

# SUSTÅNE®

**NATURAL FERTILIZERS & SOIL BUILDERS**



Clearwater Bay Golf and Country Club, Hong Kong

## PRODUCT GUIDE FOR LANDSCAPE & **TURFGRASS**

For Professional Groundskeepers, Golf Course  
Managers & Landscape Architects... Worldwide



# SUSTÂNE NATURAL FERTILIZERS & SOIL BUILDERS ORGANIC-BASED FERTILIZERS FOR ALL TURF & LANDSCAPE

## WORLD CLASS NATURAL FERTILIZERS

### Since 1988

Sustâne granulated slow release fertilizers replenish the soil with the essential nutrients and a rich supply of humus as required for long term soil building and plant growth. Groundskeepers, nurserymen, master gardeners, and professional growers around the world use Sustâne.

## HIGH BIOLOGICAL ACTIVITY

Sustâne fertilizers are biologically active organic products created from a proprietary controlled aerobic process using composted turkey litter. Through this unique process, the turkey litter is concentrated into a nutrient dense humus containing beneficial microorganisms with very low burn potential.

## ALWAYS QUALITY ASSURED

The 6-month aerobic composting process is monitored weekly for moisture, temperature and oxygen assuring a stable, consistent product. **Sustâne operates its own in-house full time quality assurance laboratory to maintain AAPFCO, USDA-APHIS Export and OMRI standards.**

*AAPFCO: American Association of Plant Food Control Officers*

*USDA-APHIS: United States Department of Agriculture - Animal & Plant Health Inspection Services*

*OMRI: Organic Material Review Institute*

## THE SUSTÂNE ADVANTAGE

### Consistent, Uniform Granulation, Low Dust, Low Odor

Sustâne is an organic based product, which naturally contains all nutrients known to be essential for plant photosynthesis. All Sustâne fertilizers have consistent granulation and particle sizing that will not settle out or separate. Sustâne fertilizers are slow release nitrogen with long lasting benefits without causing excessive top growth.

## THE ORGANIC RESEARCH LEADER

Sustâne has been developing products since the early 1980's with the most comprehensive research program of any natural fertilizer company competing in the world market today. Sustâne knows how and why the products perform in the field. Today, Sustâne fertilizers are the standard to match in university and professional grower trials.

## WORLDWIDE DISTRIBUTION

Sustâne products are the only organic and natural based fertilizers and soil amendments that are known and distributed throughout Asia, Europe, North and Latin America, Africa, the Middle East, and Indian Ocean.

## ALL NATURAL ORGANIC FERTILIZERS

Sustâne 3-4-2, 4-6-4, 5-2-4 and 8-2-4 All-Natural products are allowed for use in the production of certified organic food and fiber crops. These are excellent to use on fruit, vegetable and field crops, as well as in professionally landscaped flower and shrub beds, potted plants, new turf construction and for maintenance on trees. Sustâne soil builders were created on the premise that healthy soil is key to maintaining quality growing conditions and plant life that the soil system supports.

## SUSTÂNE NATURAL BASE FERTILIZERS

Sustâne 5-2-4+Fe, 5-2-10+Fe, 7-2-20, 10-1-4, 10-2-10+Fe, 15-3-9, 16-0-6, 18-1-8+Fe and Bolster Granular 4-4-4+3 Fe are Natural Base Fertilizers. Natural Base means products with greater than 50% mass and 50% macronutrients derived from a natural or organic material.



Olympic Equestrian Track  
Hong Kong Golf Club – Beijing Olympics 2008  
**Established and maintained sand-based turf track with Sustâne 5-2-10+Fe, BOLSTER Plant Supplement on Paspallum, & BOLSTER Granular 4-4-4+3Fe on Zoysia Grass jump zones.**



# SUSTÅNE NATURAL FERTILIZERS & SOIL BUILDERS

## SUSTAINABLE TURF FOR A SUSTAINABLE WORLD

### SUSTÅNE: BUILT ON RESEARCH LIKE NO OTHER BRAND

*Since 1980 nearly 800 independent studies on Suståne place it at the top of most researched organic fertilizers in the world. Visit [www.sustane.com/research](http://www.sustane.com/research)*

Turf Establishment. Turf Disease Suppression. Turf Color and Quality trials compared to other fertilizer materials. Impact on Environment. Influence on free living and plant parasitic nematodes. Affect on populations of Black Turfgrass Ataenius beetle. Changes in soil physical and chemical properties. Fertilizer mower pick up. Container Media trials with and without coated controlled release fertilizers. Fruit and Vegetable Yield and Quality trials on organically grown food crops. Soil bio-remediation of pesticide residues. Greenhouse Gaseous Nitrogen losses from organic and synthetic fertilizers.

### HIGH MICROBIAL DIVERSITY INDEX

*Suståne Natural Fertilizers begin with aerobically stabilized compost. Rich in microbial species diversity, yet low in biological oxygen demand (BOD).*

Healthy soils produce and maintain healthy turfgrass and other plants. Healthy soils are alive with rich biological diversity. The microbiology is critical to so many soil and plant functions in a balanced and thriving ecosystem. **Suståne true aerobic compost based fertilizers enhance the "species richness diversity" (SRD) in all growing systems.** SRD is a measurement of microbial diversity that indicates the number and different types of beneficial soil microorganisms present. Analysis of Suståne compost demonstrates a high diversity index of 4.5.



Suståne Compost Site - Minnesota

Suståne fertilizers are biologically stable. Thoroughly, aerobically composted before granulating and shipping. All things organic require oxygen to decompose. Oxygen is vital to the aerobic bacteria during decomposition. Suståne is the only organic composted for 26 weeks before application. Note how windrows change in color as humus forms over time.



Paspallum on the new East Course at Kau Sai Chau The Jockey Club, Hong Kong. **Established in 2007-2008 with Suståne 4-6-4, BOLSTER Granular 4-4-4+3Fe. Maintained with Suståne 5-2-10+Fe and 7-2-20.**

### LOW ENVIRONMENTAL IMPACT

*Slow, efficient release of nitrogen to plant life without volatilization, leaching as nitrates or immobilization in the soil environment.*

Suståne is serious about keeping our environment green. Aerobic, thermophilic composting is the most environmentally friendly practice for organics conversion and recycling agricultural residue. This process generates less methane and other serious greenhouse gases than other organic stabilization processes do. The basic resource is a renewable recycling of high quality plant nutrients complexed with organic humus. The nitrogen release is most efficient.

**Suståne is the only organic fully composted and available worldwide.**

### LONG LASTING SOIL & PLANT NUTRITION

*Rapid establishment & long lasting soil-plant nutrition.*

Plant establishment accelerates with TOTAL PLANT NUTRITION from Suståne. A complete package containing both Quick and Slow Release Nitrogen (SRN), all primary, secondary and tertiary plant nutrients are chelated with rich humic and microbial substances.

Food for soil. Food for microbes. Food for plants. Time and again Suståne has demonstrated the efficacy to surpass synthetic and other organic fertilizers, humates or biostimulant combinations. Uniform, predictable release rates available for all grasses, anywhere in the world.

**Safe to use. Easy to apply. Predictable. Consistent. Suståne... Naturally.**

30 Days after Seeding 5 Bentgrass Varieties

USGA 85:15 Sand/Peat Mix      85:12:3 Sand/Peat/ Suståne  
Starter Fertilizer = 1.8 lb. N/1000ft<sup>2</sup> Suståne Fertilizer = 1.8 lb. N



Bentgrass Establishment Trials - Maryland






# SUSTÅNE NATURAL FERTILIZERS & SOIL BUILDERS

## SUSTAINABLE TURF FOR A SUSTAINABLE WORLD

### NATURAL BASE FERTILIZERS

<b>BOLSTER GRANULAR</b> 4-4-4 + 3Fe <i>plus</i> Bolster & Mycorrhizae	A powerful, synergistic blend of four mycorrhizal fungi, Suståne organic base 4-4-4 plus 3% iron, plant biostimulants to promote rapid root development and Arbuscular Mycorrhizae to promote greater access of plant roots to soil nutrients and water. For all turf and landscape plants.	Application Rate 1lb. N / 1000 ft <sup>2</sup> 0.5kg. N / 100 m <sup>2</sup> 25 lb. / 1000 ft <sup>2</sup> 12.5 kg / 100 m <sup>2</sup>	80% SRN Fine Grade (100 SGN)
<b>5 • 2 • 4 + Fe</b> Slow Release Nitrogen Natural Base Fertilizer	An all-purpose turf food available in either Medium Grade (lawn and fairway applications) or Fine Grade for putting greens. Suitable for use on all turfgrass types providing quick green up followed by long lasting slow release organic nitrogen.	20 lb. / 1000 ft <sup>2</sup> 9.8 kg / 100 m <sup>2</sup>	70% SRN Fine Grade (100 SGN) Medium Grade (200 SGN)
<b>5 • 2 • 10 + Fe</b> Slow Release Nitrogen Natural Base Fertilizer	An all-purpose turf food when the 1:2 N to K ratio is desired for building carbohydrate reserves in the root system. Available in either Medium Grade (lawn and fairway) or Fine Grade for putting greens. Suitable for use on all turfgrass types.	20 lb. / 1000 ft <sup>2</sup> 9.8 kg / 100 m <sup>2</sup>	70% SRN Fine Grade (100 SGN) Medium Grade (200 SGN)
<b>6 • 2 • 4 + Fe</b>  <b>NEW SUSTÅNE TURF REVIVAL®</b> <b>W/ ADDED CALCIUM, MAGNESIUM, SULFUR &amp; MYCORRHIZAE</b>	<b>New Suståne Turf Revival is specially engineered for renovation and recovery of fine turf greens, tees, and collars. Turf Revival is granular product with 65% quickly available nitrogen, calcium, magnesium, and sulfur plus biologically-active compost and beneficial mycorrhizal fungi to increase soil health and promote a fast turfgrass plant response and regrowth.</b>	5-8 lb. / 1000 ft <sup>2</sup> 2.5-4 kg / 100 m <sup>2</sup>	65% WSN Fine Grade (100 SGN)
<b>7 • 2 • 20 + Fe</b> Natural Base Hi-K Fertilizer	High potassium formulation for bolstering plants natural defense against disease and drought. Ideal formula for paspallum turfgrass, greens, tees, fairways, and all fine turfgrasses. Contains UMAXX™, stabilized nitrogen, and iron chelate.	7.2 lb. / 1000 ft <sup>2</sup> 3.5 kg / 100 m <sup>2</sup>	50% SRN Fine Grade (100 SGN) Mini Grade (150 SGN)
<b>10 • 1 • 4</b> Natural Base Spring Turf Fertilizer	Suståne 10-1-4 is the ideal spring formula made with ammonium sulfate for golf course greens, tees, and tight cut fairways. With a quick nitrogen release rate, designed for cool climates and cold soils.	10 lb. / 1000 ft <sup>2</sup> 4.9 kg / 100 m <sup>2</sup>	75% WSN Fine Grade (100 SGN)
<b>10 • 2 • 10 + Fe</b> Greens Grade Natural Base Fertilizer	Suståne's finest 80% Slow Release Nitrogen Greens Grade Fertilizer. Made with methylene urea, ammonium sulfate, and two sources of organic nitrogen. Provides quick green up and long lasting plant nutrition with 8 - 12 week release.	10 lb. / 1000 ft <sup>2</sup> 4.9 kg / 100 m <sup>2</sup>	80% SRN Fine Grade (100 SGN)
<b>15 • 3 • 9</b> Natural Base Hi-N Fertilizer	A 65% slow release nitrogen formula for use on low mowed golf course fairways and all sports pitches. Contains 9.75% Slow Release Nitrogen from UMAXX stabilized nitrogen and Suståne Organic Nitrogen. The 150 SGN particle size is ideal for broadcast on tight turf canopies.	6.7 lb. / 1000 ft <sup>2</sup> 3.3 kg / 100 m <sup>2</sup>	65% SRN Fine Grade (100 SGN) Mini Grade (150 SGN)
<b>18 • 1 • 8 + Fe</b> Natural Base Slow Release N Fertilizer	A two-part blend with five-way release of nitrogen for fairways, roughs, lawns, and sports fields. The highest quality coverage of any organic based Fertilizer. 12-16 week release rate.	5.5 lb. / 1000 ft <sup>2</sup> 2.7 kg / 100 m <sup>2</sup>	65% SRN Medium Grade (200 SGN)

UMAXX is a registered trademark of Koch Agronomic SRN: Slow Release Nitrogen WSN: Water Soluble Nitrogen SGN Particle Size Guide Number 100 = 1 mm diameter, etc.

# SUSTÂNE NATURAL FERTILIZERS & SOIL BUILDERS

## ORGANIC-BASED FERTILIZERS FOR ALL TURF & LANDSCAPE

### PLANT STRESS PROTECTION & RECOVERY:

Sustâne offers tried and tested plant biostimulants in liquid or dry granular form. Designed to increase root mass, promote rapid plant establishment and protect against environmental stress such as drought, heavy traffic wear, cold hardiness and to delay senescence entering winter while maintaining color without excessive plant growth.

See *BOLSTER* research.

### BIOLOGICAL THATCH MANAGEMENT:

Sustâne delivers microorganisms and enzymes specific to biological degradation and management of thatch build up in turf. Research<sup>1</sup> conducted to evaluate the efficiency of bioinoculants and organic fertilizers on thatch degradation demonstrated that Sustâne Natural Base and Sustâne All-Organic fertilizers provided significantly greater thatch reduction when compared against other liquid or granular biologicals, humic acid crystals and conventionally fertilized treatments (SCU) when used in combination with aerification (102% and 80% vs. comparison treatments 30 to 56%) as well in non-aerified plots (59% and

42% respectively vs. comparison treatments 4% to 21%). *Bacillus* bacteria and lignin attacking enzymes characteristic of and specific to Sustâne's 26-week aerobic composting process work together with core aerification and grooming practices to reduce and minimize thatch build up.

<sup>1</sup> *Bioinoculant and Natural Organic Fertilizer Effects on Thatch Degradation, Gaussoin, Wit and Witkowski, University of Nebraska, Mead*

### MYCORRHIZAE ENHANCES SOIL MICROBIOLOGY:

Sustâne supplies a specifically selected suite of endo (within the root) arbuscular fungal mycorrhizae alone or in Sustâne blends intended for soil-plant ecosystems that are devoid of naturally occurring symbiotic "root extensions" or hyphae that draw nutrients and water from the micro-pores of depleted soils to nourish the plant.

See *Mycorrhizal* research.

### CONTROLLED DOSE ROOT ZONE FEEDER PAKS:

Sustâne provides convenient 21-gram compost tea extract and plant fertilizer charges in a biodegradable, permeable filter pak for controlled dose feeding of individual ornamentals.

## SUSTÂNE SPECIALTY PRODUCTS DELIVER THE DETAIL

 <p><b>BOLSTER</b>™</p> <p>Plant Biostimulant Humic Acid • Seaweed Iron Chelate</p>	A concentrated plant growth supplement specifically developed to prepare plants for improved growth in sub-optimum and stress conditions. BOLSTER is a scientifically balanced formulation of cold processed seaweed extracts, humic acid and plant nutrients.	Application Rate 9.55 L / hectare 1 gal / acre	2.0% Solubilized Seaweed Extract 4.0% Humic Extract (Leonardite) 2.0% Sulfur 5.0% Iron
 <p><b>BOLSTER GRANULAR</b>™</p> <p>4-4-4 + 3Fe <i>plus</i> Biostimulants</p>	A powerful, synergistic blend of four mycorrhizal fungi, Sustâne organic base 4-4-4 plus 3% iron, plant biostimulants to promote rapid root development and Arbuscular Mycorrhizae to promote greater access of plant roots to soil nutrients and water. For all turf and landscape plants.	25 lb. / 1000 ft <sup>2</sup> 12.5 kg / 100 m <sup>2</sup> at 1lb. N / 1000 ft <sup>2</sup> 0.5kg. N / 100 m <sup>2</sup>	1.7 propagules Mycorrhizae per cc 1.0% Solubilized Seaweed Extract 3.0% Humic Extract (Leonardite)  Fine Grade (100 SGN) Medium Grade (200 SGN)
 <p><b>BOLSTER MYCOBIO</b></p> <p>ENHANCED MYCORRHIZAL INOCULANT WITH BENEFICIAL MICROORGANISMS &amp; HUMIC ACID</p>	Sustâne MycorMax™ is a biologically super-charged granular soil amendment and microbial inoculant. Specially formulated with a blend of endo-mycorrhizae and beneficial bacteria, it enhances seed germination rates, promotes vigorous plant establishment and improves nutrient use efficiency.	Apply as a fertilizer supplement at rates of 10 to 20 lbs. per acre.	36.7% Compost 3% Humic Acid (derived from leonardite) 0.3% Bacterial Inoculant <i>Bacillus subtilis</i> .....20,000 CFU/g <i>Bacillus pumilus</i> .....20,000 CFU/g <i>Bacillus megaterium</i> .....20,000 CFU/g <i>Bacillus licheniformis</i> .....20,000 CFU/g <i>Bacillus amyloliquefaciens</i> .....20,000 CFU/g 60% Endo-Mycorrhizae Inoculant <i>Rhizophagus irregularis</i> .....84 spores/g <i>Rhizophagus clarus</i> .....12 spores/g <i>Septoglomus deserticola</i> .....12 spores/g <i>Claroideoglomus etunicatum</i> .....12 spores/g 100% soil amending ingredients
 <p><b>MYCORRHIZAE</b> from Sustâne</p>	A Granular Mycorrhizal Inoculant used to treat disturbed soils that have diminished soil biology. Mycorrhizal fungi are major facilitators improving soil microbiology by aggregating soil particles, converting organic matter into available plant nutrients; extracting water and soil nutrients; and protecting against plant pathogens.	1.4 lb. / 1000 ft <sup>2</sup> 685 g / 100 m <sup>2</sup> 	<b>Arbuscular Mycorrhizal Inoculant</b> Endo-Mycorrhizae Inoculant..200 spores/g <i>Rhizophagus irregularis</i> .....140spores/g <i>Rhizophagus clarus</i> .....20spores/g <i>Septoglomus deserticola</i> .....20spores/g <i>Claroideoglomus etunicatum</i> ..20spores/g
<p><b>Sustâne 4 • 6 • 4</b> Compost Tea Bags Sustâne Permeable Filter Pak</p>	Designed for dual application for the commercial landscaper, Compost Tea Bags/Root Zone Feeder Packs are a easy to use organic fertilizer supplement: no fuss, no mess, no measuring. Beneficial microbes convert nutrients to plant available forms when added to soils and can help protect plants from pests and pathogens. Available in 50-packs that make 1 gallon each or 5 lb. reuseable bags.	► A 50 pack of 21 gram Compost Tea Bags/Root Zone Feeder Packs 	
<p><b>Sustâne 16 • 4 • 8</b> 8-month Planter Paks Sustâne + Controlled Release</p>	Single dose applications of Sustâne organic plus coated controlled release fertilizers designed to provide long-lasting plant nutrition in a biodegradable paper filter packet. Each Sustâne packet will provide a continuous release of nutrients up to 8 months at 70°F (23°C) soil temperature.	◀ A reuseable Sustâne 5 lb. 4-6-4 Compost Tea Bag 	



# SUSTÂNE NATURAL FERTILIZERS & SOIL BUILDERS SUSTAINABLE TURF FOR A SUSTAINABLE WORLD

## TURF ESTABLISHMENT & MAINTENANCE – AROUND THE WORLD

From China to Colorado or from Malaysia to Miami, Ireland to Italy, Mauritius to Massachusetts, Denmark to Dubai; South Africa to Scotland; across Mexico, Canada, the U.S., Asia, the Middle East, or the Caribbean Sea – Sustâne Natural Fertilizers play an important role in rapid establishment for grow-in's and renovations, turf maintenance and for use in environmentally sensitive areas. Cool season and warm season grasses on all soil types; sand capped fairways, decomposed granite base, heavy clay and native soils – Sustâne organic contributes to the success of each project over a wide range of designs in varied climates each with unique agronomic conditions and requirements.

**Agronomists, golf course architects, grounds managers and course superintendents specify and rely on Sustâne to support each project's special needs.**

(See Sustâne projects at [www.sustane.com](http://www.sustane.com).)



◀ Spring City Golf Courses in Yunnan Province, China offer both the Nicklaus Mountain Course (left) and the Robert Trent Jones Lake Course (see cover photo) and provide some of the finest cool season golf tracks anywhere in the world.



◀ Ted Parslow redesigned & KLGCC re-grassed both 18-hole courses with Seashore Paspallum between 2007-2009. Sime's 20 hectare turf nursery and all 36 holes were established with Sustâne 4-6-4.



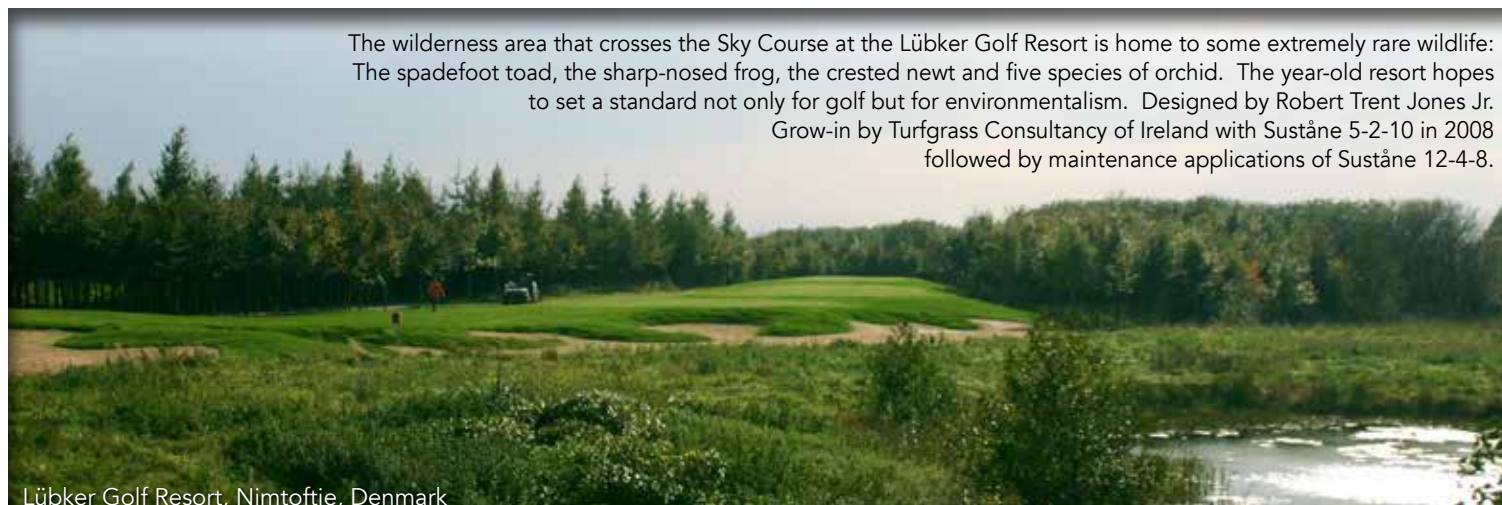
Murphy Creek Golf Course – City of Aurora, Colorado. Designed by Kenneth M. Kavanaugh, ASGCA. Opened in 2000. Blue grass course grown-in with Sustâne 2-3-3 in greensmix at 3%.



Miami Dolphins Stadium: Site of the 2007 & 2010 Super Bowls. Bermudagrass treated with Sustâne Organic.



The wilderness area that crosses the Sky Course at the Lübker Golf Resort is home to some extremely rare wildlife: The spadefoot toad, the sharp-nosed frog, the crested newt and five species of orchid. The year-old resort hopes to set a standard not only for golf but for environmentalism. Designed by Robert Trent Jones Jr. Grow-in by Turfgrass Consultancy of Ireland with Sustâne 5-2-10 in 2008 followed by maintenance applications of Sustâne 12-4-8.



**QUALITY GROWTH THROUGH HEALTHY SOIL.™**



The Vineyard Club - Edgartown, Massachusetts  
All organically managed golf course  
Designed by Donald Steele

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



**SUSTÅNE NATURAL FERTILIZER, INC.**

CANNON FALLS, MN 55009 U.S.A.

310 HOLIDAY AVE. E.

800-352-9245 • (507) 263-3003 • FAX (507) 263-3029

[www.sustane.com](http://www.sustane.com)

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