



**SAUDERS**  
HARDSCAPE SUPPLY



**SHS Distributors**  
Quality Innovation Service

  
**WIND RIVER**  
MICROBES™



# BioSOIL

It's not magic...it's microbes!

**BioSOIL** is a naturally derived formulation of beneficial bacteria and fungi that strengthens the ecosystem in soils or other growing media supporting trees and woody plants.

## Is It Necessary?

Absolutely! Without a balanced ecosystem, the growing environment is compromised, roots are less effective at nutrient absorption and cycling, and trees become more susceptible to pathogens, disease, and pests.

## How Does It Work?

Woody plants can't directly consume most nutrition bound up in soil; they depend on microbes to process it for them, to make nutrients "bioavailable." Woody plants team with microbes to defend themselves against pests and pathogens such as blight, rusts, root rot, and harmful insects, to moderate pH and salinity, and to improve water retention and soil aeration. Microbes are essential for optimum health and maximized growth.

## Active Ingredients

Bacillus sp.....36%  
Nocardioides alkalitolerans strain  
KSL-12165 ribosomal R gene,  
Rheinheimerasp. C3-4M165  
ribosomal RNA.....7%  
Total other ingredients.....53%

## Microbes...

### Functions:

- Facilitates water transport through both cambium layers
- Promotes lignan growth
- Balances soil ecosystem
- Improves fertilizer efficiency
- Increases tolerance to pH variations
- Reduces harmful pathogens
- Increases aeration in compact soils
- Reduces fungal infections
- Inhibits mold and powdery mildew
- Balances ratio of bacteria to fungi
- Increases nutrient conversion and absorption
- Unleashes aggregate-bound phosphorous
- Improves nitrogen fixation
- Sequesters carbon
- Reduces salinity and breaks down heavy metals in soils
- Improves soil organic matter
- Reduces nutrient inputs
- Opens stomata for better transpiration and respiration

...and much more!

### Applications:

- Easy to administer through ANY type of water delivery, irrigation, or spray applicator
- May be aerosol sprayed
- Cleans drip systems

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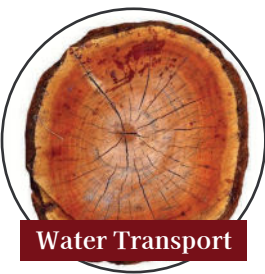
# BioSOIL

## Will overspray from my fruit trees hurt my garden?

No, **BioSOIL** is 100% safe to use on all trees and plants. It is naturally sourced from plants, soils, and animals.

## Does it contain mycorrhizae?

Yes, it contains both endomycorrhizae and ectomycorrhizae. These fungi are extremely important for sourcing, retrieving, and delivering nutrients to roots.



Water Transport



Fungus Reduction



Increase Respiration



Flower Longevity



Reduce Disease

## Does it repel pests, like the pecan casebearer?

**BioSOIL** contains bacteria that are unattractive to some insects; however, it is neither an insecticide, pesticide, nor parasiticide. If applied during the larval stage, it will help rid the casebearer larvae.

## Is it certified for organic production?

**BioSOIL** is not OMRI certified. However, the approval process for use only takes a phone call and an email. It's fast and simple.

## Applications and Recommended Dosages

| APPLICATION                  | MEDIA | DOSAGE  | FREQUENCY   |
|------------------------------|-------|---|---|
| Individual shrub or sapling  | Soil  | Mix 2oz (or 4 Tablespoons) per one gallon water and water soil liberally.<br><b>Foliar Spray:</b> Mix 1-2oz per one gallon water and spray leaves liberally.                                    | Apply once every 14 days<br>Apply once weekly             |
| 2-3 year-old trees           | Soil  | Mix 4oz (or 8 Tablespoons) per one gallon water and water soil liberally.<br><b>Foliar Spray:</b> Mix 3oz per one gallon water and spray leaves liberally.                                      | Apply once every 21-30 days<br>Apply 1-2 times per week   |
| Mature trees, small orchards | Soil  | Mix 2 gallons with 30 gallons water, per each acre of land. Spray soil liberally, then water thoroughly.<br><b>Foliar spray:</b> Mix one quart per 20 gallons water and spray canopy liberally. | Apply every 30-60 days<br>Apply once weekly               |
| Transplanting young trees    | Soil  | Mix one quart with 10 gallons water. After placing tree in hole, pour mixture around root ball. Pack hole with desired soil or growing media.   | One initial application. Then follow "2-3 year-old trees" |
| Orchard irrigation           | Soil  | Add 1 gallon per each 20 gallons water volume.  | Once monthly, or as needed                                |

**Storage:** For full product shelf life, store at 45-85oF. KEEP OUT of direct sunlight. DO NOT freeze. **Safety:** The microorganisms used in this product are not likely to cause illness to healthy humans. Not recommended for human consumption. Personal protection equipment (PPE) may or may not be used by applicator. It is not necessary to remove pets or livestock when applying.