

## Pusa Oishiki: New high yielding variety of brinjal

**Pusa Oishiki has been developed by hybridization (Pusa Purple Long × DBL-21) followed by selection by the Division of Vegetable Science, ICAR-Indian Agricultural Research Institute, Pusa, New Delhi. This variety was identified for release in the XXXVII AICRP (VC) Group Meeting held at RARI, Durgapur, Jaipur, Rajasthan, 2018 for cultivation in zone VI (Rajasthan, Gujarat, Haryana and Delhi) and VII (Madhya Pradesh and Maharashtra) and notified by the Central Sub-Committee on crop standard, notification and release of varieties for Horticultural crops in 2019.**

**P**USA Oishiki, is a newly developed long fruited variety developed by hybridization (Pusa Purple Long × DBL-21) followed by selection. This is an early variety suitable for growing during the *kharif* season in Rajasthan, Gujarat, Haryana and Delhi (Zone VI), and both *kharif* as well as the *rabi* season in Madhya Pradesh and Maharashtra (Zone VII). The plants are non-spiny having semi-erect branches with purple pigmentation on stem attaining a height of 60-65 cm at peak fruiting stage. The leaves are large with purple pigmentation on mid-rib and veins. The flowers are medium in size and purple in colour. Fruits are long (18-20 cm length), cylindrical (3.5-4.5 cm diameter), shiny purple in colour with non-spiny green calyx, borne solitary or in clusters. The number of fruits per plant varies from 20 to 25 with an average fruit weight of 100-125 g. It takes 50-55 days from transplanting to first harvest with an average yield of 320 q/ha. This variety is found to have field resistance against *Fusarium* wilt and also have good culinary attributes. The average yield performance at national level of Pusa Oishiki over the years in different locations under AICRP is given in Table 1.

### Cultivation practices

Pusa Oishiki can be grown in various types of soil however, sandy loam to clay loam soil rich in organic matter with a pH of 6.6 to 7.5 is considered to be ideal. The optimum temperature required for good growth and yield is 25-30°C. In the area of Rajasthan, Gujarat, Haryana and Delhi the seeds are sown in mid-June. In Madhya Pradesh and Maharashtra, the seed can be sown twice in a year, once in May-June and again in December-January. For raising seedlings in one hectare, about 300-500 g seed is sufficient. Seeds are sown in raised beds in the nursery at 1 cm deep in rows and 5 cm apart. Seeds are treated with Captan @ 2 g per kg seeds. The seeds can also be treated with *Trichoderma viride* @ 4 g/kg before sowing. 1 kg of *Trichoderma* can be mixed with 25 kg of cow dung manure and kept in the shade for one week and then spread it over the nursery bed before sowing. Apart from this, nursery soil can also be mixed

with FYM 10 kg, neem cake 1 kg, VAM 50 g, single superphosphate 100 g, Furadon 10 g per square meter before sowing. The nursery beds are covered with dry grass immediately after sowing followed by light irrigation. In the nursery, precautions should be taken to avoid water stagnation with proper drainage. The seeds germinate in 4-5 days and dry grass should be removed immediately. The nursery beds should be drenched with Captan @ 2 g/litre and can be repeated after 7 days. The seedlings should be watered regularly and hardening of seedlings should be done by withholding water 4-5 days before transplanting. Care should be taken to avoid the infestation of fruit and shoot borer by setting up pheromone traps or by spraying Spinosad @ 2.5 ml/10 litre of water.

### Transplanting and fertilizer management

The seedlings are ready for transplanting when they are 30-35 days old and have attained 12-15 cm height with 3-4 leaves. The land should be prepared well in advance with repeated ploughings followed by pre-planting spray of Pendimethalin 30% EC 2.5 to 3 litre in 600 litre of water/ha after light irrigation. The seedlings are first soaked in Captan solution (2 g/litre) for 15 minutes and then transplanted in the main field. The land should be thoroughly prepared and about 25-30 tonnes of FYM along with 50-55 kg urea, 325-350 kg SSP and 75-100 kg MOP/ha should be mixed in the soil during field preparation. The seedlings are transplanted in ridges spaced at 75 cm with a planting distance of 60 cm during the *kharif* season. In *rabi* season, the seedlings can be planted in flat beds at a spacing of 75 cm × 60 cm. Two topdressing of urea @ 50 kg/ha each should be applied at one month interval after transplanting. Irrigation should be given at 10-15 days interval depending upon the weather condition. Frequent shallow inter-cultivation should be practised to keep the field free from weeds and to facilitate soil aeration, proper root development and conserve soil moisture. Irrigation should be given as per weather condition.

**Table 1.** Average yield (q/ha) of Pusa Oishiki in IET, AVT I, AVT II at different locations under All India Coordinated Research Projects on Vegetable Crops

Varieties	ICAR-IARI, New Delhi	Hisar, Haryana	Jabalpur, Madhya Pradesh	Parbhani, Maharashtra	Akola, Maharashtra	Average yield of National trial (q/ha)	% increase over check
Pusa Oishiki (DBL-175)	392.38	263.63	327.75	354.67	266.33	320.95	
Punjab Sahababar (Check)	294.06	221.84	313.19	285.83	262.92	275.56	16.47
Kashi Taru/IVBL-9 (Check)	242.80	233.73	310.98	339.32	227.63	270.89	18.47
CD at 5%	69.05	9.0	11.91	23.03	49.66	-	-
CV (%)	11.40	11.46	5.55	7.25	14.18	-	-



Pusa Oishiki at fruiting stage



Prolific bearing in Pusa Oishiki



Breeder seed production of Pusa Oishiki

### Plant protection

Fruit and shoot borer is the most damaging pest for which care should be taken from nursery. The borer can be managed by setting up pheromone traps at 12/ha or by cutting the infested shoots, half inch below the bore point, fruits and burying them deep into the soil. It should be noted that the lure of the trap should be changed at an interval of 15-20 days. The crop can also be sprayed with Spinosad @ 4.5 ml/10 litre of water just before flowering or at fortnightly interval which will be helpful in managing the pest. The crop is also attacked by virus complex and the only way to manage it is to uproot the infested plants and bury deep in the soil to avoid further spread. Application of Acetamiprid 20% SP (5 g/10 litre of water) can also be sprayed to control the vector. Phomopsis blight or fruit rot can be controlled by spraying the affected plants with Dithane-M-45 @ 2.5 g/litre of water. Little leaf can be managed by removing the affected plants in the early stages and spraying the plants with Acetamiprid 20% SP @ 5 g/10 litre of water to control the vector.

### Harvesting and yield

The fruits are ready for harvesting 55-60 days after transplanting when they have become shiny purple in colour and have attained the marketable size but still immature, soft and tender. The average yield is 320 q/ha.

### Seed production

The seeds production of Pusa Oishiki can be done throughout the year except that the maturity of fruits should not coincide with the rainy season. An isolation

distance of 400 m, 200 m and 100 m needs to be maintained for the production of breeder, foundation and certified seeds, respectively. The flowers are purple in colour which opens at 7:30-11.00 an in the morning with peak anthesis between 8.30-9.30 am. For rouging out the off types and unwanted plant, a minimum of three inspections are needed i.e. before flowering or vegetative stage; at flowering and fruit setting stage; and at fruit maturing stage. The diseased and infected plants should be removed from the seed production field. The fruits are harvested when ripe and turn light brown in colour. The fruits are kept in shade for 3-5 days so that the fruit becomes soft and it will be easier for seed separation from the pulp. The fruits are crushed by beating and soaked in water to separate the seeds from the pulp followed by sun drying for 2-3 days till the moisture content of the seeds reaches 8% or below. The average seed yield is 250-300 kg/ha.

For further information, please write to:

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