

A Guide to Understanding Flavor and the Umami Effect

Flavor 101:

A Brief Overview

Most of us use the terms taste and flavor interchangeably, but they're actually different. **Taste** refers to the five basic receptors: **sweet, salty, sour, bitter** and **umami** (the one we didn't learn about in school). **Flavor** is a combination of taste plus the other sensations that influence our perception of food, such as aroma, texture, juiciness, mouthfeel and color.

Umami:[oo-MOM-ee], known as the **fifth taste**, is described as meaty and savory or delicious (*umami is derived from umai, the Japanese word for delicious*). It is the taste of **glutamates**—the salts of an amino acid—and other small molecules called **nucleotides**. Although umami has been known for quite a while, recently **umami receptors** have been clearly identified so this is a bona fide fifth taste. The ability to detect these five tastes has been key to our survival throughout the ages, directing us toward vital foods away from potential poisons. **Sweet** means energy-giving carbohydrates. **Salt** indicates essential minerals for life-sustaining cell functions and wound healing. **Sour** says “to proceed with caution,” since many foods sour as they deteriorate. **Umami** signifies life-giving

protein. And **bitter** warns “spit it out, don't touch it” because many natural toxins taste bitter.

Beef Flavor Pairings: Matches Made in Heaven

It's no accident that beef is often paired with certain ingredients (*see back for examples*). Food trend research reveals that many of the most popular ingredients in beef dishes contain umami compounds—just as beef does. And we've now learned, when two or more umami compounds meet, **synergism** (*the whole is greater than the sum of its parts*) occurs. This explains the delicious pairings of mushrooms and steak, and wine or tomato sauces with beef.

In addition, ripening, aging and fermenting foods can dramatically increase their umami flavor compounds. That's why a truly ripe tomato, aged Parmigiano-Reggiano and fermented foods, such as wine and soy sauce, possess enticing, complex flavors—and also pair well with beef dishes.

The Umami Effect

A 50-50 mixture of two umami compounds can produce **eight times** as much flavor as either one of the compounds alone!

The Flavor Equation: Beef + X = Amazing Flavor

Just what is the “**X**” factor in the above flavor equation? When it comes to unlocking beef's amazing flavor, “X” equals many different factors. So the more “X” factors you discover, the better your chances of creating the most flavorful beef dishes and products imaginable!

“X” Factor s: Top Ten Factors Influencing Beef Flavor

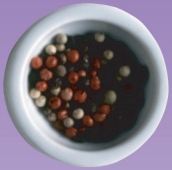
- ◆ **Marbling**
- ◆ **Quality Grade**
- ◆ **Cooking Method**
- ◆ **Degree of Doneness**
- ◆ **Aging**
- ◆ **Marinating**
- ◆ **Freezing/Thawing**
- ◆ **Type of Packaging**
- ◆ **Added Flavors**
- ◆ **Beef Production**
(feeding practices)



TOP FLAVORS TO PAIR WITH BEEF



◆ Tomatoes*



◆ Peppercorns



◆ Soy Sauce*



◆ Bell Peppers

◆ Mustard



◆ Aged Cheeses*



◆ Sour Cream*



◆ Garlic

◆ Barbecue Sauce*



◆ Thyme

◆ Bacon*



◆ Red Wine*



◆ Mushrooms*



◆ Worcestershire Sauce*



◆ Onions

* Indicates umami-rich ingredients