

BLACK PEPPER: THE REAL BLACK GOLD IN MODERN LIFE

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ABSTRACT

Black Pepper (*Piper nigrum*), the 'King of spices' & 'Black Gold' belonging to family Piperaceae. *P. nigrum* carries oleoresins & caryophyllene as important compound other than Piperine. Eleven species found & all were diploid with basic number $x=13$ only *P. obliquum* & *P. ornatum* were tetraploids. Black pepper carries flavouring, colouring & aromatic in foods additionally medicinal activities includes in the prevention of cardiovascular disorder (CVD,) cancer insurgence, Diabetes mellitus, Alzheimer's Disease & a variety of inflammatory ailments experimentally.

KEYWORDS: Piper Nigum, Spices, Flavouring Agent

INTRODUCTION

As per the age of exploration, in ancient world & medieval Europe Pepper had become an essential part of eastern & western cuisines and highly prized as well as used to pay rent, dowry and tax. Black pepper, the major world spice referred to as the 'King of spices' & 'Black Gold' used widely as culinary spice and table condiments. Black pepper (*Piper nigrum*) named commonly as kali mirch in Urdu and Hindi, Pipali in Sanskrit, Milagu in Tamil and Peppercorn, Black Pepper in English. Historically, Black pepper originated in the western Ghats of the Kerala of India (Parry 1969, Rosengarten 1973). Over 3000 years ago, references to pepper in ancient Sanskrit texts and Tamil literature used as a spice (Agaranuru & Purananuru). Black pepper (*Piper nigrum*) & long pepper (*Piper longum*) were described by Theophrastus in the 4th century BCE.

Still pepper is used as culinary spice & table condiments in the two forms as Black white. Dried fruits referred to as black pepper while after the removal of hull from black pepper white pepper obtained. Although pepper is not common in baked goods, the spice is used in sauces, gravies, processed meats & cheeses. Traditionally, pepper attributed to many curative properties as digestive & proscribed for eye disorder in Ayurveda as a stomachic & carminative & recommended for promoting hair growth in medical use.¹ Among 'clean spices' concept of black pepper attributes good qualities having a significant level of oleoresins, piperine & volatile essential oils. Among all constituents caryophyllene content accomplishes importance due to anti-oxidant properties in addition to its flavouring contribution.² The genus piper includes about 3000 diverse species of herbs, shrubs & climbers, but economically fewer possess as spice & medicinal plant importance. Piper species shows relatively little morphological variation & high species richness (Dyer & Palmer 2004) among ample diversity (natural) such as ecological, evolutionary & geographical for studies.

For genomic studies, molecular markers & its methods as RAPD (Random amplified Polymorphic DNA) & ISSR (Inter simple sequence Polymorphism) are popular tools in aiding genetic characterization, conservation & improvement in crops. For discrimination of *Piper nigrum* from other Piper species ISSR becomes robust & reliable marker as demonstrated by the George et al (2005). According to the ISSR primer 27 species of Piper concerned at the Germplasm Repository.³ As per the biometrical analysis in plant systematic for taxonomical purpose additionally. The genus *Piper*

includes.

P nigrum

P galeatum

P hookeri

P trichostachyon

P attenuatum

P mullesua

P argyrophyllum

P longum.

Distributed throughout tropical & subtropical regions for economic & medicinal plants. ⁴These eight Piper species are unisexual out of the eleven species on chromosomal count in New world species as given below:

P apiculatum

P nigrum

P hookeri

P arboreum

P longum

P hispidum

P cernuum

P Sylvestre

P obliquum

P betle

P ornatum

Most of the species were diploids, pentaploids, octoploids & dodecaploids having basic number of chromosomes as $x=13$ & two species *P obliquum* & *P ornatum* were tetraploids & no aneuploidy has been found, although polyploids up to $8X$ occurs. ⁵Basically black pepper (*Piper nigrum*), dried fruits of *Piper nigrum* belonging to Piperaceae of order Angiospermae & used as a species, condiments & in human diets from ancient times to maintain health as medicine, preservative & health supplements. But traditionally, in Chinese the mixture of radish and Piper for epilepsy treatment & in Nigeria as herbal preparation. In black Pepper, Piperine is the active component & constituent possess trans-trans isomer of 1-Piperoyl piperidine used extensively & having diverse pharmacological activities as Anti diarrheal, ⁶Anti-inflammatory, ⁷Hepatoprotective, ⁸Chemopreventive, ⁹Immunomodulating, ¹⁰Anticonvulsant, ¹¹Anti-oxidant, ¹²activities.

Black pepper (*Piper nigrum*) & its active principle piperine may produce dose dependent increase in gastric acid secretion and delay the GI motility by affecting the P-glycoprotein medication and also having a significant effect on the

activities of metabolic enzymes in liver, intestine as per the route of administration & species. Orally administered Piper species may have a profound effect on pharmacokinetic food-drug interactions with both naturally derived & synthetic drugs.¹³ Also Piperine assists free radical scavenging activity and controlling progression of tumour growth along with these pharmacological activities but additionally in cognitive brain functioning. Whilst additional activities for the prevention of cardiovascular disorder (CVD,) cancer insurgence, Diabetes mellitus, Alzheimer's Disease & a variety of inflammatory ailments through dietary modules is of prime importance. Chonpathompikunlert et.al. 2004).

Along with their different parts including seeds, bark, fruits, root & flower are in use as food adjuncts that imparts flavour, aroma & colour to foods ¹⁴(Srinivasan 2008; Singletary 2010) Experimentally, Piper nigrum used for the enhancement of bioavailability of drugs, ^{15,16} stimulates the release of epinephrine ¹⁷ & elevates levels of circulating thyroid hormones¹⁸ as well as anti-oxidant properties.¹⁹

CONCLUSIONS

From medieval era, Pepper used as token to pay rent, dowry & tax and also highly prized. Black pepper, Piper nigrum) considered as 'King of spice' Black Gold used widely as culinary spice & table condiments. Over 3000 years ago, from Sanskrit texts & Tamil Literature used as spice which is still used in two forms black & white. A Chinese tradition for epilepsy, in Nigeria herbal as well as stomachic & carminative. It is considered as 'clean spice' carries oleoresins & caryophyllene content as important. For genomic studies, ISSR distributes Piper species and eleven spices acts as marker. Mostly diploid species (having $x=13$) but only two P opliquum & P ornatum were tetraploids with no aneuploidy. Piper nigrum belonging to Piperaceae of order Angiosperm Pharmacologically, Piperine having a diverse activity as (6-12) by affecting metabolic enzymes activities significantly. Other than medical Properties, Black Pepper used as flavouring, colouring & aromatics in foods.

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