Genesis BioChar.com
Carbon Based Soil Conditioner

Biochar and Blueberries By Joe Clark

Using **biochar** as a soil amendment for **blueberries** can offer several meaningful benefits—especially when tailored properly to your soil type and growing conditions. Here's what research says:

Key Benefits of Biochar for Blueberries

1. Improved Root Health & Mycorrhizal Colonization

In greenhouse trials, adding **10–20% biochar** (sometimes mixed with bokashi or sawdust) significantly boosted root density and biomass in blueberries. These plants also exhibited a **10-fold increase in ericoid mycorrhizal fungi**, crucial for nutrient uptake in ericaceous plants like blueberries. ResearchGate+9pnwbiochar.org+9American BioChar Company+9

2. Better Plant Growth & Yield

Field studies show that applying biochar at **10–20 tonnes per hectare (around 1–2%)** enhances leaf count, fruit number, and overall fruit yield. The sweet spot appears to be within that 10–20 t/ha range—more may not equate to better results. The Open Agriculture Journal

3. Enhanced Soil Moisture Retention

Biochar's porous structure substantially improves soil's water-holding capacity—especially beneficial for blueberries grown in **sandy, drought-prone soils**. Some studies report nearly doubling water retention in sandy loam soils. ScienceDirect+10Ambrook+10SARE Projects+10

4. Stress Mitigation Under Drought Conditions

Controlled greenhouse work using a 50:50 mix of biochar in sandy soil delayed water stress in wild blueberry plants under drought conditions. It even helped maintain leaf chlorophyll levels during heatwaves, showing resilience under watering stress. digitalcommons.library.umaine.edu

5. General Soil Structure & Function

Biochar enhances soil aeration, nutrient retention, aggregation, and organic matter—promoting healthier soil structure and fertility for blueberries over time. SARE Projects+9Nature+9The Open Agriculture Journal+9

Summary Table

Benefit	Effect on Blueberries
Root and mycorrhizal growth	Denser roots, stronger fungal symbiosis
Yield improvements	More leaves, fruits, and higher yield at 10–20t/ha
Water retention	Doubles moisture holding in sandy soils
Drought resilience	Mitigates water stress and preserves chlorophyll
Soil health	Enhances structure, nutrient availability, and stability

Recommendations for Using Biochar with Blueberries

- **Application Rate**: Aim for **10–20t/ha**, or about 1–2% by volume, as studies show this range is most effective. Reddit+3The Open Agriculture Journal+3American BioChar Company+3Ambrook+1digitalcommons.library.umaine.eduNature
- **Mixing**: Combine biochar with compost or bokashi to improve nutrient availability and microbial activation. pnwbiochar.orgSARE Projects
- **Pre-conditioning (Charging)**: Wetting biochar after mixing helps "charge" it, making it more immediately beneficial. SARE Projects
- **Soil Monitoring**: Keep an eye on **pH**—biochar can raise soil pH, which may affect blueberries that prefer an acidic range (pH ~4.5–5.5). Avoid large shifts that could impair growth. The University of Maine+10pnwbiochar.org+10Facebook+10
- **Local Trials**: Evidence from Oregon shows biochar aids highbush blueberry growth there—but results may vary in other regions. ResearchGate

Final Thoughts

Biochar can be a fantastic asset for blueberries—promoting root development, yield, soil moisture, and drought resilience—especially when incorporated thoughtfully with compost or organic matter. For best results, test a small area first, monitor soil pH, and adjust based on your specific site conditions.

Genesis Biochar
Joe Clark
819 MT Hwy 82
Somers, Mt. 59932
406-885-4746
genesisbiochar@gmail.com