
Wood Fiber Substrates

A Quick Start Guide
For Professional Growers



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 **Berger**
Where life grows



Jack Bobo, Ph. D.

R&D Grower Advisor

Agriculture has always been at the center of Jack Bobo's interests. In high school, he was actively involved in the Future Farmers of America (FFA). Following his father's example as a veterinarian, he naturally gravitated toward animal science when he began his undergraduate studies at Texas A&M University. But a single horticulture course, taken to fulfill a general science requirement, changed his trajectory.

Captivated by the complexity and relevance of horticultural science, he realized this was where he wanted to focus his career. He went on to earn a degree in horticulture along with a certificate in enology and viticulture,

deepening his interest in wine grape research. Jack continued this work at the University of Georgia while completing a master's in horticultural science.

Driven by a commitment to sustainable production, he pursued a Ph.D. at NC State University under Dr. Brian Jackson, focusing on the chemistry and phytotoxicity of wood-based substrates as alternatives in growing media.

As an R&D Grower Advisor, Jack Bobo works closely with growers and researchers to support product innovation, troubleshoot challenges, and deliver technical guidance that drives success in the greenhouse and beyond.



Berger's technical team members are conducting groundbreaking work in growing mixes to achieve unmatched results in the field.

Learn more about the team who has made Berger the authority in growing mixes!



The "**Why**" behind **Wood Fiber?**

Berger Wood Fiber (Natural Fiber - NF)
is an engineered substrate component.
Unlike traditional additives, it is hydrophilic
(water-loving).

It acts as both a sponge
(holding available water) and a lung
(providing stable air channels).



Water storage

+



Aeration

=



Exceptional rooting

The Perception Paradox: **Air VS. Water**



Structurally Porous:

High Air-Filled Porosity (AFP) provides increased oxygen for root respiration.



Functionally Hydrates:

At equivalent inclusion rates, replacing perlite with wood fiber in a peat-based mix increases easily available water. Because wood fiber possesses both internal porosity and high surface area, it provides more accessible moisture reserves for the plant than a perlite amended substrate.



The Forgiveness Factor:

High AFP helps shorten "swamp" conditions, reducing potential for root exposure to Pythium if overwatering occurs.

The Golden Rules of Irrigation

01

Trust Your Hands, Not Your Eyes

- **The Visual Trap:** Wood fiber + peat mixes dry on top and discolor (turns light blonde) quickly due to high surface airflow.
- **The Reality:** The root ball is often still 70-80% hydrated when the surface looks "bone dry."
- **Action:** Use the "Lift and Feel" metric. Always pick up the pot to calibrate irrigation needs by weight.

02

The "Little and Often" Strategy

Wood fiber promotes lateral wicking. Instead of one massive drench, **use shorter, more frequent pulses**. This maintains low moisture tension and consistent EC levels.

03

The 10% Leachate Fraction

Aim for a 10-20% runoff. Because wood fiber has lower buffering (CEC), regular leaching is essential to refresh fertigation and flush out accumulated salts.



Critical Timeline: **The First 10 Days**



The first 10 days post-transplant determine your root architecture.

Light Hands Early:

Target the upper 25% of the substrate profile during initial irrigation to leverage the capillary wicking of wood fiber, which efficiently redistributes moisture downward.

Moisture Gradient:

This creates a moist, oxygen-rich environment at the base that draws roots deep into the container while preventing the anaerobic saturation typical of traditional bottom-heavy watering.



THE RESULT:

By maintaining this moisture gradient, you ensure the substrate remains receptive to future irrigation cycles without risking root-zone waterlogging.

Chemical & Operational Success



1. Nitrogen Myth:

Processed wood fiber does not cause significant nitrogen drawdown under 30% by volume.



2. pH Management:

Wood fiber has a low pH buffering capacity, therefore mixes containing higher rates will need to be monitored more closely initially.



3. Wettability:

Always ensure a target moisture of 60-65% during blending. If the mix gets too dry, use a secondary wetting agent for the first irrigation.

KEY POINT:

Additionally, there is potential for more dust in peat: wood fiber mixes when compared to peat: perlite mixes.

Choosing Your Mix



BM4

Aggregate free, this series is made exclusively from natural fibers. Thanks to the careful handling of our peat moss and the use of innovative alternative materials to create a stabilized root environment.



BM5

The BM5 product line utilizes both natural fibers and aggregates to create a wide variety of soil structures.






BM6

This classic peat-perlite series of all-purpose mixes offers an assortment of drainage options that are adapted for a wide variety of growing environments, making it one of our most popular products.



BM Series Berger Mixes

MIX	COMPONENTS	BEST FOR	IRRIGATION TRIGGERS*
	12.5% Wood fiber 87.5% Peat	High Performance / Fast Turns	20-25% weight loss
	15% Wood fiber 5% Perlite 80% Peat	The Balanced Hybrid (Entry Point)	30-35% weight loss
	15% Perlite 85% Peat	Traditional Baseline (High Buffer)	35-45% weight loss



WOOD FIBER



PEAT



PERLITE

***Note:** These triggers are general guidelines for established crops. Irrigation management is site-specific and should be adjusted based on container size, species water requirements, and local environmental conditions. Monitoring substrate Electrical Conductivity (EC) weekly can further help refine these triggers to avoid nutrient buildup or leaching.



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For product support: productsupp@berger.ca

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