



Nutritional Benefits of Habanero Peppers “The Hottest of the Hot”

Jonathan Kamba, Undergraduate Research Assistant

Alex Kofi, Graduate Research Assistant

Cora Teets, M.S., Research & Extension Associate for Sustainable Agriculture & Food Systems

Theoneste Nzaramimana, Ph.D., Assistant Professor for Urban Agriculture

Introduction and Background

- Habanero peppers are believed to have originated in South America, at the Amazon Basin (Ayeni et al., 2025).
- The name “habanero” is derived from the Spanish word “habana,” referring to Havana, Cuba, where the pepper was historically traded (Ayeni et al., 2025).
- This species is one of five domesticated peppers that have been misnamed. The species name *Capsicum chinense* is not because it is from China, as it originally comes from South America (Ayeni et al., 2025).
- Habanero pepper (*Capsicum chinense*) comes in a variety of colors such as orange, red, or yellow.
- Habaneros have a unique flavor that can be described as fruity, citrusy, and slightly smoky.
- The habanero pepper is one of the hottest cultivated chili peppers, reaching heat levels of 100,000 to 350,000 on the Scoville Heat Unit scale (Fox Run, 2025).
- There are 501 buyers and 458 suppliers of Habanero peppers worldwide, with 73 importing countries and 53 exporting countries (Tridge, 2025).
- The U.S. was the top exporter of Habanero peppers in 2024, exporting \$399 million worth. Likewise, the U.S. is the top importer of Habanero peppers, importing 1.27B kilograms valued at about \$2.51 billion in 2024 (Tridge, 2025).



Health Benefits

- Boosts metabolism: Capsaicin increases thermogenesis, helping the body burn calories faster (Azlan, 2022).
- Reduces inflammation: Capsaicin has anti-inflammatory properties that may reduce swelling and discomfort (Campos et al., 2013).
- Supports immune health: Rich in vitamins A and C, which strengthen the immune system (Campos et al., 2013).
- May lower blood pressure and cholesterol: Some studies suggest capsaicin helps reduce LDL cholesterol and blood pressure (Azlan et al., 2022).
- Pain relief: Capsaicin can help relieve pain associated with arthritis and nerve conditions (Azlan et al., 2022).

Nutritional Composition

- Per one pepper (45 grams), Habanero peppers contain 18 calories and have moderate carbohydrates (4g), moderate protein (0.8g), dietary fiber (0.7g), and potassium (145mg) (Nutrition Value, 2025). Capsaicin, which causes the heat sensation, also has various health benefits such as heart health support, weight loss support, and pain management (Azlan et al., 2022).
- Carotenoids (e.g., beta-carotene, lutein, zeaxanthin) have antioxidant properties that boost immunity, support vision, and potentially reduce the risk of certain chronic diseases (Campos et al., 2013). Flavonoids (e.g., quercetin, luteolin) have anti-inflammatory properties (Gonzalez-Cortez et al., 2023).

Habanero Growing Tips

- Habaneros grow best in hot, sunny climates with temperatures between 70–85°F (Fox Run, 2022). They prefer fertile, well-drained soil with a pH range of 6.0–7.0 (UK, 2021).
- Raised beds and black plastic mulch help control weeds and reduce disease problems (Ayeni et al., 2025).
- Common fertilizer formulas include 5-10-5 and 10-10-10 NPK, applied during transplanting and again after 4–6 weeks (Ayeni et al., 2025).
- Seedlings should be planted 15–18 inches apart in rows separated by 3–4 feet (UK, 2021).
- Plants should be monitored for pests such as aphids and tomato fruit worms, as well as diseases like bacterial leaf spot and crown rot (Ayeni et al., 2025). Fresh habanero peppers can last 3–5 weeks when stored at 45–50°F with 95% relative humidity (Ayeni et al., 2025).

Culinary Uses

- Used fresh, dried, or smoked in different dishes. Commonly added to hot sauces, salsas, marinades, and spice rubs.
- Can be blended with tropical fruits for sweet and spicy flavors.
- Best used in small amounts because of their intense heat.
- Roasting helps reduce heat and enhances the fruity aroma.

Safety Tips

- Wear gloves while handling because habaneros are extremely hot.
- Consume in moderation if not used to spicy foods.
- Capsaicin may irritate the skin, eyes, or stomach.



Acknowledgments

We thank Ms. Nicole Daniels, Mr. Jody Thompson, and Ms. Kara Back-Campbell for their time and review of this publication. We acknowledge the USDA Evans-Allen Project #7004987 for support of this research.

Sources

- Azlan A, Sultana S, Huei CS, Razman MR. Antioxidant, Anti-Obesity, Nutritional and Other Beneficial Effects of Different Chili Pepper: A Review. *Molecules*. 2022 Jan 28;27(3):898. doi: 10.3390/molecules27030898. PMID: 35164163; PMCID: PMC8839052.
- A. Ayeni et al., Rutgers. New Jersey Agriculture Research Station. Ultra-Niche Crops Series: Production and Marketing of Habanero Peppers in New Jersey. <https://njaes.rutgers.edu/fs1273/>
- Fox Run Environmental Center. (Oct, 2022). USDA Zone 6B, Organic Gardening Growing Hot Peppers in USDA zone 6B. <https://www.foxrunenvironmentaleducationcenter.org/organicgardeningself-sufficiency/2022/10/29/growing-hot-peppers-in-usda-zone-6b>
- Gonzalez-Cortez, A., Robledo-Torres, A., Luna-Garcia, L. R., Mendoza-Gillarreal, R., PerezRodriguez, M. A. (2023). Yield and Antioxidant Quality of Habanero Chili Pepper by Supplementing Potassium with Organic Products. *Horticulturae*, 9(7), 797. <https://doi.org/10.3390/horticulturae9070797>
- Images from: <https://www.imagine.art>
- Muñoz-Ramírez et al. (2020). Selection of Habanero Pepper F1 Hybrids. *Agriculture*, 10(10), 478.
- Nutrition Value. (2025). Fresh Habanero Peppers (45g). Retrieved from https://www.nutritionvalue.org/public_ingredient_29421.html
- TRIDGE. (2025). Habanero Importers. Retrieved from <https://www.tridge.com/intelligences/habanero/US/import>
- University of Kentucky UK Cooperative Extension Service. (2021). Home Vegetable Gardening in Kentucky. <http://www.ca.uky.edu/agc/pubs/id/id128/id128.pdf>.