

Natural ingredient preserves meat quality in precooked supermarket offerings

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Grape-seed extract is a viable natural alternative to synthetic ingredients that preserve meat quality in pre-cooked, frozen and refrigerated ready-to-eat meals, such as individual diet entrees or family-sized trays of frozen lasagna, according to a new University of Illinois study published in the *Journal of Food Science*.

“In the last five years, the section of the supermarket that contains fully cooked, ready-to-eat products has grown tremendously as consumer demand for convenience foods has increased. I’d estimate that 10 percent of all meals served at home feature these foods,” said Susan Brewer, a U of I professor of food science.

For years, the food industry has been using synthetic ingredients--BHA, BHT, and TBHQ--to preserve the quality of meats in precooked foods by slowing the oxidation of fats. But Brewer’s study shows that a natural product may be an even more effective antioxidant.

That product, grape-seed extract, is a byproduct of fermentation, and its efficacy is due mainly to its phenolic compounds, she said.

“We’ve known for years that certain natural compounds, including some herbs and spices, have powerful antioxidant activity. Food scientists have been trying to isolate the flavoring parts of these spices from the components that have the functional effects we’re looking for,” she said.

Brewer was frankly skeptical when a study to determine the

effectiveness of grape-seed extract in preserving the quality of pre-cooked meats was suggested to her.

“But we’ve done three studies in a row now, and I’m a believer,” she said.

Brewer and her graduate student Martha Rojas compared the natural antioxidants oregano, rosemary, and grape-seed extract in a study that evaluated their effectiveness in cooked, reheated beef and pork at different concentrations, for different lengths of time, and at different temperatures.

The meat was then evaluated for oxidative markers and sensory attributes by a 10-member panel. “The higher concentration of grape-seed extract yielded better results than we see with synthetics, which is certainly not what you’d expect. Synthetics, after all, have been engineered to maximize effectiveness, but sometimes Mother Nature comes up with a better product.”

Another plus was that the sensory panel couldn’t detect grape-seed extract in the products it tested, whereas foods containing oregano and rosemary retained an herbal odor. “They must be carrying some of the volatile aroma compounds at low levels,” the researcher said.

Studies are ongoing in Brewer’s lab, this time comparing the efficacy and sensory qualities of natural versus synthetic antioxidants.

“I really think grape-seed extract is a viable, natural way to preserve meat quality in the precooked entrees that are so popular now,” she said. “And, when companies can use the word natural on a label, it’s attractive to consumers. It takes some of the guilt out of using a convenience food.”

Source: University of Illinois at Urbana-Champaign

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