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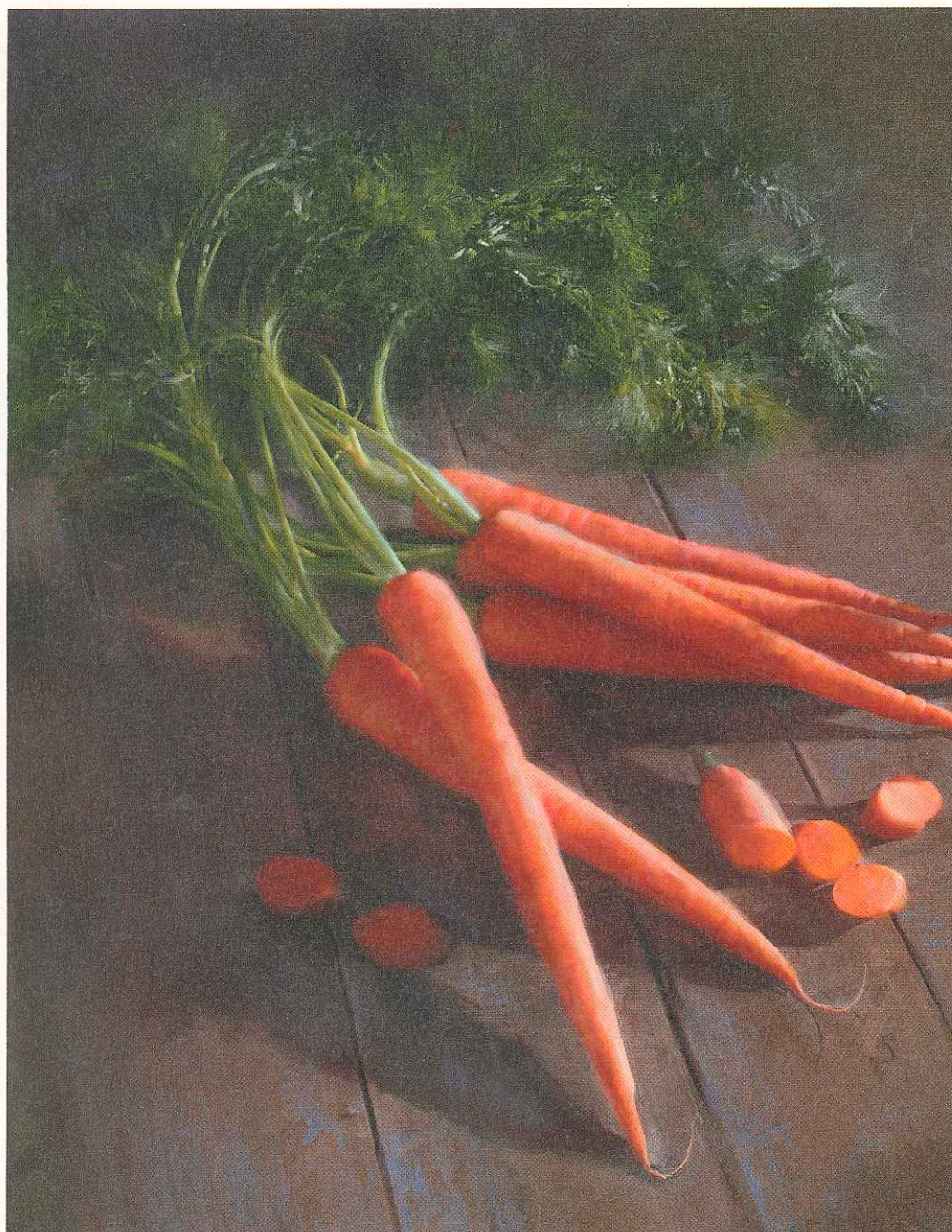
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Beyond Tupperware

Why is it so hard to find a container that's leakproof, opens and closes easily, and goes from freezer to microwave to fridge to dishwasher without warping or wimping out?

⇒ BY LISA McMANUS ⇐

Packing up leftovers ought to be easy, but food storage containers are one of life's persistent little annoyances. Once you dig through a slippery stack of containers to match tops and bottoms that aren't too stained or warped, you have to fuss over them for a tight seal. Then comes another series of quandaries: Does it fit in the fridge or freezer? Will it leak if it tips over? Can you microwave in it? Do you have to remember to wash it only on the top rack of the dishwasher? Should you worry about possible health risks with plastics containing bisphenol-A (BPA)? Frankly, we don't think food storage containers should take this much thought or effort.

In search of a caveat-free bottom line, we bought eight 8-cup rectangular and square containers made from purportedly safer BPA-free plastic (most manufacturers, with the notable exception of Tupperware, have produced new lines without this controversial material, which research has linked to health issues including hormonal disorders and cancer). We submerged, froze, refrigerated, and microwaved them. We dropped them and ran them through dozens of dishwasher cycles. Then we did all the tests again. In a separate series of tests, we tried out three containers made from glass, a worry-free yet heavy and breakable alternative to plastic and its reported health risks (see "In a Glass by Itself," below).

No Drips

A few decades ago, Tupperware set the food storage standard with seals that close by pressing all around the rim. Today's trendsetter is Snapware: You put the lid in place and snap down flaps that project like wings from the lid. Five of the eight plastic containers we tested use this newer snap seal; manufacturers hoping to woo converts to this style pledge simpler, tighter, leakproof technology. To test their claims, we filled each container with chicken soup and shook them. Five of the eight containers (including one traditional and two snap seals) kept us dry, but three dribbled. Next, we filled containers with pie weights and sugar and sank them under water; two kept the

sugar bone-dry, only one of which also passed our soup test. Not that you'll be scuba diving with your leftover lasagna, but tighter seals—and so far snap seals were performing at least as well as traditional seals—keep food fresher.

That said, not all snap-type seals are alike. All lids contain a soft silicone gasket embedded in a groove around the perimeter of the lid, but their construction and the flap design determine how tightly and—more important—how evenly the gasket can seal. It mostly comes down to a ridge on the underside of the lid: On better models, this ridge completely encircles the underside, distributing the pressure evenly when the snaps click into place, while leak-prone containers have only sparse sections of ridge, if any.

Easy Does It

Speaking of clicking into place, some containers were easier to close than others. Some took force to snap—threatening pinched fingers—and a lot of wiggling to align the lid. One particularly fussy unit wouldn't close unless its lid was fitted in a particular (yet poorly indicated) direction. All you want here: a container whose flaps slip into place neatly and firmly.

Besides a snug lid, there are a few other practical concerns. First, odor absorption. Nobody wants a container that smells like yesterday's tuna salad, so we refrigerated oil-packed tuna for three days, ran containers through the dishwasher, and sniffed. One of the "disposable" supermarket containers retained a whiff of fish. Most of the glass and polypropylene containers were fine.

Second, a truly convenient storage container should cope with the freezer or microwave without warping, melting, or staining. We froze chili, then microwaved the containers until hot. We detected no plastic scents or flavor, but one "disposable" container softened and then rehardened as it cooled (would we really like to eat that chili?); another's snap flaps warped—and then wouldn't lock. Chili stained them all, but a few dishwasher cycles removed most traces.

Third, a storage container is serviceable only if it fits in the prescribed storage space. After weeks of cramming containers into freezers and refrigerators, we preferred low, flat rectangles that slide onto any shelf, leaving room for other items, and simple, stackable flat—not bulbous—lids. But there's also a food-quality reason to opt for flat: more efficient

It's a Snap

Locking lid flaps are the latest trend in food storage, but only one model we tested got the seal right. The key is a complete ridge on the underside of the lid: Leaky models contain short ridge sections, allowing the seal to flex and gap. The Snapware ridge, however, completely encircles the lid for a solid, leak-proof seal.



FULL RIDGE



SHORT SECTION

chilling and heating. After 24 hours in the freezer, water in tall containers was still liquid at the center but frozen solid in lower, flatter models. In the microwave, the chili in deep containers overheated at the edges before heating through in the middle.

Time Will Tell

All these features should be basic to a new container, but a really good one should retain them over time. We put our lineup through 50 home-dishwasher cycles to simulate about a year of use, noting which came with top-rack-only instructions. Then we repeated our tests—and found disparate results: All our heating, chilling, and washing had damaged a few models, warping their lids and loosening their seals. The only container to pass both leak tests the first time, by Freshvac, did so again, but only after painstaking efforts to lock the seal, indicating a lack of durability. Meanwhile, some brands—including our three top-rated containers—actually sealed better. Polypropylene is extruded and molded to make these containers, and heating can correct small irregularities.

One container worked nicely out of the box, survived all our tests, and met all our long-term goals. The flat Snapware MODS Large 8-Cup Rectangle (\$6.99) sealed tightly and easily; resisted warping, stains, and smells; and fit easily among the contents of our refrigerator. It performed well before taking more than 50 baths—and perfectly afterward. This might be the last container we'll have to buy for quite a while.

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BEHIND THE SCENES

• Testing Plastic Food Storage Containers

In a Glass by Itself

This worry-free alternative to plastic from Kinetic (also sold as Glasslock by Snapware) provided the best leakproof storage of the three microwave-safe tempered glass brands we tested. For complete testing results, go to www.cooksillustrated.com/jun10.



KINETIC GO GREEN,
\$7.99

TESTING PLASTIC FOOD STORAGE CONTAINERS

KEY

GOOD: ★★★

FAIR: ★★

POOR: ★

We tested eight BPA-free plastic (according to manufacturers) food storage containers, choosing square or rectangular sizes as close as possible to 8-cup capacity. All were purchased online or in Boston-area retail stores. A source for the winner is on page 32.

LEAKS

We filled the containers with chicken noodle soup and shook them vigorously for 15 seconds, then filled them with sugar and pie weights and submerged them in water for two minutes. Containers that didn't leak in the soup test and that kept their contents dry when submerged received high marks.

ODORS

We refrigerated oil-packed tuna in each container for three days, then ran containers through a home dishwasher and checked for odors.

MICROWAVE

We filled containers with chili, froze them, and reheated them in the microwave, checking for warping, staining, and plastic flavors or odors.

DURABILITY

After testing, including 50 cycles in a home dishwasher, we observed stains, warping, and wear and tear; then we froze water in the containers and dropped them from chest height.

DESIGN

We considered features that made the containers easier to use, including simple, intuitive seals or efficient shapes.

Tut, Tut for Tupperware

Seven years ago, the Tupperware Rock 'N Serve container earned our seal of approval. But when we tested the company's updated Vent 'N Serve Medium (6¼-cup) Deep Container (\$16.50) we found it lagging behind its competition. First, it does not offer a BPA-free model. Second, we struggled to secure the non-snap-style lid, which popped off during a "drop test." Third, its price was too high—more than double that of our top-ranked containers.



VENT 'N SERVE

HIGHLY RECOMMENDED

SNAPWARE MODS

Size: Large rectangle, 8 cups
Price: \$6.99 Model: 98213 72915
Material: Polypropylene with silicone gasket
Dishwasher Placement: Lid on top rack only



Leaks: ★★★½
Odors: ★★★
Microwave: ★★★
Durability: ★★★
Design: ★★★

Simple snap-down lid sealed easily throughout testing. Though it allowed a few drops of water in during first submersion test, after dishwashing, seal was perfect. Flat, rectangular shape encourages quick cooling or heating and stacks easily, with lid attaching to bottom.

RECOMMENDED

LOCK & LOCK Classic Food Storage Container

Size: Rectangle, 8 cups
Price: \$7.49 Model: HPL818
Material: Polypropylene with silicone gasket
Dishwasher Placement: Top rack only



Leaks: ★★★½
Odors: ★★★
Microwave: ★★
Durability: ★★★
Design: ★★

Sturdy, with secure seal. Performed dependably overall but leaked a few drops during first submersion test—though seal improved after dishwashing 50 times. Stained slightly more than others after microwaving chili, and has taller, deeper shape that we find less practical.

OXO GOOD GRIPS Top Container

Size: Medium rectangle, 9.3 cups
Price: \$7.99 Model: 1172700
Material: Polypropylene with silicone gasket
Dishwasher Placement: Top rack only



Leaks: ★★★½
Odors: ★★★
Microwave: ★★
Durability: ★★★½
Design: ★★

Instead of employing flaps, seal works by pressing down single piece of plastic trim around lid. Leaked when submerged when new, but after dishwashing 50 times, seal improved (though lid bowed, making it stiffer to seal). Stained slightly more than other containers and has taller, deeper shape than preferred.

FRESHVAC PRE Vacuum Food Storage

Size: Square, 9.3 cups
Price: \$5.99 Model: 1-22005
Material: Polypropylene
Dishwasher Placement: Lid on top rack only



Leaks: ★★★
Odors: ★★★
Microwave: ★★
Durability: ★
Design: ★

We struggled to achieve perfect airtight seal after dishwasher test—unless lid was aligned right, "vacuum" tab wouldn't operate. Shape is low but too rounded and bulbous for efficient storage. Minus "date dial" popped off during drop test.

RECOMMENDED WITH RESERVATIONS

GLADWARE Deep Dish

Size: Rectangle, 8 cups
Price: \$5.97 for set of 3
Model: 12587 70045
Material: Polypropylene
Dishwasher Placement: Top and bottom racks



Leaks: ★★
Odors: ★
Microwave: ★
Durability: ★
Design: ★★

Performed acceptably new but became alarmingly soft in microwave. After 50 dishwasher cycles, it degraded: Seal leaked profusely, chili stained, and fishy odor hung on. Best for a potluck—it's cheap and you won't care if you don't get it back.

NOT RECOMMENDED

STERILITE Ultra-Seal

Size: Rectangle, 8.3 cups
Price: \$6.49 Model: 0322
Material: Polypropylene with silicone gasket
Dishwasher Placement: Top rack only



Leaks: ★
Odors: ★★★
Microwave: ★★
Durability: ★
Design: ★

We had high hopes for this container, but seal was uneven; because lid lacked rigidity, corners leaked badly even when new. (Second new model had same flaws.) Flap popped open during drop test. Chili stained more than in other containers.

ZIPLOC Snap 'N Seal

Size: Large rectangle, 9.5 cups
Price: \$4.55 for set of 2
Model: 10885
Material: Polypropylene
Dishwasher Placement: Top rack



Leaks: ★
Odors: ★★★
Microwave: ★
Durability: ★
Design: ★

Despite being roomy, felt cheap and flimsy. Extremely leaky in soup and submersion tests, both before and after 50 dishwasher cycles. Not on a par with better containers in lineup, or even with fellow "disposable" container by Glad. Its only virtue: rock-bottom price.

RUBBERMAID Lock-its

Size: Square, 9 cups
Price: \$12.99 Model: 7K95
Material: Polypropylene
Dishwasher Placement: Top and bottom racks



Leaks: ★★★½
Odors: ★★★
Microwave: ★
Durability: ★
Design: ½

Usually dependable brand flopped—poorly made flap seals distorted in microwave, popping back up when pressed down, trapping us in an endless game of Whac-A-Mole. (Second model shared these flaws.) Top flew off in drop test. We like "Easy Find" lid, which sticks to bottom of container, but that was its only asset.