Cook With Thermy™

When Cooking by Color Is Misleading

Consumer research shows that cooking by color is just one of the ways consumers typically judge whether or not food is "done." Consumers said they also "eyeball" the food and trust their judgement and experience.

The only problem is, these methods may be misleading.

In 1995, for instance, a study by Kansas State University indicated that ground beef may turn brown before it's cooked to a safe internal temperature.

In 1998, the U.S. Department of Agriculture's Agricultural Research Service (ARS) and Food Safety and Inspection Service (FSIS) also examined the color of ground beef as it relates to doneness.

Their findings?

One out of every four hamburgers turns brown before it's been cooked to a safe internal temperature.

And yet, only 3 percent of consumers check hamburgers with a food thermometer according to a 1998 consumer food safety survey conducted by the Food and Drug Administration and FSIS.

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Today's new thermometer technologies, however, make checking the temperature of thin food—like hamburgers—a "piece of cake."

According to Susan Conley, director of the FSIS food safety education staff, "digital instant-read thermometers only need to be inserted a very short way into food. You can easily check the temperature by going in from the top.

"It's not complicated—and it's worth the effort! This is especially true for people who are at high risk for foodborne illness—young children, people over 65, pregnant women and people with chronic illnesses," Conley said.

For more information on different types of thermometers and their use, check out the FSIS web site: www.fsis.usda.gov/thermy ●

A Color Primer

There are a number of reasons why color is not a good indicator of "doneness." A look at the ARS/FSIS study of hamburgers provides some insights.

Brown too soon:

Hamburger meat may turn brown before it's been safely cooked because of extensive oxidation—exposure to oxygen that causes the pink pigment in the beef to turn brown. This happens, for instance, when fresh ground beef has been frozen and then thawed over a prolonged period in the refrigerator. It can also happen when beef has been stored for a long period of time.

The bottom line is this: Research has shown that some ground beef patties look well-done at internal temperatures as low as 135 degrees F.—when the safe internal temperature is 160 degrees F.

Persistently pink:

There are several reasons why ground beef may remain pink at temperatures above 160 degrees F. —the pH of the food, the level of pigment in the meat and the meat's fat content.

For more information, check out the FSIS Technical Information publication titled "Color of Cooked Ground Beef as it Relates to Doneness." Go to: www.fsis.usda.gov/OA/pubs/colortech.htm