NFINITY

DELIVERING NITROGEN, NATURALLY

The Next Frontier in Sustainable Nitrogen Management

N-FINITY™ is a cutting-edge nitrogen use efficiency technology that combines three modes of action to deliver nitrogen from biological sources and improve plant utilization of nitrogen.

Designed for concentrated soil applications, **N-FINITY** can be used in any crops that benefit from supplemental nitrogen, including corn, cotton, sorghum, soybeans and wheat.

N-FINITY is exclusively available from Nutrien Ag Solutions®.

Key Features

- Increases fixation of atmospheric nitrogen in the soil
- Stimulates recruitment of native nitrogen-fixing soil bacteria and beneficial fungi
- Liberates organic nitrogen in the soil and converts it into plant-available ammonium (NH_4)

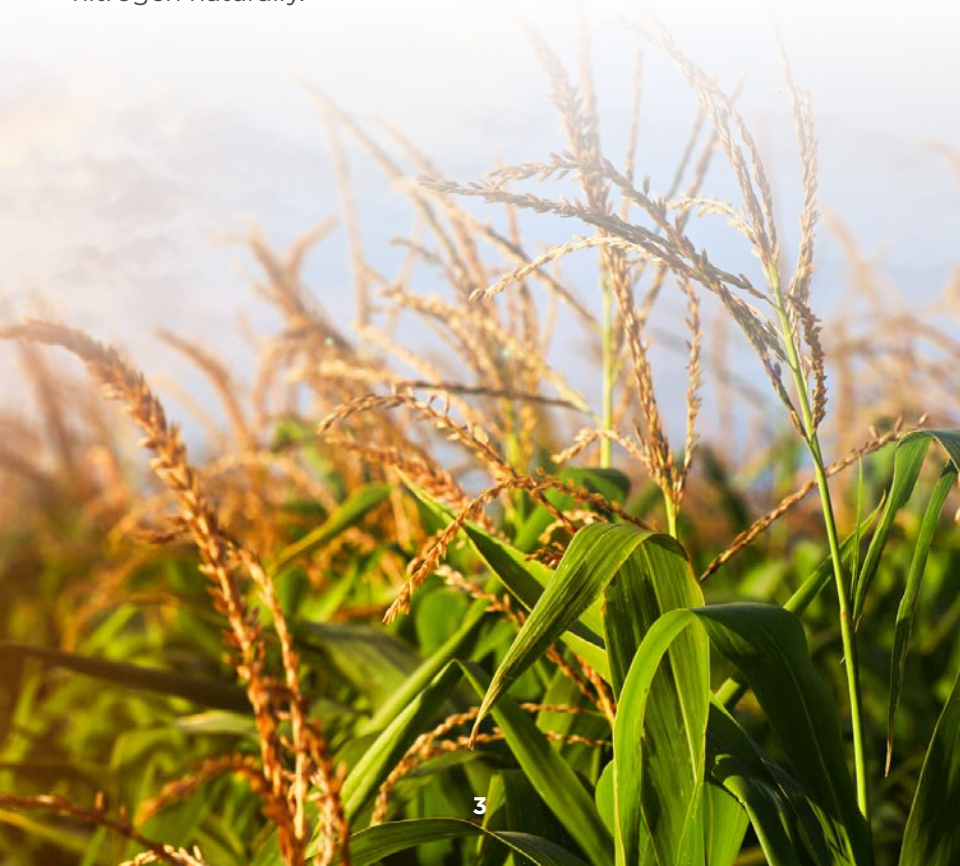
Key Benefits

- Improves overall nitrogen use efficiency (NUE, lower nitrogen input use/bushel yield)
- Improves the sustainability of nitrogen programs by providing nitrogen from biological sources
- Easy to use, with flexible application timing
- Compatible with liquid starter fertilizers, UAN blends, insecticides and fungicides

Three Modes of Action Deliver Nitrogen from Biological Sources, Naturally

N-FINITY's combination of soil-amending microbes and active microbial metabolites gives crops access to biological nitrogen through three mechanisms: Direct nitrogen fixation, recruitment of nitrogen fixers to associate with plant roots and liberation of organic nitrogen in the soil.

These three modes of action provide a versatile solution that can enhance nitrogen use efficiency across a wide range of field and environmental conditions, and can even supplement a portion of annual nitrogen requirements by providing nitrogen naturally.



How It Works

1 NITROGEN FIXATION

Proprietary nitrogen-fixing bacteria in **N-FINITY** colonize the plant roots, living within the plant cells. There, they are able to fix, or convert, molecular nitrogen (N_2) in the soil airspace into ammonium (NH_3), a plant-available form of nitrogen.

2 NITROGEN FIXER RECRUITMENT

The microbes and microbial metabolites in **N-FINITY** use biological signaling to attract additional nitrogen-fixing bacteria and beneficial fungi in the soil to the rhizosphere. Once recruited, these associate with the plant roots and provide the plant with additional nitrogen.

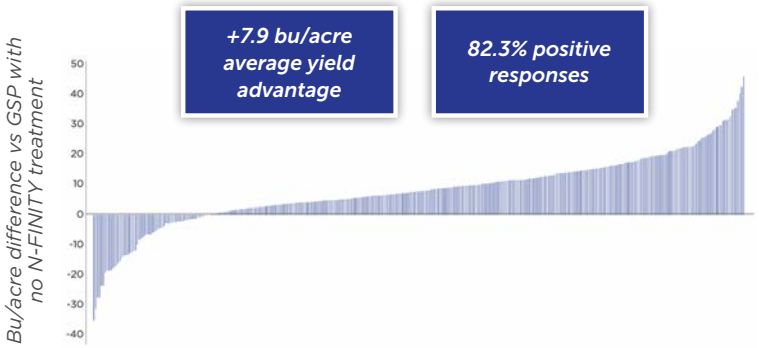
3 NITROGEN LIBERATION

The biochemical component of **N-FINITY** is comprised of microbial metabolites that help to build organic nitrogen pools in the soil. These metabolites also liberate organic nitrogen from these pools, mineralizing it so that the nitrogen is in a plant-available ammonium form ready for crop uptake.

Going Beyond Applied Nitrogen

Optimizing nitrogen fertility requires considering nitrogen sources other than applied nitrogen fertilizers. By delivering critical nitrogen from additional sources in the soil, **N-FINITY** supports sustainability goals while contributing to nitrogen use efficiency and yield gains across a variety of crops.

N-FINITY Replicated & On-Farm Comparisons – Corn, Soybean & Wheat (2024)
344 observations in 12 states (IA, IL, IN, KS, KY, MD, MN, NC, NE, OH, VA & WI)

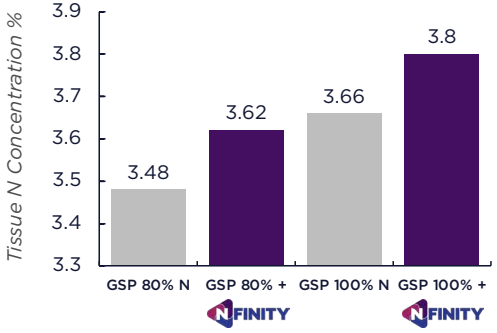


N-FINITY Performance with Two Different Rates of Nitrogen Fertilizer

N-FINITY can help crops reach their yield potential more sustainably whether applied with standard rates of nitrogen or with modestly reduced rates of nitrogen fertilizer.

Increase in Leaf Tissue Nitrogen with N-FINITY

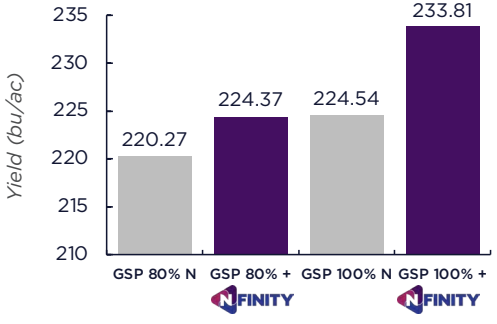
Corn – Agri-Tech Consulting, Whitewater, WI



N-FINITY increased leaf tissue N concentration in both the full- and reduced-rate nitrogen programs.

Increase in Corn Yield with N-FINITY

Corn – Agri-Tech Consulting, Whitewater, WI



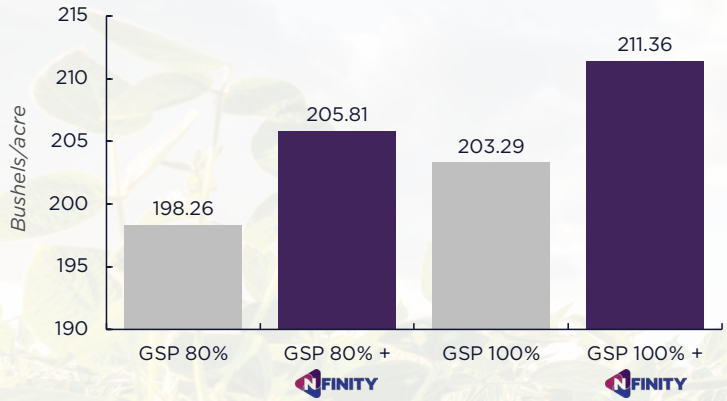
N-FINITY provided yield benefits in both the full- and reduced-rate nitrogen programs.

N-FINITY applied with 80% GSP provided similar yield to 100% GSP alone.

GSP=Grower's standard practice.

N-FINITY Comparison by Nitrogen Rates

Average of 8 Replicated Corn Trials

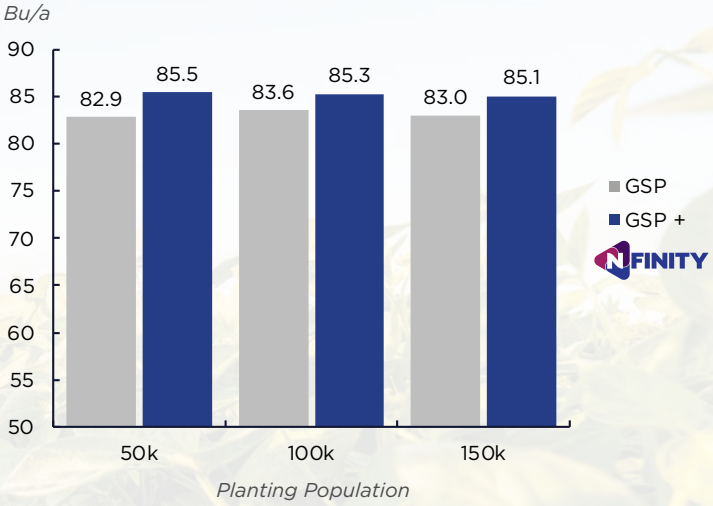


Replicated trials also show that N-FINITY applied with 80% GSP provided similar yield to 100% GSP alone.

GSP=Grower's standard practice.

N-FINITY Performance in Soybeans

Soybeans – Nutrien Ag Solutions Innovation Farm, Champaign, IL
N-FINITY applied at 1 qt/acre at plant in furrow



Note: Soybean variety AG36XF.

N-FINITY in the Field

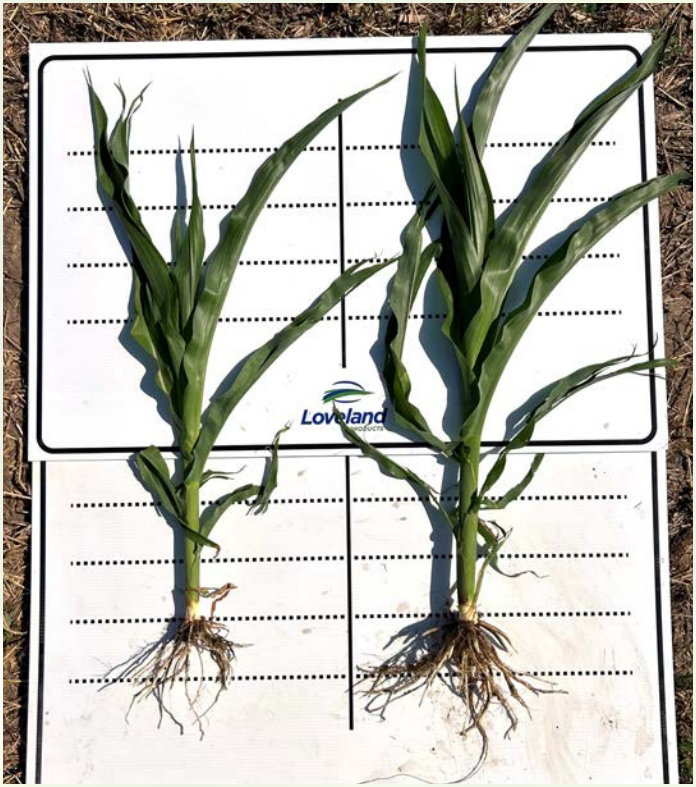
Corn – Adamstown, MD (21 DAA)
N-FINITY applied at 1 qt/acre at planting

GSP | GSP + N-FINITY

	GSP	N-FINITY
Stand count (per acre)	30,400	32,400
Average root length (in)	13.4	15.2
Average shoot length (in)	23.1	26.1
Average stalk diameter (in)	0.48	0.81

Corn – Cozad, NE (44 DAA)
N-FINITY applied at 1 qt/acre at planting

GSP | GSP + N-FINITY



0.71 in. stalk diameter | **0.98 in. stalk diameter**

GSP=Grower's standard practice. | DAA=Days after application.

How Much Nitrogen to Apply with N-FINITY?

Factors to Consider for Nitrogen Rate Decisions

Maintain 100% N rate if...	
NPB < 0.8 No excess N to reduce	**Soil P** levels are **low to deficient**

May consider 5-20% reduction of applied N if...	
Participating in **sustainability/carbon credit offer** compensating for reduction in applied synthetic N	**Ca:Mg ratio > 6** Better aerated soils have greater capacity for liberation of organic N & recruitment of N-fixing microbes
NPB > 1.2 N is in luxury consumption	**Soil OM > 3%** Greater pools of organic N available for conversion to NH4
High C:N ratio Heavy residue, corn on corn, Ability to increase biological sources of N will decrease C:N	**Livestock-manured soil** Higher levels of organic N for conversion to NH4

NPB = # nitrogen/bushel
OM = organic matter

At a Glance

Application	• Concentrated soil applications
Key Ingredients	• Soil-amending microbes • Microbial metabolites/biochemistry
Key Features & Benefits	• Increases nitrogen use efficiency • Three modes of action sustainably maximize biological nitrogen availability • Easy to use (no special handling) • Compatible with liquid fertilizers (including in-furrow starters and liquid UAN blends), insecticides and fungicides – no known compatibility concerns • May be used with standard or reduced-rates of nitrogen

Recommended Uses and Rates

Application Timing	Placement/ Methods	Recommended Rate	Notes
At Planting	In furrow or 2x2	*1 quart/acre*	Does not have to be used in conjunction with liquid fertilizer
In Crop/ Liquid Sidedress	Injected, knifed, Y-drops, streamer bars or dribbled	1 quart/acre	

NOTE: Please see N-FINITY label for additional details.

Contact Your Local Nutrien Ag Solutions® Retailer

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