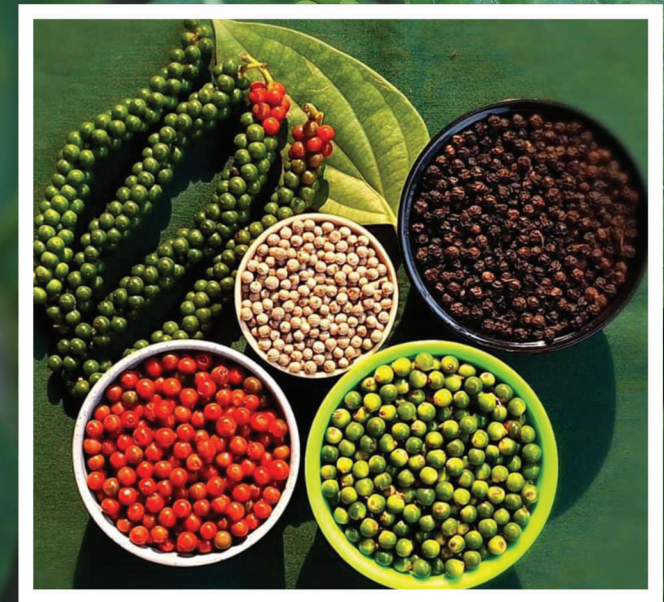




IMPROVED VARIETIES OF BLACK PEPPER



PEPPER RESEARCH STATION KERALA AGRICULTURAL UNIVERSITY

Panniyur, Kanhirangad P.o, Kannur
670 142, Kerala, E-mail: prspanniyur@kau.in
Ph:04602 227 287

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Panniyur, Kanhirangad P.o, Kannur
670 142, Kerala, E-mail: prspanniyur@kau.in
Ph:04602 227 287



English
Improved Black Pepper Varieties
Authored by
Dr. Vikram H.C.
Dr. Sanju Balan
Dr. Stesi S.
Dr.D. Prasanth
Dr. Mukesh Sankar
Mrs. Anseela Parveen P.

Acknowledged to
N.V. Vikesh
Mrs. C.H. Afeefa
Miss. Amisha Vasu

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Contact details:
Assistant Professor and Head
Pepper Research Station, Panniyur
Kerala Agricultural University
Kanhirangad P.O., Taliparamba
Kannur - 670 142
Ph: 04602 227287
Email: prspanniyur@kau.in

FOREWORD

The “King of Spices,” black pepper (*Piper nigrum L.*), originated in the tropical forests of India and is the most valuable and ancient spice in the world. Black pepper known for its flavour, therapeutic qualities and economic significance plays a vital role in global trade and the livelihoods of millions of farmers. The first black pepper hybrid, Panniyur-1, was released in 1967 by the Pepper Research Station, Panniyur, KAU, marking a significant milestone in the research programme on black pepper improvement. In India, PRS, Panniyur is the only institution exclusively dedicated to black pepper research. The development and release of ten high-yielding black pepper varieties, bush pepper production techniques, and of low-cost technology for the Rapid Multiplication Programme (RMP) of black pepper are the most notable achievements of this station. Black pepper hybridization and seed germination methods, as well as most of the package of practice recommendations, including cultural and plant protection practices of black pepper, were standardized from this station. Additionally, about 292 black pepper germplasm collections including landraces, improved varieties, open-pollinated progenies, and exotic species are conserved at the station. This booklet attempts to offer valuable insights into released varieties of black pepper, providing keys to the potential identification and also empowering farmers to adopt region-specific varieties that could ensure sustainability and productivity. Hope the booklet would be useful for the pepper farming community.



Dr.KN Anith

Director Of Research
Kerala Agricultural University, Thrissur

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INTRODUCTION

Black pepper (*Piper nigrum L.*) is a woody climbing perennial vine belonging to the family Piperaceae. Historically, black pepper has played a pivotal role in luring global traders, finding new routes and trading nature of the spice made the moniker “black gold” or as the “King of spices”. It is originated in the Western Ghats of South India, the regions distributed in states of Kerala, Karnataka, and Tamil Nadu. Black pepper thrives well under humid tropical climate of India in the amidst of Western Ghats, the region is characterized by high rainfall (1250-2000 mm annually), warm temperature (20-30°C) and well-drained loamy soils. Black pepper is believed to have been domesticated and cultivated in this region over 4,000 years ago, making it one of the earliest spices traded globally. Today, it remains one of the most cultivated and traded spices by the countries like Vietnam, India, Malaysia, Indonesia and Brazil. Its distinct flavour make a cornerstone of food preparation and a key player in the spice trade. Black pepper’s rich phytochemical profile, which includes alkaloids (piperine), essential oils, polyphenols, and minerals, are responsible for its numerous uses such as in culinary, therapeutic and as a preservative. Its volatile oils contribute to the aroma, while piperine adds flavour and pungency to dishes. The bioactive compounds in black pepper have demonstrated a wide range of medicinal benefits. Black pepper’s antimicrobial properties enable its use as a natural food preservative. It also serves as a flavouring agent in processed foods and beverages. Black pepper being a cash crop, it improves the livelihoods of the farmers and also strengthen rural economies.

India is home to a rich diversity of black pepper landraces, with several traditional and region-specific cultivars/varieties cultivated for their superior yield and quality. There are over a thousand black pepper cultivars known to exist in India.

The most popular local types of black pepper grown in India, are distributed in Kerala, Tamil Nadu and Karnataka. These local types are Karimunda, Kottanadan (Kudiramani), Kalluvally, Balankotta, Neelamundi, Uddagare, and Maligesara. A few farmers from India have been recognized for successful black pepper cultivation and received International Pepper Community (IPC) awards for their innovative and sustainable practices in achieving high yield and quality production of black pepper.

The predominant mode of pollination in black pepper is self-pollination, rarely notices with outcrossing. Geitonogamic fertilization is facilitated by rain and water. The hidden heterogeneity in its genetic architecture and higher genetic variability, coupled with viable sexual reproduction and vegetative propagation, has made breeding in black pepper quite interesting. The primary breeding objective for improving black pepper is higher productivity and quality parameters, together with resistance to biotic stresses like (*Phytophthora capsici*), nematode (*Radopholus similis* and *Meloidogyne incognita*), and the pest pollu beetle (*Lanka Ramakrishnai*) and abiotic stresses. Hybridization, open-pollinated progeny selection, and clonal selection are the main breeding strategies exploited in black pepper improvement. Twenty-two improved varieties of black pepper have been released so far by different research institutes. The identification characters and salient features of released varieties of black pepper are described here to the knowledge of pepper farming community.

PANNIYUR-1

(The first Black pepper hybrid in the world)

- Year of release : 1967
- Institute released the variety : Pepper Research Station, Panniyur, Kerala Agricultural University,
- Parentage : Uthirankotta XCheriyakaniakadan
- Method of breeding : Hybridization and Selection
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Large heart shaped leaves
- Shoot tip colour is pale yellow
- Long spike with close setting of berries
- Prefers open condition

Yield component characters

- Average length of spike (cm) : 17.00
- Average number of spikes/m² : 19.00
- Average number of berries per spike : 125.00
- Berry Setting percentage (%) : 96.00
- 1000 green berry weight (g) : 155.00
- 1000 green berry volume (cc) : 145.00

Productivity

- Mean fresh yield per vine (kg) : 2.20
- Average yield of dry pepper (kg/ha) : 3850.00
- Potential yield of dry pepper (kg/ha) : 8800.00
- Yield over parents (%) : 165.00

Quality parameters

- Piperine (%) : 5.30
- Oleoresin (%) : 11.80
- Essential oil (%) : 3.50
- Dry pepper recovery (%) : 35.30

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for achieving good yield. Panniyur-1 has High Performance yield under open condition.



PANNIYUR 1

PANNIYUR-2

- Year of release : 1991
- Institute released the variety : Pepper Research Station, Panniyur, Kerala Agricultural University,
- Parentage : Balankotta
- Method of breeding : Open pollinated progeny selection
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Shoot tip colour is pale yellow
- Highly pungent
- Tolerates shaded condition

Yield component characters

- Average length of spike (cm) : 12.30
- Average number of spikes/m² : 34.00
- Average number of berries per spike : 44.50
- Berry Setting percentage : 74.20
- 1000 green berry weight (g) : 127.00
- 1000 green berry volume (cc) : 120.00

Productivity

- Mean fresh yield per vine (kg) : 4.50
- Average yield of dry pepper (kg/ha) : 2570.00
- Potential yield of dry pepper (kg/ha) : 3313.00
- Yield over parents (%) : 202.00

Quality parameters

- Piperine (%) : 6.60
- Oleoresin (%) : 10.90
- Essential oil (%) : 3.40
- Dry pepper recovery (%) : 35.80

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for achieving good yield. Strict plant protection measures recommended.



PANNIYUR 2

PANNIYUR-3

- Year of release : 1991
- Institute released the variety : Pepper Research Station, Panniyur, Kerala Agricultural University,
- Parentage : Uthirankotta X Cheriyakaniakadan
- Method of breeding : Hybridization and Selection
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Heart shaped leaves with slight wavy margin
- Shoot tip colour is light purple
- More oleoresin content
- Prefers open condition

Yield component characters

- Average length of spike (cm) : 14.50
- Average number of spikes/m² : 20.00
- Average number of berries per spike : 68.10
- Berry Setting percentage : 89.20
- 1000 green berry weight(g) : 153.00
- 1000 green berry volume(cc) : 137.00

Productivity

- Mean fresh yield per vine (kg) : 4.40
- Average yield of dry pepper (kg/ha) : 1953.00
- Potential yield of dry pepper (kg/ha) : 3269.00
- Yield over parents (%) : 316.00

Quality parameters

- Piperine (%) : 5.20
- Oleoresin (%) : 12.70
- Essential oil (%) : 3.12
- Dry pepper recovery (%) : 27.80

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for achieving good yield. Strict plant protection measures recommended.



PANNIYUR 3

PANNIUR-4

- Year of release : 1991
- Institute released the variety : Pepper Research Station, Panniyur
Kerala Agricultural University.
- Parentage : Kuthiravally- II
- Method of breeding : Clonal Selection
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Heart shaped leaves
- Shoot tip colour is dark purple
- Tolerate shaded conditions
- Tolerates unfavourable conditions

Yield component characters

- Average length of spike (cm) : 9.30
- Average number of spikes/m² : 46.00
- Average number of berries per spike : 37.80
- Berry Setting percentage : 85.70
- 1000 green berry weight(g) : 116.00
- 1000 green berry volume(cc) : 112.00

Productivity

- Mean fresh yield per vine (kg) : 2.30
- Average yield of dry pepper (kg/ha) : 1277.00
- Potential yield of dry pepper (kg/ha) : 2443.00

Quality parameters

- Piperine (%) : 4.40
- Essential oil (%) : 11.30
- Oleoresin (%) : 3.12
- Dry pepper recovery (%) : 34.70

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for achieving good yield. Strict plant protection measures recommended.



PANNIYUR 4

PANNIUR-5

- Year of release : 1996
- Institute released the variety : Pepper Research Station, Panniyur, Kerala Agricultural University.
- Parentage : Perumkodi
- Method of breeding : Open pollinated progeny selection
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Large oval shaped leaves
- Shoot tip colour is purple
- Long spike
- Tolerates shade condition

Yield component characters

- Average length of spike (cm) : 13.10
- Average number of spikes/m² : 33.00
- Average number of berries per spike : 51.00
- Berry Setting percentage : 85.70
- 1000 green berry weight(g) : 110.00
- 1000 green berry volume(cc) : 104.00

Productivity

- Mean fresh yield per vine (kg) : 2.30
- Average yield of dry pepper (kg/ha) : 1107.00
- Potential yield of dry pepper (kg/ha) : 2248.00
- Yield over parents (%) : 112.00

Quality parameters

- Piperine (%) : 5.30
- Oleoresin (%) : 12.33
- Essential oil (%) : 3.80
- Dry pepper recovery (%) : 35.70

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for Achieving good yield. strict plant protection measures recommended.



PANNIYUR 5

PANNIYUR-6

- Year of release : 2000
- Institute released the variety : Pepper Research Station, Panniyur, Kerala Agricultural University.
- Parentage : Karimunda III
- Method of breeding : Clonal Selection
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Small oval shaped leaves
- Shoot tip colour is light purple
- Bold attractive berries
- Tolerates shaded condition
- Tolerates unfavourable conditions
- Large number of spikes from unit area

Yield component characters

- Average length of spike (cm) : 7.92
- Average number of spikes/m² : 47.00
- Average number of berries per spike : 53.00
- Berry Setting percentage : 99.00
- 1000 green berry weight(g) : 130.00
- 1000 green berry volume(cc) : 120.00

Productivity

- Mean fresh yield per vine (kg) : 2.30
- Average yield of dry pepper (kg/ha) : 2127.00
- Potential yield of dry pepper (kg/ha) : 3359.00

Quality parameters

- Piperine (%) : 4.94
- Oleoresin (%) : 8.27
- Essential oil (%) : 1.33
- Dry pepper recovery (%) : 32.93

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for achieving good yield. Strict plant protection measures recommended.



PANNIYUR 6

PANNIUR-7

- Year of release : 2000
- Institute released the variety : Pepper Research Station, Panniyur Kerala Agricultural University.
- Parentage : Kalluvally IV
- Method of breeding : Open pollinated progeny selection
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Heart shaped leaves with wavy margin
- Shoot tip colour is light purple
- Long spikes hided under the leaves
- Tolerates shaded condition
- Tolerates unfavourable conditions

Yield component characters

- Average length of spike (cm) : 19.40
- Average number of spikes/m² : 20.00
- Average number of berries per spike : 133.00
- Berry Setting percentage : 91.50
- 1000 green berry weight(g) : 150.00
- 1000 green berry volume(cc) : 140.00

Productivity

- Mean fresh yield per vine (kg) : 2.20
- Average yield of dry pepper (kg/ha) : 1410.00
- Potential yield of dry pepper (kg/ha) : 2770.00
- Yield over parents (%) : 266.00

Quality parameters

- Piperine (%) : 5.57
- Oleoresin (%) : 10.61
- Essential oil (%) : 1.50
- Dry pepper recovery (%) : 33.57

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for achieving good yield.



PANNIYUR 7

PANNIYUR-8

- Year of release : 2013
- Institute released the variety : Pepper Research Station, Panniyur
Kerala Agricultural University.
- Parentage : A hybrid between Panniyur-6
and Panniyur- 5
- Method of breeding : Hybridization
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Shoot tip colour is light purple
- Early spiking with more sub lateral branches
- Compact setting of berries
- Tolerant to Phytophthora foot rot and pollu beetle
- Tolerates drought condition
- Tolerates shaded condition

Yield component characters

- Average length of spike (cm) : 13.00
- Number of spikes/ lateral branch : 7.00
- Average number of berries per spikes : 56.60
- Berry Setting percentage : 90-95
- 1000 green berry weight(g) : 120.00
- 1000 green berry volume(cc) : 110.00

Productivity

- Mean fresh yield per vine (kg) : 4.20
- Average yield of dry pepper (kg/ha) : 3000.00

Quality parameters

- Piperine (%) : 5.68
- Oleoresin (%) : 12.17
- Essential oil (%) : 1.17
- Dry pepper recovery (%) : 37.00

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for achieving good yield.



PANNIYUR 8

PANNIYUR -9

- Year of release : 2017
- Institute released the variety : Pepper Research Station, Panniyur, Kerala Agricultural University.
- Parentage : Open pollinated progeny selection from panniyur-3
- Method of breeding : open pollinated Selection
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Shoot tip Colour is pale yellow
- Performs well in open condition and hilly tracts
- Field tolerant to phytophthora foot rot
- Tolerates drought and cold stress
- High quality berries

Yield component characters

- Average length of spike (cm) : 10.20
- Number of spikes/ lateral branch : 7.00
- Average number of berries per spikes : 90.00

Productivity

- Mean fresh yield per vine (kg) : 7.20
- Average yield of dry pepper (kg/ha) : 3150.00
- Potential yield of dry pepper (kg/ha) : 3240.00

Quality parameters

- Piperine (%) : 6.11
- Oleoresin (%) : 12.71
- Essential oil (%) : 5.00
- Dry pepper recovery (%) : 38.00

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for achieving good yield.



PANNIYUR 9

PANNIYUR -10

- Year of release : 2019
- Institute released the variety : Pepper Research Station, Panniyur, Kerala Agricultural University.
- Parentage : Panniyur-1 X Culture 54 (Op of CV karivally)
- Method of breeding : Hybridisation and Selection
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Shoot tip colour is light Purple
- Field tolerant to phytophthora foot rot
- Bold berries and high bulk density
- Climate resilience features
- Long spikes

Productivity

- Mean fresh Yield per vine (Kg) : 6.00
- Average Potential yield of dry pepper (kg/ha) : 3521.00

Quality Parameter

- Piperine (%) : 5.29
- Oleoresin (%) : 10.29
- Essential Oil (%) : 3.30
- Dry Pepper recovery (%) : 36.00

Specific recommendation

Use only clonal planting material. The package of practices recommended by Kerala Agricultural University has to be followed for achieving good yield.



PANNIYUR 10

VIJAY

- Year of release : 2013
- Institute released the variety : College of Agriculture, Kerala Agriculture University, Vellanikkara, Thrissur, Kerala
- Parentage : Panniyur 2 x Neelamundi
- Method of breeding : Hybridization
- Area of adoption : All pepper growing areas

Identification characters and salient features

- The variety is high yielding with bold berries and high quality.
- Field tolerant to Phytophthora foot rot.

Productivity

- Mean fresh yield per vine (kg) : 6.00
- Average yield of dry pepper (kg/ha) : 3150.00

Quality Parameter

- Piperine (%) : 4.90
- Oleoresin (%) : 10.10
- Essential Oil (%) : 3.33

Specific recommendation

Use only clonal material for planting. The package of practices recommended by Kerala agriculture university has to be followed.



VIJAY

SREEKARA

- Year of release : 1990
- Institute released the variety : Indian Institute of Spices Research, Marikunnu p.o.,Kozhikode, Kerala
- Pedigree : Selection From Karimunda (KS 14)
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Ovate leaf shape
- Adaptable of Various climatic condition
- High quality pepper

Yield component characters

- Average length of spike (cm) : 8.60
- Number of spikes /lateral branch : 7.00
- Average number of berries per spikes : 61.00
- Berry Setting percentage : 63.40
- 1000 green berry weight(g) : 108.00
- 1000 green berry volume(cc) : 106.00

Productivity

- Mean fresh yield per vine (fresh weight) : 4.80
- Average yield of dry pepper (kg/ha) : 2677.00
- Potential yield of dry pepper (kg/ha) : 4200.00

Quality parameters

- Piperine (%) : 5.10
- Oleoresin (%) : 13.00
- Essential oil (%) : 7.00
- Dry pepper recovery (%) : 35.00

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



SREEKARA

SUBHAKARA

- Year of release : 1990
- Institute released the variety : Indian Institute of Spices Research, Marikunnu p.o., Kozhikode, Kerala
- Pedigree : Selection from Karimunda (KS 27)
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Ovate leaf shape
- Adoptable to wider climatic condition
- High Quality pepper

Yield component characters

- Average length of spike (cm) : 7.70
- Number of spikes /lateral branch : 7.00
- Average number of berries per spikes : 63.00
- Berry Setting percentage : 68.00
- 1000 green berry weight(g) : 103.00
- 1000 green berry volume(cc) : 100.00

Productivity

- Mean fresh yield per vine (kg) : 4.20
- Average yield of dry pepper (kg/ha) : 2352.00
- Potential yield of dry pepper (kg/ha) : 4487.00

Quality parameters

- Piperine (%) : 3.40
- Oleoresin (%) : 12.40
- Essential oil (%) : 6.00
- Dry pepper recovery (%) : 35.50

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



SUBHAKARA

PANCHAMI

- Year of release : 1991
- Institute released the variety : Indian Institute of Spices Research, Marikunnu p.o., Kozhikode, Kerala
- Pedigree : Selection from Aimpiriyam (Coll.856)
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Ovate leaf shape
- Spike twisted in appearance due to high fruit set
- Oleoresin content is high

Yield component characters

- Average length of spike (cm) : 11.20
- Average number of berries per spikes : 84.00
- Berry Setting percentage : 82.00
- 1000 green berry weight(g) : 107.00
- 1000 green berry volume(cc) : 108.00

Productivity

- Mean fresh yield per vine (kg) : 5.20
- Average yield of dry pepper (kg/ha) : 2828.00
- Potential yield of dry pepper (kg/ha) : 6528.00

Quality parameters

- Piperine (%) : 4.70
- Oleoresin (%) : 12.50
- Essential oil (%) : 3.40
- Dry pepper recovery (%) : 34.00

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



PANCHAMI

POURNAMI

- Year of release : 1991
- Institute released the variety : Indian Institute of Spices Research, Marikunnu p.o., Kozhikode, Kerala
- Pedigree : Selection from germplasm(coll.812)
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Ovate lanceolate leaf
- Tolerant to Root knot nematode (*Meloidogyne incognita*)
- Moderately high yielding variety
- High Oleoresin Content

Yield component characters

- Average length of spike (cm) : 12.00
- Average number of berries per spikes : 79.00
- Berry Setting percentage : 68.00
- 1000 green berry weight(g) : 128.00
- 1000 green berry volume(cc) : 130.00

Productivity

- Mean fresh yield per vine (kg) : 4.70
- Average yield of dry pepper (kg/ha) : 2333.00
- Potential yield of dry pepper (kg/ha) : 5356.00

Quality parameters

- Piperine (%) : 4.10
- Oleoresin (%) : 13.80
- Essential oil (%) : 3.40
- Dry pepper recovery (%) : 31.00

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



POURNAMI

PLD-2

- Year of release : 1996
- Institute released the variety : Indian Institute of Spice Research, Marikunnu P.O, Kozhikode, Kerala
- Pedigree : Selection from kottanadan (coll.2559)
- Area of adoption : Suitable to all pepper growing areas

Identification characters and salient features

- Ovate leaf
- Shoot tip colour is purple
- High oleoresin content

Yield component characters

- Average length of spike (cm) : 8.33
- Average number of berries per spike : 75.00
- Berry Setting percentage (%) : 87.7
- 1000 green berry weight(g) : 122.3
- 1000 green berry volume (cc) : 122.7

Productivity

- Mean fresh yield per vine (kg) : 4.97

Quality parameters

- Piperine (%) : 3.00
- Oleoresin (%) : 15.45
- Essential oil (%) : 4.80
- Dry pepper recovery (%) : 31.13

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



PLD-2

IISR GIRIMUNDA

- Year of release : 2004
- Institute released the variety : Indian Institute of Spices Research, Marikunnu p.o., Kozhikode, Kerala
- Pedigree : Hybrid of Narayakodi X Neelamundi
- Area of adoption : Suited to high attitudes

Identification characters and salient features

- Ovate elliptical leaf
- suited to high altitude areas coffee and tea estates

Yield component characters

- Average length of spike (cm) : 17.00
- Number of spikes /lateral branch : 7.0
- Average number of berries per spikes : 47
- Berry Setting percentage : 90.00
- 1000 green berry weight(g) : 112.00
- 1000 green berry volume(cc) : 115.00

Productivity

- Mean fresh per vine (kg) : 6.00
- Average yield of dry pepper (kg/ha) : 2800.00

Quality parameters

- Piperine (%) : 2.20
- Oleoresin (%) : 9.65
- Essential oil (%) : 3.40
- Dry pepper recovery (%) : 32.00

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



IISR GIRIMUNDA

IISR MALABAR EXCEL

- Year of release : 2004
- Institute released the variety : Indian Institute of Spices Research, Marikunnu p.o., Kozhikode, Kerala
- Pedigree : Hybrid of Cholamundi X Panniyur-1
- Area of adoption : Suited to high altitude areas

Identification characters and salient features

- Elliptic lanceolate leaf
- suited to high altitude areas, coffee and tea estates

Yield component characters

- Average length of spike (cm) : 8.80
- Number of spikes /lateral branch : 13.40
- Average number of berries per spikes : 54.50
- Berry Setting percentage : 70.00
- 1000 green berry weight(g) : 100.00
- 1000 green berry volume(cc) : 103.00

Productivity

- Mean fresh yield per vine (kg) : 3.52
- Average yield of dry pepper (kg/ha) : 1453.00

Quality parameters

- Piperine (%) : 2.96
- Oleoresin (%) : 13.50
- Essential oil (%) : 3.20
- Dry pepper recovery (%) : 34.00

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



IISR MALABAR EXCEL

IISR SAKTHI

- Year of release : 2004
- Institute released the variety : Indian Institute of Spices Research, Marikunnu p.o., Kozhikode, Kerala
- Pedigree : Open pollinated progeny of Perambramundi
- Method of breeding : OP Screening and Selection
- Area of adoption : Both Plains & high ranges under rainfed conditions

Identification characters and salient features

- Ovate lanceolate leaf
- Tolerant to phytophthora foot rot
- High oleoresin content

Yield component characters

- Average length of spike (cm) : 8.80
- Number of spikes /lateral branch : 7.00
- Average number of berries per spikes : 49.00
- Berry setting percentage : 60.00
- 1000 green berry weight(g) : 150.00
- 1000 green berry Volume (cc) : 114.00

Productivity

- Mean fresh yield per vine (kg) : 5.20
- Average yield of dry pepper : 5755.00 Kg/ha

Quality parameters

- Piperine (%) : 3.30
- Oleoresin (%) : 10.20
- Essential oil (%) : 3.70
- Dry pepper recovery (%) : 43.00

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



IISR SHAKTHI

IISR THEVAM

- Year of release : 2004
- Institute released the variety : Indian Institute of Spices Research, Marikunnu p.o., Kozhikode, Kerala
- Pedigree : Selection from Thevanmundi
- Area of adoption : Suited to high altitude areas & plains

Identification characters and salient features

- Ovate elliptic leaf
- Field tolerant to phytophthora foot rot
- Suitable for high altitude areas and plains

Yield component characters

- Average length of spike (cm) : 17.00
- Number of spikes /lateral branch : 7.00
- Average Number of berries per spikes : 392.40
- Berry Setting percentage : 80.00
- 1000 green berry weight(g) : 155.00
- 1000 green berry volume(cc) : 120.00

Productivity

- Mean fresh yield per vine (kg) : 4.76
- Average yield of dry pepper (kg/ha) : 2473.00

Quality parameters

- Piperine (%) : 1.60
- Oleoresin (%) : 8.50
- Essential oil (%) : 3.10
- Dry pepper recovery (%) : 35.00

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



IISR THEVAM

ARKA COORG EXCEL

- Year of release : 2012
- Institute released the variety : Indian Institute of Spice Research, Marikunnu P.O, Kozhikode, Kerala
- Pedigree : Seedling selection
- Area of adoption : Suited to Kodagu district and similar areas

Identification characters and salient features

- Ovate leaf
- Shoot tip colour is purple

Yield component characters

- Average length of spike (cm) : 14.22
- Average number of berries per spike : 98.60
- Berry Setting percentage (%) : 81.00
- 1000 green berry weight(g) : 126.3
- 1000 green berry volume (cc) : 108.00

Productivity

- Mean fresh yield per vine (kg) : 7.15

Quality parameters

- Piperine (%) : 4.64
- Oleoresin (%) : 7.15
- Essential oil (%) : 2.30
- Dry pepper recovery (%) : 40.00

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



ARKA COORG EXCEL

IISR CHANDRA

- Year of release : 2023
- Institute released the variety : Indian Institute of Spice Research, Marikunnu P.O ., Kozhikode, Kerala
- Pedigree : Hp 1117 X Thommankodi
- Area of adoption : All pepper growing areas

Identification characters and salient features

- Thick ovate - elliptic leaves
- High fruit set and long spike
- Bold berries and compact setting
- Vigorous, regular bearer
- Early maturing variety

Yield component characters

- Average length of spike (cm) : 17.50
- Average number of berries per spike : 90.00
- 1000 green berry weight(g) : 156.00

Productivity

- Mean fresh yield per vine (kg) : 7.45

Quality parameters

- Piperine (%) : 5.10
- Oleoresin (%) : 8.70
- Essential oil (%) : 3.20
- Dry pepper recovery (%) : 33.50

Specific recommendation

Use only clonal material for planting. The package of practices recommended by IISR has to be followed.



IISR CHANDRA