The Hereford Advantage

Meat Color Guide: The Nose Knows

Myoglobin: The reason for meat color changes

Meat color is largely determined by the chemical state of a natural compound in all muscle known as **myoglobin**, which is heavily dependent on the presence or absence of **oxygen**. The amount of **myoglobin** naturally occurring within muscles is what makes some meat cuts appear darker than others. Muscles used during walking, like the chuck and round cuts, tend to have a greater amount of **myoglobin** than muscles not used for walking, like the ribeye and New York strip, which are generally darker in color.

Three common states of myoglobin

Deoxymyoglobin: This causes a purple tint in meat. The purple color is due to a complete absence of oxygen and is often found in vacuum packaged products.

Oxymyoglobin: This causes a bright cherry red color in meat. It is often found in freshly cut or ground meat due to the exposure to oxygen.

Metmyoglobin: This causes a brown or gray color in meat. This coloring is due to a decrease in oxygen in packaged products. This meat is still safe to eat.

MEAT COLOR FAQ'S: ASK THE EXPERTS

Why is my meat brown? Is it safe to eat?

✔ Yes, the meat is safe to eat. More than likely, the meat has reached the metmyoglobin state due to a lack of oxygen in its package. Open the package and the bright red color will return momentarily.

My ground beef is red on the outside and brown/gray on the inside. Is it old? Is it safe to eat?

✔ Yes, the meat is still safe to eat. The middle of the fresh ground beef is not old - it simply has not had exposure to the same amount of oxygen as the outside of the ground beef and is in a metmyoglobin state. Allow the middle of the ground beef to access air for a few minutes and the bright red color will return.

How do I know if my meat is not safe to eat?

✔ Rancid meat has a distinguishable sour, pungent smell. *Your nose knows!*

A slime may have also developed on the surface of the meat product indicative of food spoilage.

Color should not be a sole indicator for product safeness. Most off-colors are caused by presence and absence of oxygen.