

Corrugated Common Footprint
Research Results

CORRUGATED

IT MAKES THE MOST SENSE





FACTS PROVE WHAT MOST RETAILERS KNOW: **CORRUGATED IS THE BEST WAY TO SHIP PRODUCE**



Corrugated has long been the produce industry's shipping container of choice. In response to retailer demand for containers that would reduce shrink and total shipping costs, the corrugated industry developed the Corrugated Common Footprint (CCF). It provides the benefits of standardization and modularity without sacrificing corrugated's inherent versatility and protection characteristics.

Today, many of the larger retailers require their produce suppliers to ship in standard containers—either CCF or returnable plastic containers (RPCs).

But, anecdotal evidence and personal experience aside, are the new common footprint containers really better than traditional corrugated boxes? Is there much difference between standardized corrugated and RPCs? Which type of container is best for which commodity? And how does the package type affect arrival condition of produce?

To begin answering these questions with scientific facts, the corrugated and RPC industries jointly funded independent testing at the University of California - Davis. To date, researchers there have conducted three separate studies comparing the performance of traditional corrugated, CCF and RPCs in standard 5- and 10-down sizes. The 5-down (16 in. x 24 in. footprint) containers are designed for stacking five per layer, the 10-down (16 in. x 12 in. footprint) for 10 per layer, on a standard Grocery Manufacturers of America or Euro pallet.

BY ALMOST EVERY MEASURE, CORRUGATED OUTPERFORMS RPCS

Shipping density.

Whether it's tree fruit, grapes or strawberries, you can ship a whole lot more of them in corrugated. Grapes, for example, ranged from 7.5 percent to 11 percent (up to 3,700 pounds) more fruit per truckload in CCF containers than in RPCs. For strawberries, the improvements ranged from 11 percent to 21 percent more per truck.

Bruising/vibration damage.

Grapes packed in RPCs, traditional corrugated and 10-down CCFs showed comparable shattering when subjected to vibration testing. Grapes packed in 5-down CCFs shattered more than those in RPCs and traditional corrugated.

Strawberries packed in CCFs sustained less bruising than those packed in RPCs. So did volume-filled tree fruit.

Tray-packed tree fruit packed in RPCs, even with cushioning pads, resulted in 40 percent more bruising than CCFs. However, the current industry-standard corrugated box yielded less fruit damage than both of the 5-down containers.

Cooling performance.

Strawberries cooled at the same rate in 5-down CCFs as in RPCs. This demonstrated the advantage of being able to customize corrugated vent hole locations to optimize airflow into the interior clamshells.

Tree fruit in CCF containers cooled 10 to 20 percent faster than in current industry-standard boxes. Tree fruit packed in 5-down RPCs cooled faster but this did not offset the substantial bruising damage incurred in this container.

For grapes, there was no significant difference in cooling between traditional corrugated and CCFs. The cooling rate for grapes in 5-down containers was comparable, although grapes cooled somewhat faster in 10-down RPCs. The study concluded that the grape bag venting was more of a determining factor in cooling rate than the box.

NO MATTER HOW YOU STACK IT, CORRUGATED MAKES THE MOST SENSE

The CCF gives retailers standardized containers to cut costs and improve profits. Growers get cost-effective, efficient packaging with CCFs, and consumers get fresh produce that looks and tastes great.

From non-display shipping containers to display-ready trays, the CCF Standard delivers all the benefits of uniform packaging—pallet stability, labor savings and shrink reduction—without giving up custom-design flexibility.

New, modular CCFs provide:

- One common footprint and compatible interstacking design features to make pallet loads more stable and optimize cube efficiency for lower operating costs systemwide
- Inherent cushioning and design flexibility to better protect and cool products, reducing damage and shrink
- Infinite depth designs so each fruit and vegetable can be packed in the best configuration of layers for safe passage from field to store
- Customized graphics to heighten the impact and fresh appeal of display-ready containers
- Custom-design flexibility for protection, cooling and venting, ergonomics, pack size and space utilization to best suit the needs of each product

THE MOST DELICATE OF PRODUCE. THE TOUGHEST OF TESTS: Each study focused on a commodity that is particularly susceptible to damage in transit—strawberries, tree fruit and grapes. In each case, the containers were evaluated for their effect on cooling rates, shipping density and vibration damage in simulated transit. Rigorous statistical analysis was used to determine the true impact of each variable. **BOTTOM LINE: CCF CONTAINERS PROVIDED THE MOST COST-EFFECTIVE SHIPPING SOLUTION AND THE BEST PROTECTION AGAINST BRUISING IN EACH OF THE STUDIES.**



We're here to help.

The corrugated industry is committed to making the CCF Standard successful by working closely with grower-shippers to ensure a smooth transition from the traditional style of corrugated box.

There are 1,600 corrugated manufacturers throughout North America and thousands more around the world, providing you with abundant choices to meet specific supply-chain packaging and shipping needs.

The corrugated industry is also helping commodity boards gather the data and evidence they need to appropriately advise their members. The research results reported here are drawn from the independent sources listed to the right. For a complimentary copy of any of these studies, call the Corrugated Packaging Alliance (CPA) at 800.886.5255.

The CPA is sponsored by the American Forest & Paper Association and the Fibre Box Association. A primary objective of the CPA is to maximize corrugated's market share in segments which are under direct competitive threat and where, based on credible and persuasive evidence, it can be demonstrated that corrugated should be the packaging material of choice. The CPA also provides a forum for coordinated industry action on competing materials issues.

For more information, ask your corrugated supplier or call the CPA.

Cover Source: University of California - Davis (2001)

Sources:

Strawberry Study: Sponsored by Reusable Pallet and Crate Coalition (RPCC) and the Fibre Box Association (FBA) on behalf of the California Strawberry Commission.

Grape Study: Sponsored by the California Grape and Tree Fruit Growers League supported by funds from the Reusable Pallet and Crate Coalition (RPCC) and the Fibre Box Association (FBA).

Tree Fruit Study: Jointly funded by the California Tree Fruit Agreement, the Reusable Pallet and Crate Coalition (RPCC) and the Fibre Box Association (FBA).



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