

## CHILI PEPPERS



Chili pepper acreage in Yuma County is small, under 100 acres.

The substances that gives chili peppers their intensity when ingested or applied topically are capsaicin (8-methyl-N-vanillyl-6-nonenamide) and several related chemicals, collectively called capsaicinoids. Capsaicin is the primary ingredient in pepper spray.

When consumed, capsaicinoids bind with pain receptors in the mouth and throat that are normally responsible for sensing heat. Once activated by the capsaicinoids, these receptors send a message to the brain that the person has consumed something hot. The brain responds to the burning sensation by raising the heart rate, increasing perspiration and releasing the body's natural painkilling chemical, endorphin.

The "heat" of chili peppers is measured in Scoville units (SHU). Bell peppers rank at 0 (SHU), green chilis at about 1,500 SHU, jalapeños at 3,000–6,000 SHU, and habaneros at 300,000 SHU. The record for the hottest chili pepper was assigned by the Guinness Book of Records to the Naga Jolokia, measuring over 1,000,000 SHU.

Red or green sauce? Chili is usually served as a green or red sauce. Its heat level or "bite" can vary from easygoing (1) to fiery hot (10). Compared with the hotter green sauce, red sauce has a rich earthy flavor and adds an unusually sweet punch to most dishes.

Chili painkiller. Dairy products like milk and yogurt – not water – dull the chili bite.

For the most part, green chilis are fresh, while red ones are dried. As with everything concerning chilis, there are a few exceptions to this rule of thumb. All chilis start off as green. As they ripen, they turn red or yellow. Most red chilis are then dried and must be reconstituted in hot liquid before use. But sometimes a chili, such as the jalapeno, habanero or serrano, will become red and still be used in its fresh form. Remember this when asked "red or green?" The green is hotter and the red is a more pungent but not so hot a taste. Green chili peppers that ripen on the vine turn red. The fresh pods are often "braided" into a ristra (a string of pods) and hung to sun dry. Once dried, they're either ground or crushed for seasonings and sauces.

Green chili peppers are used in cooking, and are typically roasted in a wire mesh basket that rotates over a gas flame and then peeled. Green chili peppers are used in numerous recipes including relishes, sauces, stews and bread.

The seeds are NOT the hottest part of peppers. It is at the point where the seed is attached to the white membrane inside the pepper that the highest concentration of capsaicin (the compound giving peppers their pungent flavor) is found.

Chili peppers are not members of the pepper family. Chili terminology is confusing: pepper, chili, chilli, chilli, Aji, paprika and Capsicum are used interchangeable for "chili pepper" plants. Chili peppers are actually part of the Capsicum genus. The word Capsicum comes from the Greek language meaning "to bite." In Mexico, Central America and the Southwestern United States, it is referred to as a chili pepper.

The Scoville scale is a measure of the hotness or, more correctly, piquancy of a chili pepper. The number of Scoville heat units (SHU) indicates the amount of capsaicin present. The scale is named after its creator, American chemist Wilbur Scoville.

It is thought that chili peppers made their first appearance around 7000 BC in Central Mexico. The first European to discover chilis was Christopher Columbus in 1493. In his search for black pepper, he found small hot pods that had been used as seasoning by the Native Americans. He called them "pimientos," meaning black peppers in the Spanish language. The chilis were then introduced into the European community, and to this day, the popularity of chili peppers has increased dramatically in all kinds of cuisine.

A teaspoon of red chili powder meets the recommended daily allowance for Vitamin A. Vitamin A plays an important role in vision and bone growth. A green chili pod has as much Vitamin C as 6 oranges. Chili peppers may help prevent the growth of certain cancers.

Some cultures put chili powder in their shoes to keep their feet warm.

The chili/chili pepper has evolved into numerous distinct species and varieties, taking on various shapes and pungency. Chili pungency levels are the results of two factors, the plant's genetics and the environment in which it grows.

The fresh market for green chili is expanding every year. More and more people across the United States are learning about the glories of roasted green chili. In some Yuma grocery stores, stands with a propane chili roaster are becoming familiar sites.

Red chili powder can be stored from 6 to 12 months, depending on the storage environment. Keeping the red powder in the refrigerator is much safer than keeping it in a cupboard near the stove.

Chili peppers can be frozen and should be washed and dried, placed on a cookie sheet and frozen. Bag and place the frozen peppers in a freezer and they will be much easier to thaw because they won't be frozen together.

For the past five years, University of Arizona agronomist and soil scientist Jeff Silvertooth has been testing and refining an integrated crop management plan (ICM) that can build more consistency and predictability into the quality and quantity of the chili harvest.

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