

Grill Meat But Avoid the Carcinogens

By Janet Hackert, Regional Nutrition and Health Education Specialist

Many people grill Memorial Day weekend. Whether you grill just during the summer or throughout the year, here are some tips for grilling safely without the carcinogens that can be produced on the surface of meats at high temperatures.

It has long been known that cooking meat at very high temperatures can create the potential for dangerous, cancer-causing chemicals, called heterocyclic amines (HCAs). In fact, according to J. Scott Smith, a Kansas State University animal science and industry professor, “HCAs are three to four times more prevalent on meats that are burnt compared to meats that are cooked without burning.” Avoid these by cooking meat thoroughly to the proper temperature (measured with a meat thermometer) but not to the point of charring or blackening. When grilling, try increasing the space between the heat source and the meat. Trim extra fat or choose lean cuts to avoid flame-ups of dripping, fatty fuel. If using charcoal, give it time to make hot coals for an even heat.

Smith recently released study results demonstrating how to use seasonings to avoid HCA formation during grilling. “Blending [black] pepper with antioxidant-rich spices [like oregano and garlic] works so well in ground beef patties and on steaks that the spice formulation eliminates nearly 100 percent of HCAs,” says Smith.

Other highly effective spices at blocking HCA formation that Smith studied are from the mint family, such as rosemary, thyme, oregano, basil, sage and marjoram, and the myrtle family, including cloves and allspice. Some of these may not go well with meats, but could taste good with fish, which can also form HCAs.

Smith also studied typical store-bought marinades for efficacy at reducing HCAs. He found that they could be effective, but cautions that timing is important. Although some may think that more is better, when it comes to reducing formation of HCAs, this does not hold true. Smith cautions, “Marinating too long has the opposite effect because it can cause the antioxidants in the sauce to decompose. Just a couple of hours is an ideal time for marinating.”

For more details on Smith’s research findings, go to <http://www.k-state.edu/media/newsreleases/2017-05/grilling51617.html>

For more information on grilling safely, or any other topic, contact me, Janet Hackert, at 660-425-6434 or HackertJ@missouri.edu, or your local [University of Missouri Extension office](#). University of Missouri Extension is your one-stop source for practical education on almost anything.

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