



The following excerpts are from the October issue of Golfdom magazine

Silicon is the second most abundant element after oxygen in the earth's crust, and most soils contain considerable quantities of the element (Savant *et al.*, 1997). However, some soils contain little plant-available silicon in their native state, and repeated cropping can reduce the levels of plant-available silicon to the point that supplemental silicon fertilization is required for maximum production.

Low silicon soils are typically highly weathered, leached, acidic and low in base saturation. Highly organic soils that contain little mineral matter may also contain little silicon, and soils comprised mainly of quartz sand (SiO₂) also may be low in plant-available silicon. Such conditions are presumably prevalent on many sod farms and golf course greens throughout the United States.

Silicon (Si) is considered a plant-nutrient anomaly because it is presumably not essential for plant growth and development. Soluble silicon, however, has enhanced the growth and development of several plant species.

Silicon amendments also have proved effective in controlling both soil-borne and foliar fungal diseases.

They demonstrated that silicon significantly reduced area under the disease progress curves (AUDPC) for gray leaf spot between the 44 percent and 78 percent.

These results suggest that when soils low or limiting in plant available Si are amended with a soluble source of Si, the resistance of bermudagrass against leaf spotting caused by *B. cynodontis* can be enhanced. This also suggests that fungicides might be better managed if used in combination with silicon for controlling diseases in turf. This would fulfill two areas of interest by the USGA:

- 1) integrated turfgrass management - investigating practices that utilized IPM and reduce inputs; and
- 2) turfgrass germplasm enhancement - reducing the need for pesticides by increasing disease resistance.

Growth Enhancer Turf Consultants

4oz /1000 of TURGOR with SILOXANE provides the equivalent soluble Si as 2000 metric tons per acre rate.