

Suståne®

Natural Fertilizers & Soil Builders



The Lake Course at Spring City - Kunming, China

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

Sustâne 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 Natural Fertilizer 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

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 Leader in Organic Research

Sustâne products have been developed 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.

Sustâne All Natural Organic Fertilizers

Sustâne 2-3-3, 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 products 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, 12-4-8, 15-3-9, 16-2-6, and 18-1-8+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 Zoysiagrass jump zones.

Sustâne® Natural Fertilizers & Soil Builders

Sustainable Turf for a Sustainable World

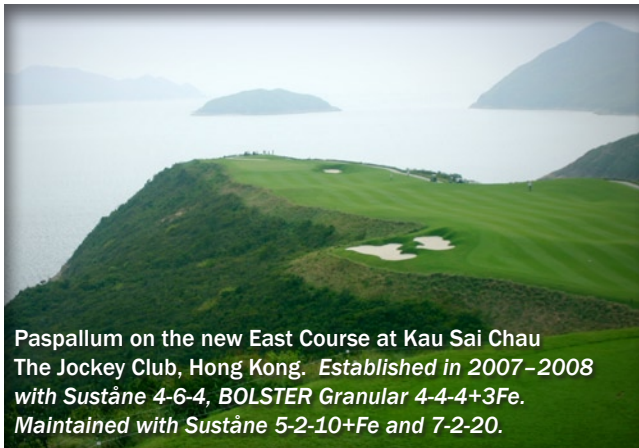
High Microbial Diversity Index

Sustâne 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. Sustâne 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 Sustâne compost demonstrates a high diversity index of 4.5.



Sustâne 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. Sustâne is the only organic composted for 26 weeks before application. Note how windrows change in color as humus forms over time.



Low Environmental Impact

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

Sustâne 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. Sustâne is the only organic fully composted and available worldwide.

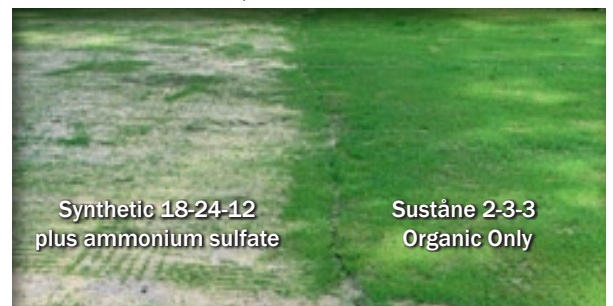
Long Lasting Soil & Plant Nutrition

Sustâne Natural Fertilizers provide both rapid establishment & long lasting soil-plant nutrition.

Plant establishment accelerates with TOTAL PLANT NUTRITION from Sustâne. 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 Sustâne 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. Sustâne Naturally.

30 Days after Seeding 5 Bentgrass Varieties

USGA 85:15 Sand/Peat Mix 85:12:3 Sand/Peat/ Sustâne
Starter Fertilizer = 1.8 lb. N/1000ft² Sustâne Fertilizer = 1.8 lb. N



Bentgrass Establishment Trials - Maryland

Sustâne: Built on Research like no other Organic

Since 1980 over 500 independent studies on Sustâne place it at the top of most researched organic fertilizers in the world. Visit 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 bioremediation of pesticide residues. Greenhouse Gaseous Nitrogen losses from organic and synthetic fertilizers.

Sustâne® Natural Fertilizers & Soil Builders

Organic-Based Fertilizers for All Turf & Landscape

Sustâne Formulations for Every Application

Biologically Diverse:

Only Sustâne Natural Fertilizer starts with concentrated aerobic compost. Sustâne has the highest known naturally available nutrient concentration available. Sustâne is then transformed into fine, homogeneous, granulated particles for uniform, consistent, turfgrass and horticultural applications.

Biologically Stable:

Because Sustâne is completely composted, it does not rob oxygen from the root zone as other "organic" fertilizers do when they decompose after application. Sustâne does not attract flies, Black Turfgrass Ataenius beetles, other insects, pests or animals.

Nutritionally Sound:

With a base Carbon to Nitrogen ratio of 5:1, Sustâne is more soluble than peat products and will not immobilize other soil applied nitrogen. Sustâne delivers the broadest spectrum of naturally occurring Macro and Micro-nutrients complexed in a very high Cation Exchange Capacity humic base. Biologically Active – Rich in Humic Substances.

For Every Use:

From 100% Organic Basic Sustâne to Higher Nitrogen Sustâne Natural Base formulations and varied release rates, there is a Sustâne product for every turf type and agronomic application.



Vigne del Barolo Golf Resort & Spa – Italy
Grown in with Sustâne 4-6-4 2008

All-Natural Organic Fertilizers



Listed by the Organic Materials Review Institute for use in Organic Production

<p>2 • 3 • 3 All Natural Organic Rich Humus Soil Builder</p>	<p>Sustâne 2-3-3 Organic Soil Builder is derived solely from biologically stable compost. Sustâne 2-3-3 replenishes the soil with a rich supply of humus combined with all of the essential nutrients required for a sound and long term soil building program. Ideal for greens topdressing and greens construction.</p>	<p>Application Rate at 1lb. N / 1000 ft² 0.5kg. N / 100 m² 50 lb. / 1000 ft² 25 kg / 100 m²</p>	<p>80% SRN Fine Grade (100 SGN) Medium Grade (200 SGN)</p>
<p>3 • 4 • 2 All Natural Organic Blenders' Choice</p>	<p>Sustâne 3-4-2 Organic Blenders' Choice is derived solely from biologically stable compost. 3-4-2 is the preferred all natural organic choice for customized fertilizer blends. Providing a complete nutrient package for long term soil building. Available in only bulk or 1-ton totes.</p>	<p>34 lb. / 1000 ft² 17.3 kg / 100 m²</p>	<p>80% SRN Medium Grade (200 SGN)</p>
<p>4 • 6 • 4 All Natural Organic Landscapers' Choice & Turf Starter</p>	<p>Sustâne 4-6-4 Organic Landscapers' Choice is an all natural starter and maintenance fertilizer. For landscaped areas, overseeding and turf establishment. Most reliable starter available for golf course, home lawn and sports turf grow in.</p>	<p>25 lb. / 1000 ft² 12.5 kg / 100 m²</p>	<p>80% SRN Fine Grade (100 SGN) Medium Grade (200 SGN)</p>
<p>5 • 2 • 4 All Natural Organic All Purpose Fertilizer</p>	<p>All purpose broadcast balanced fertilizer for all turfgrass applications. Natural nitrogen source safe for all turf, parklands, and landscape applications. No burn, slow release nutrition.</p>	<p>20 lb. / 1000 ft² 10 kg / 100 m²</p>	<p>80% SRN Fine Grade (100 SGN) Medium Grade (200 SGN)</p>
<p>8 • 2 • 4 Natural Slow Release Hi-N Organic Fertilizer</p>	<p>Sustâne 8-2-4 is certified for organic crop production, greenhouse plants, vegetative establishment, erosion control, wetlands reestablishment, and turf. 8-2-4 is the perfect fertilizer for when you need primarily Slow Release Nitrogen and low burn potential.</p>	<p>12.5 lb. / 1000 ft² 6.2 kg / 100 m²</p>	<p>90% SRN Fine Grade (100 SGN) Medium Grade (200 SGN)</p>

SRN: Slow Release Nitrogen

WSN: Water Soluble Nitrogen

SGN Particle Size Guide Number (100 = mm diameter, etc.)

Sustâne® Natural Fertilizers & Soil Builders

Sustainable Turf for a Sustainable World

Natural Base Fertilizers



Medium



Mini



Fine

5 • 2 • 4 + Fe

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.

Application Rate
at 1lb. N / 1000 ft²
0.5kg. N / 100 m²

20 lb. / 1000 ft²
9.8 kg / 100 m²

70% SRN

Fine Grade (100 SGN)
Medium Grade (200 SGN)

5 • 2 • 10 + Fe

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 ft²
9.8 kg / 100 m²

70% SRN

Fine Grade (100 SGN)
Medium Grade (200 SGN)

7 • 2 • 20+ Fe

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 ft²
3.5 kg / 100 m²

50% SRN

Fine Grade (100 SGN)
Mini Grade (150 SGN)

10 • 1 • 4

Natural Base Spring
Turf Fertilizer

Sustâne 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 ft²
4.9 kg / 100 m²

75% WSN

Fine Grade (100 SGN)

10 • 2 • 10 + Fe

Greens Grade
Natural Base Fertilizer

Sustâne'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 ft²
4.9 kg / 100 m²

80% SRN

Fine Grade (100 SGN)

12 • 4 • 8

Natural Based
Turfgrass Fertilizer

All purpose lawn, fairway and outfield fertilizer. Made with urea and potassium sulfate. The most fast acting of all Sustâne natural base fertilizers with 85% WSN. Provides quick color that lasts up to 6 - 10 weeks.

8 lb. / 1000 ft²
3.9 kg / 100 m²

85% WSN

Medium Grade (200 SGN)

15 • 3 • 9

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 Sustâne Organic Nitrogen. The 150 SGN particle size is ideal for broadcast on tight turf canopies.

6.7 lb. / 1000 ft²
3.3 kg / 100 m²

65% SRN

Fine Grade (100 SGN)
Mini Grade (150 SGN)

16 • 2 • 6

Spring & Fall 40:60
Release N Fertilizer

For all long cut turfgrass, sports field, home lawn and fairway applications. With 60% quick release nitrogen from urea plus iron, sulfur and humic acid. 40% Slow Release Nitrogen from UMAXX™, Sustâne and methylene urea carry the color without excessive growth for up to 12 weeks.

6.2 lb. / 1000 ft²
3 kg / 100 m²

40% SRN

Medium Grade (200 SGN)

18 • 1 • 8 + Fe

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. The longest lasting slow release nitrogen fertilizer made by Sustâne, 12-16 week release rate.

5.5 lb. / 1000 ft²
2.7 kg / 100 m²

85% SRN

Medium Grade (200 SGN)

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 microbes specific to biological degradation and management of thatch build up in turf. Specially selected and cultured bacillus bacteria and lignin attacking enzymes work together with core aeration and grooming practices to reduce and minimize thatch build up. See Bio Grounds Keeper research.

Mycorrhizae for Enhanced 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

BOLSTER™ Plant Biostimulant Humic Acid · Seaweed Iron Chelate

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

BOLSTER GRANULAR™ 4-4-4 + 3Fe plus Biostimulants

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 ft²
12.5 kg / 100 m²
at 1lb. N / 1000 ft²
0.5kg. N / 100 m²

1.7 propagules Mycorrhizae per cc
1.0% Solubilized Seaweed Extract
3.0% Humic Extract (Leonardite)
Fine Grade (100 SGN)
Medium Grade (200 SGN)

BIO GROUNDS KEEPER™ NATURAL THATCH MANAGEMENT

A natural thatch reduction and management product made with cellulase degrading enzymes and bacterial cultures specifically selected for their capacity to decompose cellulose and plant lignin that is typically slow to decay. Ideal for use during core aeration, tining and verticutting.

4 oz. / 1000 ft²
130 ml / 100 m²

25.6% Cellulase Enzymes
1.00% Humic Acid
0.013% Bacterial Cultures
Bacillus Subtilis
Bacillus Licheniformis

BIO GROUNDS KEEPER™ 3-3-3 BGK 7500 Dry Granular

BGK carried on a Sustâne 3-3-3 organic fertilizer. Similar in function to BGK Liquid but in a dry granular form for use in the biological control of, reduction and maintenance of turfgrass thatch. Ideal application timing with core aeration, tining and verticutting.

37 lb. / 1000 ft²
18.7 kg / 100 m²

90% SRN
6.00% Humic Acid
0.025% Bacterial Cultures
Fine Grade (100 SGN)
Medium Grade (200 SGN)

MYCORRHIZAE from Sustâne®

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 ft²
685 g / 100 m²

VAM Minimum Propagules
Total Mycorrhizae 120 per cc
84 per cc *Glomus intraradices*
12 per cc *Etunicatum*
12 per cc *Deserticola*
12 per cc *Clarum*

Sustâne® 4 • 6 • 4 Compost Tea Bags Sustâne Permeable Filter Pack

Designed for dual application for the commercial landscaper. This 21-gram water permeable and biodegradable compost sachet can be left to steep in a watering can overnight to make a Compost Tea brew for topical application; or installed in the soil or potting mix as a Root Zone Feeder Pak. One pack makes 1 gallon of compost tea.

Sustâne® 16 • 4 • 8 8-month Planter Paks Sustâne + Controlled Release

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.



SRN: Slow Release Nitrogen

WSN: Water Soluble Nitrogen

SGN Particle Size Guide Number (100 = mm diameter, etc.)

Sustâne® Natural Fertilizers & Soil Builders

Sustainable Turf for a Sustainable World

Turf Establishment and Maintenance with Sustâne – Anywhere in 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. (Visit the Sustâne photo gallery of projects at www.sustane.com.)

Jade Palace, Korea Greg Norman Design
Native Zoysiagrass planted on sand-capped fairways, greens and tees.

Sustâne 4-6-4 incorporated at 250 grams per m² on greens, tees and fairways.
Date of grassing: July 12, 2002

Jade Palace: Native Zoysiagrass planted on sand-capped fairways, greens and tees.

28 days post planting with Sustâne 4-6-4
photo taken August 9, 2002



The Mountain Course at Spring City – Kunming, China

◀ 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.



Kuala Lumpur Golf & Country Club, Malaysia

◀ 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.



◀ 2008 Beijing Olympics Equestrian Turf Track established and maintained with Sustâne Natural Fertilizers, BOLSTER Granular 4-4-4+mycorrhizae and BOLSTER Plant Biostimulant from Sustâne.

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%.

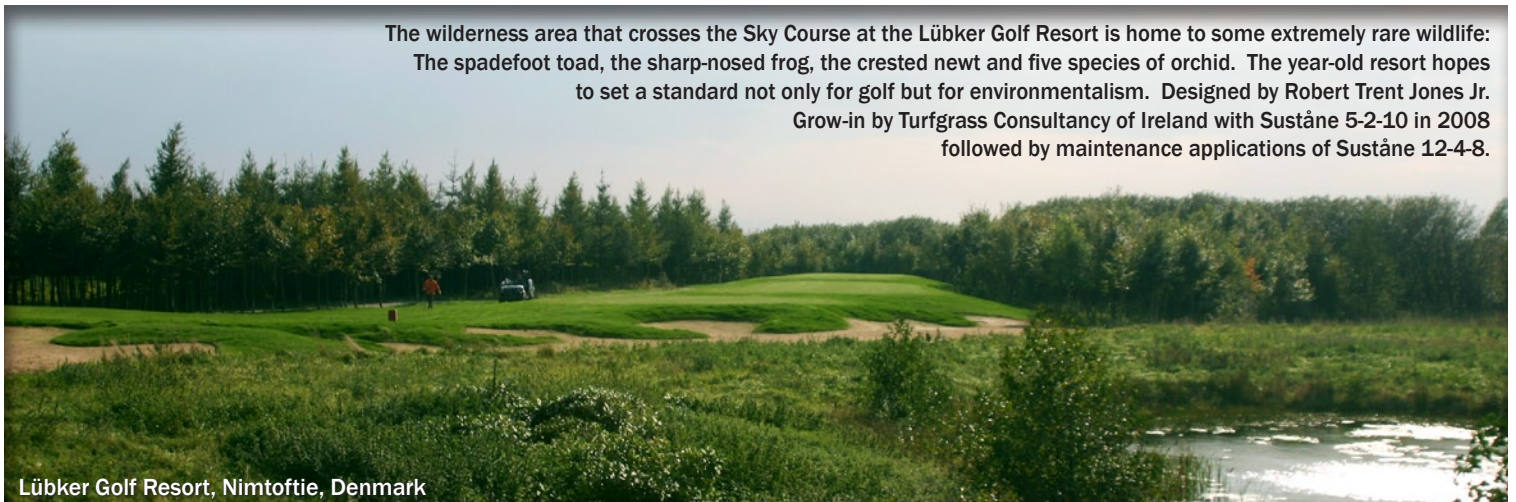


Murphy Creek Golf Club – Aurora, Colorado

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.



Lübker Golf Resort, Nimtoftie, Denmark

Quality Growth Through Healthy Soil.™



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

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