



KAPURIYA ENTERPRISE

IMPORT-EXPORT
SPICES AND OILSEEDS

Physical Properties of Red Chilli

INTRODUCTION

It is known as the most valuable crop in India. It is used as a principal ingredient in various curries and chutneys; it is also used in vegetables, spices, condiments, sauces, and pickles. Pungency in chillies is due to the active constituent "capsaicin," an alkaloid. The native home of chili is Mexico, with a secondary origin in Guatemala. Chilli was introduced to India by the Portuguese in Goa in the middle of the 17th century, and since then it has rapidly spread throughout the country. Capsaicin has many medicinal properties, especially as an anti-cancerous agent and instant pain reliever. It also prevents heart diseases by dilating blood vessels. Major chili-growing countries are India, China, Pakistan, Indonesia, Korea, Turkey, and Sri Lanka in Asia; Nigeria, Ghana, Tunisia, and Egypt in Africa; Mexico and the United States of America in North and Central America; Yugoslavia, Spain, Romania, Bulgaria, Italy, and Hungary in Europe; and Argentina, Peru, and Brazil in South America. India is the world leader in chili production, followed by China and Pakistan. Andhra Pradesh, Maharashtra, Karnataka, Orissa, Tamil Nadu, Bihar, UP, and Rajasthan are the main chilly-growing states.

Chilli is one of the most important commercial crops in India. It is grown almost throughout the country. There are more than 400 different varieties of chillies found all over the world. It is also called a "hot pepper," "cayenne pepper," "sweet pepper," "bell pepper," etc. Its botanical name is "Capsicum annum." The world's shortest chili, "Naga Jolokia," is cultivated in the hilly terrain of Assam in the small town of Tezpur, India. Different varieties are grown for vegetables, spices, condiments, sauces, and pickles. Chilli occupies an important place in the Indian diet. It is an indispensable item in the kitchen, as it is consumed daily as a condiment in one form or another. Among the spices consumed per head, dried chilli fruits constitute a major share. Currently, chillies are used throughout the world as a spice and also in the making of beverages and medicines. If some varieties of chillies are famous for their red colour because of the pigment "capsanthin," others are known for the biting pungency attributed to "capsaicin." India is the only country that is rich in many varieties with different quality factors. Chillies are rich in vitamins, especially vitamins A and C. They are also packed with potassium, magnesium, and iron. Chillies have long been used for pain relief as they are known to inhibit pain messengers. Extractions of chilli peppers are used for alleviating the pain of arthritis, headaches, burns, and neuralgia. It is also claimed that they have the power to boost the immune system and lower cholesterol. They are also helpful in getting rid of parasites in the gut.

ORIGIN, DISTRIBUTION AND PRODUCTION OF CHILLI

Chillies are known from prehistoric times in Peru. They are believed to have originated in tropical America. It is also said that chillies originated in the Latin American regions of New Mexico and Guatemala as a wild crop around 7500 BC, as per the remains of pre-historic Peru. The people were native to these places and domesticated this crop in and around 5000 BC. Chilli is said to be the first-ever domesticated crop in America. The three species are *C. annum*, *C. frutescens*, and *C. chinesis*, and they evolved from a common ancestor located in the northern part of the Amazon basin (NW-Brazil and Columbia). Further evolution brought

C. annuum and C. frutescens to Central America, where they were finally domesticated (in México and Panamá, respectively), whereas C. Chinese moved to the West and was first put into cultivation in Perú. C. baccatum was first cultivated in the Peruvian lowlands, and C. pubescens was first cultivated at higher elevations in the Andes (Per, Bolivia, Ecuador). At that time, chillies were cultivated by the farmers along with a primary crop to protect the primary crop from any damage from birds. Columbus carried chilli seeds to Spain in 1493. Chilli and capsicum cultivation spread quickly from Spain to Europe. The Portuguese brought capsicum from Brazil to India during the year 1584. Chillies became popular in the whole of Asia rapidly, and native Asians started cultivating this crop as well. The south Asian climate suited this crop, and since its introduction in the 16th century, it has been increasingly cultivated in south Asia. Chillies are the cheapest spices available in India and are eaten by all groups of people. The most important chilli-growing states in India are Andhra Pradesh, Maharashtra, Karnataka, and Tamil Nadu, which together constitute nearly 75 percent of the total area. Andhra Pradesh tops the list in dry chilli production, followed by Tamil Nadu, Maharashtra, Orissa, and Karnataka.

HEALTH BENEFITS AND NUTRITIONAL IMPORTANCE

Pungency in chilli is due to the alkaloid "capsaicin" contained in the pericarp and placenta of fruits; it produces a mild to intense spice when eaten. Capsaicin is a potent inhibitor of substance P, a neuropeptide associated with inflammatory processes. The hotter the chilli pepper, the more capsaicin it contains. The hottest varieties include Naga Jolokia, Habanero, and Scotch Bonnet peppers. Jalapenos are next in their heat and capsaicin content, followed by the milder varieties, including Spanish pimientos and Anaheim and Hungarian cherry peppers. Capsaicin is being studied as an effective treatment for sensory nerve fibre disorders, including pain associated with arthritis, psoriasis, and diabetic neuropathy. When animals injected with a substance that causes inflammatory arthritis were fed a diet that contained capsaicin, they had a delayed onset of arthritis and significantly reduced paw inflammation.

Fresh chilli peppers are very rich in vitamin C, i.e., 111.0 mg per 74 grammes in comparison to only 37 mg in oranges, which makes them very effective as immune system stimulants and healing agents, especially for cellular damage. Many folk remedies recommend chilli pepper in wound cleaning preparations for gangrene and open sores and even as a styptic, though more modern sources generally advise against using chilli on broken skin. While drying, chilli loses most of its vitamin C, but it increases the vitamin A content by 100 times. Vitamin A is a powerful antioxidant and anti-inflammatory agent. Chilli preparations have been used as a gargle to treat sore throats and laryngitis. Surprisingly, it has been shown that chillies do not aggravate or cause stomach ulcers. They have a preventative effect, as stomach ulcers are mostly caused by bacteria, and their antibacterial action kills such bacteria. In folk medicine, they have also long been used to treat worms. Chilli has a very beneficial effect on the circulatory system. Studies have shown that it inhibits cholesterol build-up and reduces platelet aggregation, thus reducing the risk of heart attacks and strokes. It also lowers high blood pressure and increases peripheral circulation.

Nutritional Composition of CHILLI

Parameters	Value {Per 100 gm}	
	<u>CHILLIES DRY</u>	<u>CHILLIES (GREEN)</u>
Moisture	10.000 gm	85.700 gm
Protein	15.000 gm	2.900 gm
Fat	6.200 gm	0.600 gm
Minerals	6.100 gm	1.000 gm
Fibre	30.200 gm	6.800 gm
Carbohydrates	31.600 gm	3.000 gm
Energy	246.000 K Cal	29.000 K gm
Calcium	160.000 mg	30.000 mg
Phosphorus	370.000 mg	80.000 mg
Iron	2.300 mg	4.400 mg
Vitamins		
Carotene	345.000 µg	175.000 µg
Thiamine	0.930 mg	0.190 mg
Riboflavin	0.430 mg	0.390 mg
Niacin	9.500 mg	0.900 mg
Vitamin C	50.000 mg	111.000 mg
Minerals & TraceElements		
Sodium	14.000 mg	--
Potassium	530.000 mg	--
Phytin Phosphorus	71.000 mg	7.000 mg
Magnesium	--	272.000 mg
Copper	--	1.400 mg
Manganese	--	1.380 mg
Molybdenum	--	0.070 mg
Zinc	--	1.780 mg
Chromium	--	0.040 mg
Oxalic Acid	--	67.000 mg
<u>Caloric values</u>		
Chili (Dry)	297	
Chili (Green)	229	

Red Chilli





