

MACRO-SI® ADVANCED SILICON

Macro-SI is a proprietary formula containing soluble silicon activated with a complex of amino acids to boost absorption of silicon into plant tissue. Macro-SI strengthens cell walls and hardens leaf tissue, resulting in reduced water loss and increased tolerance to traffic or mechanical stress.

Key Benefits:

- ◆ Macro-SI triggers the absorption of silicon, resulting in rapid nutrient uptake
- ◆ Silicon creates a physical barrier between cell walls, promoting natural defenses against fungal attacks
- ◆ Silicon reinforces cell walls and membranes, leading to an increase in wear tolerance to turfgrass plants
- ◆ Macro-SI can be taken up by plant roots or shoots; however, greater efficacy is achieved following soil applications



Rate:

Apply 1-2 oz. per 1000 sq. ft. every 14-28 days throughout the growing season. During periods of heavy stress or prior to tournament condition, apply more often to improve playing conditions. For soil applications, it is recommended to irrigate after application with at least 0.125 inches of irrigation. Apply Macro-SI with at least 1.5 gallon of water per 1000 sq. ft., or 60 gallons per acre spray volume.

Guaranteed Analysis

Total Nitrogen (N).....0.50%

0.50% Water Soluble Nitrogen

ALSO CONTAINS NONPLANT FOOD INGREDIENT:

8% Silica (SiO₂) from Sodium Silicate

Amino Acid Content

Free Amino Acids (Total).....4.00%

Derived from: Protein Hydrolysate



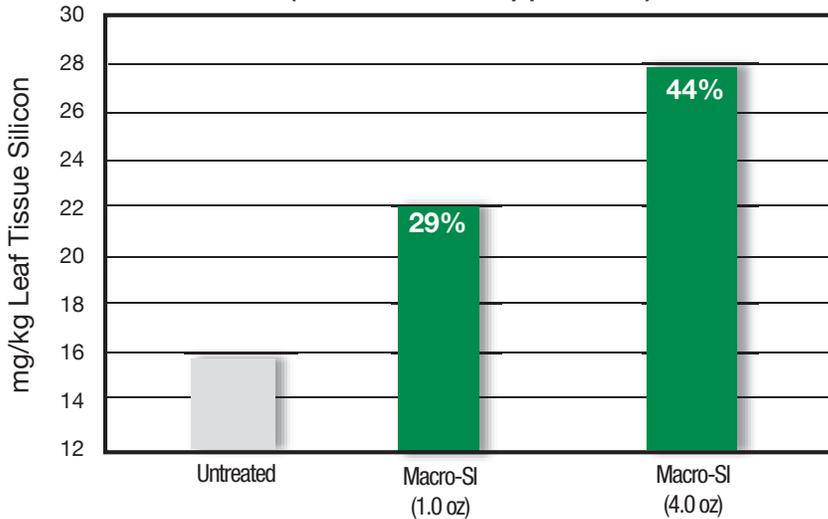
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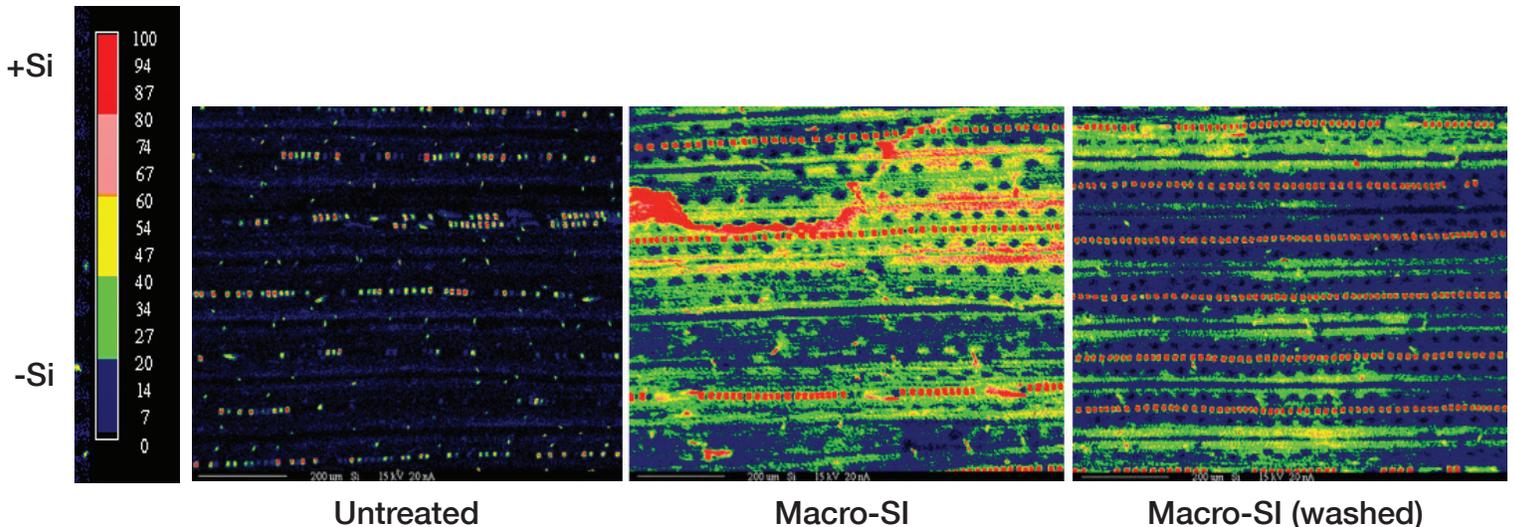
Increases Leaf Silica Content

Silicon Leaf Treatment
(48 hours after application)



Macro-Si was applied to creeping bentgrass as a spray application at the given rate and then watered-in with 0.25 inch of irrigation. Tissue samples were collected and analyzed five days after application for silicon content. Macro-Si increased tissue silicon content by 29 and 44 percent following 1.0 and 4.0 fl oz. per 1000 ft², respectively.

Silica Deposits in Leaf Tissue After Macro-Si Application



X-ray microanalysis of leaf surfaces treated with Macro-Si. Red color indicates the highest Si deposition and black represents absence of its deposition. Leaves were washed to remove any surface Si. Plants treated with Macro-Si had significantly more silicone incorporated into their plant tissues. Notice how silica is deposited in the intercellular space (right image), creating a physical barrier to protect against pathogen attacks and add structural strength leading to improved wear tolerance for turfgrass.