | | |
| 1) Check @ 0 lbs P /A NA | 200 | 24.9 | 52.8 | 1.5 | 0.0 | 1.5 | 33250 | 606 |
| 2) MAP @ 150 lbs/A Preplant | 230 | 23.0 | 53.9 | 3.8 | 0.7 | 3.0 | 33750 | 704 |
| 3) MAP @ 100 lbs/A Preplant | 224 | 23.7 | 53.9 | 2.3 | 0.8 | 1.6 | 32750 | 682 |
| 4) MAP @ 50 lbs/A Preplant | 212 | 23.7 | 54.0 | 0.0 | 0.0 | 0.0 | 34000 | 647 |
| 5) MAP @ 150 lbs/A Preplant + DEV UMP @ 3 qt/ton Preplant | 227 | 24.1 | 53.5 | 2.2 | 2.2 | 0.0 | 32750 | 691 |
| 6) MAP @ 100 lbs/A Preplant + DEV UMP @ 3 qt/ton Preplant | 216 | 24.0 | 53.0 | 2.4 | 1.6 | 0.8 | 32500 | 658 |
| 7) MAP @ 50 lbs/A Preplant + DEV UMP @ 3 qt/ton Preplant | 211 | 23.4 | 53.6 | 7.6 | 0.7 | 6.8 | 32750 | 644 |
| Mean | 217 | 23.8 | 53.5 | 2.8 | 0.9 | 2.0 | 33107 | 662 |
| <u>Probability(%)</u> | | | | | | | | |
| Treatment (T) | 0.0 | 5.8 | 34.7 | 12.6 | 64.2 | 1.1 | 78.6 | 0.0 |
| <u>LSD(0.10)</u> | | | | | | | | |
| Treatment (T) | 9 | 0.9 | NS | NS | NS | 3.0 | NS | 29 |

*AGI - Adjusted Gross Income.