Huma® OM 1-3 mm Organic Humates Improve Potato Yield by 9%, With 5:1 ROI

Research Report

Conducted by: SGS North America, Inc., South Dakota
Huma® Products: OM 1-3 mm Organic Granular Humate

Background

Scientific research shows that humic and fulvic acids are biostimulants—enhancing nutrient availability and uptake, improving plant root growth and mass, and impacting both crop yield and quality.

Objective

The focus of this study was to assess the effect of pre-plant application of a raw humic product on potato yield.

Materials & Methods

One week before planting the Russet potatoes, 150 lb/acre of **Huma® OM 1-3 mm** organic granular humate was applied on May 17 to test plots at the research facility of SGS in Aurora, S.D. All the plots received a grower standard (GS) fertilizer program based on the region's normal practices. Nitrogen was from urea, phosphorus was from mono-ammonium phosphate (MAP), and potassium was from potash. The GS included 150 lbs. of N and 15 lbs. of P and K each. The trial was conducted as a randomized complete block with four replications. The potatoes were planted on May 24 and harvested on September 1.

Results

The pre-plant treatment of soil with **Huma® OM 1-3 mm** organic granular humate improved the potato yield high enough to give a 9% advantage (Figure 1); however, results were not statistically significant. In addition, the plants in **Huma® OM 1-3 mm** organic granular humate treated plots contained slightly (not statistically significant) higher levels of N, P, K, Mg, and as well as Brix (Table 1).

Table 1. Comparison of leaf sap Brix and nutrients between plants in soil treated with and without humate material.

Leaf Sap Measure	% Difference: Grower Standard (GS) + Huma OM 1-3 mm vs GS Only
N	22.1
P	19.3
K	12.8
Mg	7.3
Brix	18.8

Conclusions

The potato yield improvement due to the pre-plant application of **Huma® OM 1-3 mm** organic granular humate plus GS translated into a higher net gain of over $100 per acre when compared with the GS program alone. The net gain gave a return on investment (ROI) of 5 to 1. Our results confirmed the findings of others that adding humic substances to soil can give a yield bump to crops. It is well known that humic substances stimulate plants to uptake more nutrients and have more efficient photosynthesis. In this experiment, we see some evidence of that because humate-treated plants had slightly higher Brix, N, P, K, and Mg.

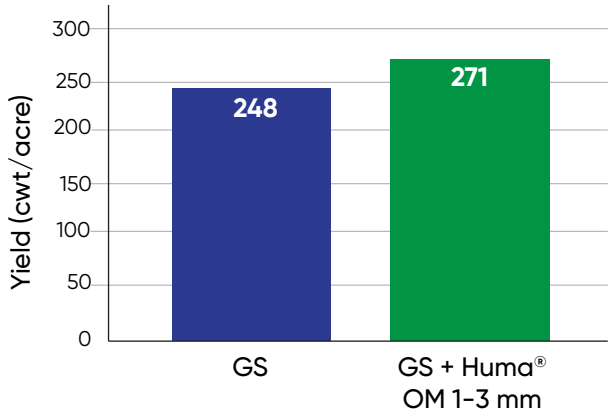

Figure 1. Potato Yields Compared With Grower Standard vs. Grower Standard + **Huma® OM 1-3 mm** Organic Granular Humates

Product Summary

Huma® granular humates are natural humic and fulvic acid products processed from naturally occurring, oxidized leonardite mined in New Mexico. Humic and fulvic acids add organic matter to soils—which stimulates soil microbial life and soil fertility; enhances plant nutrient availability and uptake; improves root development, root mass, and growth; and increases crop quality and yield.

Huma® OM 1-3 mm organic granular humate, OMRI-Listed for organic farming, is a natural 70% humic and fulvic acid that can be applied to all soils—broadcast in fall, post-harvest, or early spring—either preplant or with seed. It can be applied in bands, either with seed, fertilizer, or after planting.

For more **Huma® OM 1-3 mm** organic granular humate Research Reports, product documentation, and other information, follow the QR Code.

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