Prescription Crop Nutrition for Red Potatoes

Growers saw brighter, deeper red skin color, higher quality, and enhanced nutritional value

By Dan Peterson, regional agronomist for AgroLiquid

In Minnesota, two fresh market red potato growers tested a prescription AgroLiquid supplementation added to their conventional liquid in-furrow fertilizer.

For these wholesale growers, an appealing red color and skin quality is paramount, even more so than yield.

We determined that, for these growers, a combination of two of our AgroLiquid products, LiberateCa (protected soluble calcium) and Micro 600 (protected solution of sulfur, iron, and four micronutrients), had potential for improving red potato skin color and quality.

Side-by-side field comparisons were set up using the two cooperators' conventional 10-34-0 in-furrow starter blend against the same rate of their 10-34-0 blended with 1 gallon/acre LiberateCa and 2 quarts/acre of Micro 600.

The results of this trial are that the LiberateCa/Micro 600 treated potatoes have a much brighter, deeper red color with smoother skin, and little to no scab, silver scurf, and other blemishes compared to the untreated potatoes.

In addition to the enhanced color and skin quality, the LiberateCa/Micro 600 treated potatoes were found to have significantly enhanced nutritional qualities—more protein, nutrient density, and essential minerals.

Above: The LiberateCa/Micro 600 treated potatoes are on the left. Note the enhanced, bright-red skin color.

The chart, on page 43, illustrates how much more nutritious the LiberateCa/Micro 600 treated potatoes were in this trial.

These numbers were unexpected and rather astonishing. More field trials will be run in 2022 to see if the results are repeatable.

It is important to note that these results represent one year's data from two farms in northwest Minnesota.

Despite the remarkable numbers, continuing with additional trials will be important, as they always are in field research.

I would like to expand my potato research in Wisconsin. If any members of the Wisconsin Potato & Vegetable Growers Association would be interested in a field research project, I would love to have a discussion with you.

In addition to red potatoes, I am highly interested in russets for processing. Our third-party research with russets in southwest Manitoba, Canada, and on-farm trials in southern Alberta have been highly successful. We have also had success in Idaho and Oregon.

LiberateCa is a highly soluble and plant available calcium source that we protect in the soil with our unique and highly effective organic chelation using Flavonol Polymer Technology.

This protection keeps the calcium soluble and available for root absorption yet protects it from reacting with other minerals in the soil, thus making it far more efficient than other calcium sources we have found in our research.

Calcium is highly important for plant health and nutritional qualities, which was amply demonstrated in this field comparison.

Micro 600 is a specially formulated solution of soluble sulfur, iron, and four micronutrients that is synergistic in nutrient efficiency and uptake in plants coupled with a high degree of plant safety.

These nutrients work together to provide a yield benefit and to improve the quality of tubers. Potatoes require significant amounts of plant available sulfur and iron.

Micro 600 protects these nutrients from tie-up in the soil and places them in an efficient band with the seed piece at planting.

Our potato research in several states plus Canada continues to demonstrate the efficacy of Micro 600, consistently creating more sacks per acre and better tuber quality.

The LiberateCa/Micro 600 treated potatoes are on the right. Despite remarkable results in first-year field trials, continuing with additional research will be important. The author would like to expand his potato research in Wisconsin. If any members of the Wisconsin Potato & Vegetable Growers Association would possibly be interested in a field research project, he would love to have a discussion with you. Contact Dan Peterson at dan.peterson@agroliquid.com, or call 262-339-6843.

For more information, contact AgroLiquid, attn: Dan Peterson, dan.peterson@agroliquid.com, 262-339-6843, or visit https://www.agroliquid.com. BC'T

MINNESOTA FRESH MARKET RED POTATOES QUALITY REPORT 1/25/22

TREATMENT:
1 gallon Liberate Ca + 2 quarts Micro 600
added to standard in-furrow blend

Parameter	Untreated, Percent of dry matter	Treated, Percent of dry matter	Treated % versus untreated
Nutrient Density	259.00	321.30	124.05
Brix	4.10	3.80	92.68
Protein	3.70	7.40	200.00
Calcium	398.00	404.00	101.51
Phosphorus	73.00	162.00	221.92
Potassium	783.00	1393.00	177.91
Magnesium	50.00	112.00	224.00
Copper	0.39	0.65	166.67
Iron	1.52	2.76	181.58
Zinc	2.00	2.64	132.00
Manganese	2.57	2.33	90.66