disease resistance and pollen fertility are included in breeding programme as pollen sources. Among plantains, the French plantain cultivars Njock kon and Nyombe and the False Horn plantain cultivar Big Ebanga showed good adaptability in Kerala. They also registered higher bunch yield in comparison to the local plantain cultivar Nendran. Selected plantain introductions are presently under on-farm evaluation. Yangambi Km5 (AAA) which exhibited very good establishment, has been identified and popularized as a dessert variety with acceptable bunch qualities and resistance to major fungal diseases and insect pests (Menon, 2000).

Fourteen improved hybrids were tested for yield parameters and reaction to Sigatoka leaf spot disease under the International *Musa* Testing Programme coordinated by INIBAP. The hybrids FHIA-01, FHIA-03, FHIA-23, SH-3640, FHIA-17, FHIA-18, FHIA-21, FHIA-25, CRPB-39 and TMB 5295-1 had superior bunch features and recorded moderate to very high resistance to Sigatoka leaf spot (Menon *et al.*, 2004).

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Prospect and Potential of Introduction in Temperate Fruits in India

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Temperate fruit crops form one of the most important areas where introductions have played significant role. Temperate fruit belt in India comprises of temperate regions of Jammu & Kashmir, Himachal Pradesh and Uttaranchal and hills of Darjeeling, North East India, Nilgiris and Kodaikanal. Almost all the commercial cultivars of apple, pear, cherry plum, peach, apricot, pecan, persimmon and strawberry are of exotic origin. Actually, the present temperate fruit industry is based on the efforts made by western settlers/missionaries in the 19th century who introduced and cultivated exotic temperate fruit cultivars on a large scale. Subsequently, the responsibility of plant introduction was taken up by Government agencies like erstwhile Plant Introduction Station (now NBPGR Regional Station) Shimla, Agricultural/Horticultural Departments of State Governments. Resultantly, more than 5000 germplasm accessions and varieties of various temperate crops were introduced from about 25 countries. Some of the notable introductions made up to the middle of 20th century are still popular amongst the growers. A few examples are 'Delicious' apple (red strain), 'Bartlett' pear, 'Elberta' peach, 'Santa Rosa' plum and 'New Castle' apricot. Out of several hundreds of cultivars introduced, only a few selected ones viz. Starking Delicious, Red Delicious, Richared, Golden Delicious, Red Chief, Oregon Spur of apple; Max Red Bartlett, Manning Elizabeth, China Pear of pear; New Castle, Royal and Nugget of apricot; Elberta, July Elberta, Alton, JH Hale of peach; Santa Rosa, Satsuma, Methley of plum; Non pareil, Drake, Merced, Ne-Plus Ultra of almond; Tioga, Torrey, Fern, Chandler of strawberry and Black Heart, White Heart, Early Rivers, Pink Early of cherry were accepted as commercial cultivars. The new plant species, which were introduced from abroad, got acclimatized and being cultivated successfully in temperate regions of India include kiwi (*Actinidia deliciosa*). Non-arid varieties of persimmon (*Diospyros kaki*) pecan nut (*Carya illinoensis*), pineapple guava (*Feijoa sellwiana*) and chinese ber (*Ziziphus jujuba*). NBPGR Regional Station, Shimla is pioneer in introducing and popularizing kiwi in India. Until now, this station has distributed more than 10,000 plants of kiwi to various departments and farmers. It is now evident that most of the commericial varieties introduced in the past do not meet the present day requirements of high yield, wider adaptation, regular bearing, dwarf stature, precocity, improved fruit quality, resistance t pests and diseases and so on. For example, Delicious apples are low yielding, prone to biennial bearing, not well adapted to adverse environments and European pears have late maturity and small fruits. Now there is a demand for

new attributes in the market. For instance, red to deep red colour, crispness, large fruit size, smooth surface, low chilling in apple; red colour, early ripening in pear; reddish or yellow colour, small and free-stone in apricot; lateral cum terminal bearing habit, thin shelled nature, precocity, dwarf nature, white kernel in walnut; non-prickly and erect plant type, big-fruited and longer shelf-life types in strawberry; red/yellow flesh color, large sized non-hairy and seedless fruit, fruit with less inner core, early harvest in kiwi; non-astringent, red colored firm seedless fruit with longer shelf-life in persimmon; precocity, dwarf types in pecan nut. The new crops which also have the potential in the temperate region of India but needs through study include cherimoya (*Annona cherimoya*), (*Olea europaea*), pistachio nut (*Pista vera*), queensland nut (*Macadamia ternifolia*), raspberry (*Rubus idaeus*), gooseberry (*Rubus loganobaccus*, currants (*Ribes* spp.), blueberry (*Vaccinium* spp.), hazelnut (*Corylus avellana*), chestnut (*Castanea sativa*), elderberry (*Sambucus* spp.), *Amelanchier* spp. etc.

Some measures for strengthening the potential use of these introductions include identifying locations analogous to the locations where the introduced species/ varieties are being grown through sophisticated tools like Global Positioning System (GPS), overcoming establishment problems related to rootstock such as graft compatibility, their influence on the vigor and quality and understanding seed physiology. Experience of the past shows that many of the notable introductions could not be saved due to lack of suitable methods of conservation other than field genebanks. Alternate methods of conservation like cryo, *in vitro* need to be strengthened by developing suitable protocols. Mutual understanding between the parties involved particularly in light of Intellectual Property Rights (IPR) regimes is of dire need for worthy introduction.