

Black Pepper is King of Spices in Inherent Medicinal Properties

Maske S. V.¹, John David² and Shelke S.A.¹

¹PhD Scholar, Food Science and Technology, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, Uttar Pradesh

²Professor and Dean, Warner College of Dairy Technology, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, Uttar Pradesh

SUMMARY

The Black pepper is the fruit of the plant *Piper nigrum* from the Piperaceae family. Dried fruit of *P. nigrum* is known as “The King of the Species” as it gives delicious flavor to dish along with their medicinal properties to cure numerous diseases as well. Black pepper is used as medicinal agent, a preservative, and in perfumery. Whole Peppercorn of *Piper nigrum* or its active components are being used in different types of foods and as medicine. Pepper is used worldwide in different types of sauces and dishes like meat dishes. It contains major pungent alkaloid Piperine (1-peperoyl piperidine) that is known to possess many interesting pharmacological actions. It is widely used in different traditional systems of medicine like Ayurvedic and Unani System of medicines.

INTRODUCTION

Spices are rich in bioactive chemical compounds and they have been used by several cultures for many centuries as food seasoning, preservatives, insecticidal, colorants, and natural flavoring (Gupta *et al.*, 2014). Many spices are used to extend shelf life of food, prevent food spoilage and food-borne diseases, though some spices are used in food production industry and also many spices are used to inhibit infectious diseases and eradicate pathogens, particularly in traditional medicine. Spices are natural food additives, which contribute enormously to the taste of our foods (Srinivasan *et al.*, 2005).

Black pepper is found largely and is cultivated in Western Ghats of Kerala (Southern India) and Sarawak state in Malaysia. Pepper plants easily grow in the shade on supporting trees, trellises or poles up to maximum height of 13 feet or 4 meters and roots may come out from leaf nodes if vine touch to the ground. The plants have heart shape alternate leaves with typically large size of 5-10 cm in length and 3-6 cm across, with 5 to 7 prominent palmate veins. The flowers are small, monoecious with separate male and female flowers but may be polygamous which contain both male and female flowers. The small flowers are borne on pendulous spikes at the leaf nodes that are nearly as long as the leaves. The length of spikes goes up to 7-15 cm. The black pepper's fruits are small (3 to 4 mm in diameter) called a drupe and the dried unripe fruits of *Piper nigrum* are known as a peppercorn. The fully mature fruits are dark red in color and approximately 5 mm in diameter (Damanhour et al., 2014)



Nutritional Composition of Black Pepper

Principle	Nutritive Value	Percentage of RDA	Principle	Nutritive Value	Percentage of RDA
Energy	255 Kcal	13%	Vitamins		
Carbohydrates	64.81 g	49%	Choline	11.3 mg	2%
Protein	10.95 g	19.5%	Folic acid	10 µg	2.5%
Total Fat	3.26 g	11%	Niacin	1.142 mg	7%
Cholesterol	0 mg	0%	Pyridoxine	0.340 mg	26%
Dietary Fiber	26.5 g	69%	Riboflavin	0.240 mg	18%
			Thiamin	0.109 mg	9%
Minerals			Vitamin A	299 IU	10%
Calcium	437 mg	44%	Vitamin C	21 mg	35%
Copper	1.127 mg	122%	Vitamin E	4.56 mg	30%
Iron	28.86 mg	360%	Vitamin K	163.7 mcg	136%
Magnesium	194 mg	48.5%	Electrolytes		
Manganese	5.625 mg	244.5%	Sodium	44 mg	3%
Phosphorus	173 mg	25%	Potassium	1259 mg	27%
Zinc	1.42 mg	13%			

(Source: USDA National Nutrient data base)

Medicinal uses of *P. nigrum* include antibacterial, antifungal, antiapoptotic, antidepressant, anti-diarrheal, anti-inflammatory, antimutagenic, antioxidative, antipyretic, antispasmodic, antitumor, to improve appetite and digestive power, anti-cold, anti-cough, dyspnea, for curing from throat diseases, anti-intermittent fever, anti-colic, anti-dysentery, get rid of worms and piles (Ahmad *et al.*, 2012 and Islam *et al.*, 2015) Different parts of the plant are used for medicinal purposes; however, the part commonly used as the spice black pepper is the cooked and dried unripe berry,¹⁷ that is why we focused only on the use of this plant part.

Conclusions:

The black pepper fruits (*Piper nigrum* L.) are the king of spices and used all over the world. This spice has many health benefits and used traditionally to treat different ailments. Black pepper or its bioactive compound piperine, the ingredients used in a number of ancient and folk medicines, has now been demonstrated by a number of independent investigators to possess diverse beneficial physiological effects. Black pepper is one of such commodity, which can provide natural nutritional and medicinal benefit. It has analgesic, antipyretic, anti-inflammatory, antimicrobial and antineoplastic properties.

REFERENCES

- Ahmad N, Fazal H, Abbasi BH (2012) Biological role of *Piper nigrum* L. (Black pepper): A review. *Asian Pacific Journal of Tropical Biomedicine*. 2 (3): S1945–S1953.
- Damanhoury and Ahmad (2014) A Review on Therapeutic Potential of *Piper nigrum* L. (Black Pepper): The King of Spices *Med Aromat Plants* 3:3
- Gupta N, Parashar P, Mittal M, (2014) Antibacterial potential of *Elletaria cardamomum*, *Syzygium aromaticum* and *Piper nigrum*, their synergistic effects and phytochemical determination. *Journal of Pharmacy Research*;8(8): 1091–1097.
- Islam MS, Noor MA, Hossain MS,(2015) Chemical investigation of bioactive compounds of black pepper. *Int J Pharm Sci Res*. 6(4):1721–1726.
- Murlidhar Meghwal and Goswami TK (2012) Nutritional Constituent of Black Pepper as Medicinal Molecules: A Review *Open Access Scientific Reports* 1: 129.
- Srinivasan K (2005) Spices as influencers of body metabolism: an overview of three decades of research. *Food Res Int* 38: 77-86.