

# Sunflower seed

A **sunflower seed** is a seed from a sunflower (*Helianthus annuus*). There are three types of commonly used sunflower seeds: linoleic (most common), high oleic, and sunflower oil seeds. Each variety has its own unique levels of monounsaturated, saturated, and polyunsaturated fats. The information in this article refers mainly to the linoleic variety.

For commercial purposes, sunflower seeds are usually classified by the pattern on their husks. If the husk is solid black, the seeds are called black oil sunflower seeds. The crops may be referred to as oilseed sunflower crops. These seeds are usually pressed to extract their oil. Striped sunflower seeds are primarily eaten as a snack food; as a result, they may be called confectionery sunflower seeds.

The term "sunflower seed" is a misnomer when applied to the seed in its pericarp (hull). Botanically speaking, it is a cypsela.<sup>[1]</sup> When dehulled, the edible remainder is called the sunflower kernel or heart.

## Production

In 2022, global production of sunflower seeds added up to 54 million tonnes, led by Russia and Ukraine with 51% of the world total combined (table). Argentina, China, Turkey, Bulgaria, and Romania also contributed significant volumes.

## Usage

Sunflower seeds are commonly eaten as a snack, but can also be consumed as part of a meal. They can be used as garnishes or ingredients in various recipes. The seeds may be sold as in-shell seeds or dehulled kernels or be sprouted and eaten in salads.

When in-shell seeds are processed, they are first dried. Afterwards, they may be roasted or dusted with salt or flour for the preservation of flavor.

Sunflower seeds sold by the bag are either eaten plain, salted (sometimes called 'plain') or with flavoring added by the manufacturer. Flavor examples include barbecue, pickle, hot sauce, bacon, ranch, and nacho cheese.

In-shell, sunflower seeds are particularly popular in Mediterranean, Eastern European, and Asian countries where they can be bought freshly roasted and are commonly consumed as street food, the hull being cracked open with the teeth and spat out, while in many countries, they can be bought freshly packed in various roasted flavors. In the United States, they are commonly eaten by baseball players as an alternative to chewing tobacco.<sup>[5]</sup>

Mechanically dehulled kernels are sold raw or roasted and are sometimes added to bread and other baked goods for their flavor. Sunflower seed brittle is produced by embedding the kernels in hard sugar candy. In Belarus, Russia, Ukraine, Bulgaria and Romania, roasted ground seeds are used to make a type of halva.

Sunflower butter is similar to peanut butter, but made from sunflower seeds instead of peanuts, and may be a substitute for those with nut allergies. However, sunflower seeds may also cause allergies in rare cases.<sup>[6]</sup>

Sunflower seeds are commonly used as food for pets, typically being included in birdseed mix for bird feeders.

## Nutrition

Dried sunflower seeds are 5% water, 20% carbohydrates, 51% fat, and 21% protein (table). In a reference amount of 100 g (3.5 oz), sunflower seeds provide 584 kilocalories of food energy, and are a rich source (20% or higher of the Daily Value, DV) of protein (42% DV), dietary fiber



Left: dehulled kernel. Right: whole seed with hull.



Whole sunflower seeds

Sunflower seed production – 2022 (millions of tonnes)		
<span><span></span></span> <u>Russia</u>		16.4
<span><span></span></span> <u>Ukraine</u>		11.3
<span><span></span></span> <u>Argentina</u>		4.1
<span><span></span></span> <u>China</u>		2.9
<span><span></span></span> <u>Turkey</u>		2.6
<span><span></span></span> <u>Bulgaria</u>		2.1
<span><span></span></span> <u>Romania</u>		2.1
<span><span></span></span> <u>France</u>		1.8
<span><span></span></span> <u>Kazakhstan</u>		1.3
<span><span></span></span> <u>Hungary</u>		1.3
<b>World total</b>		<b>54.3</b>
Source: FAOSTAT of the United Nations <sup>[2]</sup>		

Sunflower seed kernels, dried	
Nutritional value per 100 g (3.5 oz)	
<b>Energy</b>	2,445 kJ (584 kcal)
<b>Carbohydrates</b>	20 g
Sugars	2.62 g
Dietary fiber	8.6 g
<b>Fat</b>	51.46 g
Saturated	4.455 g
Monounsaturated	18.528 g
Polyunsaturated	23.137 g
<b>Protein</b>	20.78 g
<b>Vitamins and minerals</b>	
<b>Other constituents</b>	<b>Quantity</b>
Water	4.7 g
Link to USDA database entry ( <a href="https://fdc.nal.usda.gov/food-details/170562/nutrients">https://fdc.nal.usda.gov/food-details/170562/nutrients</a> )	
<sup>†</sup> Percentages estimated using US recommendations for adults, <sup>[3]</sup> except for	

(36% DV), several B vitamins (23–129% DV), and vitamin E (234% DV) (table). The seeds contain high levels of dietary minerals, including potassium, magnesium, manganese, phosphorus, iron, zinc, and copper (22–200% DV, table).

potassium, which is estimated based on expert recommendation from the National Academies.<sup>[4]</sup>

Half of the weight of sunflower seeds is fat, mainly monounsaturated and polyunsaturated fats, principally linoleic acid. Additionally, the seeds contain phytosterols which may contribute toward lower levels of blood cholesterol.<sup>[7]</sup>

## Pressed oil

Sunflower oil is popular worldwide. The oil may be used as is, or may be processed into polyunsaturated margarines. The oil is typically extracted by applying high pressure to the sunflower seeds and collecting the oil. The protein-rich cake remaining after the seeds have been processed for oil is used as livestock feed.

The original sunflower oil (linoleic sunflower oil) is high in polyunsaturated fatty acids (about 68% linoleic acid) and low in saturated fats, such as palmitic acid and stearic acid. However, various hybrids have been developed to alter the fatty acid profile of the crop for various purposes.<sup>[8][9]</sup>

## Hulls

The hulls, or shells, mostly composed of cellulose, decompose slowly and may be burned as biomass fuel.<sup>[10]</sup> Sunflower hulls of the cultivated sunflower (*Helianthus annuus*) contain allelopathic compounds which are toxic to grasses and the vast majority of cultivated garden plants.<sup>[11][12]</sup> Only a small number of garden plants, such as day lilies, are unaffected by the allelopathic compounds found in sunflower hulls.<sup>[11][12]</sup>

## See also

- List of edible seeds
- David Sunflower Seeds


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