

Excluding oxygen during the early phase of packaging and storage helps maintain freshness longer. Use-by and sell-by dates are placed on packages at the retail store based upon information printed on the shipping container.

### **Labeling and Inspection**

All meat packaged “case ready” is regulated and inspected by USDA at the plant where it is produced. Inspectors monitor the production process and can take immediate action if meat is out of compliance with federal and state regulations.

Meat packaging materials are reviewed by both the FDA and USDA to ensure their safety. Case ready packages also carry dates that tell consumers when products stored at refrigerated temperatures are safe to consume.

### **Case ready meats are an excellent choice for consumers. Their benefits include:**

- ✓ Consistent, prominent labeling including use-by dates
- ✓ Convenient and often leakproof and stackable packaging
- ✓ Less handling during processing
- ✓ Careful inspection oversight during processing
- ✓ Easy inventory management for retail grocers, which results in fewer “out of stocks” for consumers.

**The meat industry benefits when consumers have the choices they need and want in meat packaging.**

# **MEAT MATTERS**

## **CASE READY MEATS**



For more information, please visit [www.fsis.usda.gov](http://www.fsis.usda.gov), [www.meatsafety.org](http://www.meatsafety.org) or call USDA's Meat & Poultry Hotline at 1.888.674.6854.

### **METTLER TOLEDO**

Mettler-Toledo, Inc.  
1900 Polaris Parkway,  
Columbus, OH 43240  
Tel. (800) 786-0038  
(614) 438-4511  
Fax (614) 438 4900

# CASE READY MEATS

Today's retail meat case is vastly different from the meat markets where previous generations shopped. A large and growing portion of the meat consumers buy is cut and packaged at meat processing plants under rigorous USDA inspection. These meat packages are sent in boxes to stores where they can be placed directly in the case. We call these products "case ready."

Case ready meat products offer many benefits. For example, fewer hands touch them. They are also leak-proof and easily stacked in refrigerators and freezers.

Case ready meats also permit grocers to buy the cuts that their unique customer base wants. This reduces the chance that a store will be out of stock on one particular cut.

## Meat's Color Cycle

Meat in its natural state is purplish blue. When exposed to oxygen, meat becomes red. As appealing as oxygen can make meat appear, it also initiates the oxidation process that causes meat to turn from red to brown and eventually to spoil. Removing oxygen from packaging can extend the shelf life of many foods, including meat. But removing oxygen also prevents meat from blooming red, the color consumers associate with freshness.

As a result, meat companies and retailers offer consumers many choices in the marketplace in different packaging formats. Some of the most common include:

## Vacuum Packaging

Some meat products are placed in tight, snug-fitting plastic that has been "vacuumed" of all gases. This packaging extends shelf-life, but without oxygen, the meat appears purple instead of bright red. Still many consumers like the secure feel and leak-proof nature of vacuum packaging.



Consumers eventually learn that as soon as opened at home and exposed to air, meat will turn red. Vacuum packaging is very safe and permits the longest shelf life of any packaging system used on fresh meat. Use-by dates guide consumers about product shelf-life.

🕒 **Stays fresh approximately: 35 days**

## Chub Packs

Fresh pork sausage and ground beef are often sold in one-pound "chubs" that are pinched on the ends and resemble sliceable cookie dough. These chubs can be snipped open with scissors when the consumer is ready to use them. Product descriptions and use-by dates guide consumers in purchasing these products. No portion of the meat is visible through the packaging. This is one of the primary formats for ground beef. Use-by dates guide consumers about product shelf-life.



🕒 **Stays fresh approximately: 23 days**

## Modified Atmosphere Packaging With High-Oxygen

Some meat is packaged in "modified atmosphere packaging," rigid packaging with an inch of space between meat and the top of the package. Typically, this package contains high levels of oxygen (70% - 80%) and carbon dioxide (30% - 20%) that replace the normal atmosphere. The high levels of oxygen make meat bloom red. Consumers view meat through a clear film. While oxygen in the package makes meat red, it also shortens its shelf life. Antioxidants, like a chemical extract of rosemary, are sometimes added to these products to



prevent premature browning before the end of the shelf life. This can increase costs. Use-by dates guide consumers about product shelf-life.

🕒 **Stays fresh approximately: 11 days**

## Low-Oxygen Modified Atmosphere Packaging With CO



Some meat is packaged in modified atmosphere packaging with a gas mix of 70% nitrogen, 29.6% carbon dioxide and 0.4 % carbon monoxide (CO). Since oxygen is absent, this system makes meat stay fresh many times longer than meat exposed to oxygen—and it's possible without the added cost of antioxidants. The tiny fraction of CO in the packaging gases also helps meat maintain its appealing red color throughout its wholesome shelf life—something not possible just five years ago.

CO is not used, however, to make meat that has already turned brown become red again. This system gives meat a shelf life close to vacuum packaged meat, but with the benefit of an appealing, bright red color. Use-by dates on all of these packages guide consumers about product shelf-life.

🕒 **Stays fresh approximately: 21-24 days**

A slightly different twist on this approach is the "master bag" system. At the USDA-inspected facility, meat is wrapped in a permeable film and placed in a larger bag. A gas mix of nitrogen, carbon dioxide and minute levels of CO is placed in the bag around the meat package to maintain freshness. The "master bag" packages are boxed and shipped to the grocery store. When ready to be placed in the case, the package is removed from the larger bag.