

Bidhan Suphala: A new high-yielding brinjal variety

Bidhan Suphala, a long fruited deep-purple coloured brinjal variety has been developed through hybridization and selection from a cross between Bidhan Supreme and Punjab Sadabahar by Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal. Variety is early maturing, can be fitted well in multiple cropping system, soft textured, less seeded, spineless, and high yielding (307.46 q/ha). The variety has got moderate field resistance against bacterial wilt disease and field tolerance against fruit and shoot borer. This variety has been released by the State Variety Release Committee, West Bengal and notified by the Central Variety Release Committee for State release during 2022. This variety performed well in eastern parts of India apart from West Bengal.

THE variety Bidhan Suphala (BCB-40) has been developed through hybridization and selection in segregating generations from a cross between Bidhan Supreme (BCB-11) and Punjab Sadabahar. It is an early maturing variety, semi prostrate in growth habit, spineless in all plant parts, and grows up to a height of 90 cm. This long fruited variety is deep-purple in colour with green with purple tinge calyx. Fruiting pattern is solitary. The average fruit length, fruit diameter and fruit weight is 18.00 cm, 8.50 cm and 260 g, respectively. It possesses good cooking quality and moderate field resistance against bacterial wilt disease and field tolerance against fruit and shoot borer. This variety is recommended for early-autumn season (July/August-February/March) under irrigated condition. Fruits become ready for first harvest within 70 days after transplanting and the periodic harvesting can be continued up to 140-150 days. The average yield of this variety is 289.27 q/ha.

Agro-techniques

It can grow under all kinds of soil but well drained sandy loam soil rich in organic matter is ideal. The land should be thoroughly prepared with repeated ploughing to a fine tilth. Well rotten organic manure preferably farm yard manure or compost @ 10-15 t/ha during final land preparation should be applied. This variety is generally transplanted in the main field from July to 1st week of August as irrigated crop.

Around 500 g seeds are sufficient for producing seedlings required for one hectare planting. Seeds are to be treated with captan or thiram @ 3.0 g per kg of seeds before sowing. Four weeks old seedlings are to be transplanted in the main field at 75 cm spacing in both ways.

Brinjal is long duration crop and is a heavy feeder of nutrients. The recommended fertilizer dose is 150:75:75 kg N: P₂O₅:K₂O/ha. One-third dose of N, full dose of P₂O₅ and K₂O are to be applied as basal and 1/3rd of N is to be applied one month after transplanting followed by earthing up. Rest of the N is to be top dressed at 55-60 days after transplanting. Single foliar sprays of 0.5% ZnSO₄ and 0.15% CuSO₄ during flowering increase yield and quality of fruits.

Three to four hoeing and weeding are normally required to check the weeds. A pre-planting application of pendimethalin @1.0 kg a.i./ha is effective. The crop requires 100 to 110 cm of total water throughout the growing season. During early autumn, apply irrigation at 15-20 days interval and during winter at 25-30 days interval.



Fruits of Bidhan Suphala

Plant protection measures

Brinjal cultivation is threatened by attack of number of diseases and insect pests. Although Bidhan Suphala is somewhat moderately field resistant/tolerant to different insect pests and diseases (Table 1), some chemical control measures are to be taken for getting higher yield and

Table 1. Average reaction of Bidhan Suphala against major diseases and insect pest at different agro-climatic conditions of West Bengal

Variety	Bacterial wilt incidence (%)	Little leaf incidence (%)	Fruit and shoot borer infestation (%)
Bidhan Suphala	17.85 (MR)	9.71 (R)	23.68 (T)
Muktakeshi (LC)	30.42 (S)	12.40 (MR)	32.23 (S)

LC = Local check; R = Resistant; MR = Moderately resistant; T = Tolerant; S = Susceptible Varieties were categorized as per standard rating scales.

Table 2. Mean fruit yield (q/ha) of Bidhan Suphala over State and National trials

Mean fruit yield (q/ha) at State trials at three agro-climatic conditions (2013-14 to 2015-16)	Fruit yield (q/ha) at National trials			Mean fruit yield (q/ha) of National trials	Average fruit yield (q/ha)
	IET (2013-14)	AVT-I (2014-15)	AVT-II (2015-16)		
328.15	284.47	261.63	314.17	286.76	307.46

quality produce. Spray the young seedlings with 0.2% chlorothalonil + 0.1% carbendazim/L to control damping off in the seed bed. Alternate spray with imidachloprid @ 3 ml/10 L and acetamiprid @ 0.15% is effective to control the vector population of little leaf disease and jassids. Spray the crop with copper oxychloride @ 0.3% to control *Phomopsis* blight disease. Nipping off of the withering shoots and picking up the bored fruits twice or thrice in a week and burying them deep into the soil, installation of pheromone trap in the field, and need based alternate spray with spinosad (0.15 ml/l) or flubendiamide @ 0.05% are effective to manage fruit and shoot borer.

Harvesting

Harvest the fruits when the fruits develop good colour, marketable size, and are still immature and tender. Generally 20-25 days fruits after anthesis are optimally matured for harvest. Fruits are harvested with stalk at joint. Based on State and National trials over three years (2013-14 to 2015-16), the average yield of Bidhan Suphala is 307.46 q/ha (Table 2).

For further interaction, please write to:

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