



Response of Potato to HUMA GRO® SUPER PHOS®

Research by Charles Sanchez, PhD, University of Arizona [Full research report available upon request.](#)

Research Report (U.S. Domestic)

Objective

The objective of this potato study was to evaluate the efficacy of **SUPER PHOS® (SP, 0-50-0)** at harvest when applied to a low phosphorus field at pre-plant in comparison to monoammonium phosphate (MAP).

Materials and Methods

This study was conducted at the Maricopa Agricultural Center (MAC). The field was low in P, and the experiment was randomized complete block designs with four replications.

The P fertilizer rates were monoammonium phosphate (MAP, 11-52-0) and reduced rates of **SP**. The high rate of P applied as MAP was based on the soil-test-related P fertilizer recommendations. The lower rates of **SP** were based on possible enhanced efficiency noted by Bio Huma Netics, Inc., personnel.

Plots treated with **SP** also received urea (N) to compensate for the N in MAP. The P fertilizer was applied by hand or sprayed into the seed trench and buried with the seed piece. All other inputs, including N fertilizer and pest control, were implemented using standard practices.

The fertilizer treatments were as follows:

1. Control (No P)
2. 44.51 lb P/ac MAP
3. 22.25 lb P/ac MAP
4. 0.73 lb P/ac **SP** (0.26 gal/ac)
5. 1.42 lb P/ac **SP** (0.51 gal/ac)
6. 2.85 lb P/ac **SP** (1.02 gal/ac)
7. 5.73 lb P/ac **SP** (2.05 gal/ac)

The potato seed pieces (cv. Atlantic) were planted by hand, then harvested and graded after 4 months. Statistical analyses were performed using SAS (SAS Institute, 1999a and 1999b).

Results

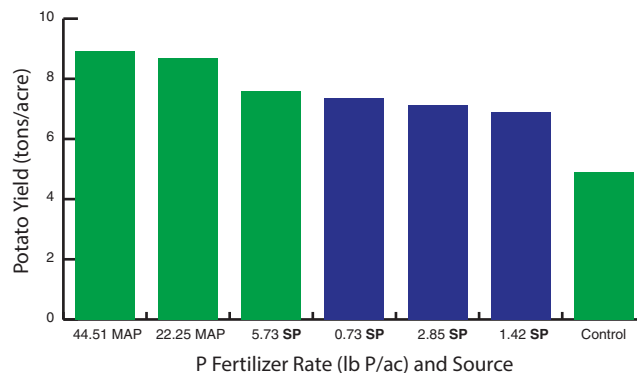


Figure 1. Potato Marketable Yield.

- The highest yield was associated with the 44.51 lb P/ac rate as MAP, which corresponds to the University recommendation of P fertilizer for potatoes on this low-P testing soil.
- The next highest yield was associated with the 22.25 lb P/ac rate as MAP.

Conclusion

The observation that only 0.73 lb P/ac (0.26 gal/ac) through 2.85 lb P/ac (1.02 gal/ac) of **SP** produced yields similar to the 44.51 lb P/ac rate as MAP suggests enhanced efficiency associated with **SP**.

NOTE: 1 gallon of **SUPER PHOS®** (12.7 lb/gal at 68°F) is equivalent to 50 lb of P₂O₅ (P₂O₅ x 0.44 = P)



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HUMA GRO® Products Are Highly Efficient and Effective Due to Our Unique Delivery System
SUPER PHOS® can be applied by foliar application, according to label directions, without the risk of phytotoxicity and keeps phosphate available and soluble in the soil solution for rapid and controlled uptake by plant roots without being blocked by clays or organic matter. Phosphate encourages the production of amino acids, proteins, and carbohydrates necessary for cellular division.