



Products Information

Bison Soil Organic Biochar for Golf Courses



Biochar Improves Golf Course Quality and Reduces Inputs

Improved turf quality and reduced inputs of water and fertilizer are desirable characteristics for golf courses worldwide. In university studies and in real world applications, golf courses have been shown to respond positively to the addition of biochar to soil. Many studies have shown positive benefits from biochar additions to soils, and they can be summarized as follows:

Biochar is effective in significantly enhancing soil quality by increasing carbon, organic matter, available and exchangeable potassium, CEC, and pH on a relatively short timescale.

Biochar is a relatively low density material that helps to lower the bulk density of soils, increasing drainage, aeration, and root penetration.

Biochar increases the ability of soils, especially sandy or poor soils, to retain water and nutrients.

In a golf specific study, a biochar/sand soil mix retained 370% more water than sand alone, and leachate nitrate nitrogen and ammonium were decreased from 5 ppm to 0 ppm and 0.8 ppm to 0.2 ppm, respectively. Soil phosphorus and potassium increased from 0 ppm to 118 ppm and 21 ppm to 892 ppm, respectively, as biochar concentrations increased in the soil. It appeared that a 10% (v/v) biochar was optimal for plant health and improving soil quality. The authors state that biochar may improve water storage, reduce overall water use, and decrease N fertilizer applications in sand based turfgrass ecosystems.

University studies have also shown that biochar induces resistance to fungal pathogens in some plants studied. The use of biochar mixed with soils has been shown to reduce fungal pathogens in peppers, tomatoes and strawberries. As research continues, it is likely that additional plants will show resistance to fungal pathogens, perhaps for turf as well. Please see the White Paper, Biochar as a Soil Amendment for Gardens, Lawns, and Agriculture at the website, www.MirimichiGreen.com.

Description of Bison Soil Organic Biochar

Bison Soil Organic Biochar for the golf course industry is sold by Bison Soil and optimized for superior performance to enhance plant growth by retaining nutrients and water; improving soil physical, chemical and biological properties; enhancing plant growth with fewer inputs; increasing beneficial microbial colonization; and suppressing disease. This Bison Soil Organic Biochar is manufactured from clean wood biomass to maximize its ability to improve soils, enhance plant growth and suppress disease.

Bison Soil Organic Biochar lasts for hundreds of years, so it stays in the soil providing benefits for the golf course for years and years. Bison Soil Organic Biochar is not only good for the golf course, but it is also good for the planet because it is a natural, USDA Certified Biobased soil amendment that is derived from 100% renewable, clean, plant based feedstock including landfill derived materials.



Application Rates for Bison Soil Organic Biochar

With its ability to improve soil, support plant health and suppress disease, Bison Soil Organic Biochar is ideally suited for use at golf courses either as a soil substitute or as an amendment. The rates for soil amendments below are based on research and provide general guidance for the use of Bison Soil Organic Biochar.

These are typical application rates, and rates for a given situation depend on the soil type and condition. We thus suggest that trials be conducted with your specific soil and turf to determine the best Bison Soil Organic Biochar concentrations. Bison Soil Organic Biochar can be applied as a replacement for peat in a greens mix, as a top dressing to existing turf, and as an amendment to new turf whether sprigs or sod, and in the landscape.

Greens Mix: In a greens mix, replace the organic component with Bison Soil Organic Biochar to achieve benefits.

Topdressing: To add Bison Soil Organic Biochar to existing turf, top dress with a sand and Bison Soil Organic Biochar mix. Successful topdressing has been achieved with a rate of 90 sand to 10 biochar.

Add Bison Soil Organic Biochar to new turf whether sprigs or sod, or to landscape beds. Bison Soil Organic Biochar should be applied to the top four to six inches of the soil by mixing well by hand or roto tiller. The application rate varies by soil type, and is in the range of 2 to 7 cubic feet (approx. 80 to 200 pounds) of Bison Soil Organic Biochar per 100 square feet.

Use Bison Soil Organic Biochar in potting and transplanting: Bison Soil Organic Biochar should be mixed into the soil in the container or transplant hole. The application rate varies by soil type and size of the container or transplant hole, and should be approx. 3/4 cup (approx. 0.2 pound) of Bison Soil Organic Biochar per gallon of soil. For detailed application recommendations, visit www.BisonSoil.com. If you do not know your soil type or condition, obtain a soil test from your local extension office.

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