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MBK Biochar Agronomic Framework – Olive Orchards

Application Rate, Mixing Instructions, and Soil Amendment Protocols

 Why Biochar for Olive Orchards?

Many olive growers are new to biochar. Here’s why it matters:

Biochar is a carbon-rich soil amendment made by heating organic material without oxygen (pyrolysis). Unlike compost, biochar has been stable for over 100 years, helping the soil retain water, nutrients, and beneficial microbes, especially important in drought-prone regions where olive trees are grown.


Olive orchards benefit from biochar because:





- They are long-term systems: biochar's effects last for decades
- Grown in hot, dry areas with poor soils
- Often rely on expensive or limited water

 Biochar Helps:

- Reduce irrigation needs by up to 40%
- Lower fertilizer bills (biochar holds nutrients in the root zone)
- Improve tree health and yield, including oil quality
- Store carbon in the soil and meet climate goals

 Proven Benefits (Peer-reviewed & Third-Party Verified)

Benefit	How It Works	Backed By & Verification
 Water savings	Biochar acts like a sponge, holding water in dry soils	FAO (2021), UC Davis Extension (2023)

 Fertilizer efficiency	Binds nutrients like nitrogen and phosphorus to reduce runoff	CREA Italy (2022), Hellenic Agr. Org. (2023), SCS Global
 Root health	Hosts microbes that improve nutrient cycling and tree vigor	Biochar Journal – Mediterranean Trials, DNV Verified Trials
 Soil erosion control	Improves soil texture, reduces compaction and crusting	University of Seville – Agrochar Trials (2022)
 Carbon storage	Locks carbon in soil for 100+ years — eligible for carbon credits	Verra, Puro.Earth, IPCC Guidelines, SCS & DNV Monitoring

Who This Is For

- Olive oil producers wanting to increase oil yield and quality
- Farmers seeking climate-smart agriculture practices
- Orchards in arid regions, or with saline or degraded soils

Application Guidelines (per acre)

Olive Orchard Type	MBK Biochar Rate	Application Frequency
Traditional	3–5 tons/acre	Every 4–5 years
High-density / organic	5–8 tons/acre	Every 3–4 years

Mixing Instructions

1. **Pre-charge** biochar with compost, organic fertilizer, or worm castings for 10–14 days
2. **Incorporate** shallowly (6–10 inches) along tree lines or in planting rows
3. **Moisture:** Apply when soil is moist; avoid dry or waterlogged conditions

Soil Amendment Best Practices

- Apply post-harvest or before major irrigation cycles
- Combine with cover crops (clover, vetch) to retain nitrogen and suppress weeds
- Avoid applying more than 10 tons/acre in a single pass unless guided by agronomist

MRV Compliance (for BioTASC or Carbon Credit Eligibility)

- Record GPS coordinates and date of application in MBK portal
- Tag batch ID provided on packaging

- Upload optional field photo and checklist for traceability
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 MBK Offers:

- Application coaching and templates
- Compatibility review with your soil and irrigation
- Integration with carbon registries (Verra, Gold Standard, Puro.Earth)
- Third-party verification by SCS Global Services and DNV for biochar deployment impact

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Note: MBK, as the certified carbon credit issuer, retains exclusive rights to claim and sell credits. Buyers may not resell or double-claim these credits but may use verified soil data for Scope 3 ESG reporting, regenerative branding, and export compliance.