

A Casty Study :

Crop improvement and management strategies in paprika

V. PONNUSWAMI AND A. RAMESH KUMAR

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The condiment paprika is a variant of *Capsicum*. The widely used word 'chilli' is referring usually to the hot variant of capsicum. "Bell pepper" or "Bell capsicum" usually means the bell shaped, blocky and non-pungent capsicum types. The condiment or spice paprika refers to the type of capsicum, which when fully ripe, dried and milled and used as spice and colouring agent in cooking. The same paprika type is used for oleoresin (pigment) extraction for use in the food and cosmetic industries (Caselton, 1998). Paprika is one of the important natural colourants next to turmeric and grape colour extracts (Anon., 2001a). Paprika contains remarkable amount of the colouring material and is used as colourant in processed foods as they get the nod over synthetic products in the food colourant market (Anon., 2001b). Dried paprika powder and paprika oleoresin are the natural colour sources exempted from certification and can be used directly (Marmion, 1979). The commercial importance of paprika both as a spice and a vegetable with large scale cultivation in both tropical and sub tropical regions are increasing at an increasing pace.

Global scenario of paprika :

It is interesting to study the world condiment paprika trends. Table 1 shows condiment paprika production data of selected countries.

The world trade in paprika oleoresin is showing a growing trend in recent years. The world trade in paprika (powder form) is estimated to be around 25-28 thousand tonnes per annum, while oleoresin estimate touches about 400 to 500 tonnes per annum.

National scenario of paprika :

Though the area under paprika cultivation and export is meagre, there is an ample scope for spice paprika production in India. The present area under cultivation of paprika in India is almost negligible when compared to the production of chillies, 8.5 lakh tonnes. In Karnataka, the Byadagi Dabba chilli is only grown traditionally in the districts of Dharwad and Hubli and the tomato chilli is grown in Warangal in Andhra Pradesh are being used for the production of paprika oleoresin. The Byadagi chilli is very mild and has low pungency, but used for colour extraction (Balasubramanian, 2001). In India, there are few akin to paprika with less pungent, fleshy and large fruited with excellent colour suitable for export market (John, 2000). In India, Byadagi, Warangal chilli, Arka Abir and KtP1-19 are the important types of paprika under cultivation.

Crop improvement strategies :

Selection of spice paprika breeding lines :

In the breeding programme a large number of paprika germplasm was collected, evaluated, and selfed. For paprika variety development, pungent and non-pungent types were- selected. Crossing was attempted successfully in the diallel sets of both pungent and non-pungent inbred. The observations are given for the most desirable horticultural traits required in the paprika varieties, developed by selection using single seed descent method. The colour value of the grinded paprika was calculated as per Woodbury (1977). Fruit characteristics and yield of the lines selected given in the Table 2 revealed that genotype 'Kt-P1-19 is an ideotype which borne all the desired traits important in the sweet spice paprika. Its

See end of the article for authors' affiliations

Correspondence to:

V. PONNUSWAMI
Department of Horticulture,
Horticultural College and
Research Institute, Tamil
Nadu Agricultural
University, COIMBATORE
(T.N.) INDIA

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