



The new bacterial wilt-resistant, long and light green brinjal variety can yield up to 76 tonnes per hectare.

Wilt-resistant, long brinjal variety

By Our Agriculture Correspondent

A long-duration brinjal variety, which is highly resistant to bacterial wilt disease and fairly resistant to Phomopsis blight, has been developed by scientists at the Kerala Horticultural Development Project and the Department of Olericulture, College of Horticulture, Vellanikkara, Kerala.

Released recently for commercial cultivation by farmers of the Kerala Agricultural University as 'Haritha', the variety has a high yield potential of 76 tonnes per hectare.

For the Farmer's Notebook

However, its average yield is put at 62 tonnes per hectare by scientists. The plants of this variety have non-prickly stems and leaves, and they produce light green long and stout fruits with less seeds. The fruits are of excellent cooking quality.

'Haritha' is a long duration variety, and generally it lasts in the field for about eight months. Being a protracted fruiting type, it can also be retained for up to two years.

The variety lends itself for closer planting of 75 cm x 90 cm, and it is highly responsive to fertilizer application.

A nutrient dose of 75 kg nitrogen, 30 kg phosphorus and 25 kg potash per hectare is recommended for getting good results from the variety. About 500 g seeds will be needed to raise a nursery to cover a hectare.

The ideal time for transplanting is May. It is for cultivation throughout the country, when

brinjal cultivation is constrained by the incidence of bacterial wilt disease.

Bacterial wilt caused by *Pseudomonas solanacearum*, is a dreadful disease affecting brinjal in the traditional vegetable belts in the country. Total withering and complete drying of plants are typical symptoms of the disease. In the high yielding varieties, cent per cent yield loss have been reported. Local cultivars suffer a yield loss of upto 60 per cent.

The soil-borne pathogen is difficult to manage by chemical methods, and one of the surest ways to combat it is the use of disease-resistant varieties. The wilt-resistant varieties that have been released earlier (Surya and Swetha) yielded small-sized fruits.

In this context, the release of 'Haritha', with the much desired fruit-type with excellent cooking quality is considered a boon for the brinjal growers. This variety bears fruits in high category, and thus there is less incidence of Phomopsis blight as well.

The vigorous growth potential, blight resistance, long duration and protracted fruiting, this high-yielding variety has been found to be ideal for the homesteads of Kerala for year round supply of brinjal, according to the scientists. Derived from a single plant selection from the local collections of Talapatty, Kochi, the wilt-resistant variety has been extensively field tested during the last six years at different locations in Kerala.

It proved its yield superiority and resistance to bacterial wilt to all the trials. It has been recommended for release in May 1997, and it has been released recently by KAU as 'Haritha'.

Black rot of crucifers

Black rot of crucifers (*Botrytis campestris*, *peronea*) attacks vegetables including cabbage, cauliflower, turnip, tuberculi, radish and mustard.

The first sign of the disease is the occurrence of chlorotic lesions near the bud margin, which progresses towards the centre in the form of V-shaped yellowish spots. In the affected portion the veins turn brown along with the vascular and in the extreme stage they turn black. This is the initial visible stage of the disease. Such the lesions may reach the petiole and the stem, causing systemic spread of the disease. The leaves wither and black necrotisation appears in the veins. In well grown and some might be particularly affected parts. If the disease sets in a few days, that is after the buds are almost formed in cauliflower and cabbage, black rot of the heads might occur.

The temperature suitability of the disease is 16-25°C.

Field sanitation is a primary importance and the crop debris should be destroyed.

A three year crop rotation is desirable. Bordeaux should be applied to balanced mixtures to control the pathogen.

In the nursery, desludging the soil with per cent commercial formalin, helps in checking the disease.

Seed treatment with 0.1 per cent formalin solution for 10 min or 0.5 per cent formalin solution for 10 min.

The control treatment of the seed by 50 ppm of the 1% aqueous also reduces the disease incidence.

Antibiotics such as streptomycin 100 mg per acre helps to control the disease effectively.

Grading of resistant/tolerant varieties should be encouraged.

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Phosphobacteria boost rice yield

Phosphorus is a relatively scarce, unevenly distributed resource on the earth. Only about 25-30 per cent of applied P becomes available to the crop and the rest is converted microbially to insoluble forms, which eventually build up a pool of insoluble P in the soil. These fixed forms of soil phosphates are solubilised by phosphate solubilising micro organisms by producing organic and inorganic acids and thereby facilitate the crops to assimilate them easily.

Field experiments conducted for two years with phosphobacteria showed a three-fold increase in the availability of phosphorus in the soil, as it solubilises the unavailable phosphates. The phosphobacteria applied plots recorded 42.5 kg/hectare of available phosphorus content, whereas the unamended control registered only 14 kg/hectare. Application of phosphobacteria through seed treatment (3 packets/hectare), seedling dipping (five packets/hectare) and soil application (10 packets/hectare) with 50 per cent of the recommended phosphate fertilizer (25 kg/hectare) resulted in the higher mean yield of 6.3 tonnes/hectare, which was 37 per cent increase over the control (4.6 tonnes/hectare). Application of phosphobacteria could help to save 50 per cent of phosphate fertilizer besides getting higher solubilisation of phosphorus and yield of rice.

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