Aji from Colombia

By Ariadna Monroy

Colombia is located near the equator and has all the characteristics of a tropical region including the absence of four distinct seasons. Winter is distinguished by periods of heavy rain that occur twice a year during the months of April through May and late October through November. The temperature is dependant on the altitude with the coldest places located in the higher elevations of the Andes, and the warm places located near sea level or at the base of the mountains.

The diverse range of climates allows chile pepper production in many regions. In Colombia, any type of hot chile pepper is called “aji,” while bell peppers are called “pimenton.” The most common type of chile pepper is the chile piquin, which is ground with salt to prepare a mild salsa used in many recipes.

As a commercial crop, the chile pepper is relatively new in Colombia. The commercial production of chile peppers started about ten years ago with varieties such as cayenne and tabasco. Colombian food is generally not spicy as in many other South American countries and most of the recipes call for onion, tomato, and cilantro as the main ingredients. Because there is limited internal demand for the chile pepper almost all chile pepper produced is exported. In 1996, tabasco was the first chile pepper grown for export. The main region of production for tabasco is located close to the Pacific Ocean. Cayenne was the second commercial chile pepper crop to be grown, and is grown near the Caribbean. The high temperature and high humidity of this region allows the production of big fruits with intense color and a strong aroma. Cayenne production is twice the tabasco production and can be grown in a shorter time period. However the price for tabasco is triple that of cayenne. The areas of Columbia with...
Columbian Chile Peppers

A Capsicum chinense plant widely grown in Columbia

ports have become the primary regions for production because the chile pepper is exported as “salmuera paste.” Salmuera paste is a mix of ground fresh chile pepper fruits, water, salt, and vinegar, which is shipped in large barrels. The fruits are allowed to fully ripen and then harvested by hand to enhance the quality of the paste. The Colombian grown chile pepper is used in the North American market to make hot sauces, such as the famous Tabasco sauce.

Production of jalapeño and habañero has increased in the central areas of the country near the main airports. Regions with temperatures between 25° and 28°C (77-82°F) are ideal for chile pepper crops to promote high color and increased flavor and aroma. Unlike the arid climate of the Southwest United States, Colombia has plenty of moisture and humidity so the plants produce larger pods with distinctive aromas. Thus, like the famous Colombian coffee, chile peppers produced in Colombia are characterized by their spectacular colors and aromas.

Unfortunately, the humidity in tropical regions increases the presence of pests that can attack fruits and leaves, and fungal diseases such as Peronospora and Phytophthora capsici. Despite some of the limiting factors present in Colombian chile pepper production, the chile pepper is a profitable crop because Colombia can produce chile peppers throughout the year. This is important for export during the winter months in North America and Europe, where chile pepper lovers expect to have their fruits year-round.

A Capsicum frutescens from Columbia, a relative of the Tabasco pepper.

RECIPE: Traditional Fresh Colombian Sauce, Aji Colombiano.

Ingredients:
2 bunches (about 1 1/2 cups) cilantro, finely chopped
6 scallions or green onions, white parts only, finely chopped
1/2 teaspoon hot pepper sauce, such as Tabasco to taste
3 fresh chile peppers of your choice, chopped and seeded
i.e. jalapeño, aji, serrano, habañero
6 plum tomatoes, peeled, seeded and finely diced
1 cup water
Salt

Directions:
In a medium bowl, combine the cilantro, scallions, hot pepper sauce or chile peppers, tomatoes, water and salt to taste. The mixture should taste like a salsa with a more liquid consistency. If not using right away, cover and refrigerate.
A Whole New Crop of Tasty, Pretty Chile Peppers

Since 1991, two researchers have been breeding new chile pepper varieties that are both tasty and appealing to the eye. Agricultural Research Service (ARS) employees Dr. John Stommel of the Vegetable Laboratory and Dr. Robert Griesbach of the Floral and Nursery Plants Research Unit, developed the chile peppers through a cooperative research and development agreement with Pan American Seed Company and McCorkle Nurseries, Inc.

The striking ‘Black Pearl,’ released in 2005 and honored as a 2006 All-America Selections (AAS) winner, attests to their success in developing new cultivars with both aesthetic and culinary appeal. The award recognizes new flower and vegetable varieties that demonstrate “superior garden performance” in trials conducted throughout the country. ‘Black Pearl’ is a robust plant, adaptable to environments from New England to California, Stommel says. In addition, it resists attacks from many insects and fungi and is remarkably drought-tolerant.

The chile pepper is now on display at the U.S. National Arboretum in Washington, D.C. With moderately shiny, black leaves and glossy fruits that ripen from black to red, ‘Black Pearl’ offers a temptation few chile pepper enthusiasts could resist—and the AAS judges aren’t the only people who think so. Since its release, more than 2 million seeds have been sold. Stommel and Griesbach look forward to releasing several new chile pepper cultivars in the future, including one with spreading black foliage and colorful upright chile peppers with a spicy flavor. Another new chile pepper variety will be an exceptionally tall variety, growing as high as three feet. A third, which produces fruit around Halloween, has black foliage and orange, pumpkin-shaped fruit.

Ornamental chile peppers are just one part of a growing industry. Nursery, landscape, and floral plants are big business, worth about $16 billion a year in this country alone, according to USDA’s Economic Research Service. ARS News Release, March 2007.
The Dave DeWitt Chile Pepper Institute Endowed Library Fund

In January, Chile Pepper Institute Board Member, David DeWitt, president of Sunbelt Shows, Inc. established the Dave DeWitt Chile Pepper Institute Endowed Fund at the New Mexico State University Library. The $25,000 endowment will be used to process, preserve, and make accessible to the public the collection of books, magazines, and other materials on chile peppers DeWitt donated to the New Mexico State University Library’s Rio Grande Historical Collections and to maintain other materials that complement the collection.

New Training Manual on Chile & Tomato

The World Vegetable Center (AVRDC) has developed a new training manual on postharvest research for tomato and chile. The training manual was developed for the training-workshop conducted on July 4-7, 2006 and on July 10-13, 2006 under the RET A 6208 (Asian Development Bank Supported Projects, which are projects that aim to reduce rural poverty, improve farmer’s livelihood, and promote resource conservation through enhanced agricultural research and information dissemination) project in Lao and Cambodia because of expressed deficiencies in instituting postharvest research and technology development. Questions like ‘how to conduct postharvest research’, ‘how to use the postharvest equipment’, and ‘how to collect and analyze postharvest data’ were raised. A postharvest research training was proposed and considered and later upgraded into the present training-workshop for two major objectives - build postharvest research capability in RET A 6208 countries and formulate the research plan or experimental details for the postharvest technologies to be developed for tomato and chile, based on results from the 2nd annual planning-workshop in Phnom Penh on May 25-26, 2006. Postharvest aspects of vegetables are new to personnel being trained in other fields of research. Because of this, introductory topics on postharvest physiology and technology of tomato and chile are included.

To download your free copy of this manual go to http://www.avrdc.org/news.html.
Hot Stuff as Woman Aims to Beat World Record

GUWAHATI, India - Spurred by a Guinness World Record nod to the local "ghost chile pepper" or "Bhut Jolokia," a woman from northeast India hopes to set a new record by eating a massive quantity of the world's hottest chile pepper, now officially entered into the Guinness Book of World Records. Anandita Dutta Tamuly, a 26-year-old mother, is headed from Assam to London with an invitation from the Guinness institution to see how many 'Bhut Jolokia' chile peppers, she can eat at one sitting. Tamuly, who comes from a remote village, believes she will have little trouble in beating the previous record, set by South African Anita Crafford, who ate eight jalapeño minute in 2002. Tamuly is a lifelong devotee of the scorching 'Bhut Jolokia', even though it is 100 times hotter than a jalapeño.

"Such is the hotness of this chile pepper that it can drive away the ghost and hence the name," said Tamuly, who says she got hooked as a small girl when her mother smeared chile pepper paste on her tongue to cure an infection. "I have already created history on Indian television by munching 60 of the chile peppers in two minutes. I am more than confident of creating a record once I reach London."

She is currently awaiting a British visa to make the trip, which the government of Assam is helping to finance. The chile pepper, brought to Guinness's attention by Paul Bosland, Regents professor and chile pepper breeder at New Mexico State University, clocks slightly more than one million Scoville Heat Units, almost twice as hot as the previous reigning champ, the 'Red Savina' habanero at about 580,000 units. The Scoville heat scale, developed by a pharmacist in 1912, is a measure of the ratio of dilution required to neutralize the heat of a chile pepper. An average jalapeño, used widely in salsa, measures about 10,000 Scoville Heat Units.

The Guinness Book of World Records confirmed that New Mexico State University professor Paul Bosland had indeed discovered the world's hottest chile pepper, 'Bhut Jolokia'. The certificate said the finding had been first confirmed in September 2006. As news of the record trickled down in Assam, where the ‘Bhut Jolokia' grows naturally, canny vegetable sellers raised their prices.

"We never thought 'Bhut Jolokia' was so hot until news came in that this is the world's hottest chile pepper. Now we have hiked the price by 50 rupees ($1.00) a kilogram (~2.2 lbs) with people buying it like hot cakes," said Nalini Ram Thakuria, a vegetable vendor in Assam's main city of Guwahati. A pound of the chile pepper now sells for about 125 rupees or $2.83, but Tamuly said that she had been a fan of the chile pepper all her life, record or no record.

"I have been eating ‘Bhut Jolokia' since my childhood and never realized the hotness in my mouth," she said by telephone from Titabor, the village 200 miles east of Guwahati, where she lives. The ghost chile pepper grows mostly on hilly terrain and is considered a staple of every meal in the northeastern part of India. From iol.co.za, 2007

Chile Pepper Institute T-Shirts!
The Chile Pepper Institute now has its very own T-shirts to celebrate everything chile peppers. The colorful T-shirts are available through our "Chile Shop" and are $15.00 plus shipping and handling. The T-shirts are 98% cotton and 2% polyester, and come in white or black in small, medium, large, and x-large sizes. Please go online and download the pdf catalog in our Chile Shop section at www.chilepepperinstitute.org or call us at 505-646-3028 to get yours before supplies run out! Membership discounts are available.
Get Your Fix

At the 2007 New Mexico Chile Conference David Lucero of the New Mexico Department of Agriculture discussed the 2006 New Mexico Green Chile Promotion. In more than ten states, 1,850 stores participated, some as far away as South Carolina. Large chile pepper roasters were rotated among the stores and sales were brisk. More than 200,000 instructional DVD with the theme “Get Your Fix” were distributed; the DVD showed cooking demonstrations using New Mexico green chile peppers. Lucero said the $150,000 campaign resulted in $23 million in New Mexico green chile sales at the retail level. The DVD is available through the Chile Pepper Institute, or by downloading the video with RealPlayer. http://nmdaweb.nmsu.edu/DIVISIONS/MD/projects.html

Science Fair

Starting what Dr. Bosland hopes will be an annual tradition, the Chile Pepper Institute gave an award for the best use of chile pepper in a science fair project at the 2007 Southwestern New Mexico Regional Science and Engineering Fair. Ms. Allyson Richens won the first award for her work with salsa. The title of her project was “Battle of the Salsas” which she tested whether red or green salsa had better antimicrobial activity. She used recipes of each, spread them on tortillas, then waited to see which would better protect the tortillas from spoilage. The red salsa appeared to work better. Penicillium was the most obvious microbe and completely covered the tortillas with the green salsa recipe. The tortillas with red salsa had some bacteria, but less penicillium. She then tested the individual ingredients, both red and green chile had antimicrobial activity. The jalapeño chiles had better antibacterial activity, while the red (poblano) chiles had more antifungal activity. Allyson used a spectrophotometer to measure the microbial growth, and a pH meter to test the pH of the salsas. The honor came with a certificate, letter of recognition, and a monetary prize.

Spicy Chile History Dates Back 6000 Years

Chile peppers were domesticated by the indigenous people of Latin America around 6000 years ago, according to archaeologists who have examined starch fossils preserved on cooking implements. They say in some places, the chile peppers were used as a condiment with maize even before the invention of pottery.

An international team led by Dr. Linda Perry of the Smithsonian National Museum of Natural History reported their findings in the February 16, 2007 volume of the journal Science. The researchers traced the long history of the chile pepper by analyzing starch fossils recovered from grinding stones, sediments, and charred ceramic cookware from seven archaeological sites located from the Bahamas to Peru.

The fossilized starch grains were compared with those found in modern chile peppers. The researchers identified starch grains from maize mixed with the chile pepper starch grains. The oldest site examined was in Ecuador and dates back 6100 years. These Ecuadorian sites represent the earliest known village sites in the Americas, and were excavated by a team led by Dr. Scott Raymond of the University of Calgary.

“Until quite recently it’s been assumed that the ancestors of the great highland civilizations, like the Incas and the Aztecs, were responsible for most of the cultural and agricultural advances of the region,” said Raymond.
Q. I happened across an herbal website that claimed chile pepper seeds to be toxic, I would like to know if this is true.

A. Chile pepper seeds are not toxic per se. The seeds do not contain any chemicals that would be considered toxic, unless one objects to the capsaicinoids. The capsaicinoids are the alkaloids causing the burning sensation when chile peppers are eaten. Toxicity can be defined as a substance that irritates our body, so chile pepper heat could be considered a toxin. When we consume jalapeño wheels on nachos or eat salsa we are consuming the chile pepper seeds without ill effects. In fact, there are several herbal body detoxifiers sold that contain ground chile pepper fruits with the seeds included. In India, the chile pepper seeds are pressed for their oil, and the extracted chile pepper oil is used in cooking. One does have to be careful when planting chile pepper seeds because they can be treated with a pesticide. If the chile pepper seeds are bright pink or blue, it is because a fungicide has been applied. The fungicide can be toxic to humans. It is always advised to wear gloves if the treated seeds are going to be handled.

Q. I will be attempting to start my chile pepper seeds indoors this year. I have a fluorescent light fixture, should I use grow lights, and how high from the starting plants should the lights be?

A. The “grow-light” bulbs are incredibly expensive, and the results are often less than expected. Experiments show that there is no advantage to using the blue-red fluorescent tubes (Grolux, Plant-Gro, Plant Light, Vita Light Optima, etc.) Chile peppers will grow well under cool white fluorescent lights. These grow light bulbs have been designed to emit proportionately more blue and red wavelengths of light. In doing so, the green-yellow-orange fraction has been reduced. The loss in this portion of the spectrum, even though it is slightly efficient, has not been compensated by enough increase in the blue-red portion of the spectrum to result in increased plant growth. To successfully start chile pepper seedlings under lights depends on several factors: light intensity and wavelengths available to the plants (cool white bulbs are more intense and richer in the blue spectrums, stimulating stockier seedlings), correct watering, and temperature control. The light fixtures should be hung about 8 to 10 inches above the plants on chains or pulleys to allow height adjustment as the seedlings grow. Another way to increase the light intensity is make simple reflectors from aluminum foil. Place the foil around the setup to direct every available lumen to your plants. Never try to start seedlings under regular incandescent light bulbs. The light they provide is almost totally in the “red” spectrum. Very weak, leggy seedlings will be produced. Another advantage to the cool-white fluorescent lamps is that heat buildup is rarely a problem, as the heat is spread out over the entire length of the fixture. In summary, fluorescent lights are efficient sources of light for growing the seedlings, and cool white light is the best.

News continued

“We now have evidence that the indigenous people from tropical, lowland areas deserve credit for the domestication of the chile pepper.”
Early Latin American peoples would have found chile peppers, which are rich in vitamin C and A, to be an excellent complement to fish and starchier foods like corn, beans and yams.
“It’s also an excellent disguiser,” said Raymond. “If something’s not tasting quite right, you can always throw a few chile peppers in the pot.”