

AVOCADO AROUND THE WORLD AND ITS BENEFITS

Azizakhon Ozodbekova

Student of the Faculty Food Safety Management
Of the International Agriculture University

Abstract

The fruit avocado, which is also known as alligator pear and avocado, has a few exciting traits, including its pear-like form and inexperienced rough skin. Avocado fruit is originally from Mexico and is, a tree of the own family Lauraceae. they may be more often than not grown in warm climates, around 28-32 and they can't tolerate freezing temperatures. this is why, they were domesticated 5.000 years in the past. Avocado fruits have greenish or yellowish flesh with a buttery consistency and a wealthy nutty flavor. all around the world, they're utilized in food and salads, and in many elements of the sector, they're eaten as a dessert. Avocados provide thiamin and riboflavin, and it's miles a supply of nutrition A, C, E, and in a few varieties, the flesh contains as much as 25 percent unsaturated oil. Avocado has more than 10 varieties, however, the most famous type amongst them is avocado, because of its creamy consistency and excessive flavor.

Keywords: Avocado, useful elements, avocado seeds, consistency.

Introduction

Demand for avocados rises year by year, and consequently production and consumption of the product increases, but the seeds, skin, and defatted pulp, which make up about 30% of the fruit's weight, are usually thrown away (Salazar-López et al., 2020). The present review focuses on various compounds present in avocado fruit and its by-products, with particular interest in those that can be potentially used in different industrial forms, such as nutraceuticals, to add to or formulate functional foods, among other uses (Marra et al., 2024). The use of avocado and its by-products requires using processing methods that allow the highest yield with the least amount of unusable residues, while also preserving the integrity of bioactive compounds of interest. Avocado cultivar, fruit development, ripening stage, and processing methods are some of the main factors that influence the type and amount of extractable molecules. The phytochemical diversity of avocado fruit and its by-products make them potential sources of nutraceutical compounds, from which functional foods can be obtained, as well as other applications in food, health, pigment, and material sectors, among others.

Avocado, which has a high economic worth due to the presence of high-quality oil in its composition, is the market leader in international commerce. It also has a high nutritional value since it contains monounsaturated and polyunsaturated fatty acids, which are linked to a lower risk of cardiovascular disease (Rodríguez Pleguezuelo et al., 2018). It is also a good source of vitamins A, B, and C, as well as minerals like potassium, phosphorus, magnesium, and iron, and it is high in antioxidants and fiber.



Nutrition summary:

Calories	Fat	Carbs	Protein
160	14.66g	8.53g	2g

There are **160 calories** in 100 grams of Avocados.

Calorie breakdown: **76% fat**, 20% carbs, 5% protein.

Although avocado primary metabolism is an essential component of fruit quality and growth, it focuses mostly on carbon and oil metabolism and to a much lesser extent on amino acids and organic acids. Several research on the function of sugars and carbohydrates in avocado growth and development were published throughout the 1960s (Pedreschi et al., 2019). Because avocados accumulate oil rather than glucose, oil metabolism throughout growth, development, and ripening has piqued the curiosity of researchers (Hurtado-Fernández et al., 2015). With the advancement of post-genomics tools (e.g., transcriptomics, proteomics, and metabolomics), more integrative studies related to carbohydrate and oil fruit metabolism in its growing time, development, and ripening in avocado have been reported (Hurtado-Fernández et al., 2015).

Table 1. Proximate nutritional composition of avocado fruit and its by-product.

Nutrients*	Avocado Fruit1	Avocado By-Product1
Ash	0.57-10.80	1.6
Carbohydrates	4.77-8.89	67.5
Lipids	51.83-72.34	1.41-4.12
Protein	4.80-8.61	3.4
Total dietary fibre	6.03-7.24	21.618.7
Total insoluble fibre	-	18.7
Vitamins	0.02-0.04	1.3-6

Avocado is the most interesting product among the international trade in water-intensive products. Avocado fruit is an irrigated crop, which has become one of the most imported tropical fruits that are traded worldwide due to its high concentration of vitamins, and its utilization by pharmaceutical and cosmetic industries. Indeed, 72% of the avocado fruit consists of water, and avocado trees are quite sensitive species to water deficits (Dreher & Davenport, 2013). This deficit may have negative consequences on the size and quality of the fruits and may cause premature drops. Moreover, the international trade of avocados experienced a significant and constant increase at the global level, passing from around 0.4 Mt in 2000 to around 1.9 Mt in 2016, with an overall increase of about 435%. Furthermore, a small number of avocado producers covers almost half (48%) of its global production (with Mexico accounting for a share of more than 40%), causing serious water shortages and negative environmental trade-offs on their water systems (Rodríguez Pleguezuelo et al., 2018).

The avocado seed is known to have numerous wellbeing benefits since it contains tall phytochemical compounds such as phytosterols, triterpenes, greasy acids, furanoid acids, flavonol dimers, proanthocyanidins, and abscisic corrosive (Leite et al., 2009). Agreeing with Dabas



(2011) avocado seeds seem to treat seed extrication seem moreover treat diabetes by diminishing blood glucose (Alhassan et al., 2012). Avocado seeds moreover have insecticidal, fungicidal, and antimicrobial exercises (Figueroa et al., 2018). In addition, moreover claimed that avocado seed extricates are rich in polyphenolic compounds that show antioxidant properties, including proanthocyanidin compound (Geissman & Dittmar, 1965). According to a later survey article, vitamin C, contained in avocado, might have more prominent CVD defensive impacts on particular populaces such as smokers, stout, and overweight individuals; individuals with lifted cholesterol, hypertension, and sort 2 diabetics; and individuals over 55 a long time of age (**Honarbakshsh and Schachter, 2009**).

Although recent studies have approached the understanding of this fruit species using new sequencing platforms and bioinformatic tools to critically study and deal with a non-model organism lacking a reference genome, there is still a need for additional studies that include a complete profiling of carbohydrates, lipids, and hormones as well as transcriptomic changes in the mesocarp, peel, and seed. Further research including stable isotope tagging technologies might be useful in predicting carbon flow in avocado central metabolism. As a result, a thorough understanding of avocado fruit growth and carbon partitioning could be obtained. The presented investigations have mostly overlooked amino acid and organic metabolism. Because fruit quality is affected by the regulation of oil production in avocado mesocarp, more research is needed.

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