

IS PINK TURKEY MEAT SAFE TO EAT?



The color of cooked meat and poultry is not always a sign of its degree of doneness. Only by using a meat thermometer can one accurately determine that a meat has reached a safe temperature. Turkey, fresh pork, ground beef or veal can remain pink even after cooking to temperatures of 160°F. and higher. The meat of smoked turkey is always pink. To understand some of the causes of “pinking” or “pinkening” in fresh turkey, it is important to know first what gives meat its natural color.

WHY IS POULTRY LIGHTER IN COLOR THAN BEEF?

The protein myoglobin is the major pigment found in all vertebrates and can exist in various forms that determine the resulting meat color. The major reason that poultry meat is much lighter in color than beef is that it is dramatically lower in myoglobin. Also, as an animal becomes older, its myoglobin content usually increases. Turkeys today are young — 14 to 18 weeks old at the time of slaughter.

WHY ARE WHITE AND DARK MEAT OF POULTRY DIFFERENT COLORS?

The pink, red or white coloration of meat is due primarily to oxygen-storing myoglobin that is located in the muscle cell and retains the oxygen brought by the blood until the cells need it. To some extent, oxygen use can be related to the bird's general level of activity: muscles that are exercised frequently and strenuously — such as the legs — need more oxygen and they have a greater storage capacity than muscles needing little oxygen. Turkeys do a lot of standing around, but little, if any, flying, so their wing and breast muscles are white; their legs — dark.

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.
2. **High cytochrome c levels.** A component of hemo-protein in the turkey meat, cytochrome c, requires a much higher temperature (above 212°F.) to lose its pink color than myoglobin. Because turkey is tender and done at 180 to 185°F., heating it to above 212°F. to change the pink color of cytochrome c would make it so dry and tough it would be almost inedible.
3. **Natural presence of nitrites.** Nitrites are commonly used to produce a desired pink color in traditional 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.
4. **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 fat covering.
5. **Grilling.** Meat and poultry grilled or smoked outdoors can also look pink, even when well done. There may be a pink-colored rim about ½” wide around the outside of the cooked meat. The meat of commercially smoked turkeys is usually pink because they are prepared with natural smoke and liquid smoke flavor.

HOW TO TEST FOR DONENESS

The best way to be sure a turkey — or any meat — is cooked safely and done is to use a meat thermometer. If the temperature of the turkey, as measured in the thigh, has reached 180°F. and is done to family preference, all the meat — including any that remains pink — is safe to eat.

Visual signs of doneness include checking the color of the juices that run when the turkey is pierced with a fork. Juices should be clear, not pink. The meat should be fork tender and the leg should move easily in the joint.

Source: USDA, Food Safety and Inspection Service.