



## PANCHAMI

high yielding selection  
of black Pepper

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high yielding black pepper selections  
germplasm were compared for yield  
alongwith cultivars Karimunda and  
Panchami. Among these, Panchami (an Aimprian  
recorded the highest average yield of  
gram fresh pepper per vine at 5th  
outyielded all the other cultivars in  
years tested. Panchami has good yield  
characters like medium-long spikes,  
percentage of bisexual flowers in spikes, and  
sot. The black pepper from this variety  
percent oleoresin. Due to its high yield  
Panchami was recommended for release  
growing tracts of Kerala and Southern

Black pepper (*Piper nigrum* L.) is the most important of the spices. India was the leading producer and exporter of this spice, about 65 per cent of it coming from Kerala alone. However, productivity of pepper vines in India is the lowest in the world and yield levels have remained almost static for the last few decades. This is mainly because of poor genetic stock and prevalence of a large number of old and unproductive vines. Non availability of disease free planting materials of high yielding varieties is one of the major constraints in increasing production and productivity of black pepper. Clonal selection from the vast genetic resources of black pepper constitutes the quickest method to identify high yielding genotype(s). Results from one such experiment are presented in this paper.

### MATERIALS AND METHODS

Three lines of black pepper with promising yield attributes were selected from germplasm based on data collected from the collection surveys. These lines are viz., a selection from Aimprian (renamed as Panchami), Ottaplackal-1 and Kuching (a rilling variety of Malaysia). The lines are compared with CV. Karimunda and Panniyur-1, two most popular varieties of Kerala. In this yield trial, pepper vines are planted on 12 high Erythrina buffer standards at 2.5m x 2.5m spacing in a randomised block design (RBD) with 12 replications. They are evaluated for five years and final selection was made based on their yield performance over the years as well as consistency in performance.

Quality parameters like percentage of Piperine, Oleoresin and Essential oil were estimated based on standard ASTA methods (ASTA, 1968).

### RESULTS AND DISCUSSION

The vines standard yielding in the first year of planting. However, the yield for the first

year i.e. 1986-87, is eligible and hence not used in the evaluation. Yield for the next four years i.e. 1987-1991 are given in Table 1. Panchami (Aimpiriyan Selection) gave significantly higher yields compared to all the other lines tested in all the other years. It has a mean yield of 5.2 kilogram fresh pepper per vine at 5th year.

The average yield of green pepper per hectare as well as yield potential of Panchami in comparison with Karimunda, and Panniyur-1 at 5th year estimated based on mean yield and maximum yield recorded respectively are given in Table 2. Panchami with an estimated average green pepper yield of 8,320 kilogram/hectare and yield potential of 19,200 kilogram/hectare is superior to all the other lines tested.

The quality attributes of Panchami are given in Table-3. Panchami gives medium quality black pepper with 4.7 per cent 12.5 per cent oleoresin and 3.4 per cent essential oil. It has a dry recovery of 34 percent. Thus the black pepper from Panchami is comparable to that of Karimunda and Panniyur-1 in quality.

Panchami has good yield attributing characters like medium long spikes (11.2 cm), high spiking intensity (77 spikes/100 nodes), high percentage of bisexual flowers per spike (95.5 per cent) high fruit set (82 per cent) etc. This selection retains the important identifying character of five rowed arrangement of berries and the twisted nature

of the spikes due to very high fruit set. Panchami is a late maturing type, with fruits coming to harvest 7-8 months after flowering. Like all other pepper cultivars, this is also susceptible to *Phytophthora* collar rot disease, pollu beetle and nematodes.

Panchami with high yield potential will significantly contribute to increase in black pepper production in the country and hence is recommended for release to the cultivators at the Group Meeting of Research workers of AICRP on Spices held in 1991 (Anonymous 1991).

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#### REFERENCES

1. Anonymous 1991. Proceedings of the group meeting of Research Workers of All India coordinated Research Project on Spices, PP- 60-61.
2. ASTA 1968. Official analytical methods. 2nd Edn. American Spice Trade Association, New York.

PANCHAMI HAS GOOD YIELD ATTRIBUTING CHARACTERS LIKE

MEDIUM-LONG SPIKE  
(11.2 cm)

HIGH SPIKING INTENSITY  
(77 spikes/100 nodes)

HIGH PERCENTAGE OF  
BISEXUAL FLOWERS  
(per spike 95.5 per cent)

HIGH FRUIT SET  
(82 per cent)