

Combining compost and biochar

Recommendations for Arid and Semi-Arid regions based on results on barley crop

1. How to Prepare the Mix

Step-by-step process:

- Mix biochar with mature compost at least 2 weeks before applying it to the field. This allows biochar to be enriched with nutrients and beneficial microorganisms.
- Moisten the mixture to form a paste and keep it well-watered for 2 weeks to enrich the biochar.
- Stir the mixture at least twice during this period for homogeneous mixing.

2. Recommended Application Rate

For an expected yield of 50 q/ha

- **Biochar: 0.7 t/ha**
- **Compost: depend on compost N content**

Compost N content	Recommended Dose
g/kg	t/ha
10	77
15	51
20	38



For more information, see also compost and biochar recommendation sheets

➔ **Method of application:** Incorporate the mix into the top 10 cm of soil

3. Benefits of Compost-Biochar Mix



- ✓ Improves soil water retention (up to 26% more available water)
- ✓ Enhances soil fertility and crop yield (yield increase of 12% to 118%)
- ✓ Reduces pathogens and weed seeds in soil amendments
- ✓ Potentially improves soil fertility in the long term (not yet proven)
- ✓ Stores carbon in the soil (carbon sequestration)

4. Things to consider



- ✗ Requires work and monitoring prior to field application
- ✗ Risk of soil salinization, compost and biochar can have high salt content, so check soil conditions
- ✗ Nitrogen available at the beginning of the crop. Nitrogen supply required in case of **flood irrigation** because of high nitrate losses by leaching. Can be greatly reduced in case of **drip irrigation** systems.