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"The livestock industry does the best job it can to produce good, lean, tasty beef, but consumers can't get the benefit if they mistreat the meat when they get it home," says Dr. John Marchello, meats scientist, University of Arizona.

He bases his opinion on his analysis of 3,000 questionnaires returned by consumers who bought beef from 24 markets in San Antonio, Texas. The survey cards were contained in packages of beef roasts and steaks.

The study was really designed to test consumer acceptance of leaner beef; it duplicated a study done previously in Tucson markets. In both cases, consumers liked lean beef as well or better than the regular beef usually found in supermarkets.

The surprises came when Marchello looked at the way people stored and cooked the beef. He says the problems started when they brought the beef home from the store. A majority simply tossed the meat in their freezer; they didn't rewrap; they tried to bulk freeze all the beef at one time.

He explains that the film covering meat in the store is not moisture-vapor proof. It lets meat dry out, so within two to three weeks, the meat will have a freezer burn. In just a week, the beef will lose some of its flavor, although it may not be readily noticeable.

Also, freezer-refrigerator units are not designed to quick-freeze meat, which is the way it should be frozen. "If meat is frozen slowly, large ice crystals will form. These rupture the cells; once the meat thaws, it will have an extreme juice loss. The cooked meat will be dry and tasteless," Marchello says.

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However, freezing meat is a necessity for the average shopper buying meat a week ahead. To reduce flavor loss, they can rewrap the beef in freezer-weight aluminum foil, poly-coated freezer paper or in freezer plastic bags. Then, Marchello advises,

put small amounts at a time in the freezer close to the coils where the temperature is lowest; several hours later, move the first packages and add more.

The questionnaire asked how the shoppers cooked the roasts and steaks; the six choices listed were broiling, charcoal grilling, roasting, panfrying, pot roasting and "other." Choices again were surprising.

For example, one-fourth the consumers grilled the roasts and 11 percent pan fried or broiled them. "They couldn't have done anything that would have made the roasts more unpalatable

and less tender," he says.

Fifty-two percent pan fried round steak—a percentage Marchello found "appalling" because round steak is not that tender. Another 11 percent roasted or pot roasted sirloin tip steak, a tender cut that probably turned out dry and tasteless after that treatment.

"If these results are a good indication of typical beef consumers—and I think they are—we've done a poor job of educating them about ways to cook beef," the UA scientist believes. The type of cooking used can actually toughen muscle fibers in meat rather than make them tender. **AJ**