

Introduction:

The purpose of this trial was to determine if there would be a visible and measurable difference between a control group of potatoes planted with N-P-K granular fertilizer and then treated with spray grade magnesium sulfate (the traditional practice in this part of the U.K.) versus potatoes planted with N-P-K and then sprayed with the **Wildfire** brand Potato Power!

Wildfire brand Potato Power! coating powder is an Ultra Chelated 5% Magnesium and 5% Manganese powder. The competitor product is a spray grade magnesium sulfate. Both were dissolved and then sprayed on to the potato plants.

Tests were conducted at farms in Alderley Edge in Cheshire, south of Manchester. Soil type chosen was MEDIUM - CLAY LOAM, considered best for storage crops because result is usually better and stronger skin set. An additional study was conducted at a farm in Somerleyton Hall, Lowestoft, Suffolk.

Trial Procedure:

- A. On April 20, 2013 the grower planted a crop of potatoes. The type of potato planted was *Solanum Tiberasa*. The potatoes were planted with 15-15-20 N-P-K, as per soil recommendations.
- B. The plants were "full cover" (mature) by June 18. The grower then began the spraying regimen, which consisted of 3 doses of 1.5 kilo of **Wildfire** brand Potato Power! per hectare, applied one week apart. For each application, he loaded the product he purchased from SGW into the mixer and added water. The grower sprayed the mixture himself. One lot was treated with **Wildfire** brand Potato Power! and the other with the competitor product, sprayed at the traditional rate of 2kgs per dose, six doses spread over six weeks.
- C. The grower pulled tissue samples on July 24, 2013. Tests were undertaken and results reported from Lancrop Laboratories. The grower paid for the tests himself.
- D. Figure One is a chart that demonstrates the results of the tissue test. Notably, the Magnesium and Manganese were quite a bit higher than the guidance recommendation and the competitor product.
- E. At time of lifting or harvest, the **Wildfire** brand Potato Power! field was then compared to that of the field simply treated with the Mg sulfate sprayable product. See Figure Two. The field treated with **Wildfire** brand Potato Power! resulted in a yield 43% heavier than the traditional magnesium sulfate spray. Potatoes were also larger, please see photographic comparison.



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Our products are used to create best-in-class growth rates matched with outstanding quality. Above, six year old Jose Muñoz holds on to a 25 pound zucchini squash.

Philosophy of Scott G Williams LLC:

Philosophy teaches, from very early on, that there are three major divisions in living things: plants, animals, and rational beings. All three levels of life contain a type of soul. The characteristics of the plant soul include growth reproduction and the ability to take in nutrition. The animal soul builds on the characteristics of the plant soul by adding characteristics such as locomotion, communication, and additional sensory functions such as sight. Humans then add on to the characteristics of the animal soul by having a rational thought process that allows for all living things to work together harmoniously.

Interestingly enough, all life appears to require a similar type of nutrition. Plants offer fuel for animals and humans in the form of food. Animals require the basic building blocks of nutrition but also require a series of micronutrients and secondary elements that are added in their feed in

the form of mineral or trace packages. Again, humans achieve their nutritional requirements through the consumption of plants and animals. However, sometimes humans don't get the full range of nutrients that they require. For this reason, humans have taken the approach of augmenting their diets with fortified foods or with mineral and trace elements vitamin pills.

The elements required to fulfill the range of secondary and micronutrient elements are not always found in the soil used in growing plants. These vital elements are combined and added to our products, which help plants reach their maximum potential. When plants reach their maximum potential, this affects the animals that eat these plants, thus affecting humans as well. The products produced in Scott G. Williams L.L.C. help create a chain reaction of better health and better living for all living things.

SCOTT G. WILLIAMS, L.L.C.
THE
MEGA
NAME IN
MICRONUTRIENTS™

U.K. 2013 Independent Potato Trials

Wildfire brand Potato Power! an Ultra Chelated micronutrient powder for coating NPK pellets - was used in a trial in the U.K. in the 2013 growing season. **Wildfire** brand Potato Power! was actually sprayed on plants that then produced a yield much greater in size and weight than a control group using the traditional magnesium sulfate spray treatment. The three **Wildfire** brand Potato Power! treatments of small dosage resulted in a greater plant absorbance of nutrients in the tissue of the potato plants than did 6 treatments of the competitor's higher dose.

Trial Observations and Results

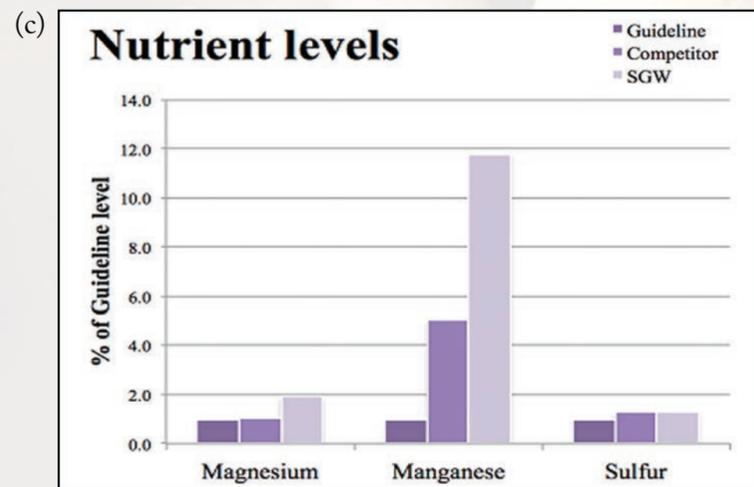
Results of Leaf Analysis

(a)

| Analysis | Result | Guideline | Interpretation | Comments |
|------------------|--------|-----------|----------------|--------------------|
| Nitrogen (%) | 5.14 | 6.00 | Normal | Adequate Level |
| Phosphorus (%) | 0.37 | 0.40 | Slightly Low | CONSIDER TREATMENT |
| Potassium (%) | 4.60 | 3.50 | Normal | Adequate Level |
| Calcium (%) | 1.21 | 1.00 | Normal | Adequate Level |
| Magnesium (%) | 0.26 | 0.25 | Normal | Adequate Level |
| Manganese (cpm) | 200.9 | 40.0 | High | Above normal range |
| Boron (ppm) | 28.1 | 25.0 | Normal | Adequate Level |
| Zinc (ppm) | 31.5 | 20.0 | Normal | Adequate Level |
| Iron (ppm) | 211 | 60 | Normal | Adequate Level |
| Copper (ppm) | 13.3 | 7.0 | Normal | Adequate Level |
| Molybdenum (ppm) | 0.84 | 0.20 | High | Above normal range |
| Sulphur (%) | 0.13 | 0.10 | Normal | Adequate Level |

(b)

| Analysis | Result | Guideline | Interpretation | Comments |
|------------------|--------|-----------|----------------|--------------------|
| Nitrogen (%) | 4.68 | 6.00 | Slightly Low | CONSIDER TREATMENT |
| Phosphorus (%) | 0.36 | 0.40 | Slightly Low | CONSIDER TREATMENT |
| Potassium (%) | 3.73 | 3.50 | Normal | Adequate Level |
| Calcium (%) | 1.15 | 1.00 | Normal | Adequate Level |
| Magnesium (%) | 0.48 | 0.25 | Normal | Adequate Level |
| Manganese (cpm) | 471.1 | 40.0 | High | Above normal range |
| Boron (ppm) | 28.2 | 25.0 | Normal | Adequate Level |
| Zinc (ppm) | 41.0 | 20.0 | Normal | Adequate Level |
| Iron (ppm) | 143 | 50 | Normal | Adequate Level |
| Copper (ppm) | 9.1 | 7.0 | Normal | Adequate Level |
| Molybdenum (ppm) | 0.50 | 0.20 | High | Above normal range |
| Sulphur (%) | 0.13 | 0.10 | Normal | Adequate Level |



(a) Competitor group

(b) Potato Power! group

(c) Comparison of both groups' magnesium, manganese, and sulfur levels as a factor of guideline levels.

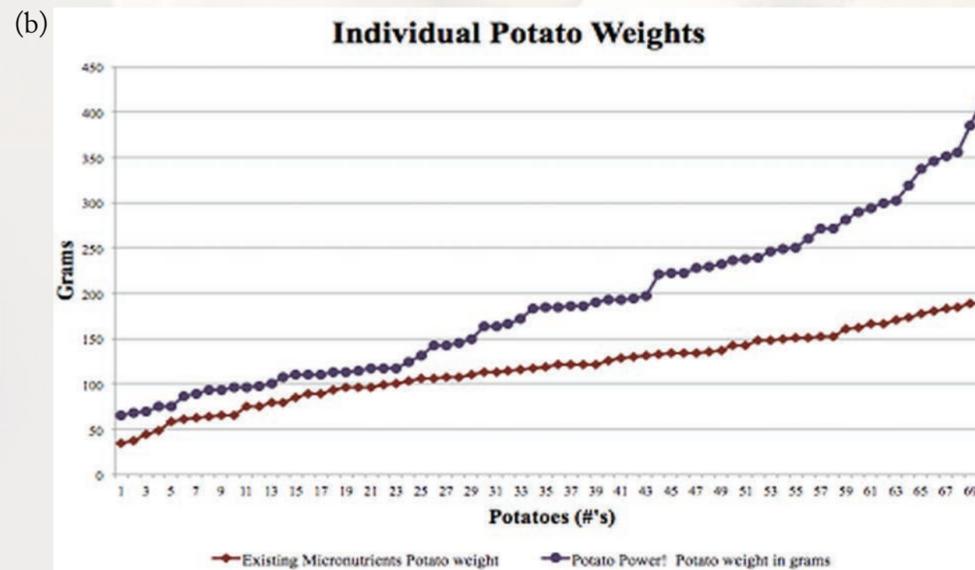
Potato Size Comparisons



(a) side-by-side comparisons of potatoes treated with existing micronutrients with those treated with Potato Power!



(b) Individual potato weights from samples from Somerleyton Farm, October 9, 2013. Means: control 118.38; Potato Power! 189.03 – 43% increase in weight.



Conclusion:

Standard growing practice for potatoes in the U.K. is to plant and add an NPK granular. Then, after the plants emerge and mature, sprays of Magnesium and Manganese are applied. Although the U.K. soil has plenty of Manganese, it is tied up in the soil and not available to the plant. The trial demonstrated that the application of **Wildfire** brand Potato Power! resulted in a dramatic positive difference compared to the traditional sulfate spray application.

The following benefits were found:

1. **Wildfire** brand Potato Power! was sprayed at half the rate and half the number of applications compared to the traditional magnesium sulfate spray. The first economic benefit is the savings in manpower by applying half the number of sprays.
2. **Wildfire** brand Potato Power! increased the nutrient content into the plant. The second economic benefit is that the nutrient is taken up and into the plant and not “wasted” in the non participating surrounding soil.
3. **Wildfire** brand Potato Power! made for sizeably larger tubers. This is also considered beneficial as larger tubers are better than many smaller tubers. This is an issue of taste and quality.
4. **Wildfire** brand Potato Power! produced the third economic benefit – 43% increase in yield by weight. 43% more money for the grower.