



Mid-Michigan Agronomy

Potato Trials 2019-2022

Healthy Fields - Optimum Yields

= Increased Profits

For more Information Contact Kurt Fisher at 989-289-2134 or kfisher@surecropfertilizers.com

Healthy Fields – Optimum Yields!

2022 Mid-Michigan Agronomy

Plen-T Sweet Potato Trials - Sturgis, MI

- Manistee Variety.
- Velum Prime was used on each treatment.
- Plen-T Sweet helped with lowering Verticillium and in overall plant health and an increase in # 1's.



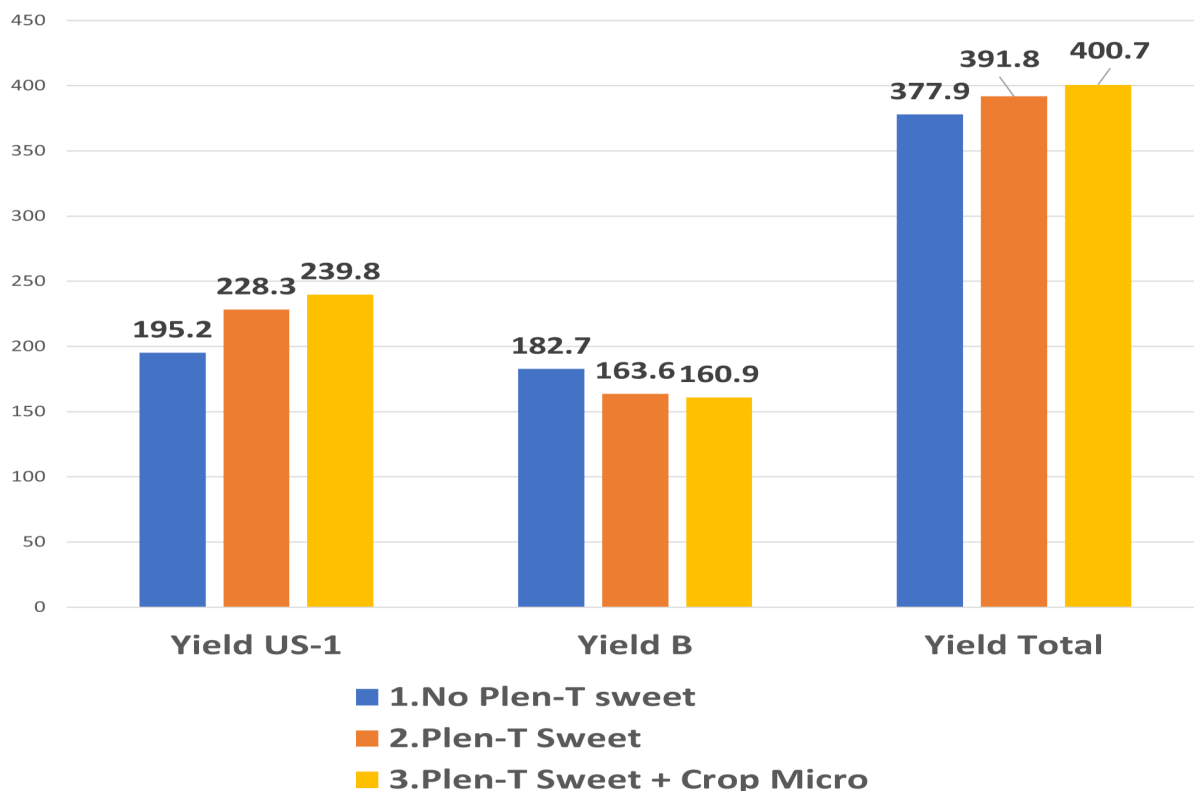
Plen-T Sweet Application Rates

1. No Plen-T Sweet.
2. 2 gpa over seed piece at planting + 1pt/acre 8 times at a 7 day interval with the fungicide program.
3. 2 gpa over seed piece at planting + 1pt/acre + 8 oz of Crop Micro 8 times at a 7 day interval with the fungicide program.

Approximate Return After Plen-T Sweet & Crop Micro Treatments, Using \$10.00/cwt;

1. \$3,779.00 - No Plen-T Sweet
2. \$3,885.00 - Plen-T Sweet in Furrow and Foliar
3. \$3,957.00 - Plen-T Sweet in Furrow and Foliar Plus Crop Micro Foliar

Yield in CWT 2022 Trial



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Healthy Fields – Optimum Yields!

2021 Mid-Michigan Agronomy

Plen-T Sweet Potato Trials - Sydney, MI.

- Manistee Variety.
- This Trial was Fumigated with Vapam.
- Plen-T Sweet helped with lowering Verticillium and in overall plant health and an increase in # 1's.



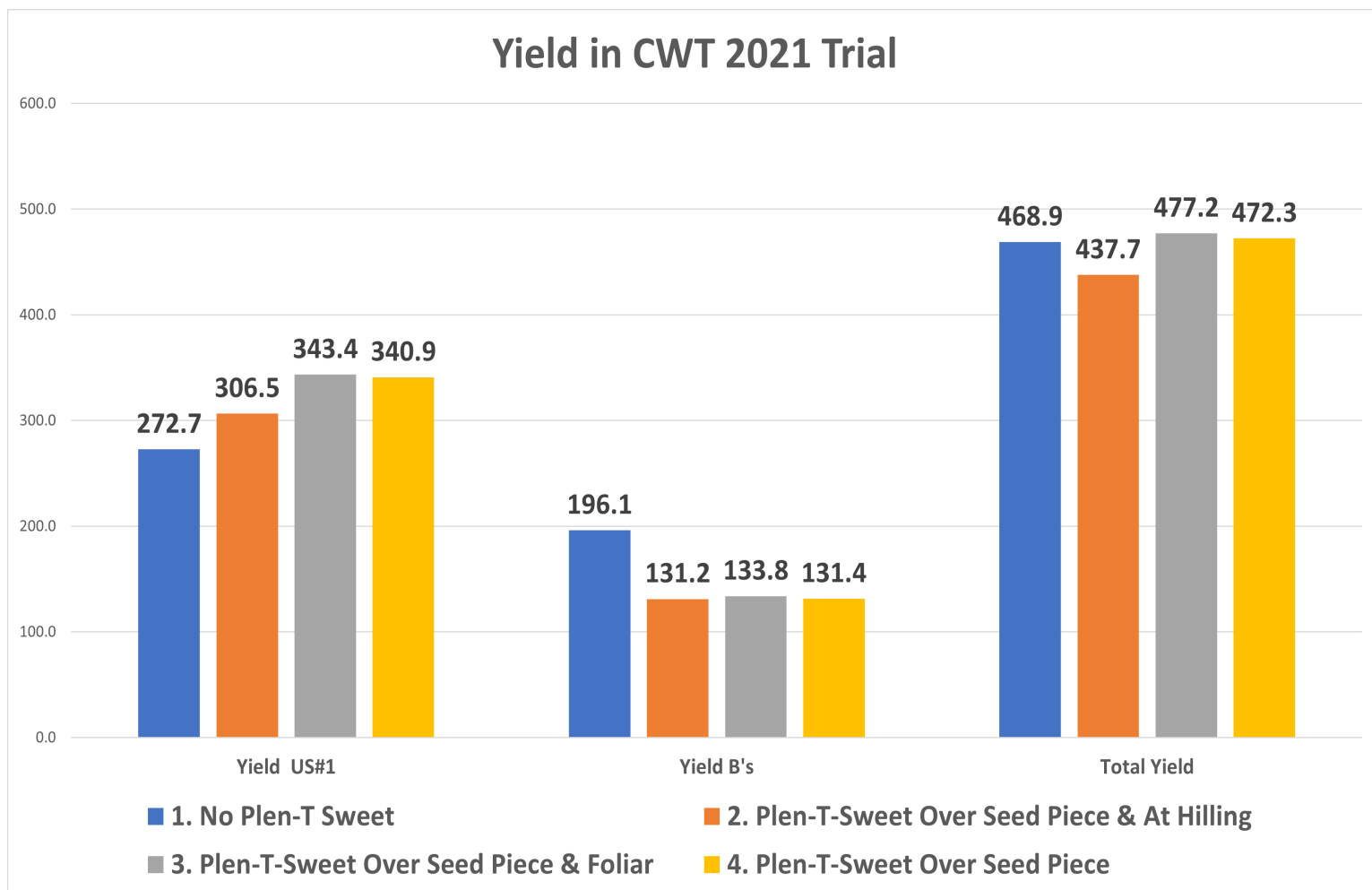
Quality Liquid Crop Nutrition

Plen-T Sweet Application Rates

1. No Plen-T Sweet.
2. 2 gpa over seed piece at planting + 2 gpa at Hilling.
3. 2 gpa over seed piece at planting + 1pt/acre 8 times at a 7 day interval with the fungicide program.
4. 2 gpa over seed piece at planting.

Approximate Return After Plen-T Sweet Treatments, Using \$10.00/cwt;

1. \$4,689.00 - No Plen-T Sweet
2. \$4,333.00 - Plen-T Sweet in Furrow and at Hilling
3. \$4,739.00 - Plen-T Sweet in Furrow and Foliar
4. \$4,701.00 - Plen-T Sweet in Furrow Only



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Healthy Fields – Optimum Yields!

2020 Mid -Michigan Agronomy

Plen-T Sweet Potato Trials - White Pigeon, MI.

- Manistee Variety.
- No Vapam, Velum or Vydate used on these treatments.
- Plen-T Sweet helped with lowering Verticillium and in overall plant health and an increase in # 1's.



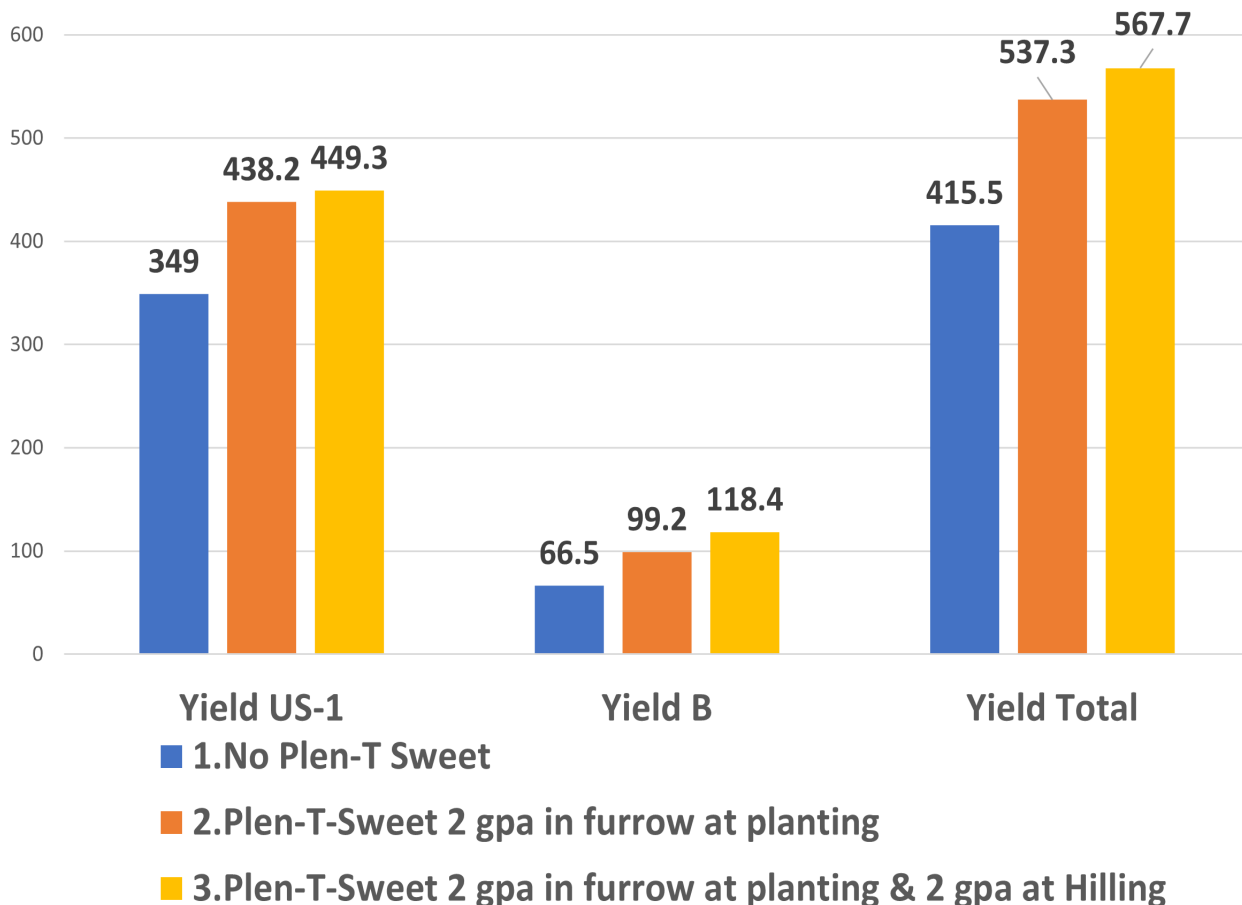
Plen-T Sweet Application Rates

1. No Plen-T Sweet.
2. 2 gpa over seed piece at planting.
3. 2 gpa over seed piece at planting + 2 gpa at Hilling.

Approximate Return After Plen-T Sweet Treatments, Using \$10.00/cwt;

1. \$4,145.00 - No Plen-T Sweet
2. \$5,353.00 - Plen-T Sweet in Furrow Only
3. \$5,637.00 - Plen-T Sweet in Furrow and at Hilling

Yield in CWT 2020 Trial



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Healthy Fields – Optimum Yields!

2019 Mid -Michigan Agronomy

Plen-T Sweet Potato Trials - White Pigeon, MI.

- Manistee Variety.
- Vydate C-LV was used on two of the treatments.
- Plen-T Sweet helped with lowering Verticillium and in overall plant health and an increase in # 1's.

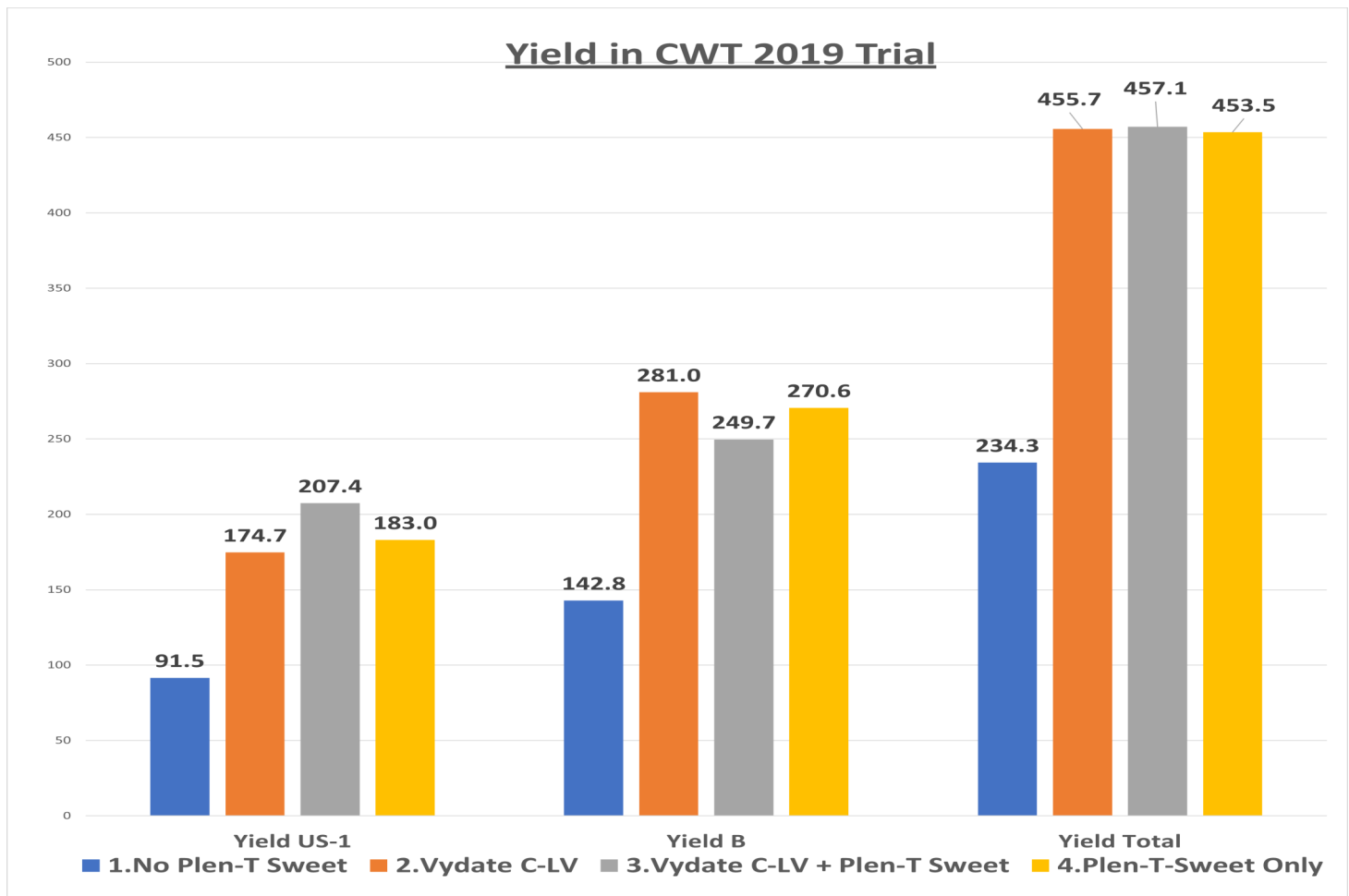


Plen-T Sweet and Vydate Application Rates

1. No Plen-T Sweet or Vydate C-LV.
2. Vydate C-LV Only 1/2 gpa at planting followed by 2 - 2 gpa treatments.
3. 2 gpa over seed piece at planting + 2 gpa at Hilling with the same Vydate treatment as # 2.
4. 2 gpa over seed piece at planting + 2 gpa at Hilling , No Vydate

Approximate Return After Plen-T Sweet & Vydate Treatments, Using \$10.00/cwt;

1. \$2,343.00 - No Plen-T Sweet or Vydate
2. \$4,457.00 - Vydate but No Plen-T Sweet
3. \$4,431.00 - Vydate Plus Plen-T Sweet in Furrow and at Hilling
4. \$4,495.00 - Plen-T Sweet Only in Furrow and at Hilling



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Healthy Fields – Optimum Yields!

Plen-T Sweet

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Quality Liquid Crop Nutrition

Readily Available Carbon Energy

Weight Per Gallon : 9.90 lbs
Freezing Temperature: 18° F



877 US Hwy 36
Seneca, Kansas 66538
Ph. 785-336-2121

Division of Ag Connection Sales, Inc.

GENERAL RECOMMENDATIONS

SURE CROP Plen-T Sweet is a concentrated liquid that can release minerals in the soil.

SURE CROP Plen-T Sweet can be applied to all crops: row crops, small grains, legumes, forages, grasses, fruit trees, vines and vegetables.

Preplant or - Side Dress	Apply 1-8 qt p/Acre of SURE CROP Plen-T Sweet with sufficient water or fertilizer solution in broadcast, dribble or band application.
Planting -	Apply 1-2 qt p/Acre of SURE CROP Plen-T Sweet with starter fertilizer for row application.
Foliar -	Apply 1-2 qt p/Acre of SURE CROP Plen-T Sweet with foliar fertilizer or water.
Irrigation -	Apply 1-8 qt p/Acre of SURE CROP Plen-T Sweet with water or fertilizer solution through gravity, pivot or drip irrigation system. Repeat application as needed.

What is SURE CROP Plen-T Sweet?

- 💧 **SURE Plen-T Sweet** is a concentrated, readily available, liquid carbon energy that helps nourish microbial populations.

SURE CROP Plen-T Sweet Benefits...

- 💧 Helps warm planting furrows for faster seed emergence.
- 💧 Speeds the release of elements in the soil and makes them available for crop uptake.
- 💧 Deters plant pests from both crop foliage and roots.
- 💧 Improves weed control when applied with post emerge herbicides.

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Healthy Fields – Optimum Yields!

CROP MICRO



Natural Supplemental Micronutrient Nutrition

Quality Liquid Crop Nutrition

Freezing Temperature: 32° F
Weight Per Gallon : 9.00 pounds

Net Contents Net Weight
2.5 Gal. 22.50 Lbs.



Division of Ag Connection Sales, Inc.
877 Hwy 36, Seneca, Kansas 66538-9740
Ph. 1-800-635-4743 or 785-336-2121

1.0 - 0.0 - 3.0 MINIMUM GUARANTEED ANALYSIS

Nitrogen (N) 1.00%
Soluble Potash (K₂O) 3.00%

Derived from Ascophyllum nodosum

WHAT IS SURE CROP MICRO?

SURE Crop Micro is a natural supplemental micronutrient nutrition for all crops, grains, legumes, grasses, vegetables and fruits. It may be applied with starter and/or foliar applications.

SURE Crop Micro is fully soluble liquid nutrition that crops can readily absorb directly through both leaves and roots.

Crop Micro 1-0-3

Sure Crop Micro . . .

- ♦ Provides traces of many nutrients necessary for plant growth
- ♦ Increases plant vigor, improves plant health
- ♦ Stimulates flower, fruit, and seed development

RATE OF APPLICATION

At Planting - 25 oz. Crop Micro per acre (1 gallon per 5 acres) with starter fertilizers for in row or band application.

Foliar - 25 oz. Crop Micro per acre (1 gallon per 5 acres) with sufficient water or fertilizer for adequate and even coverage.

SHAKE VIGOROUSLY BEFORE ADDING TO TANK SOLUTION

METHOD OF APPLICATION

Sure Crop Micro may be applied in row, banded, or foliar. It may be applied with water, or blended with most liquid fertilizers. If in doubt, a compatibility check should be made by blending a measured amount of Crop Micro in a sample of the carrier solution before tank blending.

TIME OF FOLIAR APPLICATION

Application should be when the sun's energy is the most functional in the photosynthesis process, approximately early morning. Ideally, temperature is below 82 degrees and humidity is above 30% - 40%.

The first foliar application should be applied at approximately one-half plant growth. Second application applied prior to reproductive cycle or early budding.

- 💧 Increases germination, plant sugars, and protein
- 💧 Helps crops withstand stresses of drought, heat, and hail
- 💧 Provides every element necessary for plant growth
- 💧 Reduces plant diseases and insect pests
- 💧 Increases root masses for greater plant growth
- 💧 Stimulates chlorophyll production
- 💧 OMRI approved for Organic use
- 💧 Promotes earlier crop maturity
- 💧 Increases yield and test weight

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Healthy Fields – Optimum Yields!

Tcny the Tiger—the cartoon mascot for Kellogg's Frosted Flakes—says sugar-coated flakes of corn are GREAT. Meanwhile, some real-life corn growers are finding that sugar-coated corn is also a good idea long before it becomes a breakfast cereal on the grocery shelf.

Over the past four years, several growers in the Nebraska On-Farm Research Network have been testing a foliar application of sugar made at the V-6 to V-8 growth stage of corn. "Generally, the application of sugar has not always shown increased yields, but in nearly all the studies the treated corn has shown increased stalk strength, which often leads to reduced lodging," says University of Nebraska Extension educator Jenny Rees.

Fairfield, Neb., farmers Dennis and Rod Valentine saw a minimal 1.6 bushel per acre yield increase in 2010, the first year they tested sugar application. "The surprise was the im-

►**Below:** A foliar application of sugar leaves a glaze on corn leaves, but it also appears to improve crop health. ►**Above right:** On-farm research has given a sweet tooth to several Nebraska corn and soybean growers who have made sugar a regular part of their crop inputs.



By Larry Reichenberger

SWEET SUCCESS

*Innovative farmers
find that sugar can improve
crop performance*



►Above: Dennis Valentine (right) and his brother Rod have found that an early-season application of sugar improves their corn's stalk quality.

proved stalk strength. With the sugar, 3-5% of the plants had stalk rot while without it 24% were infected. We had to use the corn reel to harvest the untreated corn when it lodged, but not [on the corn that] received the sugar application," says Dennis.

In their initial studies, the Valentines used three pounds of granulated sugar dissolved in 10 gallons of water per acre. "The sugar cost less than \$2 per acre so even a small improvement in yield or harvestability made it pay off," says Rod of their results.

Plenty Sweet. More recently, the brothers are using a high fructose corn syrup product, Plenty Sweet. "It's a liquid so it's easier to use, and although it's more expensive—at \$2 per pound of sugar—it's still an economical input. We've expanded our tests to more of the farm and are applying three to five pounds of sugar per acre in multiple applications, including with our starter fertilizer, with postemergence herbicide, and by itself in a separate spray operation," explains Dennis.

Much of the interest in applying sugar has come from national soybean champion Kip Cullers of Purdy, Mo. While many of his practices are proprietary, Cullers admits to applying 2-3 pounds of sugar per acre on his soybeans, where he's produced yields of up to 160 bushels per acre.

Cullers' success was one reason

Brandon Hunnicutt decided to try sugar on his Giltner, Neb., farm. "We experimented with it a few years, and though yield increases were small they were consistent, so we've made it a part of our regular crop production program," says Hunnicutt.

Hunnicutt also now uses high fructose corn syrup as his source of sugar after starting with granular cane sugar. "We were buying 25-pound bags of table sugar from the local warehouse grocery store. A pallet of those in the pickup draws some attention. We asked the local coop to find the corn syrup product, which is nice because it's a by-product of corn processed in the ethanol industry. We apply one quart per acre—which contains one pound of sugar—in each of two or three applications per season. We don't know why it works, but we're convinced that it does," he adds.

Steve McManaman, agronomist with the Aurora Coop in Aurora, Neb., is also convinced sugar works and believes he knows why. "Applying sugar is like drinking Mountain Dew—it provides an energy boost. It enhances the nutrient uptake of plants and also increases microbial activity when applied to the soil. This speeds residue decomposition and the mineralization of soil organic matter," he says.

Sugar not only improves nutrient uptake, it also increases the amount of herbicide taken in by plants, according to McManaman. "This results in improved weed control from post-



►Above: Research on using sugar is limited, but growers are trying it to mimic the production practices of soybean yield champion Kip Cullers.

emergence herbicide applications. We see a big benefit in the weed control performance of glyphosate when it's applied with sugar," he says.

McManaman says he's also seen an application of sugar increase nodulation of soybeans. "We recommend growers add high fructose corn syrup as a source of sugar to the tank every time they spray. It's inexpensive, and our tests have always shown a positive yield response. Of course, it won't take the place of good agronomics, but sugar will help growers continue to move yields a bit higher."

Baiting good bugs. Rees and her associates at the University of Nebraska admit research on the use of sugar is limited. "We suspect that sugar attracts beneficial insects, and there's some proof of that. Entomologists in South Dakota found that lady beetles regularly consume the sugar-like nectar produced by soybean plants. When they applied sugar to add to this food supply the number of lady beetles increased," she says.

"We also can't yet explain the improved standability we see when an application of sugar is made to growing corn. Our hypothesis is that an early-season treatment increases the population of beneficial microbes in the soil, and that may help to keep the exposed brace roots and stalks of corn plants healthy," she adds. ■