

GROWERTALKS

Features

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Compressed vs. Loose Growing Media: Making Every Cubic Foot Count

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For flower growers managing thousands of pots and trays, the space occupied by growing media before it's even used can have a real impact on storage, handling and logistics. Efficiency isn't only measured by crop yield; it can also mean getting growing media where it needs to go with fewer bags to handle, less storage space required and fewer deliveries to manage. When thousands of pots or trays are filled over the course of a season, these small efficiencies can quickly add up.

That's where compressed growing media can make a real difference. By reducing the physical volume of the product before it reaches the greenhouse, compressed mixes can help growers streamline transportation and handling while still providing the volume of growing media needed for production. For growers looking to make the most of their space, labor and logistics, compression can be a surprisingly simple way to improve efficiency from the moment the growing media arrives.

The compressed advantage

Compressed growing mixes, particularly in sky-format packaging, are gaining traction for a simple reason: They offer more usable growing media per shipment while reducing logistical headaches. Fewer pallets are required, freight costs can decrease and the transportation-related emissions are reduced. On top of that, sky-format packaging uses significantly less plastic wrap compared with traditional formats.

The benefits of compressed growing media start with logistics, but they don't end there. Once properly expanded and hydrated, a well-formulated compressed mix provides the same essential growing conditions as its non-compressed counterparts, including the structure, porosity and drainage needed for healthy root development.

Cost per cubic foot	Product loose	Product A: Compressed	Product B: Compressed
	75 cubic foot big bag (2/pallet)	110 compressed cubic feet	110 compressed cubic feet
Price per skid (\$/pallet)	\$400	\$500	\$550
Average weight per skid (lbs.)	1,250	2,200	2,000
Pallets/truckload (max 45,000 lbs.)	24	20	22
Average initial moisture content (%)	60%	56%	46%
Average volume per skid BEFORE initial hydration (cu. ft.)	150	197	209
Price per cu. ft. BEFORE initial hydration (\$/cu. ft.)	\$2.67	\$2.54	\$2.63
Volume increase after initial hydration (%)	None*	+3.4%	+12.0%
Average volume per skid AFTER initial hydration (cu. ft.)	150	203.8	234.1
Price per cu. ft. AFTER initial hydration (\$/cu. ft.)	\$2.67	\$2.45	\$2.35

*Generally, product sold in big bags don't require an adjustment in moisture content before potting.

How much will it cost you to fill 300,000 1-gal. pots (±40,000 cu. ft.)?			
Price per truckload (\$/TL)	\$9,600	\$10,000	\$12,100
Usable volume per truckload (cu. ft.)	3,600	4,075	5,150
Number of truckloads needed to fill 300,000 1-gal. pots (±40,000 cu. ft.)	12	10	8
Final cost	\$115,200	\$100,000	\$96,800

In other words, compression changes how the growing media is packaged and transported, not how it performs in the greenhouse. When properly hydrated, the media provides the air and water balance plants need to establish strong roots and maintain healthy growth throughout the crop cycle. This makes compression an efficiency advantage without requiring growers to compromise on growing media performance.

But there's another advantage to compression that's particularly interesting for growers: the amount of growing media they can get from each bale.

Hydration done right

To unlock the full potential of a compressed mix, as mentioned above, proper hydration is essential. Compressed media are shipped at a controlled low moisture content—enough to maintain quality, but optimized for transport efficiency. Re-hydrating the mix before use allows it to expand to its intended volume, often increasing its usable volume by 10% to 15%.

This expansion relies on the natural elasticity of peat fibers, which swell when absorbing water. Proper pre-hydration also reduces airborne dust and ensures uniform moisture throughout the substrate, promoting even crop growth and consistent rooting. Inconsistent

hydration can lead to weak zones in trays or water channeling in containers, which directly affects plant quality.

For best results, do the following:

- Loosen the substrate
- Gradually mix in water to reach about 50% to 60% moisture content, depending on the composition of the mix
- Use mechanical mixers or sprinkler-equipped conveyors for large-scale operations to maintain efficiency and substrate structure
- Avoid over-mixing, which can damage particle integrity and reduce porosity

Counting what really matters: Cost per usable volume

Price per skid is often the first number growers look at when purchasing growing media—but it shouldn't be the last. The true cost of your substrate comes down to how many pots can be filled, hence, how much usable volume you're getting, not just how much weight is on the pallet.

For example, consider two competitors offering seemingly identical compressed mixes. Competitor A offers a lower price per skid and a heavier pallet. On the surface, this seems like the better deal. However, if that extra weight is simply more water, it reduces the potential expansion of the peat fibers, limiting usable volume. Higher initial moisture content can also increase shipping weight and reduce the number of pallets that can be transported per

truckload, resulting in higher freight costs.



By measuring the actual expanded volume after proper hydration, growers can calculate the real cost on a \$/cu. ft. basis. This often reveals significant differences in overall production costs. A higher-priced mix that expands more efficiently could offer a lower cost per cubic foot of usable media.

Top: A properly hydrated compressed mix will increase volume by 10% to 15%.

Bottom: Compressed media in sky format packaging.



Beyond per-unit costs, these differences have larger-scale implications. If Competitor B's mix requires fewer truckloads to fill the same number of pots or trays, the savings multiply. For instance, a grower needing to fill 300,000 1-gal. pots might require 10 truckloads of Mix A, but only eight truckloads of Mix B, saving both on logistics and overall substrate costs.

A compressed growing medium may have a higher price per bale or skid, but that doesn't necessarily mean a higher cost per cubic foot.

Let's look more closely at these differences when two different compressed products are compared to a loose format of the same product:

As this example illustrates, comparing products based solely on price per skid can be misleading. While Product A and B both carry a higher upfront cost than the loose format, the greater usable volume obtained after hydration significantly changes the cost per cubic foot and the number of truckloads required. Among the examples shown, product B provides the greatest usable volume and the lowest total cost to fill 300,000 1-gal. pots. In this example, a grower filling 300,000 1-gal. pots would require only eight truckloads of Product B compared to 12 truckloads of the loose format, resulting in savings of approximately \$18,400.

Proper hydration further increases the usable volume obtained from each pallet. In the case of product B, volume increased from 209 cu. ft. to 234.1 cu. ft. after hydration, representing a 12% gain in usable substrate.

What does this mean for floriculture?

For floriculture, where profitability is often measured pot by pot, compressed growing media can provide a meaningful competitive advantage. By increasing the usable volume obtained per pallet, compressed formats can reduce freight requirements, free up valuable storage space, lower handling costs and, ultimately, decrease substrate costs per finished container. When properly hydrated, these products maintain the physical characteristics needed for strong crop performance while helping growers maximize the return on every shipment received. In other words, compression improves logistics efficiency without sacrificing substrate quality. At the end of the day, growers get more value from every shipment, leaving both the pots (and their wallet) fuller.

The bottom line: Higher efficiency, better returns

Compressed growing media isn't just about saving space—it's about getting more out of every pallet, every tray and every crop cycle. Compressed formats offer growers a practical way to improve profitability while staying efficient and sustainable. **GT**

For further information, please reach out to Berger's product team at info@berger.ca or visit berger.ca.

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