

Reusable bulk totes harvest rich rewards

Grass seed grower Doerfler Farms harvests benefits from 1,000-lb corrugated IBCs, including multiple reuses, less packaging waste and reduced handling/filling time. The bulk totes also prevent cross contamination of seed varieties and deliver a fresher, cleaner product to customers.



Lauren R. Hartman, Senior Editor

The seeds of change have come to Doerfler Farms, considered the largest producer of cool-season grass seed in the U.S. Reaping a bumper crop of benefits from an intermediate bulk container (IBC) from **Weyerhaeuser's SpaceKraft** (www.spacekraft.com) business, the Aumsville, OR, grower is now grazing in the grass. Recently, Doerfler Farms purchased several hundred 1,000-lb corrugated totes as an alternative to using 50-lb bags to process, blend and temporarily store grass seed. While it uses 25- and 50-lb film bags to pack and ship approximately 90 percent of the seed for the U.S. and Canadian markets (and ships another 10 percent to Europe and Asia), the reusable lined totes provide greater internal operational flexibility during the farm's labor-intensive July/August harvest season.

According to vp Kevin Doerfler, the totes help reduce handling time and lower packaging costs.

"The fact that you can collapse the totes for storage is an important advantage, but keeping them in use delivers the best value."

Founded more than a half-century ago, Doerfler Farms lies in the heart of Oregon's Willamette Valley, about 20 miles southeast of Salem. Doerfler Farms produces seed varieties with names such as Marvelgreen Supreme, Palmer III & IV, Prelude III & IV, Phantom Laser, Tourstar, Southern Select, Archer, A+ and Imagine. Growing multiple varieties of Perennial Ryegrass, Tall Fescue, Fine Fescue and Bentgrass, Doerfler Farms blends grass seed mixtures according to customer specifications. The totes help eliminate cross contamination of these varieties, which allows Doerfler Farms to deliver fresher, cleaner product to its customers.

The mixtures are usually blended from three to five cultivars, with each product providing special characteristics such as shade-tolerance, heat-resistance and durability under heavy foot traffic. But Doerfler Farms also ships thousands of 50-lb bags of single-cultivar grass seed to wholesalers and companies that mix and package their own blends. Customers include commercial home and garden seed companies, wholesalers, nurseries, golf courses, institutional and municipal buyers and, of course, landscapers.

"We plant, harvest, process, package and ship about twenty million pounds of grass seed a year on twenty-thousand acres," explains Doerfler. "I was a bit skeptical



Blending assorted grass seed varieties that are weighed and fed into the bag-lined 1,000-lb totes for storage and mixing, Doerfler Farms reduced labor and handling over using 50-lb bags alone. Each collapsible tote can be reused over and over.



when SpaceKraft said we'd get up to thirty [usage] cycles with their totes," he adds. "But after using a majority of our initial 760 totes eight or ten times last year, I think we may get more from some of them." Standing 52 in. tall, each tote comprises an outer sleeve, a bottom pad and a top cap. The sleeve is made of six continuously wound plies of A-flute corrugated in a patented process that offers up to 25 tons of compression strength and eliminates the manufacturer's joint. The bottom pad and cap are made of a single ply of A-flute corrugated. Inside is placed a 2-mil polyethylene liner from **Scholle Corp.** (www.scholle.com).

When ready to harvest, the grass varieties range from 15 in. tall to 4 ft high and mature at different rates. A staff of more than 100 and a fleet of 40 giant combines harvest some 20,000 acres of grass during the July/August harvest season. Dried in the sun, the grass is separated from straw and trucked to one of the farm's large storage sheds.

There, the grass is conveyed by augers and elevators to large air-screen cleaning machines (designed in-house) that extract the seeds and remove impurities. The straw is discarded by the combines and is subsequently baled and sold as cattle feed.

The seed can travel through the facility in two ways. If it's going to be bagged for immediate shipping, it passes through the cleaner and falls into a hopper that drops it into an automatic custom bagger with a high-speed belt-line sealing head.

If the seed is destined for further processing or temporary storage it is put into the totes and a different hopper is used to gravity-fill the bulk corrugated totes. A weigh-scale platform installed next to the cleaner enables the SpaceKraft containers to be gravity-filled directly from the hopper. The IBCs are shipped knocked-down to Doerfler Farms on standard 40×48-in. pallets, 18 per pallet. The liners are shipped separately, since Doerfler Farms uses a fresh liner each time a tote is reused. An operator forklifts three or four flat IBCs and pallets to the

cleaning/tote-filling area. Once a pallet is lifted onto the weigh scale, an operator opens and positions the tote's outer sleeve on the pallet and inserts and cuffs the open-topped bag liner down over the top edges of the tote's outer sleeve. After the tote is tared on the weigh scale, an operator opens a valve on the hopper and the seed begins dispersing into the tote. Doerfler says its operators can set up the bulk totes in less than a minute.

When a fill weight of 1,000 lb is reached, the operator closes the hopper valve and applies the corrugated top cap to the container. The tote is then forklifted to another area where the seed is sampled before being taken to a warehouse to be stacked three-high in long rows.

50-lb bags that operators previously had to cut open and dump into the hopper. Doerfler says that whenever possible, the operators now add 1,000-lb quantities of seed from the corrugated totes.

A hydraulic lift table next to the batch mixer is used to dispense the filled 1,000-lb totes into the batch mixer's hopper. Before a palletted tote is lifted, an operator removes the corrugated cap and a new liner is inserted. Two vertical bars on the pivoting front of the tilt table are used to keep the container in place as the grass seed empties into the mixer hopper. If the container is to be refilled shortly, the used liner is removed for disposal and a new liner is inserted. Otherwise, the tote is returned to the warehouse, the liner is discarded and the container is folded up and stored.



Withstanding up to 30 tons of compression, the totes can be stacked three-high in Doerfler Farms' warehouse.

Filling a single tote versus 20 bags is a snap, Doerfler says. "A single tote eliminates wasting twenty fifty-pound bags. More importantly, we reduce handling time in both filling and dispensing by using the one bulk tote instead of twenty bags." Mixing is also easier, he says. Seed blends are mixed in a steel batch mixer with an open-topped feed hopper. The specified types and quantities of seed are delivered to the mixing station by forklift. A 6,000-lb batch is the equivalent of 120

"We tried bulk bags for storage and handling before we switched to the SpaceKraft containers," says Doerfler. "They were fine for single-use, one-way export shipping, but couldn't be used for in-plant processing and storage. Flexible IBCs are harder to handle and store than the rigid corrugated totes, and cleaning them is a problem [for us]. Grass seed is so small and fine, it can catch in every welded seam and wrinkle. You just can't clean them thoroughly enough to ensure against contaminating one type of seed

with another. With the SpaceKraft totes, we use a new liner every time we recycle them, thereby eliminating any seed contamination.”

Doerfler Farms has two busy shipping seasons. Since cool-season grasses do well when planted in the fall, Doerfler Farms begins mixing and shipping seed in

August, while harvesting is still going on. “We’re busy shipping nationally from August through October,” Doerfler explains. “In November, we begin shipping to Europe and Asia so customers have time on their end to process and package their products in time for spring sales.”

By the time export shipments tail off in January, Doerfler Farms is ramping up,

blending, packaging and shipping full-tilt for the next big spring season. During the 2004 packaging season, the Doerfler staff enjoyed other benefits from using the corrugated totes, says Doerfler. “Seed stored in the the overcapped bulk totes stayed cleaner and fresher after months of storage. The totes are collapsible, which is important. But keeping them in use delivers the best value.”

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