Sugar Beet Product Line

Nanoliquid™ technology is a cutting edge technology that delivers nutrients or crop protection more efficiently into the plant either through root or foliar uptake. NLT-R is the specific type of patented nanoparticle technology engineered for driving chemistry. NLT-D is specifically engineered for driving nutrition.

NanoPro®

The nanoliquid carrier adjuvant for crop protection

Silicon dioxide and humic acid
4 oz/ac

NanoPro® utilizes Aqua-Yield® NLT-R technology, working as a carrier adjuvant that is specifically designed to improve crop protection efficacy and uptake. NanoPro® is most effective when combined with systemic chemistry (herbicide, pesticide, fungicide, and defoliants) to improve efficacy, cover more acreage and minimize repeat applications.

NanoK®

Nanoliquid technology for improved potassium use efficiency

0-0-21 | 4-6 oz/ac

NanoK® delivers potassium acetate through Aqua-Yield® NLT-D technology to provide potassium to sugar beets all season long. Applying NanoK® improves potassium absorption into the plant where it plays a critical role in mitigating stress and increasing yield and sugar content. Growers are increasing sugar by as much as .75 points by adding NanoK® to the spray tank with herbicide applications and Cercospora spraying.

NanoCS™

The nanoliquid crop starter enhancer

1-2-1-3Zn | 4-6 oz/ac

The nanoliquid crop starter enhancer NanoCS™ utilizes a robust combination of Aqua-Yield® NLT-D technology, balanced NPK and zinc in one easy to use product. NanoCS™ delivers essential nutrients into the seed for rapid germination and growth. Continued uptake occurs in young seminal roots, improving the amount of nutrients getting into the young seedling for quicker emergence. Aqua-Yield® promotes salt reduction due to a lower rate of conventional starter

NanoN+™

Nanoliquid technology for improved nutrient use efficiency

1-0-0 | 2-6 oz/ac

NanoN+™ utilizes Aqua-Yield® NLT-D technology that is specifically designed to improve nutrient efficiency and uptake to improve crop yield and quality. When **NanoN+™** is deployed into nutrient programs on sugar beets, growers can manage their nutrients more efficiently. Nitrogen deficiency leads to poor leaf canopies, premature yellowing, and low tonnage yield. A balance is important as excessive nitrogen can lead to reduced sucrose.

NanoPack®

Nanoliquid technology delivering a blend of essential micronutrients

0.5Cu-2Fe-1Mn-1Zn | 2-6 oz/ac

NanoPack® delivers copper, iron, manganese, and zinc through Aqua-Yield® NLT-D technology. NanoPack® brings critical micronutrients to plants when soil levels are low. When applied throughout the growing season, NanoPack® prevents nutrient deficiencies that limit crop yield while boosting plant metabolism and overall health. the plant either through root or foliar uptake.

AQUA-YIELD®

NANOLIQUID™ DELIVERY TECHNOLOGY

FOR YOUR SUGAR BEET CROP

AN OVERVIEW

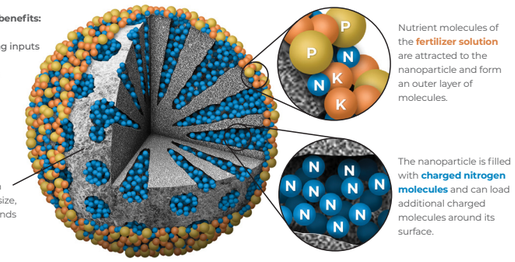
OUR TIMELINE

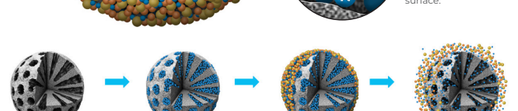
- 2014 — FEB Founded
- 2015 — MAR '15 - AUG '17 R&D of core nanoliquid™ Technology
- 2016
- 2017 — NOV Launch of NanoPro® for crop protection application
- 2018 — JAN Transition from service to product model for scalability; MAY Registration completed in 47 states
- 2019 — JULY Aqua-Yield applied to 1 mil acres
- 2020 — AUGUST New research and focus on brand strategy and marketing support
- 2021 — JUN Hired several sales reps to expand commercialization; NOV Aqua-Yield applied to 2 mil acres
- 2022 — JAN Launch of NanoFe and organic line of products: Omni Crop Care; SEPT Raised $23m in Series A financing Aqua-Yield applied to 3 mil acres
- 2023 — FEB Launch of turfgrass line of products: Turf NanoTech™

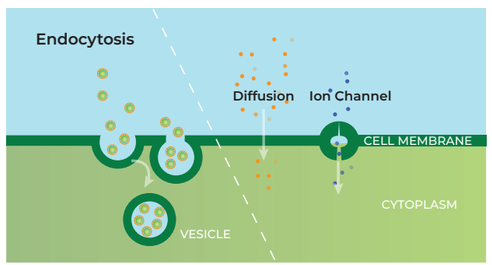
Through endocytosis, one nanoparticle can deliver a thousand nutrient ions, whereas in the typical process of diffusion or active transport each nutrient ion must individually pass through the cell membrane.

OUR TECHNOLOGY

Aqua-Yield® nanoliquid™ benefits:
- Less salt applied
- Highly compatible with ag inputs
- Clean, easy handling
- Safe for the environment
- Proven performance







WWW.AQUAYIELD.COM

Anderson spraying nanoliquid™ technology by Aqua-Yield® on his sugar beet crop

The first year we tried a few different rates and combinations of Calcine® and Aqua-Yield® products within a 160 acre sugar beet field to **now this year we will use Calcine® and 5 different Aqua-Yield® products on every acre of sugar beets we plant**. We use the **NanoCS®**, which is in with Calcine® and our regular starter in sugar beets. Throughout the year, when we're spraying Roundup®, we use the **NanoPro®** to help with the efficacy of that. Later in the year when we're doing some Cercospra spraying, we add in the **NanoK®** to all three applications to help boost the late season sugar percentage in the sugar beets.

We've tried 14 different combinations and we've never had any issues with volatility, crop injury or mixing, so that's been a key reason we've kept using it. The bottom line on it is that it's not adding any salt to the soil, which almost every fertilizer is salt based in some aspects. We've seen improvements in all our crops.

Sevrin Anderson • Fifth-Generation Farmer • Drayton, ND

Sweet Beets with NanoK®

Trials were conducted in 2019 and 2020 to see how late season applications of NanoK® nanoliquid can improve sugar content of sugar beets. The trials show that applying NanoK® is proven to help aiding the crop through stressful conditions while increasing yield and sugar content. At just 4 oz/ac NanoK® provided a simple fertility solution yet significant return on investment.

Trial One

NanoK Sugar Beet Data - 2020 Harvest

	Field 1	Field 2	Producer Average	Piling Station	Cooperative Totals
Acres	139.2	154.8	294	12,578	105,716
Average Tons	21.9	24.6	23.34	23.0	24.09
Sugar Content Percent	18.93	17.95	18.39	17.57	16.88
Lbs Sugar per ton	324	302	312	299	286
Lbs Sugar Per Acre	7097	7436	7275	6882	6895

- Field 1 and 2 were planted previously in sugar beets in 2017
- Field 1 Varieties were ACH 771, Beta 7727, Beta 7748
- Field 2 Varieties were ACH 771, Beta 7755

NanoK applied at 4 oz per acre with fungicide application.
3-total applications from late August through September 2020

Average return in tons per acre vs piling station- .34 tons/acre $17.00 per acre more! (based on $50/ton)

Additonal sugar content per acre estimated at $4.00 per ton on 23.34 tons $93 per acre return!

Trial Two

NanoK Sugar Beet Data - 2019 Harvest, MN-DAK Sugar Coop Grower

	Field 1	Piling Station	Cooperative Totals
Acres	150	13,000	75,000
Average Tons	21.6	18.1	22.5
Sugar Content Percent	16.80%	15.60%	16%
Lbs Sugar per ton	284	263	270
Lbs Sugar Per Acre	6132	4768	6094

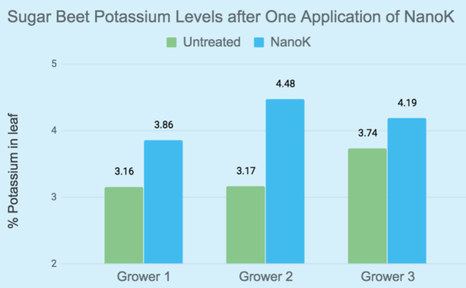
- Field 1 planted previously in sugar beets in 2014
- Field 1 varieties ACH 771 and Beta 7727

NanoK applied at 4 oz per acre with fungicide application.
3-total applications from late August through September 2019

3.5 tons per acre increase at $50 per ton equals a $175 return per acre! Cost of 3 NanoK applications is $17.00/acre

Aqua-Yield® Nanoliquid™ Products Provide Solutions for Sugar Beet Growers

Three Sugar Beet Growers in the Crookston, MN area used NanoK® or NanoPro® to enhance their fertility program. The graph to the right shows potassium levels were higher where Aqua-Yield® products were applied. Tissue samples were collected in late August and processed by Midwest Labs (Omaha, NE). Harvesting logistics prevented the final yield from being collected separately, however the growers were very satisfied with the result. A fourth grower applied NanoGro® (7-10-1) in a trial fields late-season and saw immediately higher nitrogen and phosphorous levels in the leaf in multiple fields tested.



"NanoK® should be applied at 4 oz per acre with Cercospora and herbicide spraying at least three times during the bulking stage of growth. Timely applications of this potassium acetate nanoliquid™ provides that boost to increase sugars."

Tom Vander Heiden,
ST Biologicals
Minnesota

"Increasing sugar content in sugar beets has always been a challenge for sugar beet growers until now. Applications of NanoK® on sugar beets with other spray applications has shown to increase sugar by as much as .75 points. The payback for the producer has been a $17 investment and a return per acre of over $100 for the additional sugar harvest."

Jim & Darcy Erickson,
Erickson Custom Operations
North Dakota

Growers are consistently seeing a 0.5-0.75% increase in sugars with the addition of 4 oz of NanoK® nanoliquid applied three times.