

Coll. No. 5455 (INGR No. 04111; IC370011), Black Pepper (*Piper nigrum* L.) Germplasm with High Oleoresin Content and Bold Berries

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The genus *Piper* includes important cultivated species like *Piper nigrum* L. the black pepper and betel vine *P. betle* L. *Piper nigrum* is a native of Western Ghats. It is considered as the world's most important spice and rightly known

as the "King of spices". Oleoresin is the major valuable product from pepper. It is a blend of volatile oil wax, pungent principle resinoids etc. It is used in food and pharmaceutical industry (Zachariah, 2000).

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Among the 68 wild accessions collected from the silent valley and Nelliampathy forests of Western Ghats, those with the berries available in sufficient quantity were used for quality analysis. Oleoresin was extracted by acetone following ASTA (1968) and piperine by using HPLC-ISO (International Standards Organisation) (1993). Quantitative analysis revealed that accession 5455 (IC370011), collected from the Elam estate of Nelliampathy has significantly high oleoresin content (Table 1).

The Table 2 below summarises the morpho-agronomic characteristics of the accession 5455. The accession can be assessed for its direct utility as a planting material for high altitude areas or can be used in the black pepper improvement programme.

References

- Zacharia JT (2000) On-farm processing of black pepper. In: Black Pepper (ed) PN Ravindran. *Harwoo Academic Publishers*, Netherlands p. 335-354.
- International Standards Organisation (ISO) bulletin 11027. (1993) Determination of Piperine content-method using High Performance Liquid chromatography.
- American Spice Trade Association (ASTA) (1968) *Official Analytical Methods* 2nd Ed. American Spice Trade Association, New York p. 21.

Table 1. Quality attributes of wild *Piper nigrum* from Silent Valley and Nelliampathy

Coll. No.	IC No.	Locality	Place	Piperine (%)	Oleoresin (%)
5616	369961	Sairandri	Silent Valley	1.27	10.7
5419	369916	Kummatanthodu	Silent Valley	2.58	13.79
5434	369985	Pathenthodu	Silent Valley	2.04	15.9
5441	369995	Panthenthodu	Silent Valley	5.56	17.57
5442	369996	Panthenthodu	Silent Valley	6.06	21.6
5455	370011	Elam Estate	Nelliampathy	0.1	28.15

Table 2. Morpho agronomic characteristics of collection 5455

Characters	Value
Orthotropic shoot tip colour	Dark Purple
Pubescence on stem	Absent
Leaf petiole	Grooved.
Leaf petiole length (cm)	6.6 0 (Range 4.0 to 8.0 cm).
Leaf length (cm)	13. 0 (Range 11.0 to 15.0 cm).
Leaf width (cm)	9.0 (Range 7.0 to 11.5 cm).
Leaf lamina shape	Cordate
Leaf base shape	Round
Leaf tip	Acuminate
Leaf margin	Even
Leaf venation	Acrodromous
Leaf texture	Glabrous- coreaceous
Leaf hairs	Absent
Berry size	Bold
Piperine (%)	0.10
Oleoresin (%)	28.15*

* Oleoresin content in Piper generally ranges from 8-15%.