


Salvia hispanica

For the related plant also known as "chia", see *Salvia columbariae*.

Chia	
	
Scientific classification	
Kingdom:	Plantae
(unranked):	Angiosperms
(unranked):	Eudicots
(unranked):	Asterids
Order:	Lamiales
Family:	Lamiaceae
Genus:	<i>Salvia</i>
Species:	<i>S. hispanica</i>
Binomial name	
<i>Salvia hispanica</i> L.	
Synonyms	
<ul style="list-style-type: none"> • <i>Kiosmina hispanica</i> (L.) Raf. • <i>Salvia chia</i> Colla • <i>Salvia chia</i> Sessé & Moc. nom. illeg. • <i>Salvia neohispanica</i> Briq. nom. illeg. • <i>Salvia prysmatica</i> Cav. • <i>Salvia schiedeana</i> Stapf • <i>Salvia tetragona</i> Moench 	

Salvia hispanica, commonly known as **chia**, is a species of flowering plant in the mint family, Lamiaceae, native to central and southern Mexico and Guatemala. The 16th-century *Codex Mendoza* provides evidence that it was cultivated by the Aztec in pre-Columbian times; economic historians have suggested it was as important as maize as a food crop. It is still used in Paraguay, Bolivia, Argentina, Mexico and Guatemala, sometimes with the seeds ground or with whole seeds used for nutritious drinks and as a food source.

Etymology

The word "chia" is derived from the Nahuatl word *chian*, meaning oily.^[1] The present Mexican state of Chiapas received its name from the Nahuatl "chia water" or "chia river".

It is one of two plants known as chia, the other being *Salvia columbariae*, which is more commonly known as the golden chia.

Description

Chia is an annual herb growing up to 1.75 m (5.7 ft) tall, with opposite leaves that are 4–8 cm (1.6–3.1 in) long and 3–5 cm (1.2–2.0 in) wide. Its flowers are purple or white and are produced in numerous clusters in a spike at the end of each stem.^[1] Chia is hardy from USDA Zones 9–12. Many plants cultivated as *S. hispanica* are actually *S. lavandulifolia*.^[2]

Seeds

Chia is grown commercially for its seed, a food that is rich in omega-3 fatty acids, since the seeds yield 25–30% extractable oil, including α -linolenic acid (ALA). Of total fat, the composition of the oil can be 55% ω -3, 18% ω -6, 6% ω -9, and 10% saturated fat.

Chia seeds are typically small ovals with a diameter of about 1 mm (0.039 in). They are mottle-colored with brown, gray, black and white. The seeds are hydrophilic, absorbing up to 12 times their weight in liquid when soaked. While soaking, the seeds develop a mucilaginous gel-like coating that gives chia-based beverages a distinctive texture.

Chia seed is traditionally consumed in Mexico, and the southwestern United States, but is not widely known in Europe. Chia (or chian or chien) has mostly been identified as *Salvia hispanica* L. Today, chia is grown commercially in its native Mexico, and in Bolivia, Argentina, Ecuador, Nicaragua, Guatemala, and Australia. In 2008, Australia was the world's largest producer of chia.^[3] A similar species, *Salvia columbariae* or golden chia, is used in the same way but is not grown commercially for food. *Salvia hispanica* seed is marketed most often under its common name "chia", but also under several trademarks.



Nutrient content and food uses

According to the USDA, a one ounce (28 gram) serving of chia seeds contains 9 grams of fat, 5 milligrams of sodium, 11 grams of dietary fiber, 4 grams of protein, 18% of the recommended daily intake of calcium, 27% phosphorus and 30% manganese. These nutrient values are similar to other edible seeds, such as flax or sesame.

In 2009, the European Union approved chia seeds as a novel food, allowing up to 5% of a bread product's total matter.^[4]

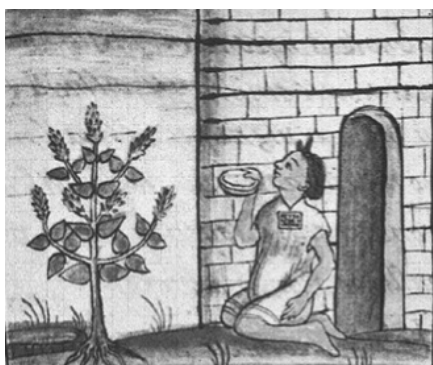
Chia seeds may be added to other foods as a topping or put into smoothies, breakfast cereals, energy bars, yogurt, made into a gelatin-like substance, or consumed raw.

Preliminary health research

Although preliminary research indicates potential for health benefits from consuming chia seeds, this work remains sparse and inconclusive.

One pilot study found that 10 weeks ingestion of 25 grams per day of milled chia seeds, compared to intact seeds, produced higher blood levels of alpha-linolenic acid and eicosapentaenoic acid, an omega-3 long-chain fatty acid considered good for the heart, while having no effect on inflammation or disease risk factors.

Mesoamerican usage



Drawing from the Florentine Codex showing a *Salvia hispanica* plant

Seeds, chia seeds, dried

Nutritional value per 100 g (3.5 oz)	
Energy	2,034 kJ (486 kcal)
Carbohydrates	42.12 g
Dietary fiber	34.4 g
Fat	30.74 g
Saturated	3.330
Monounsaturated	2.309
Polyunsaturated	23.665
Protein	16.54 g

Vitamins	
Vitamin A equiv.	(7%) 54 µg
Thiamine (B1)	(54%) 0.62 mg
Riboflavin (B2)	(14%) 0.17 mg
Niacin (B3)	(59%) 8.83 mg
Folate (B9)	(12%) 49 µg
Vitamin C	(2%) 1.6 mg
Vitamin E	(3%) 0.5 mg
Trace metals	
Calcium	(63%) 631 mg
Iron	(59%) 7.72 mg
Magnesium	(94%) 335 mg
Manganese	(130%) 2.723 mg
Phosphorus	(123%) 860 mg
Potassium	(9%) 407 mg
Sodium	(1%) 16 mg
Zinc	(48%) 4.58 mg
Link to USDA Database entry ^[5]	
<ul style="list-style-type: none"> • Units • µg = micrograms • mg = milligrams • IU = International units 	
Percentages are roughly approximated using US recommendations for adults. Source: USDA Nutrient Database ^[6]	

S. hispanica is described and pictured in the Mendoza Codex and the Florentine Codex, sixteenth century Aztec codices created between 1540 and 1585. Both describe and picture *Salvia hispanica* and its usage by the Aztec. The Mendoza Codex indicates that the plant was widely cultivated and given as tribute in 21 of the 38 Aztec provincial

states. Economic historians suggest that it was a staple food that was as widely used as maize.

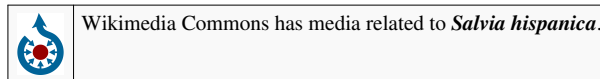
Aztec tribute records from the Mendoza Codex, Matrícula de Tributos, and the Matrícula de Huexotzinco (1560)—along with colonial cultivation reports and linguistic studies—give detail to the geographic location of the tributes, and provide some geographic specificity to the main *S. hispanica* growing regions. Most of the provinces grew the plant, except for areas of lowland coastal tropics and desert. The traditional area of cultivation was in a distinct area that covered parts of north-central Mexico south to Nicaragua. A second and separate area of cultivation, apparently pre-Columbian, was in southern Honduras and Nicaragua.^[7]

Decorative and novelty uses

Main article: Chia Pet

In the United States, the first substantial wave of chia seed sales were tied to Chia Pets in the 1980s. These "pets" come in the form of clay figures that serve as a base for a sticky paste of chia seeds; the figures are then watered and the seeds sprout in a form suggesting the figure's fur. About 500,000 chia pets a year are sold in the US as novelties or house plants.^[8]

References



- [1] Anderson, A.J.O. and Dibble, C.E. "An Ethnobiography of the Nahuatl", The Florentine Codex, (translation of the work by Fr. Bernardino de Sahagún), Books 10–11, from the Period 1558–1569
- [2] Mark Griffiths, Editor. *Index of Garden Plants*. (Portland, Oregon: Timber Press, 2nd American Edition, 1995.) ISBN 0-88192-246-3.
- [3] Chia: The Ord Valley's new super crop (<http://www.abc.net.au/rural/content/2008/s2367335.htm>)
- [4] The European Union, "Commission Decision of 13 October 2009 authorising the placing on the market of Chia seed(*Salvia hispanica*) as a novel food ingredient under Regulation (EC) No 268/97 of the European Parliament and of the Council" (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:294:0014:0015:EN:PDF>) (L294/14) 2009/827/EC pp. 14–15 (November 11, 2009)
- [5] <http://ndb.nal.usda.gov/ndb/search/list?qlookup=12006&format=Full>
- [6] <http://ndb.nal.usda.gov/ndb/search/list>
- [7] "A second apparently pre-Columbian cultivation area is known in southern Honduras and Nicaragua."
- [8] Chia Pet | Arts & Culture | Smithsonian Magazine (<http://www.smithsonianmag.com/arts-culture/chia-pet-180308610/?c=y?no-ist>). Smithsonianmag.com. Retrieved on 2014-04-26.

Article Sources and Contributors

Salvia hispanica *Source:* <http://en.wikipedia.org/w/index.php?oldid=625162597> *Contributors:* 2001:db8, 83d40m, Aaronp808, AbigailAbernathy, Abrahami, Alanburgos, Alynna Kasmira, Analyticalkitten, Ancient Gardener, Andrewman327, Anthon.Eff, Apothecia, Avenue, Awerite, Azchia, Beland, Benbest, Benexia, Bfarreti, Blanu, Booyabazooka, Brothersage, Bunnyhop11, CanisRufus, Catgut, Chango369w, Chinasaur, Circeus, CommonsDelinker, Coronado JM, Cuaxdon, Curtis Clark, DanielCD, David Edgar, Dougluce, Dramatic, Edony, Epicgenius, Erastito10, Esprix, Eugene van der Pijll, Everyking, Ewen, FF2010, First Light, Fkdond, Flavio Marín Flores, Giraffedata, Grafen, GreenGA, Guy Harris, Götz, Haim Berman, HandThatFeeds, Hardyplants, Here.it.comes.again, Hesperian, Hgrosser, Hispanosuiza, Iahklu, Inky, Iridescent, Istvan, Jadepearl, Jaguarlaser, Jenks1987, Jethero, Jimmy Burke, JoeSmack, Johnbod, Joyous!, Jpgordon, Jtmorgan, Kate, Keilana, KudzuVine, LOL, Lenkir, Lentower, Liadmalone, Lotje, MPF, Macrakis, Madman2001, Maqr, Marcelo1229, Mark7-2, Materialscientist, Matt Burnan, Melburnian, Melchoir, Mheinrich1, Nanae, Nativeseed, NickCT, Nufy8, Obsidian Soul, Ottawahitech, Passionfelt, Peter coxhead, Peterl, Plantdrew, Publicblast, Qaz, Quebec99, Ramon FVelasquez, Richard Arthur Norton (1958-), Rouenpucelle, Rumping, Rvoncont, S ried, Seanemarie, Shell Kinney, Shieber, Sminthopsis84, SmithBlue, Srich32977, Stan Shebs, Stemonitis, TDogg310, Taragui, Tbotch, TenOfAllTrades, The Singing Badger, TheCustomOfLife, Thelmadatter, Tide rolls, Tmangray, Tobbyr2, Trailrunner72, Trusilver, Vbs, VonTasha, Wanderer57, Waynefromcali, Wclevid, Wheresmike, Wrinkledog, WriterHound, Xiner, Xzardaz, Yintan, Yonygg, YuriSanCa, Zefr, 174 anonymous edits

Image Sources, Licenses and Contributors

File:Salvia hispanica (10461546364).jpg *Source:* [http://en.wikipedia.org/w/index.php?title=File:Salvia_hispanica_\(10461546364\).jpg](http://en.wikipedia.org/w/index.php?title=File:Salvia_hispanica_(10461546364).jpg) *License:* Creative Commons Attribution 2.0 *Contributors:* Dick Culbert from Gibsons, B.C., Canada

File:Semillas de Chía.jpg *Source:* http://en.wikipedia.org/w/index.php?title=File:Semillas_de_Chía.jpg *License:* Creative Commons Attribution-Sharealike 3.0 *Contributors:* User:Magister Mathematicae

File:Salviahispanica-florentinex2.jpg *Source:* <http://en.wikipedia.org/w/index.php?title=File:Salviahispanica-florentinex2.jpg> *License:* Public Domain *Contributors:* First Light, 1 anonymous edits

Image:Commons-logo.svg *Source:* <http://en.wikipedia.org/w/index.php?title=File:Commons-logo.svg> *License:* logo *Contributors:* Anomie

License

Creative Commons Attribution-Share Alike 3.0
[//creativecommons.org/licenses/by-sa/3.0/](http://creativecommons.org/licenses/by-sa/3.0/)