

SUSTÅNE®

NATURAL FERTILIZERS & SOIL BUILDERS



PRODUCTS, RESEARCH, AND USAGE GUIDE FOR SUSTAINABLE

AGRICULTURE

For Professional Farmers, Gardeners,
And Greenhouse Operators...Worldwide





ABOUT SUSTÂNE

Since 1988 – Sustâne Natural Fertilizers have been manufactured in the U.S.A. and are available throughout North America and internationally. The only organic exported to over 60 different countries, Sustâne is used by professional growers and horticulturists worldwide.

Our mission is to help you grow organically, sustainably and profitably. We employ a courteous, responsive and dedicated staff of experts to help customers improve their crop and soil management practices. Because at Sustâne, your success is important to us.

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Sustâne's 26-week aerobic composting process assures that all raw materials have achieved thermophilic temperatures (135° to 155° F) turning organic matter into safe and biologically stable nutrient rich humus. This is the organic base material from which all Sustâne fertilizers are made. Windrow temperatures are continuously monitored to assure only the highest quality compost.



Charging Grain Drill with Sustâne, Tappan, ND



Sustâne's U.S. EPA permitted composting facility supplies nutrient-rich aerobic compost year round to its manufacturing facility. Sustâne produces a wide range of organic, slow and controlled release fertilizers for professional growers worldwide.

Safe for kids, pets, and pollinators!

SUSTÅNE ORGANIC

AND NATURAL BASE FERTILIZERS AND SOIL BUILDERS

SUSTÅNE PROVIDES THE PERFORMANCE AND PRECISION OF A SLOW RELEASE FERTILIZER WHILE SUPPLYING ENHANCED SOIL MICROBIAL DIVERSITY.

Suståne is the world's leading manufacturer and exporter of organic and natural fertilizers for all green industries. Suståne's products are designed for organic farming, gardening, horticulture, landscape and native plant establishment.

Suståne is derived from aerobic, concentrated compost – rich in humus, dense in nutrients, biologically active. It is safe, easy, and economical to use.

No one makes compost like Suståne does!



BIOLOGICALLY RICH – MICROBIALLY DIVERSE...

Suståne's aerobic compost harbors an incredibly diverse and active microflora that help cycle nutrients and promote natural disease suppression. Through careful formulation Suståne manufactures a range of compost-based products for all types of crop establishment, fertility maintenance, land reclamation, and soil building programs.

...YET BIOLOGICALLY STABLE

Suståne fertilizers do not cause native soil microbes to rob oxygen from the root zone as other raw organic fertilizers do. Suståne is biologically stable and will not attract flies, insects, rodents or other animals; unlike blood, bone and meat meals, or fresh manures and fish-based fertilizers.

GRANULAR FERTILIZERS

FOR ORGANIC, SUSTAINABLE AGRICULTURE AND FARMING

EVERY SUSTÂNE GRANULE CONTAINS MUCH MORE THAN N-P-K

SLOW RELEASE NITROGEN MEANS LESS LOSS AND MORE LASTING NUTRITION DELIVERED TO THE PLANT.

COMPLETE NUTRITION IS PROVIDED BY ALL 17 ESSENTIAL PLANT NUTRIENTS.

RICH IN HUMIC AND FULVIC ACIDS. STABILIZED ORGANIC MATTER PROVIDES INCREASED CATION EXCHANGE CAPACITY FOR YOUR SOIL.



Typical 2 mm Sustâne granule shown at 25x magnification

STABILIZED ORGANIC MATTER MEANS NO DEPLETION OR TIE UP OF SOIL NITROGEN SOURCES

EACH SUSTÂNE GRANULE SUPPLIES BENEFICIAL BIOLOGY – INCREASING SOIL HEALTH AND PLANT PROTECTION

ALWAYS GUARANTEED: SAFE TO HANDLE. NO HARMFUL PATHOGENS, NO WEED SEEDS, NO ANTIBIOTICS. BACKED BY INDEPENDENT ANALYSES.

SUSTÂNE SUPPLIES COMPLETE PLANT NUTRITION...

in safe, effective, and easy to apply granules. Sustâne products are derived from biologically stable humus-rich compost and contain both water soluble nitrogen (WSN) and slow release nitrogen (SRN), beneficial microbiology, and all 17 elements essential for plant photosynthesis. With a near-neutral pH, a low salt index and low ammonium nitrogen percentage, Sustâne will not cause seedling stress or plant fertilizer “burn”. Sustâne products increase soil cation exchange capacity (CEC) by supplying humates and stable organic matter. Sustâne’s organic and blended natural fertilizers provide all soil types with additional buffering capacity, allowing for more consistent and productive growth.

FERTILIZERS APPROVED FOR USE IN CERTIFIED ORGANIC PRODUCTION

GUARANTEED N-P-K-Ca	% SRN- SLOW RELEASE NITROGEN	NITROGEN (N) FORM BY PERCENTAGE	OTHER NUTRIENTS	PLANT FOOD SOURCES	PARTICLE SIZES AVAILABLE	DESCRIPTION RECOMMENDED APPLICATIONS
Sustâne Concentrated Compost™ 2-3-3 *, **	80% SRN	0.2% Ammoniacal 0.2% Water Soluble 1.6% Water Insoluble	Calcium (Ca) 5.0% Magnesium (Mg) 1.0% Iron (Fe) 0.5%	Aerobically Composted Turkey Litter and Plant Based Compost	Medium Grade 2 mm	Rich dehydrated, granulated, and screened compost. Best value soil builder with concentrated nutrients and organic matter.
Sustâne Standard 4-6-4 *, **, ***	80% SRN	0.4% Ammoniacal 0.4% Water Soluble 3.2% Water Insoluble	Calcium (Ca) 4.0% Magnesium (Mg) 0.75% Sulfur (S) 1%, Iron (Fe) 0.25%	Aerobically Composted Turkey Litter, hydrolyzed feathermeal, bone meal†, and potassium sulfate	Medium Grade 2 mm Fine Grade 1 mm	Starter fertilizer designed for use with diverse fruit, flower, and vegetable crops.
Sustâne All Purpose 5-2-4 *, **, ***	80% SRN	0.5% Ammoniacal 0.5% Water Soluble 4.0% Water Insoluble	Calcium (Ca) 3.0%	Aerobically Composted Turkey Litter, hydrolyzed feathermeal, and potassium sulfate	Medium Grade 2 mm Fine Grade 1 mm	All purpose balanced fertilizer, best used following legume rotations.
Sustâne High-N 8-2-4 *, **, ***	90% SRN	0.8% Ammoniacal 0.8% Water Soluble 6.4% Water Insoluble	Calcium (Ca) 2.0% Magnesium (Mg) 0.5% Sulfur (S) 1%, Iron (Fe) 0.1%	Aerobically Composted Turkey Litter, hydrolyzed feathermeal, and potassium sulfate	Medium Grade 2 mm Fine Grade 1 mm	Highest N all organic fertilizer formulated for use on all crops.
Sustâne High-N 8-4-4 *, **, ***	90% SRN	0.4% Ammoniacal 0.4% Water Soluble 7.2% Water Insoluble	Calcium (Ca) 2.0% Magnesium (Mg) 0.5% Sulfur (S) 1%, Iron (Fe) 0.2%	Aerobically Composted Turkey Litter, hydrolyzed feathermeal, bone meal†, and potassium sulfate	Container Media Grade 1-2 mm	Highest N all organic fertilizer formulated for use on all crops.

*OMRI Listed ** WSDA ***CDFA † Except UK and EU

NEW! BOLSTER MYCOBIO™ MYCORRHIZAL BIOSTIMULANT & BACTERIAL INOCULANT

Provides vigorous plant establishment and improved nutrient use efficiency from seedling through harvest. A biologically super-charged granular soil amendment and microbial inoculant enhances germination and promotes vigorous plant establishment to increase overall production value.

- Bolster MycoBio can be applied in furrow along with seed, or blended into media used for seed starting, transplant production and/or initial planting of rooted cuttings.



FERTIGATION PRODUCTS

A PRECISE METHOD FOR FEEDING PLANTS



PROFESSIONAL TOOLS FOR FERTIGATION...

in two concentrated, simple to use powders. Measure, mix, and feed for precision application and explosive growth while adding nutrients, microbiology and humic material with Sustâne's new WDF and Compost Tea. Waste less by precisely dosing plants with only what they need, and get more control of plant growth and greater nutrient use efficiency.



FLOURISH 8-2-4 WDF

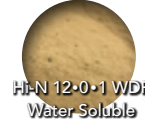
A workhorse **water dispersible** fertigation material formulated with all essential nutrients to provide plants complete nutrition. For manual application hand watering fertigation only.



Flourish 8-2-4 WDF
Water Dispersible

HI-N 12-0-1 WDF

Specifically for commercial fertigation and hydroponic systems. A rich source of **water soluble** nitrogen that can be used alone or in combination with Compost Tea.



Hi-N 12-0-1 WDF
Water Soluble

Item #	Package Size	Units / Case	Units / Pallet
FLOURISH 8-2-4 WDF			
70-50-2003	3 lb. canisters	12 / case	40 cases / pallet
70-50-2011	25 lb. pail		48 pails / pallet
HI-N 12-0-1 WDF			
70-55-2003	3 lb. canisters	12 / case	40 cases / pallet
70-55-2011	25 lb. pail		48 pails / pallet



SUSTÂNE COMPOST TEA BAGS / ROOT-ZONE FEEDER PACKS

- Easy to use liquid organic fertilizer supplement: no fuss, no mess, no measuring
- Beneficial microbes in the tea convert nutrients to plant available forms when added to soils and can help protect plants from pests and pathogens
- Increases yield with minimal effort



◀ A reusable Sustâne 5 lb. 4-6-4 Compost Tea Bag



▶ Sustâne 50 pack of 21 gram 4-6-4 Compost Tea Bags/Root Zone Feeder Packs

Sustâne 4-6-4 Compost Tea is simple to prepare. Add two 21 gram tea bags per gallon (42 grams), or a 5 lb. Compost Tea Bag per 100 gallons of water, aerate and steep for 24 to 48 hours at 60-85 degrees Fahrenheit.



Sustâne 5 lb. Compost Tea bags are a proven bolster for plant growth



Aeration during the brewing process increases the level of positive microbiology of Compost Tea



Sustâne growth trials

SPECIALTY NUTRIENTS & BLENDING

MACRONUTRIENTS, MICRONUTRIENTS & SOIL AMENDMENTS

SINGLE SOURCE ORGANIC CROP INPUTS AND CUSTOM BLENDS ARE AVAILABLE TO MEET EVERY SOIL TEST AND SOIL BUILDING REQUIREMENT FOR YOUR FARM, GARDEN, HIGH TUNNEL OR GREENHOUSE.

If your soils or plants have a nutrient deficiency, require a specific nutrient compliment, or if your soil test calls for a nutrient ratio different from basic Sustâne granular formulations (shown on page 4), Sustâne's precision custom blending systems can meet your unique needs. Individual supplements are available by the 50-lb. bag, 1,000-lb., 2,000-lb. totes or bulk truckload. Custom blends are available in 3-ton minimum size lots made to your specifications. Discuss with your soil testing service, consulting agronomist or contact a specialist at Sustâne Agricultural Services (see page 8) for a complete fertility package that is best suited to meet your needs.



THE FINEST QUALITY ORGANIC INPUTS

NITROGEN SOURCES:	N•P•K/DESCRIPTOR	PURPOSE
Hydrolyzed Feather Meal	13-0-0	Slowly available N supplement for P-rich soils
Chilean Nitrate	15-0-1	Fast-release N supplement for quick greening
PHOSPHOROUS SOURCES:	N•P•K/DESCRIPTOR	PURPOSE
Fish Bone Meal	4-18-0	Slower release P supplement with extra Ca
Bone Char	0-18-0	Alternative P supplement for acidic soils
POTASSIUM SOURCES:	N•P•K/DESCRIPTOR	PURPOSE
Sulfate of Potash standard	0-0-50-17S	Build soil K levels
Sulfate of Potash water soluble	0-0-52-17S	Provide supplemental K during the growing season
Potassium Magnesium Sulfate	0-0-21-9Mg-13S	Increase Mg in balance with K and S without increasing pH
MICRONUTRIENTS:	DESCRIPTOR	PURPOSE
Sustâne Micro-Mix	Ca, Mg, S, Fe, Mn, Cu, Zn, B, Mo	Micronutrients blended to suit customer needs
Borate	20 B	Alleviate B deficiency
Copper Sulfate	25 Cu-13S	Alleviate Cu deficiency
Ferrous Sulfate	20 Fe-12S	Alleviate Fe deficiency
Manganese Sulfate	24 MnSO ₄	Alleviate Mn deficiency
Sodium Molybdate	40 Na ₂ MoO ₄	Alleviate Mo deficiency
Zinc Sulfate	22 ZnSO ₄	Alleviate Zn deficiency
SOIL AMENDMENTS:	DESCRIPTOR	PURPOSE
Biochar	Stable Carbon	Improve soil quality in high clay and acidic conditions
Chitin (Crab Shell Meal)	4-3-0	Supports microbial growth for disease and pest suppression
Humates (Granular)	80% HA	Prolonged stimulation of root growth and nutrient uptake
Humic Acid (soluble)	16% HA	Rapid stimulation of root growth and nutrient uptake
Kelp Meal (Seaweed)	Biostimulant mix	Increase water holding capacity and promote root growth
Kelp Extract (Soluble)	Biostimulant mix	Rapid stimulation of root growth and activity
Mycorrhizae	Beneficial Fungi	Improves water, phosphorous and nitrogen uptake; plant protection from soil and root pathogens

FERTIGATION SOLUTIONS

APPLICATIONS, RESEARCH & RESULTS

NEW FORMULATIONS PROVIDE ORGANIC FARMERS, PROFESSIONAL GREENHOUSE AND NURSERY GROWERS AND LANDSCAPERS THE BEST POSSIBLE TOOLS FOR ORGANIC FERTIGATION.

Fertigation provides more precise control of plant feeding. Wherever water is provided through irrigation, additional nutrients can also be delivered. By precisely dosing plants with only the nutrients they need as they grow, there is reduced potential for nutrient loss in the growing system. That means better control of plant growth, greater nutrient use efficiency, and less waste.

Commercial nurseries and greenhouses grow plants with diverse nutritional needs. While a typical soil or constructed potting mixes can provide all of the nutrients a plant needs to grow, supplementing those matrices with different concentrations of key nutrients, particularly nitrogen, can improve the rate and quality of plant growth.



Figure 1: Plant growth enhancement by compost teas. From left to right, shoots of cucumber harvested from pots treated with water, KIS (aerated), Sustane (aerated), or Sustane Tea Bag (static) brewed compost teas. The larger leaf size and deeper green color of the Sustane treated plants indicates superior performance.

SUSTANE 4-6-4 COMPOST TEA TRIAL - OATS AND CUCUMBERS, COLUMBUS, OH

Sustane's Compost Tea is a rich fertigation solution that includes significant quantities of supplementary nutrients, humic substances, and active microorganisms that, together, can promote soil and plant health. Compost Tea promotes enhanced growth of dicot crops, like cucumber, with just a few applications.

AVERAGE PLANT BIOMASS (GROSS FRESH WEIGHT)

TREATMENT	OATS	CUCUMBER	TOTAL WT.
Sustane CT aerated	5.5	14.9 A	20.4 A
Sustane CT static	5.9	14.9 A	20.9 A
KIS Brand aerated	5.6	12.9 B	18.6 B
Water only	5.6	12.1 B	17.7 B

AVERAGE SOLUBLE NUTRIENT CONCENTRATIONS (PPM) IN COMPOST TEAS

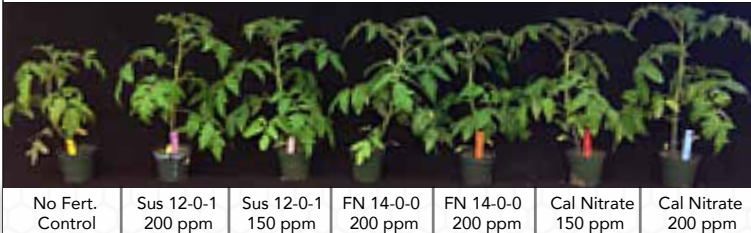
PRODUCT	Air?	N	P	K	Ca	Mg	S	Micro's
Sustane CT	Yes	64	96	412	26	52	338	11
Sustane CT	No	20	48	210	8	20	96	3
KIS Brand	Yes	6	2	176	76	12	184	1

Sustane's Compost Tea 4-6-4 blends well and compliments Sustane Hi-N 12-0-1 WDF and Sustane Flourish 8-2-4 WDF and are proven to make truly rich, optimally balanced fertigation materials. For more, see page 5.

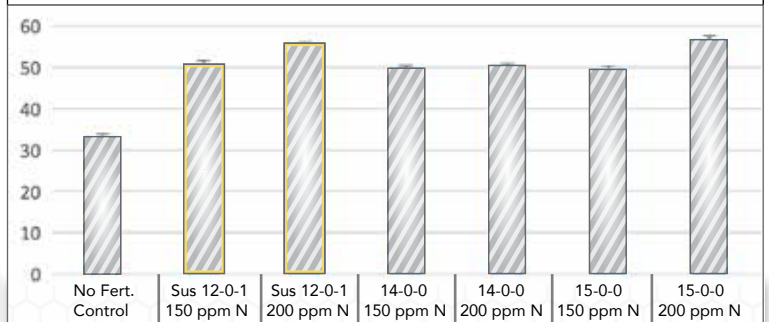
SUSTANE HI-N 12-0-1 WDF TRIAL - TOMATOES, CORNELL UNIVERSITY, ITHACA, NY

Fertigation with Sustane's Hi-N 12-0-1 water activated plant food concentrate provides rapid and durable greening of tomato seedlings. Objective: Compare performance of tomato transplants fertilized with a once weekly drench in response to Sustane Hi-N 12-0-1 WDF as compared to an organic alternative nitrogen source, 14-0-0 soluble protein hydrolysate, and a conventional alternative (calcium nitrate, 15.5-0-0). Conclusion: Sustane 12-0-1 had equal or greater performance of all measured parameters as compared to treatments (organic) or synthetic.

TOMATO SEEDLINGS: HI-N 12-0-1 WDF COMPARED TO OTHER NITROGEN SOURCES



TOMATO SEEDLING FRESH WEIGHT IN GRAMS



AGRICULTURAL SERVICES

WHERE BEST MANAGEMENT PRACTICES ARE JUST THE BEGINNING.

- Sustâne provides technical support and guidance for organic and sustainable farmers throughout North America.
- Specializing in organic fertility management plan development and implementation based on Sustâne Natural Fertilizer products.

SERVICES FOR GROWERS

SOIL SAMPLING, TESTING, AND ANALYSIS.

We provide guidance with soil sampling, assistance with interpretation of soil nutrient test results, and baseline recommendations for customers. For larger customers, we employ a proprietary expert program to generate customized fertility management program recommendations.

A. OPTIMIZE SOIL PERFORMANCE WITH A CUSTOM FERTILITY PROGRAM.

Using information on past and current cropping practices, environmental conditions, and soil tests, we design a custom fertility management program for your operation in accordance with organic principles and standards. Receive guidance based on two different proprietary expert-driven systems:

- Sustâne Optimum Grow™** is a proprietary tool Sustâne developed based on algorithms used to provide a balanced program of nutrients to support optimal yield goals based on environmental and management constraints, and
- Sustâne Build™** is another program Sustâne created based on algorithms used to create input programs that correct major imbalances and/or build soil quality, fertility, and health over a three year period.

B. ASSESS ANNUAL PERFORMANCE OF IMPLEMENTED PROGRAMS

We provide quantitative assessments of fertility management programs using information collected from grower interviews conducted during key management windows (post emergent, post flowering, and post-harvest) as well as grower provided yield, crop quality, and weather data. Estimates of yield limiting factors, the return on investment for selected inputs, and guidance for improving sustainability and profitability are provided.

CONTACT **SUSTÂNE AGRICULTURAL SERVICES** TO LEARN MORE ABOUT **OPTIMUM GROW** OR **BUILD** PROGRAMS, OR FOR SOIL TESTING AND ANALYSIS.
CALL +1-800-352-9245.



Measuring berry sugar content with the Brix system to evaluate performance in trials



Sustâne Ag services assists with soil sampling and analysis to customize recommendations



Checking in on trials

SUSTÂNE FIELD RESEARCH

BERRY CROPS

ARONIA BERRIES - ON FARM TRIALS, MULTIPLE LOCATIONS IN IA AND MN

Across diverse environments, Sustâne's dry granular fertilizers promote higher berry yields and great return on investment to organic berry growers. On well managed organic farms, additions of Sustâne 8-2-4 consistently increased yields (by 11% to 22% on average) giving growers greater profits.

On average, Aronia growers can increase net returns by \$1000 per acre by using Sustâne 8-2-4. Assuming a berry price of just \$1 per pound growers, our trial growers netted \$223 to \$5497 per acre on their farm by using Sustâne 8-2-4. Across all test plots, net receipts of \$712 to \$1307 per acre depending on the amount of Sustâne 8-2-4 they applied.



RETURN ON INVESTMENT					
TREATMENT	FARM 1	FARM 2	FARM 3	FARM 4	OVERALL
4-6-4 Sp Au	3.3	-6.2	-7.5	5.6	1.8
8-2-4 Sp	4.0	2.2	8.4	13.1	5.0
8-2-4 Sp Au	1.9	2.7	7.0	16.3	4.6

Sp: Spring application, Au : Autumn application, Sp Au: Applied both Spring and Autumn

YIELD AND SUMMARY HARVEST FOR 2017					
MEASURE	FARM 1	FARM 2	FARM 3	FARM 4	OVERALL
Yield (lb./plant)	2.3	9.9	10.9	14.8	8.0
Berry Density (g. 20 berries)	16.4	21.3	15.4	14.1	18.7
Brix Level (Trial Harvest)	20.2	18.8	15.1	14.8	16.5



COMMANDER STRAWBERRIES

- DRISCOLLS BERRIES, WATSONVILLE, CA

In this trial, Sustâne was the only organic fertilizer that provided yield increases, indicating that ingredients and formulations affect the success of a fertilizer. Plots treated with Sustâne 5-2-4 yielded as well as or better than all other synthetic and superior to other organic fertility sources examined.



YIELD AND QUALITY DATA FOR STRAWBERRY PLOTS RECEIVING DIFFERENT FERTILIZERS

TREATMENT PLOT **	lb./N ACRE	NO. OF PICKS	YIELD 3 PLOT AVG. CRATES ACRE	YIELD TONS/ACRE HARVESTED	BERRY SIZE AVG. GRAMS	BRIX (SUGAR CONTENT) SEPTEMBER	% CULLS	% SMALL	% MALF.	% ROTTEN
Duration 120Day 41-0-0	55.8	53	7600 a*	43.70	25.8	8.2	14.1	8.4	76.5	15.0
Duration 60-Day 41-0-0	55.8	53	7403 ab	42.61	25.8	9.5	13.8	6.1	75.7	18.13
Sustâne 5-2-4	55.8	53	7357 ab	42.30	25.3	10.0	15.7	7.7	77.7	15.0
Meister 19-7-10	51.7	53	7289 ab	41.91	26.3	8.0	15.8	7.6	77.4	15.0
Custom Chem. 18-7-12	49.0	53	7225 ab	41.54	26.1	8.0	14.4	7.2	77.0	15.9
Untreated Control	0	53	7110 bc	40.88	26.0	7.8	15.8	4.4	83.2	12.4
Cal. Organic Fert. 8-3-4	54.5	53	7030 bc	40.42	25.7	7.8	15.4	10.3	77.1	12.6
Integro 7-7-7	55.8	53	6560 c	37.72	26.2	9.0	16.5	5.0	80.1	14.9
Significance Level			0.04		0.49		0.13	0.81	0.69	0.48

SUSTĀNE FIELD RESEARCH

VEGETABLE CROPS

TOMATO AND RADISH SEEDLINGS - PAT^H HORTICULTURAL RESEARCH CENTER, RYDAL, GA

Potting mixes receiving Sustāne 8-4-4 produced healthier transplants than other organic and synthetic fertilizers. Sustāne's slow release nitrogen provides for healthier starts for diverse crops in all types of growing media standardized potting media 95:5 Coir-Perlite.



CELEBRITY TOMATO: 28 DAYS AFTER SEEDING (DAS). SAME NITROGEN RATE APPLIED.



Unfertilized Control

Competitor 1 - 7-2-4 at 0.6 lb. N / cu. yd.

Competitor 2 - NPK Unknown

Sustāne 8-4-4 at 0.6 N / cu. yd.

SCARLET GLOBE RADISH: 28 DAYS AFTER SEEDING (DAS). SAME NITROGEN RATE APPLIED.



Unfertilized Control

Competitor 1 - 7-2-4 at 0.6 lb. N / cu. yd.

Competitor 2 - NPK Unknown

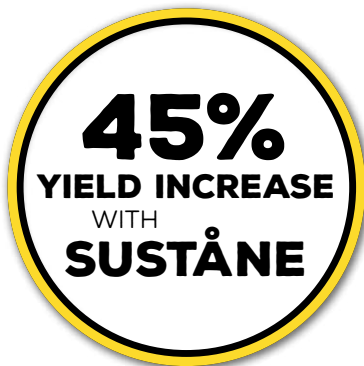
Sustāne 8-4-4 at 0.6 N / cu. yd.

ORGANIC SWEET CORN - MAPLESTAR FARM, AUBURN TOWNSHIP, OH

Sustāne's compost-base formulations have slower release N than other organic fertilizers, allowing for greater nutrient use efficiency by crops. In this trial Sustāne's program yielded 45% more sweet corn using 18% less N than composted chicken manure. *The grower increased his gross profits by \$1416 per acre by simply using Sustāne.*

SWEET CORN YIELD AND GROSS PROFIT

TREATMENT	YIELD (doz/acre)	NITROGEN APPLIED (lb./acre)	YIELD DOZENS / lb. N applied	FERTILIZER INPUT \$ cost/acre	GROSS PROFIT/ \$/acre
Sustāne	762	55	13.85	\$387.50	\$4,572.00
Pelletized Chicken Manure	526	65	8.09	\$361.00	\$3,156.00



Sweet corn ears from plots 65 days after planting. ▶

SUSTĀNE FIELD RESEARCH

AGRONOMIC CROPS

SMALL GRAINS - DALE DORAM, MSC/PA, MULTIPLE LOCATIONS IN AB AND SK

1. Applying Sustāne as a starter fertilizer at 10 sites in Alberta and Saskatchewan resulted in five sites showing statistically *significant yield increases in favor of Sustāne*, with one showing a mildly significant increase.
2. At three sites where Sustāne was compared to commercial 11-51-0 applied at similar gross rates per acre, the Sustāne yielded just as well even though it has a lower nutrient content than 11-51-0 (175% less nitrogen and 750% less P205). At one site where Sustāne was compared to a commercial mix 28-26-0 at similar rates, *the Sustāne treatment yielded significantly more than the commercial starter fertilizer.*
3. The yield responses when using Sustāne at such low rates, 30-75 lb. per acre, are likely because of a holistic interaction of 17 occurring elements, microorganisms, enzymes, and growth regulating compounds such as humic acid. The entirety of *Sustāne performs more consistently* than if the components were separated out and used as isolated components.
4. Using Sustāne as a starter fertilizer does not replace the need for additional nitrogen fertilizer but appears to successfully replace 11-51-0 and even at very low rates *provides significant yield increases over untreated control plots.*

UP TO
58%
HIGHER
YIELDS



SMALL GRAINS FERTILIZER TRIALS

CROP	NO. of SITES	MAP 11-51-0 at 50 lb. ACRE	SUSTĀNE 4-6-4 50 lb. ACRE	BU / AC DIFFERENCE	% CHANGE
Barley	3	42.6 bushels	53.6 bushels	11.0	25.8 %
Wheat (Dryland)	14	31.8 bushels	35.5 bushels	3.7	11.7 %
Oats	3	43.3 bushels	68.4 bushels	25.1	58.0 %
Canola (rapeseed)	3	18.5 bushels	20.2 bushels	1.7	9.5 %
Oilseed Radish	3	11.4 bushels	13.9 bushels	2.5	21.9 %



INDUSTRIAL HEMP - UNITED HEMP INDUSTRIES, LEXINGTON, KY

Sustāne's fertilizers can be used as an "all in one" input to feed industrial hemp. In this trial, Sustāne 8-2-4 improved stands and yields of organic seed and fiber hemp on high quality organic soil. *Even on high quality soils, Sustāne can provide a positive return on investment for hemp growers looking to increase their net returns.*

HEMP SEED/FIBER HEMP RESEARCH

TREATMENT	# N/ Acre	INITIAL STAND #/sq. ft.	DRY WT STALK (lb./acre)	SEED YIELD lb. / acre	GROSS (\$/acre)	SUSTĀNE ROI
Untreated	0	8.8 b	2125 b	670 b	\$1,733	n/a
Sustāne 8-2-4 Low Rate	80	11.3 ab	4280 a	1161 ab	\$3,301	1.6
Sustāne 8-2-4 High Rate	160	15.3 a	3430 ab	1313 a	\$3,028	0.1



FOR SUPERIOR GROWTH, IT'S SUSTÅNE... NATURALLY.



SUSTÅNE NURSERY,
GREENHOUSE &
LANDSCAPE BROCHURE



SUSTÅNE
AGRICULTURE
BROCHURE



SUSTÅNE SPORTS TURF &
TURF GRASS BROCHURE



SUSTÅNE
RETAIL LAWN &
GARDEN BROCHURE



SUSTÅNE EROSION
CONTROL &
BIOREMEDIATION BROCHURE



SUSTÅNE CANNABIS
BROCHURE

SUSTÅNE CUSTOMER SUPPORT
1-800-352-9245 | +1 (507) 263 3003
HELP@SUSTANE.COM



SUSTÅNE NATURAL FERTILIZER, INC.

310 HOLIDAY AVE. E.
CANNON FALLS, MN 55009 U.S.A.
800-352-9245 • +1 (507) 263 3003 • FAX (507) 263-3029
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