

How CHILES Conquered the World



With a little help from Christopher Columbus and NMSU's Chile Pepper Institute, the chile pepper has become the hottest thing since the invention of fire.

By David A. Fryxell ✱ Photos by Lisa D. Fryxell

In a small green patch of land off University Avenue in Las Cruces, beyond a cluster of nondescript sheds and two dusty greenhouses, there grows enough capsaicin, the chemical compound that makes chile peppers hot, to blow the top of your head clean off. This assertion has never been scientifically tested, of course, but almost everything else about the plants in the Chile Pepper Institute's Teaching and Demonstration Garden has gone under the microscope.

More than 150 varieties representing four of the five domesticated species of chile are grown here (the fifth requires a cooler climate), in one of the largest public chile gardens in the world. Some plants hug the mounded, khaki-brown dirt and are almost overwhelmed by their own profusion of yellow, red and orange peppers, looking more like a nest of Christmas lights than like crops. Others aim higher, sending forth leaves in startling colors—pale variegated green, purple—before producing pods. The chiles themselves range from the vivid yellow and red of New Mexico's flag to brooding purple and almost black, resembling olives. They grow as small as bullets and as long as socks.

Each variety in the garden is carefully identified by a hand-lettered, white plastic, T-shaped stake. The names suggest world travels—Bolivian Rainbow, Labrador, Zimbabwe Bird, Scotch Bonnet, Caribbean Red, Hungarian Wax—as well as the higher orbits that too much capsaicin might send tasters to: Meteor, NuMex Sunflare, Jupiter. Allusions are made to other fruit (chile peppers are botanically a berry, not a vegetable): Tangerine Dream, Grandi Red Cherry, Hot Apple, Banana Supreme. A few varieties seek to present a tamer image, with names like roses—Blushing Beauty, Dove, Little Elf, Canary. But the most common nomenclature theme is heat: Prairie Fire, Flame Fountain, Hot Paper Lantern, Orange Devil, Fire Bomb.

It was chiles' fiery effect that led Columbus to conclude he'd found the plant that produces black pepper, much sought-after in the Old World and part of his assignment from Ferdinand and Isabella. He was wrong, as he was about so much of what he

found in the New World, including its "Indian" inhabitants: Black pepper, genus *piper nigrum*, is utterly unrelated to the chile pepper, genus *capsicum*. But the name "pepper" stuck. The "chile" part of the name came from the Nahuatl Indian word for the plant—and, yes, *chile* with an e is the correct American spelling, Microsoft Word's spellchecker notwithstanding. *Chili* is the spicy meat concoction, *Chile* the country. In Australia the plant is *chilli*; in England, *chillie*.

If only Columbus had been able to consult the Chile Pepper Institute at New Mexico State University, the world would have been spared half a millennium of culinary confusion. The institute, part of NMSU's Department of Agronomy and Horticulture, serves as a resource, education and research center for all things capsicum. Members range from individual "chileheads" (\$25 a year) to a who's who of chile processors, such as Border Foods in Deming and Cervantes Enterprises in La Mesa, NM (corporate members pay \$5,000 a year).

The chile pepper could hardly have spread faster, however, even with the help of some 15th-century institute. First used in food some 9,000 years ago, chiles slowly spread from somewhere in central South America northward to today's Mexico. But once Columbus and then the conquistadores got ahold of chiles, the rest was culinary history. By 1550, chiles had crossed Europe and reached China, Southeast Asia and the real Indies that Columbus originally aimed for. Within a century of his sailing the ocean blue, chiles had spiced up the cuisines of even such landlocked places as Tibet and Hungary (which otherwise would have, no goulash).

"All the places that have spicy food developed those cuisines only after getting chiles from the New World," says Danise Coon, senior research assistant at the Chile Pepper Institute. "Hungary, Spain, Thai food, Indian, Chinese. . ." Yes, even Szechuan cooking would lack its fiery punch if not for the migration of these little "berries" from the Americas.

CHILES continued on next page

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Fortunately for chile-

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said to exhibit addictive qualities."
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as one part per million.

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non-pungent member of the *Capsicum*
o astronomical in orange habaneros, the
the planet and the horticultural equivalent
her extreme on the capsaicin scale grows
xico, however. The bell peppers in the insti-
garden look sun-scalded, unable to grow
nopy to shield themselves. And habaneros
humid, tropical climes of the Bahamas, with
also grown in Florida.

the Chile Pepper Institute has been working
s-incendiary habanero, in response to indus-
tiny habanero is prized for its fruity flavor—
get past that sensation of having just popped
your mouth. At the open house for its new
e institute proudly passed out little plastic
of its latest chile creation: two mild
ped NuMex Suave Orange and Suave Red.
available from the institute's Web site, though
ed to two packets of 10 seeds each per per-

med habaneros score 210,000 units on the
named after chemist Wilbur Scoville, who



those at NMSU use liquid chromatog-
raphy to measure both heat and the actual
amount of capsaicins in chile varieties,
without the necessity of torturing any-
one's tastebuds.

Though not technically poisonous, cap-
saicin is nothing to fool around with. Coon
says, "We have students on work-study
doing 'wet extraction' of seeds from
ground-up chile pods, and they wear
suits, hats, goggles, boots, the works. But
at the end of the day they still get irrita-
tions around their noses."

She also tells about a call the Chile
Pepper Institute received from an attorney in
the state of Washington. The attorney was
working on a case where a disgruntled work-
er had dumped hot sauce into a fountain in
an office building. When the capsaicin-laced
fumes filled the building, it had to be evacu-
ated. The attorney wondered about the feasibility
of DNA testing on a bottle of hot sauce that had
been found in a suspect employee's desk. Coon
opted not to get involved in that particular hot
topic.

But she does field about 20 calls and emails a day,
on questions including pepper growing, pod preserva-
tion, plant diseases, chile statistics and marketing. The
institute also works to educate people about chile peppers
through speeches and presentations (Coon gives more than
100 annually), a quarterly newsletter, a library of more than
600 titles and a kiosk for kids at the New Mexico Farm and
Ranch Heritage Museum. The kiosk describes the wide
range of uses for chile peppers, from food coloring to ele-
phant repellent.

In April, the institute also initiated a program for college
freshmen and sophomores, introducing them to the chile-
pepper research process. Funded by a two-year National
Science Foundation grant, the program focuses on first- and
second-generation migrants, hoping to steer them into
careers in science and help keep them in school.

"A number of the students had worked in the fields with
their families, and thought that's all there was to agricul-
ture—ugh," Coon says. "When we taught them about agricul-
tural research through chiles, their whole attitude changed."

Another conquest, you might say, for the humble chile
pepper. ❁

For information about NMSU's Chile Pepper Institute, see
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hotchile@nmsu.edu or write Box 30003 MSC 3Q, Las
Cruces, NM 88003.



The demon-
stration gar-
den of the
Chile Pepper
Institute grows
chiles ranging
from the pure-
ly ornamental
to the practi-
cal, such as
jalepenos for
eating or

CHILES continued

Chiles continue their conquest of the world's tastebuds, even today. In 1992, after all, salsa surpassed ketchup as America's favorite condiment. Between 1994 and 1998, use of peppers and spices increased more than 21 percent. "Interest in chile peppers is growing exponentially," says Coon. "We're seeing it in an increase in questions and requests for information, too."



And then there are the "chileheads," such as the readers of *Chile Pepper* magazine, for which institute director Dr. Paul Bosland writes a regular column, "The Pepper Patch." Many of these diehards find their way, by phone, email or in-person, to the institute. "We've got some people who are—" Coon dissolves in laughter, recovers. "—well, kind of whacked. Some people are so into chile that it's their life."

You could even point to the existence of the Chile Pepper Institute itself as evidence of chiles' growing popularity. It was founded by Bosland, an NMSU professor, in 1992 because he was fielding so many questions and requests for information about chiles. Last month, the institute moved into a new home on campus—a pepper-bedecked, red-trimmed oasis of what the institute's scientists would call "pungency" amid the identically bland array of offices on the second floor of Gerald Thomas Hall.

The institute has also spread out on the Web, where its site (www.chilepepperinstitute.org) sells posters, publications and more than 40 varieties of seeds. True chileheads will want to explore the site's offer to name a new chile variety after a generous donor.

Chile peppers may have come to New Mexico as the Mayas began to trade with the Pueblo-dwelling tribes to the north. Or they may not have arrived until the conquistadores, whose logs include entries about taking chiles north along the Camino Real to Santa Fe. In any case, chiles found this an ideal place to take root.

"Most chiles do really well in well-drained soil and a hot, arid climate," says Coon. "They don't like their roots wet, so here is excellent for that. Pungency is increased by environmental factors; any stress, such as heat or drought, makes chiles hotter." She smiles as if to state the obvious: If you're looking for hot and dry, look no further than New Mexico.

New Mexico leads the nation in production of chile peppers, which are the state's largest cash crop with an annual \$64 million harvest from more than 21,000 acres. The state also processes much of its own chile crop, quadrupling the value of that harvest. Though southern California, Texas and southern Arizona also grow chiles commercially, New Mexico produces more chiles than all other states combined. "What's also unique about New Mexico is that chiles are grown throughout the state, even though northern New Mexico differs dramatically from southern," Coon adds. "In other states, chiles are grown only in one small part of the state."