

# MEXICO'S CONTRIBUTION TO THE MEDITERRANEAN DIET<sup>1</sup>

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**M**exican plants were not well received when they first arrived in Europe in the sixteenth century. Europeans were skeptical of the new plants and reticent about accepting them in their diets. Some were rejected because of their similarity with certain hallucinogenic plants such as mandrake, henbane and belladonna, known and used by witches and sorcerers of the time. For this reason, plants such as the tomato and the chili pepper had to overcome the famous "curse of the nightshade" before being accepted in European diets. Other plants, such as the Andean potato, had to undergo a genetic transformation before they were able to produce in European latitudes. Although many New World plants arrived in the sixteenth century, it was

not until the eighteenth century when they became fully accepted in Old World diets.

The first people to bring back information about the food and plants of the Americas were early explorers and conquistadors, some of whom showed a special interest in the vegetation of the New World. There were actually few of the latter since most of those who ventured to America were more interested in acquiring gold and silver or in introducing Christianity to the local population. Christopher Columbus himself initiated an important exchange of plants between the two worlds when he brought back plants and seeds on his return to Spain from his first voyage to the Western Hemisphere.

Spain was the first stop for Mexican plants on their route to dissemination throughout Europe. After their arrival, they spread along two different paths: some plants prospered in northern Europe, while others adapted better in the warm climate and loose soil of the Mediterranean basin.

The latter group arrived first in Italy, which is not surprising since the Spanish crown dominated large parts of the Italian Peninsula in the sixteenth century, facilitating contact between the two areas. Corn or maize, for many centuries a staple food in Mesoamerican Indian cultures, along with beans, the traditional accompaniment for tortillas, prospered in the Mediterranean. Chili peppers and tomatoes, a flavor combination characteristic of Aztec cuisine, also adapted to the new environment. Other Mexican plants that prospered in the new habitat were squash, the sweet potato, the agave or century plant and the prickly pear cactus, which now forms an integral part of the local landscape. Some of the plants were taken to Europe on purpose; others arrived unannounced and uninvited, traveling in the ballast that ships carried on their return trips from the New World.

The well-established trade routes set up by Spaniards many years before were important factors in the spread

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Chili pepper plant, Turin Botanical Garden, 1752.

of American products. Aragonese merchants controlled commerce between Spain, Italy and the Far East and no doubt played an important role in the distribution of plants along these routes. The Turks also took them to the whole eastern half of the Mediterranean basin, dominated in the sixteenth century by the Ottoman Empire. The early nomenclature given the newly arrived plants reflects the Turkish role in their dissemination. Corn first appeared in European herbals under the names “Turkish grain,” “*blé de Turquie*” or “Turkish korn”; the chili pepper was known as “Turkish red pepper”; the squash was called “Turkish cucumber” and even the wild turkey, which arrived in England in 1511 still goes by the name of “turkey” in contemporary English.

The new plants first aroused the interest of the scientific community because of their possible medicinal uses. Devastating plagues were still ravaging parts of Europe in the sixteenth century and doctors were constantly searching for new remedies to treat them. They soon realized, however, that the new plants did not provide an effective cure for European diseases. Plant enthusiasts of the time established botanical gardens where some of them cultivated American plants and set up an exchange system with specialists in other parts of Europe with whom they traded seeds, plants and cuttings. The new plants were also used as ornaments in the well kept gardens of the nobility and on university campuses.

During the early Middle Ages, a distinct diet was formed in the Medi-

terranean basin, based on bread, olive oil and red wine. There were certain regional variations in the diet such as the thick soups of southern France, Italian pastas and Turkish yogurt, but a certain uniformity in the diet became evident from early times and has continued until today. Mexican plants did not arrive in the area as competitors of the traditional crops that had developed over the centuries. Rather, their role was complementary. While wheat and other grains were planted in autumn and winter, maize, beans and squash were planted in the spring and did not encroach upon the space needed for the traditional plants. Nor were their harvests incompatible, since wheat was generally cut in June and grapes and olives were picked in the fall, whereas the American crops were harvested at the end of summer.

Initially, the new plants could only be grown in small family plots or gardens as most American plants developed as semitropical crops that require moisture during the growing cycle and the formation of the fruit. In the hot, dry Mediterranean summers, the new plants needed artificial irrigation in order to produce fruit, and this was only possible on small plots of land. This was never a problem for the traditional plants of the area because they had evolved in semi-arid zones of the Middle East and needed humidity after being sown in the winter, but did not need water during the final months of their agricultural cycle which were in the summer.

Mexican plants offered several advantages over European crops. They were considered a novelty and only grown



Tomato plant, *Hortus Eystettenis*, Eichstätt, 1613.

on small family plots and thus were not subject to tithes which the Catholic Church applied to traditional agricultural production. Corn and potatoes were exempt from this tax until the eighteenth century. Some of the new plants offered other advantages as well. Beans are well known for their

ability to enrich the soil since they have the capacity to fix nitrogen in the earth through the small nodes on their roots. The overworked and exhausted soils of the Mediterranean were badly in need of enrichment and improvement. Mexican plants also played a role in crop rotation, another method of soil

improvement, since the same grain could not be sown on the same land for more than two consecutive years because of the depletion of the land's humus level.

Some plants proved to be more easily accepted due to their similarity with those already known in the area. This was the case of the Mexican bean that looked like the European fava bean, known since Romans distributed it throughout the Mediterranean basin during the expansion of their empire. Spaniards knew them as *fesoles* and gave them the same name when they came upon them in the Caribbean. Some years later, the name was changed to *frijol* and they are still known by that name in Mexico today.

The corn plant has little similarity with other grain plants, but its preparation in the form of ground flour in breads and gruels gave it an air of similarity with other cereals. Corn meal was mixed with other bread flours to make coarse, rustic breads for the poor. It also became a substitute for millet in Italian *polenta*, an ancient Roman dish that had sustained poor Italians for centuries. Corn offers several advantages over other grains: it produces more calories in less space, in less time and is less labor-intensive than any other grain except for rice. It adapts easily to a wide variety of

climates, soils and altitudes and can be used as animal fodder as well as for human consumption.

The chili pepper and the tomato arrived as strange new plants and were regarded with deep suspicion. They acquired the reputation of being hallucinogenic and poisonous since they belonged to the same plant family as



Three varieties of corn, Royal Botanical Garden, Madrid, 1836.

the mandrake, henbane and belladonna. They also soon became well known as effective aphrodisiacs, although I doubt that this contributed to their initial rejection. One must take into account the fact that both these plants were completely new to the Europeans; they had never seen any fruits that even looked like them. They did not

know how to grow them, prepare them for the table or even how to go about eating them. Chili peppers were so spicy and pungent that they were difficult to eat. Italians were afraid to eat tomatoes raw, fearing they might be poisonous, but when cooked, they were unappetizing and appeared to be spoiled. They were also said to have a "foul" smell. It was not easy to adopt these plants and incorporate them into the Italian diet. Furthermore, the large, red, smooth, juicy tomatoes we know today have little similarity with the small, ridged, pale, acid and strong-smelling tomato that arrived in Europe in the sixteenth century. It was the caring hands of Italian gardeners that transformed the tomato into the edible and attractive fruit we know today. They also modified the chili pepper, converting it into a large, sweet-tasting vegetable without the pungency characteristic of the Mexican chili pepper. Transformed into "green peppers," they could be consumed as vegetables and

were used for stuffed peppers, a popular dish in the eastern Mediterranean. The chili pepper was introduced into Hungary by the invading Turks in 1526 and was given the local name of *paprikás* or paprika and is a dominant flavor in Balkan cuisine.

During the eighteenth century, Mexican fruits and vegetables became

incorporated into European diets. Many changes occurred in European cuisine during this century that reflect the social changes of the time. A new social class developed due to the prosperity attained from commercial activities of the time. The new bourgeoisie favored a simple cuisine, based on regional dishes, as taste was no longer dictated by the nobility and a life centered around the royal court. New World flavors combined well with the local dishes and cooks began incorporating the new ingredients into established local fare. They did not invent new or exotic dishes with them, rather they learned to use them as useful elements in traditional dishes.

Corn and potatoes were added to local soups, stews and other typical dishes. The *frijol* or Mexican bean became a substitute for the roman fava bean in such dishes as *fabada asturiana* of northwestern Spain and in the *cassoulets* of France's Provence. Italians living around Florence adopted the bean with such relish that Italians in the rest of the country began to refer to them as *mangiafagoli* or bean eaters. Neapolitans discovered that tomato sauce blended well with pastas, previously served with sauces made with olive oil or butter. Italian pizzas also benefited from the new flavor and bright red color of tomato

sauce. The flavor combination of tomatoes and green peppers has been documented in salads typical of every country surrounding the Mediterranean basin.

Southern Spain's *gazpacho*, an ancient soup known from the time of Arab occupation in the region, suddenly acquired a new presentation

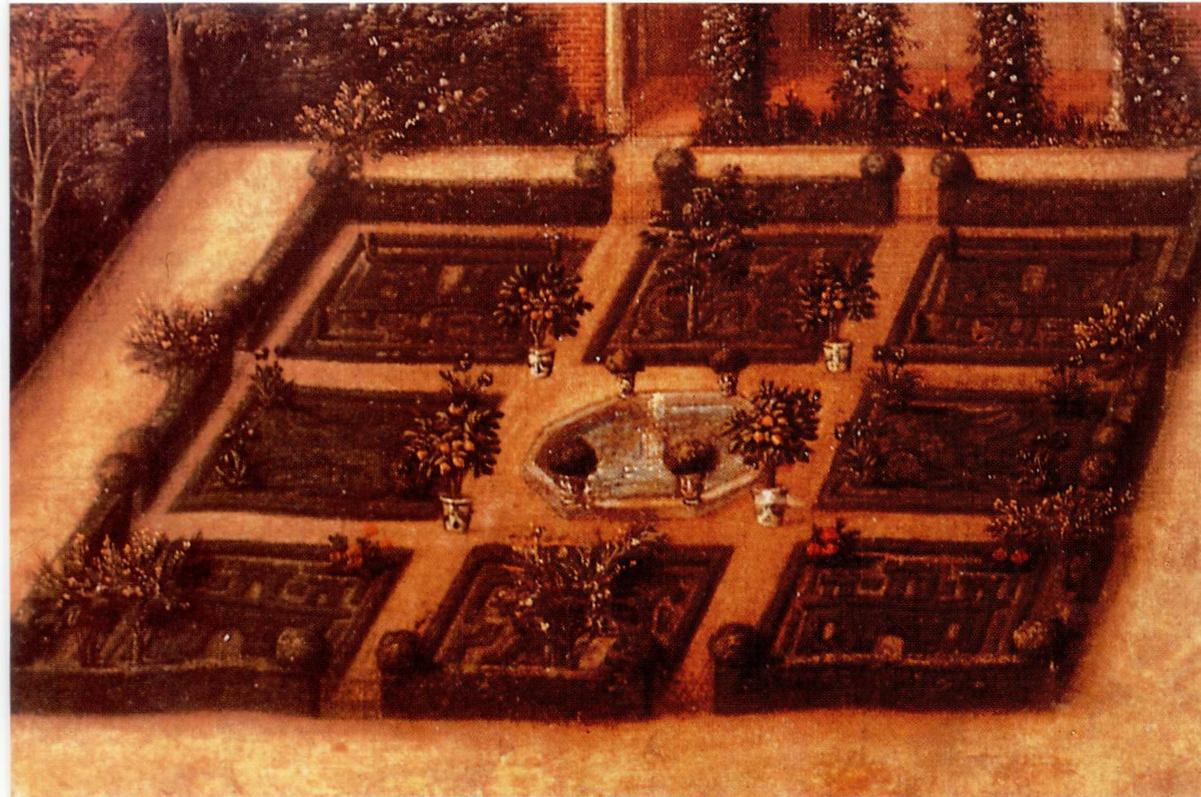


Flowers and fruit of the cactus plant, eighteenth century.

with the addition of tomatoes and green peppers. Valencian *paella* incorporated several Mexican ingredients into its preparation, as did the codfish dish, *bacalao*. By the end of the eighteenth century, Mexican plants were fully incorporated into the diet in several Mediterranean countries.

During the nineteenth and twentieth centuries, these plants, modified and improved by Europeans, were reintroduced into the New World as part of the cultural baggage brought by European immigrants who wanted to recreate their native diets in their new countries. Italian immigrants in the United States, Canada and Argentina brought new uses for the tomato as canned tomato sauce to accompany pasta dishes. They also brought green peppers and a new method of eating squash as a young, immature vegetable, which they called "zucchini."

Mexican plants provided many benefits for the European diet, but they were also the cause of grave misfortunes when not properly used. No plant is capable of providing all the nutrients needed by the human body. This became evident when people in some areas of the Mediterranean basin began to depend too heavily upon a diet based almost exclusively upon corn. Corn contains no tryptophane, the amino acid needed to synthesize vitamins in the body. Without its presence, the body cannot absorb vitamins and a nutritional deficiency can manifest itself in the form of pellagra. This illness affects the digestive system, the nervous system and the skin and frequently terminates in mental illness and sometimes even in death. This



Botanical garden of King Phillip II of Spain, sixteenth century.



Fruit of the cacao tree, Royal Botanical Garden, Madrid, 1814.

did not prove to be a problem in Latin American diets because beans, that usually accompanied corn tortillas, supplied the amino acid lacking in corn. Also, the process of *nixtamalización*, or soaking corn in lime for several hours before grinding, improves the protein content of the grain. This method of preparing corn did not spread to other countries, where grinding machines were powerful enough to pulverize the grain without previously soaking it.

The countries most affected by pellagra were poor areas of Italy and Rumania, faithful consumers of *polenta* and its Rumanian counterpart *mamaliga*, that served as substitutes

for bread in the diet of the masses. This disease was not eradicated in northern Italy until after World War II, when the diet and living conditions in the area generally improved. It has also proved to be a problem in African countries that have relied too heavily upon corn and less upon other foods.

After an uncertain beginning upon their arrival in Europe, Mexican plants were finally incorporated into the Mediterranean diet.

Unobtrusively, they began substituting local products and soon became common ingredients in dishes popular with the general population. They contributed toward a more nutritious diet, made food more abundant and thus helped reduce the effects of hunger that had plagued Europe for centuries. Some historians consider them to have played an important role in the population increase that became evident in the second half of the eighteenth century. Their ability to complement the ancient Mediterranean crops during the agricultural cycle as well as in the diet contributed toward their final acceptance. Today, they are as identified with the Mediterranean diet as the area's older plants, such as wheat, the olive tree and the grapevine. **W**