

Compost Tea Brewing

Reference Guide

What Is Compost Tea?

A liquid probiotic for your soil. You steep finished compost in water, aerate it with an air pump and airstone, and multiply beneficial microbes into the billions.

You are not feeding the plant.

You are feeding the microscopic ecosystem that feeds the plant.

Core benefits:

- Feeds soil biology — bacteria, fungi, protozoa
- Rebuilds soil structure and water retention
- Suppresses fungal disease naturally
- Reduces need for synthetic fertilizers
- Rebuilds depleted or hydrophobic soil over time
- Nearly free if you already compost

Aerated vs. Non-Aerated

Non-Aerated (Passive) — Risky

- Steep compost in water 24-48 hrs, no pump
- Low microbial count, weak brew
- Easily goes anaerobic — harmful organisms take over

Bad smell = sour, sulfur, or foul = DISCARD

Aerated Compost Tea (ACT) — Recommended

- Air pump + airstone at bucket bottom, 24-36 hrs
- Oxygen multiplies beneficial microbes into billions
- Airstone must sit at the bottom — weights or suction cup
- Add check valve to protect your pump

Good smell = earthy, sweet, forest floor

Best Brewing Method

Use a mesh bag for your compost:

- Fill a paint strainer bag with compost material
- Weight it to stay at the bottom near the airstone
- Brew full 24-48 hrs with bag in — maximum microbial extraction
- Strain at the end before applying

Never strain before brewing — you throw away your biology.

Water tip — dechlorinate first:

- Chlorinated tap water kills microbes
- Let water sit 24 hrs uncovered OR use rainwater
- Or add aquarium dechlorinating drops — instant

Pro tip: Water plants well first, then apply tea drench while soil is still moist — the moisture column carries microbes deeper into the root zone.

Zone 1 — The Ancient Forest Floor Trees & Shrubs

Where they evolved:

Undisturbed soil unchanged for centuries. Deep fungal networks — mycorrhizal threads running hundreds of feet connecting trees. Slow decomposition of woody material. Cool, shaded, stable. Fungi dominate.

Best for:

- Fruit trees, oak, pine, ornamental shade trees
- Roses, hydrangeas, camellias, ornamental shrubs
- Any woody perennial plant

How to brew fungal-dominant:

- **Base:** leaf mold, aged wood chip compost, bark compost
- **Food:** 1-2 tbsp kelp meal OR fish hydrolysate per 5 gal
- **Avoid molasses** — fungi prefer complex carbohydrates
- **Brew longer:** 36-48 hrs
- **Apply** in cooler evening hours

Seasonal timing:

- **Best:** early spring (soil 45-55 F, fungi wake first)
- **Fall:** most important app — prep for dormancy
- **Summer:** minimize, apply at night only

Zone 2 — The Floodplain Vegetables & Annuals

Where they evolved:

How to brew bacterial-dominant:

Regularly disturbed soil — flooded, dried, turned by seasonal cycles. Nitrogen-rich organic matter constantly deposited and broken down fast. Warm, open, active. Bacteria dominate because they thrive in disturbed environments. Best for: • Tomatoes, peppers, squash, cucumbers • Leafy greens, herbs, corn, beans • Annual flowers, cover crops, lawns and grasses	• Base: worm castings, vegetable compost, manure compost • Food: 1-2 tbsp unsulfured molasses per 5 gal • Bacteria love simple sugars — don't overdo molasses • Brew shorter: 24-36 hrs — bacteria multiply fast Seasonal timing: • Start when soil hits 60 F consistently — bacteria need warmth • Every 2 weeks through summer peak • Taper off in fall below 55 F — bacteria go dormant	
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Zone 3 — The Forest Edge 🍇 Bush Berries & Transition Plants

Where they evolved: The transition zone between forest and open ground. Partial shade, partially disturbed soil. Mix of fungal networks from nearby trees and bacterial activity from open ground. Slightly acidic from leaf litter. Neither fully fungal nor fully bacterial — a dynamic seasonal balance. Best for: • Blackberries, raspberries, gooseberries, currants • Blueberries — more fungal, prefer acidic inputs • Strawberries lean more bacterial	How to brew balanced: • Base: 50/50 worm castings + leaf mold • Blueberries: pine needle compost if available, skip molasses • Other berries: small amount of molasses (1 tbsp) is fine • Brew 30-36 hrs — balanced between zones Seasonal timing: • Early spring before bud break — fungal leaning brew • After fruit set — bacterial leaning for nutrient demand • Fall — back to fungal for root energy storage
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Soil Temperature — The Biological On/Off Switch 🌡️

Biology doesn't run on the calendar — it runs on soil temperature. Applying tea when soil is too cold or too hot wastes your brew.

Soil Temp	What's Happening	Action
Below 45 F	Most biology dormant	Don't brew — wait
45-55 F	Fungi waking up first	Fungal brew — trees/shrubs
55-65 F	Bacteria coming online	Balanced brew — all plants
65-75 F	Peak bacterial activity	Bacterial brew — veggies thriving
75-85 F	High bacterial, fungi slowing	Bacterial + add kelp for heat stress
Above 85 F	Both slowing, stress zone	Reduce frequency, apply at night only

Application Guide

Foliar Spray (leaves):

- Dilute 1:10 with water (1:20 for seedlings, 1:5 for trees)
- Strain through cheesecloth first — prevents clogged nozzles
- Spray both sides of leaves until glistening, not dripping
- Early morning or evening only — never midday
- Use immediately — don't store diluted tea
- Rinse sprayer after every use

Soil Drench (roots):

- Full strength for established plants
- 1:3 to 1:5 dilution for seedlings and transplants
- Water plants well first, then apply tea
- Moist soil carries microbes deeper into root zone
- For dried-out pots: bottom soak first, then drench
- Apply within 4 hrs of finishing brew
- Every 2-4 weeks during growing season

⚠ Know What Goes In Your Brew — Pathogen Warning

Aeration multiplies everything — beneficial microbes AND harmful pathogens. Your brew is only as clean as your inputs.

- **Never use wood, bark, or leaves from diseased trees** — peach leaf curl, powdery mildew, black spot, and blight spores survive in unfinished compost
- **Hot compost (130-160 F sustained) kills pathogens** — cold or slow compost does not
- **Hot compost also kills beneficial microbes** — the curing phase (4-8 weeks after cooling) is where good biology recolonizes
- **Only use fully finished, cured compost** — immature compost delivers weak, risky brews
- **When in doubt, leave it out** — use worm castings or purchased compost from a clean verified source

Quick Troubleshooting

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| <ul style="list-style-type: none">• Sour or rotten smell → anaerobic, discard and start over• Brew smells fishy → kelp or fish hydrolysate is normal — not a bad sign• Sprayer clogging → strain more thoroughly before spraying• Plants stressed after spray → dilute more next time (try 1:20) | <ul style="list-style-type: none">• No improvement in soil → check compost quality and water source• Airstone not bubbling → check pump connection, replace airstone (\$3-5)• Brew goes bad in summer → brew in cooler part of day, shorten brew time• Weak results overall → less of better compost beats more of poor compost |
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