



**Known Worldwide**  
*For Being Simply*  
*the **Best...***  
**Natural Fertilizers**  
**& Soil Builders**

**Recommended Use:**

*In agriculture, in-row or broadcast to improve nutrient uptake efficiency of crops.*

*Allowed for use in the production of certified organic crops.*

*As an amendment and nutrient source in soilless substrates.*

*For rapid vegetative establishment and long term success in erosion control and mineland reclamation.*

**Description:**

*Sustâne® 4-4-4+10% Biochar, a granulated fertilizer principally derived from biologically stable compost and biochar (carbonized biomass), replenishes the soil with a rich supply of humus (stabilized organic matter), all essential nutrients required for growth, and carbonized biomass that improves soil physical, chemical and biological properties over time with near and long term benefits to soil health.*

**4 • 4 • 4 + 10% Biochar**

**SUSTÂNE**

**ALL NATURAL FERTILIZER**

**Benefits of Sustâne® 4•4•4 + 10% Biochar All Natural Fertilizer**

- Like a sponge, improves nutrient efficiency by limiting nutrient leaching and increasing plant nutrient availability
- High surface area reduces nutrient losses
- Increases soil cation exchange capacity resulting in improved fertility
- Improves soil water holding capacity
- Biochar component allows for lower yet more effective application rates
- Improves soil structure and porosity, leading to greater root development
- Supplies highly porous carbon to the soil to build beneficial biology
- Moderates soil acidity
- Neutralizes toxins in the soil
- Enhances soil's ability to suppress plant pathogens

**Always safe for People, Plants and the Environment**

- Manufactured by Sustâne® in the USA at an EPA permitted facility.
- Pathogen and weed seed free, no blood, bone or meat products.
- The only organic allowed for export to over 60 countries worldwide.
- USDA NOP organic compliant.
- Aerobic composting eliminates animal and rodent attraction to application site
- Sustâne® is fully composted, eliminating the need for sterilization, permitting a healthy environment for beneficial microbial populations.
- Cornell University horticultural research verifies the safety and effectiveness of Sustâne® 4-4-4+Biochar

**Tomato seedlings propagated from seed in soilless mix at Cornell University, photo taken at 4 weeks after seeding.**



No Fertilizer    0.64 lb. N/yd<sup>3</sup> mix    Sustâne® 4-4-4+10% Biochar at 0.32 lb. N/yd<sup>3</sup> mix

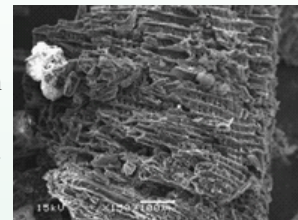
# Sustane® 4 • 4 • 4 + 10% Biochar

ALL NATURAL

## Product Specifications

### Biochar

Biochar is an enduring carbon substrate that maintains beneficial soil physical, chemical and biological properties. The application of Biochar to your soil adds stable carbon to your soil bank account. One gram of Biochar contains 400 sq. meters of reactive surface area for increased nutrient efficiency, soil moisture performance and biological activity. The addition of Sustane + Biochar to the soil system provides immediate benefits to crop performance and when used as part of an annual program, Biochar will provide cumulative benefits, increasing performance of the soil system over time. A Sustane + Biochar application program enables you to use nutrients and water more efficiently without sacrificing productivity.



Biochar's high surface area viewed under an electron microscope.

## Greenhouse, Nursery Container Mix & Landscape Application Rates

Container Mix Rates by Volume					
lb. per cubic yard			kg per cubic meter		
Low	Med	High	Low	Med	High
5.5	10	15	3.3	5.9	8.9

Landscape Application Rates by Area					
lb. per 1,000 square feet			kg per 100 square meter		
Low	Med	High	Low	Med	High
9	18	28	4.4	8.8	13.7

### Organic and Conventional Crop Establishment, Erosion Control and General Soil Improvement\*

#### Crop Establishment

Apply direct in-row with seed at 100 - 250 lb. per acre  
Or broadcast at 800 - 2000 lb. per acre

#### Erosion Control

Hydroseeding  
2-4 lb. to 1 gallon of water  
1-2 tons per 1,000 gallon tank  
Broadcast  
500-4,000 lb. per acre  
Seed Drill  
150-300 lb. per acre

#### Soil Improvement for Gardens and Landscapes

Use Sustane® 4-4-4+10% Biochar to improve native soils of gardens and landscapes. Broadcast and lightly incorporate into the top one or two inches of the soil.

**Low Rate:** Recommended for salt sensitive species; when concurrent with liquid feed; with production systems utilizing low leaching fractions (less than 10%); and when applied to heavy potting substrates (total porosity less than 65%).

**Medium Rate:** Recommended for use on medium feeding species; on most nursery stock and foliage plants; and when liquid feed is not performed.

**High Rate:** Recommended for use on heavy feeding species; with production systems utilizing high leaching fractions (greater than 20%); and when applied to light, porous substrates (total porosity greater than 80%).

#### Guaranteed Analysis

Total Nitrogen (N) .....	4%
0.4% Ammoniacal Nitrogen	
0.4% Water Soluble Organic Nitrogen	
3.2% Water Insoluble Organic Nitrogen*	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ) .....	4%
Soluble Potash (K <sub>2</sub> O).....	4%
Calcium (Ca).....	4%
Derived from aerobically composted turkey litter, feather meal, sulfate of potash and biochar.	
*3.2% slowly available nitrogen from aerobically composted turkey litter and feather meal	

#### Total Plant Nutrition

Magnesium .....	1%	Copper.....	0.03%
Sulfur.....	1%	Molybdenum.....	0.005%
Iron .....	0.5%	Boron.....	0.005%
Manganese .....	0.05%	Humic Acid.....	7%
Zinc.....	0.04%	Organic Matter.....	50%
pH .....	7.2	Carbon:Nitrogen(C:N).....	7:1
Bulk Density.....	36 lb./ft <sup>3</sup>	Salt Index (scale 1-100).....	4
C.E.C. Cation Exchange Capacity.....	104 meq/100 g		
% of Total N as Slow Release.....	80%		

\*NOTE: Adjust fertilizer program for local conditions and requirements.

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QUALITY GROWTH THROUGH HEALTHY SOIL™