

By ~~May 2008~~ ~~2008~~ Anitei, Science Editor

## The Impact of Tomatoes on Our Lives

### *Could you live without them?*

We can't even begin to imagine life today without pizza or ketchup. However, the fact of the matter remains that these food items are recent culinary acquisitions of the European cuisine. **A history of tomato cultivation** Wild tomatoes originate from the Andes Mountains. Ancient Indians ate them, but they did not cultivate them as that only came to happen much later. Through them, the plant reached Mexico, where the Aztecs called it "xitomatl" ("tomatl" in Nahuatl, their language, means "berry"). Tomato sauce rapidly became a basic ingredient of the Aztec cuisine. Spanish conquistadors also got a taste of the sauce, liked it and then sent tomato seeds to Spain, the Caribbean and the Philippines. With all that, these vegetables only achieved their current status at the end of the 19th century. At first, the Europeans were reluctant to consume the tomato, because botanists had made the mistake of including it in the same family as that of the nightshade, an extremely poisonous plant. Moreover, the whole plant, except for the fruit and the seeds, is toxic and the leaves spread a strong scent. Some attributed aphrodisiac properties to the tomato and this is why the French called it "pomme d'amour" (love apple). The Italians, on the other hand, called it "pomodoro", which translates to "golden apple", as the first cultivated varieties during the 16th century were yellow. By the 17th century, the tomato was already popular in the Italian cuisine, a fact favored by Italy's sunny climate. Meanwhile, other Europeans cultivated tomatoes as medicine or as decorative plants. The invention of pizza in Naples (Italy) during the 19th century boosted the cultivation of the tomato and, by 1870, it was popular in many European countries. During the 20th century, the increasing popularity of the soups, of the tomato juice and sauce, of vegetable salads and pizza made it the most common fruit on Earth. Billions of tons of tomatoes are produced annually, much more than apples, bananas, grapes and oranges together. **Tomato and human health** Tomatoes are loaded with potassium, vitamins A, C and E. An average tomato (weighing approximately 100-110 grams) contains 30% of the daily requirements of vitamin C, 15% for vitamin A and 12% for vitamin E. Vitamin C is known to reduce the risk of cancer, cardiovascular disease (including heart attack and stroke) and diabetes. It lowers the arterial tension and the cholesterol, being an antioxidant. Vitamin A is a major contributor to the health of the skin, hair, mucosae, genital organs and has a role in the low light vision. Nevertheless, the most important active chemical found in tomatoes is the lycopene, a red pigment also found in red grapefruit and watermelon, one of the most powerful antioxidants (chemicals that protect the cells against the harmful effects of free radicals). It has been proved that it helps prevent cancer of pancreas, lung and colon and cardiovascular disease. Men consuming 10 or more servings of tomatoes or derived products on a weekly basis have a 34% decreased risk of prostate cancer. A high percentage of tomatoes stored in body fat decreases by half the risk of heart attack. A recent British research showed that 5 tablespoons of tomato paste added daily to your diet improve your skin's capacity to fight harmful UV radiation by 33%. UV radiation can cause several affections, from premature aging to skin cancer and, in this respect, tomato consumption had the same effect as a very low factor sun cream. Lycopene has also been found to increase the absorption of beta-carotene, the plant precursor of vitamin A. Tomato paste, tomato sauce, spaghetti sauce and pizza sauce contain 6 times more digestible lycopene compared to fresh tomatoes, because the boiling process destroys the cell walls of the tomatoes, releasing the lycopene. Still, the boiling also destroys many vitamins and other plant active chemicals. Because the lycopene is fat soluble, it will be more easily assimilated when combining tomatoes with oil (like olive oil) in sauces. Tomatoes are also highly recommended in slimming diets. An average tomato of 100-110 grams contains only 20 calories. Thus, one kilogram (2.2 pounds) contains about 200 calories. We can consume 2-3 kg (4.4-6.6 pounds) of tomatoes or 2 liters of tomato juice daily with absolutely no problems. **Tomato and humans** Tomatoes can be cultivated everywhere, even on oil platforms in the Northern Sea. Here, the seeds germinate even without soil and are later placed on a plastic bag with nutrients and water. These plants produce food and give a much greener aspect to the platforms at the same time... They are even cultivated by the Bedouins, in the desert of the Egyptian Sinai peninsula, on mountain terraces irrigated with water from springs, wells and sporadic rainfall. They harvest large tomatoes, which are afterwards dried in the sun and,

in this manner, preserved for the coming winter. The popularity of the tomato is due not only to its adaptability to various soils and climes, but also to the fact that the plant is an auto-pollinator, and that's why it can be cultivated in great number for a long period of time. Actually, today there are over 4,000 strains of tomato, from cherry-sized to large fruits! The largest tomato ever was of 3.51 kg or 7.8 pounds, as cultivated by an Oklahoma farmer. Watch out: tomatoes are sensitive to tobacco presence, as the latter, a relative of the tomatoes, transmits a deadly virus to them. In Ecuador, a fruit very similar to the tomato is cultivated; it's called "lulo" or "naranjilla" (*Solanum quitoensis*).