Potato 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.



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.



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.



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.

NanúCS



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 potatoes, growers can manage their nutrients more efficiently. Balancing nitrogen throughout early growth is critical for tuber formation and plant health.



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

NanoK[®] delivers potassium acetate through Aqua-Yield[®] NLT-D technology to provide potassium to crops all season long. Applying NanoK[®] improves potassium absorption into the plant where it plays a critical role in the movement of sugars into tubers for starch production. Potassium also plays a key role in overall quality of the tuber. NanoK[®] also decreases drought stress and boosts the plant's immune system to fight off disease.

NandCalSi

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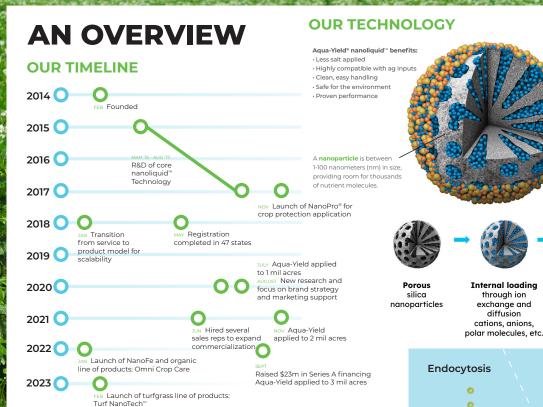
Nanoliquid technology for improved calcium use efficiency

6Ca | 2-6 oz/ac

NanoCalSi[®] makes delivery of calcium possible when selective plant uptake restricts calcium absorption by the roots. Aqua-Yield[®] NLT-D technology is perfectly matched for calcium delivery on potatoes, positively impacting quality and skin set, both of which are critical for longterm storage.

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NANOLIQUID[™] DELIVERY TECHNOLOGY FOR YOUR POTATO CROP



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.





Internal loading through ion exchange and diffusion cations, anions,



External loading creating the NanoShield

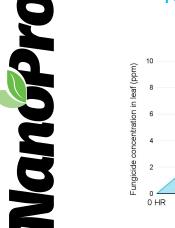


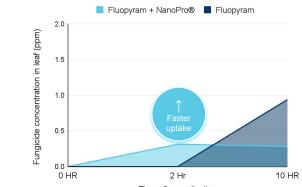
Cargo release leaves and roots

Endocvtosis Diffusion Ion Channel

NanoPro[®] Speeds Up Fungicide Uptake on Potato

10 HR

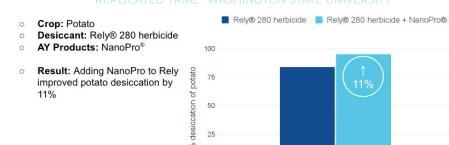




Time after application

NanoPro[®] Improves Potato Desiccation

Tuber size





NanoPro[®] Increases Potato Yield

Pyrimethanil + NanoPro® Pyrimethanil

2 Hr

Time after application

General Information 2022 Year Dan Adamson, Regional Agronomist Aqua-Yield® Agronomy Team 600 Wisconsin potato Study Type Crop Protection in-furrow Aqua-Yield® Product(s) NanoPro® Velum® Prime: Frac 7 Fungicide (Registered trademark of Bayer Additional Product(s) Group) ReCon[™] 4 F (Trademark of Atticus, LLC) Elatus® Frac 11 & Frac 7 fungicides (Trademark of Syngenta®) Platinum®: IRAC 4A Insecticide (Trademark of Syngenta®) **NanoPro**® Increases **Potato Size**

& Count



Fuber size

Grower Standard NanoPro®

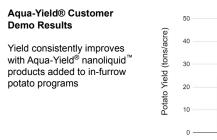
Increased Blight Control

*: INCREASED BLIGHT CONTROL

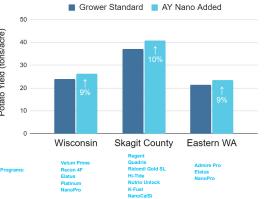


AQUA-YIELD®





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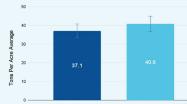


Aqua-Yield[®] Products Increase Yield & Quality

General Information		Adding the Aqua-Yield® products to the growers standard program resulted		
Year	2018	in an estimated increased return of \$600 per acre based on storage sampling yield and quality (\$0.75 more per CWT). The Aqua-Yield program included		
Collaborator	Aqua-Yield® Grower	NanoGro®, NanoK®, NanoPack™, and NanoStress applied 5 times during the season via pivot irrigation at 4 oz/acre for each product.		
Location	Idaho, Washington	January storage sampling from 2018 field trial		
Crop(s)	potato	DOCKSIDE RETURN AND WORKSHEET DOCKSIDE RETURN AND WORKSHEET		
Study Type	Crop Nutrition fertigation			
Aqua-Yield® Product(s)	NanoGro® NanoK® NanoPack®			
Additional Product(s)	NanoStress®	Approximation Approxim		

NanoCalSi[®] In-Furrow Potato

- Calcium affects potato tuber size and number and is critical during cell division and expansion.
- A single application of NanoCalSi[®] added in-furrow at planting showed an average increase in yield of 3.7 tons/acre.



Grower Standard + NanoCalSi®

NanoN+[®] and NanoPhos[®] Boost Potato Yield at Planting

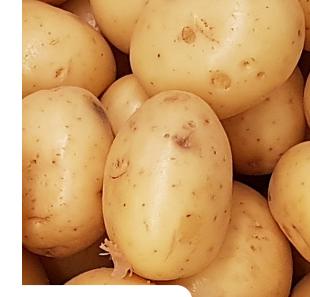
Year			
Collaborator	Aqua-Yield® Grower		
Location	Moses Lake, WA		
Crop(s)	potato		
Study Type	Crop Nutrition		
	fertigation		
Aqua-Yield®	NanoN+™		
Product(s)	NanoPhos®		





with NanoPro[®] ▼ Grower Standard ONLY (1.5 pt Bravo WS 720SC, 4.5 oz Priaxor + 1.5 pt Bravo WS, 3.5 oz Endura + 1.5 pt Bravo WS, 2 lb Dithane DF + 2.5 oz Supor Tin)







▲ Adding Aqua-Yield® products to the grower's standard program resulted in an estimated \$600/ac ROI based on storage sampling, yield, and quality.





Test yield with NanoN+ " and NanoPhos® added: 9 plants with 29 stems and 132 spuds. Regular test yield: 9 plants, 21 stems, 96 spuds. The potatoes were collected from a 10' strip dug on 8/7/2018. At the end of the season an 8% increase in yield was recorded with Aqua-Yield added.

Protocol 2 lbs Redox Rootex and 1 lb Redox H85. 4 oz/acre of NanoN+* and 4 oz/acre of NanoPhos® was added to the mix for part of the field during planting. 4 weeks later another pound of Rootex and H85 were applied through the pivot.





