

USDA Food Safety and Inspection Service

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The Waynesboro Area School District only uses pre-cooked Tyson chicken products

What Causes Well-Done Meat to Be Pink?

1. **Chemical Changes During Cooking.**

Scientists have found that pinkness occurs when gases in the atmosphere of a heated gas or electric oven react chemically with hemoglobin in the meat tissues to give poultry a pink tinge. They are the same substances that give red color to smoked hams and other cured meats.

The presence of high levels of myoglobin, or some of its redder forms due to incomplete denaturation during heat processing, can account for poultry having a pink to red color similar to that of an undercooked product.

2. **Natural Presence of Nitrites.**

Nitrites are commonly used to produce a desired pink color in traditionally cured meats such as ham or bologna. So it follows that the natural presence of nitrates and nitrites, either in the feed or water supply, used in the production of poultry are a factor in nitrite levels in the birds.

One study found that during 40 hours of storage at 40 °F, naturally occurring microorganisms converted nitrate to nitrite. It also found that the local water supply had nitrate and, thus, it could serve as a nitrate source during processing.

3. **Young Age of Meat.**

Often meat of younger birds shows the most pink because their thinner skins permit oven gases to reach the flesh. The amount of fat in the skin also affects the amount of pink color. Young birds or animals also lack the shield of a fat covering.

4. **Grilling.**

Meat and poultry grilled or smoked outdoors can also look pink, even when well done. There may be a pink-colored rim about one-half inch wide around the outside of the cooked meat. The meat of commercially smoked turkeys is usually pink because it is prepared with natural smoke and liquid smoke flavor