



Variety in the form and coloration of *C. chinense*

# How Hot is It?

## Facts and Updates on Chili Pepper Pungency

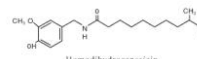
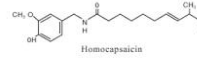
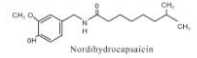
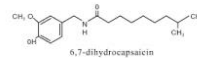
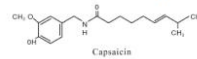
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**Scoville Scale:** A common system used to rank the pungency of chili peppers. 16 SU = 1 ppm capsacin.

**Pungency:** The ratio of water to chili pepper extract needed to eliminate the taste-perception of heat.

**Capsacin:** the chemical that creates the sensation of pungency by causing irritation of mucous membranes. In peppers, this chemical is concentrated around the seeds in the placenta. Levels of capsacin are controlled by both genetics and the environment in which the pepper is grown.

### Capsaicinoids



### Common species of chili peppers (*Capsicum sp.*)

*C. annuum*: Bell, paprika, jalepeño, Thai, serrano, and wax peppers, as well as some Hawaiian varieties (*C. annum* var. *glabriusculum*).

*C. frutescens*: Cayenne and tabasco peppers, as well as most of the Hawaiian varieties.

*C. chinense*: Some of the hottest varieties in the world! Habanero, Scotch bonnet, datil, and ghost.

*C. pubescens*: Mostly from South America, such as rotoco.

*C. baccatum*: Ají, piquanté, and other South American varieties.

### Research

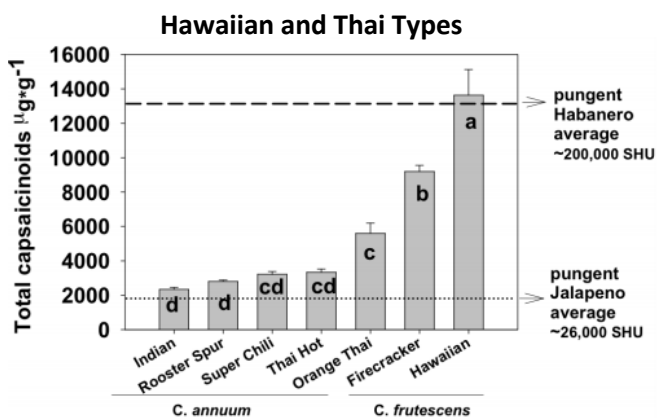
#### Why Aren't Hawaiian Chili Peppers Used in the Market?

Most of the peppers used in value added products made on island are imported, and producers are losing out on potential gains that could be acquired by utilizing a niche market for Hawaiian-grown chili peppers. The main issues standing in the way of making this possible are **1.** high production costs for the very small fruits, and **2.** no research has been done comparing the pungency of local varieties to those seen in the market.



Hawaiian type chili peppers

The goal of this research was to provide answers to these two issues.



### Method

14 chili pepper cultivars were planted and harvested in Waimanalo, Oahu, and Ho'olehua, Molokai. Capsacin content and labor costs per pound were calculated.

### Results

Hawaiian chili peppers can compete with the average habanero-type pepper in terms of pungency. Potential for genetic variation in fruit size may reduce labor costs while allowing the retention of local varieties and flavors.