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Fruit yielding plants and their relative preference in the nurseries of greater Dhaka district in Bangladesh

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Abstract: A field survey on the floristic composition was conducted in the selected nurseries in and around the greater Dhaka district since October 2005 to March 2007. A total of 125 fruit yielding species and cultivars belonged to 41 genera under 28 families were found to be available in the nurseries under investigation. Anacardiaceae is the lone family contained the highest number (25) of species and cultivars. Among the fruit- yielding plants *Mangifera indica* was found to be the most preferred species having 95.56% relative preference.
Key words: Fruit species, Relative preference, Greater Dhaka district.

Introduction

More than 6000 Plant species are occurring in Bangladesh. Of which about 300 are exotic and 8 are endemic. Of the total number of plant species, 5000 are angiosperms(flowering plants) and 4 are gymnosperms. Ninety five vascular plants have been rated as threatened, of which 92 are angiosperms, and 3 gymnosperms (Hossain, 2003). There are 33 common fruit species with high number of PGR. The highly diverse species are mango, pumello, guava and jackfruit. In total, 463 variants of these species have been recorded in different institutes and orchards. The minor fruits usually come from 54 species that have 298 variants, of which 207 are of local origin. There are 52 species of fruit trees in the country those are wild in nature. (www.banglapedia.net). Nurseries in the greater Dhaka district have been considered as the conservation and dissemination points of diversified plants of various economic uses. Plant diversity prevailing in the area is also the source for the conservation of these species. In this context, a data base of the floristic composition of the privately owned nurseries and their source pattern as well as the identification and nomenclatural aspects are of immense importance. In the present study, the status of fruit yielding plants and their relative preference in the selected nurseries were investigated in and around the capital in the greater Dhaka district of Bangladesh.

Materials and Methods

To establish the database of the floristic composition of the nurseries in the greater Dhaka district, data were collected from the selected 90 nurseries under greater Dhaka district. For identification and confirmation, consultations were made with popular and reliable texts, experts and finally with the Bangladesh National Herbarium (Huq, 1986; Brickell *et al*, 1996; Dey, 2006; Bose *et al*, 1991).

For collection of primary data, a semi structured questionnaire had been served to the 90 respondents of the 90 privately owned nurseries under greater Dhaka district. All the data had been collected through deliberate interviews with the respondents following the guidelines of Salahuddin, (2000).

Results and discussion

The data collected by the previous method have been tabulated, processed and analysed by the MS excel and SPSS computer program. The result so far found by analysing the data has been presented under the subsequent heads with the necessary discussions.

Fruit yielding plants: A total of 125 fruit yielding cultivars under 57 species were found to be available in the nurseries under investigation. The number of genera was 41 under 28 famililies. The highest number of cultivars (25) was found to be available from Anacardiaceae family. Although, the number of species and genera under this family was only 3 (Table 1).

Table 1. Fruit yielding plants in the selected nurseries under the greater Dhaka district

Scientific Name	Family	Local Name
Aegle marmelos	Rutaceae	Bel
Aegle marmelos 'Dhol'	Rutaceae	Dholbel
Anacardium occidentale	Anacardiaceae	Kaju Badam
Ananas comosus 'Ghorasal'	Bromelliaceae	Anaras
Ananas comosus 'Giant Que'	Bromelliaceae	Anaras
Ananas comosus 'Honey Queen'	Bromelliaceae	Anaras
Annona reticulata	Annonaceae	Ata
Annona squamosa	Annonaceae	Sharipha
Artocarpus alcina	Moraceae	Durian
Artocarpus heterophyllus	Moraceae	Kathal
Artocarpus lacucha	Moraceae	Deuwa

Scientific Name	Family	Local Name
Artocartpus altilis	Moraceae	Bread fruit
Averrhoa carambola	Averrhoaceae	Kamranga
Averrhoa carambola 'BAU Kamranga-1'	Averrhoaceae	BAU Kamranga 1
Averrhoea bilimbi	Averrhoeaceae	Bilimbi
Baccaurea ramiflora	Euphorbiaceae	Latkan
Borassus flabellifer	Palmae	Tal
Carica papaya	Caricaceae	Papaya
Carica papaya 'BARI Pepe-1 (Shahi)'	Caricaceae	Shahi Pepe
Carissa carandus	Apocynaceae	Karamcha
Carissa carandus 'Hybrid'	Apocynaceae	Hybrid Karamcha
Chrysophyllum cainito	Sapotaceae	Star Apple
Citrus auruntifolia	Rutaceae	Kagagi lebu
Citrus auruntifolia 'BAU Kagagi Lebu-1 (Baromashi)'	Rutaceae	BAU Kagagi Lebu-1(Baromashi)
Citrus auruntifolia 'BAU Kagagi Lebu-2 (Seedless)'	Rutaceae	BAU Kagagi Lebu-2(Seedless)
Citrus auruntifolia 'BAU Kagagi Lebu-3 (Scented)'	Rutaceae	BAU Kagagi Lebu-3(Scented)
Citrus grandis 'BARI Batabi lebu-1'	Rutaceae	BARI Batabi lebu-1
Citrus grandis 'BARI Batabi lebu-2'	Rutaceae	BARI Batabi lebu-2
Citrus grandis 'BARI Batabi lebu-3'	Rutaceae	BARI Batabi lebu-3
Citrus grandis 'Hybrida'	Rutaceae	Hybrid Jambura
Citrus hystrix	Rutaceae	Satkara
Citrus hystrix 'BARI Satkara-1'	Rutaceae	BARI Satkara
Citrus lemon	Rutaceae	Baralebu
Citrus limettoides	Rutaceae	Kachamitha lebu/Sarboti lebu
Citrus reticulata	Rutaceae	Komola
Citrus reticulata 'BARI Komla-1'	Rutaceae	BARI Komola 1
Citrus sinensis 'BARI Malta-1'	Rutaceae	BARI Malta-1
Cocos nucifera	Palmae	Narikel
Cocos nucifera 'BARI Narikel-1'	Palmae	BARI Narikel 1
Cocos nucifera 'BARI Narikel-2'	Palmae	BARI Narikel-2
Dillenia indica	Dilleniaceae	Chalta
Diosp.yros kaki	Ebenaceae	Japani gab
Diosp.yros philippensis	Ebenaceae	Belatigab
Elaeocarpus robustus	Elaecarpaceae	Jalpai
Eriobotrya japonica	Rosaceae	Loquat
Euphorbia longana	Sapindaceae	Longan
Euphorbia longan 'BAU Ansphal-1'	Sapindaceae	'BAU Ansphal-1'
Feronia limonia	Rutaceae	Kadbel
Fragaria vesca	Rosaceae	Brazil cherry
Garcinia cowa	Guttiferae	Kawphal
Garcinia pedunculata 'BARI Toikor-1'	Guttiferae	BARI Toikor-1'
Grewia asiatica	Tilliaceae	Phalsha
Litchi chinensis 'BARI Lechu-1'	Sapindaceae	BARI Lechu-1
Litchi chinensis 'BARI Lechu-2'	Sapindaceae	BARI Lechu-2
Litchi chinensis 'BARI Lechu-3'	Sapindaceae	BARI Lechu-3
Litchi chinensis 'Bombai'	Sapindaceae	Bombai Lechu
Litchi chinensis 'China-3'	Sapindaceae	Lichu China-3
Mangifera indica	Anacardiaceae	Aam
Mangifera indica ' Gopalbhog'	Anacardiaceae	Gopalbhog Aam
Mangifera indica 'Aamropali'	Anacardiaceae	Aamropali Aam
Mangifera indica 'Alphanso'	Anacardiaceae	Kalibhogh Aam
Mangifera indica 'Ashyana'	Anacardiaceae	Ashyana Aam
Mangifera indica 'BARI Aam-2'	Anacardiaceae	BARRI Aam-2
Mangifera indica 'BARI Aam-3'	Anacardiaceae	BARRI Aam-3
Mangifera indica 'BARI Aam-4'	Anacardiaceae	BARI Aam -4
Mangifera indica 'Chosa'	Anacardiaceae	Chosa Aam
Mangifera indica 'Fazli'	Anacardiaceae	Fazli Aam
Mangifera indica 'Himsagor'	Anacardiaceae	Himsagor Aam
Mangifera indica 'Kacha Mittha'	Anacardiaceae	Kacha Mittha Aam
Mangifera indica 'Kalibhogh'	Anacardiaceae	Kalibhogh Aam
Mangifera indica 'Khirshapat'	Anacardiaceae	Khirshapat Aam

Scientific Name	Family	Local Name
Mangifera indica 'Lengra'	Anacardiaceae	Lengra Aam
Mangifera indica 'Mahananda'	Anacardiaceae	Mahananda Aam
Mangifera indica 'Mishribhogh'	Anacardiaceae	Mishribhogh Aam
Mangifera indica 'Mollika'	Anacardiaceae	Mollika Aam
Mangifera indica 'Rani Pachand'	Anacardiaceae	RaniPachanda Aam
Mangifera indica 'Shindhu'	Anacardiaceae	Shindhu Aam
Mangifera indica 'Subarnarekha'	Anacardiaceae	Sobarnarekha Aam
Mangifera indica 'Vash Tara'	Anacardiaceae	Vash Tara Aam
Manilkara achras 'BAU Sapota-1'	Sapotaceae	BAU Safeda-1
Manilkara achras 'BAU Sapota-2'	Sapotaceae	BAU Safeda-2
Manilkara achras 'BAU Sapota-3'	Sapotaceae	BAU Safeda-3
Manilkara sapota	Sapotaceae	Safeda
Muntingia calabura	Tilliacease	Barshaphal,China cherry
Musa sp.	Mussaceae	Chinisagar
Musa sapientum 'BARI Kola-1'	Mussaceae	BARI Kola-1'
Musa sapientum 'BARI Kola-2'	Mussaceae	BARI Kola-2'
Musa sapientum 'BARI Kola-3'	Mussaceae	BARI Kola-3
Nephelium lappaceum	Lecythidaceae	Rambutan
Passiflora edulis 'BARI Passion Phal-1'	Passifloraceae	Passion Phal, Tukma phal
Persia americana	Lauraceae	Avocado
Phoenix sylvestris	Palmae	Khejur
Phyllanthus acidus	Euphorbiaceae	Arboroi/Ruail
Phyllanthus acidus 'BAU Arboroi-1'	Euphorbiaceae	'BAU Arboroi-1'
Psidium guajava 'Angur'	Myrtaceae	Angur peyara
Psidium guajava 'BARI-1'	Myrtaceae	Kazi peyara
Psidium guajava 'BAU Peara-1'	Myrtaceae	BAU Peara-1 (Ranga)
Psidium guajava 'BAU Peara-2'	Myrtaceae	BAU Peara-2 (Misti)
Psidium guajava 'BAU Peara-4'	Myrtaceae	Apple peara
Psidium guajava 'Jamrul	Myrtaceae	Jamrul peyara
Psidium guajava 'Kanchannagar'	Myrtaceae	Kanchannagar peyara
Psidium guajava 'Poly'	Myrtaceae	Poly peyara
Psidium guajava 'Sayedi'	Myrtaceae	Sayedi
Psidium guajava 'Swarupkathi'	Myrtaceae	Swarupkathi peyara
Psidium guajava "BARI-2'	Myrtaceae	BARI-2
Psidium guajava'BAU Peara-3'	Myrtaceae	Choudhury peara
Punica granatum	Punicaceae	PakistaniDalim
Pyrus malus	Rosaceae	Aple
S*pondias pinnata*	Anacardiaceae	Aamra
S*pondias pinnata* 'BARI Amra-1'	Anacardiaceae	BARI Amra-1'
Syzygium cuminii	Myrtaceae	Kalo Jam
Syzygium jambos	Myrtaceae	Golapjam
Syzygium samrangense	Myrtaceae	Jamrul
Syzygium samrangense 'BAU Jamrul-1(Apple)'	Myrtaceae	Apple Jamrul
Syzygium samrangense 'BAU Jamrul-2(Naspati)'	Myrtaceae	Naspati Jamrul
Syzygium samrangense 'Hybrida'	Myrtaceae	Thai hybrid jamrul
Tamarindus indicus	Leguminosae	Tetul
Theobroma cacao	Sterculiaceae	Cocoa, Chokolet
Vitis vinifera	Vitaceae	Angur
Zizyphus mauritiana 'Apple Kul'	Rhamnaceae	Apple kul
Zizyphus mauritiana 'BARI kul-1'	Rhamnaceae	BARI Kul-1
Zizyphus mauritiana 'BARI kul-2'	Rhamnaceae	BARI Kul-2
Zizyphus mauritiana 'BAU kul'	Rhamnaceae	BAU-kul
Zizyphus mauritiana 'Hybrid'	Rhamnaceae	Tawain kul
Zizyphus mauritiana 'Narikeli Kul'	Rhamnaceae	Narikeli Kul

Relative preference of fruit yielding plants

Among the fruit- yielding plants *Mangifera indica* was found to be the most preferred species (Relative Preference- 95.56%) followed sequentially by Carambola (*Averhoea karambola*, 60%), Litchi (*Litchi chinensis*, 60%), Jamrul (*Syzygium samrangense*, 56.67%) Lebu (*Citrus aurantifolia*, 45.65%), kul

(*Zizyphus mauritiana*, 38.89%) Peara (*Psidium guazava*, 38.89%) etc (Table 2).

Table 2. Relative preference of fruit yielding plants in the selected nurseries in the greater Dhaka district of Bangladesh.

Scientific Name	Value	Relative Preference
Mangifera indica	86	95.56
Averrhoea karambola	54	60.00
Lichi chinensis	54	60.00
Syzygium samrangense	51	56.67
Citrus aurantifolia	41	45.56
Zizyphus mauritiana	35	38.89
Psidium guajava	35	38.89
Carissa carandus	25	27.78
Artocarpus heterophyllus	19	21.11
Elaeocarpus robustus	18	20.00
Aegle marmelos	15	16.67
Syzygium jambos	15	16.67
Achrus sapota	11	12.22
Vitis vinifera	4	4.44
Punica granatum	4	4.44
Citrus aruntium	4	4.44
Carica papaya	4	4.44
Grewia asiatica	4	4.44
Chrysophyllum cainito	4	4.44
Euphorbia longan	4	4.44
Spondias *pinnata*	3	3.33
Citrus grandis	3	3.33
Feronia limonia	3	3.33
Malus spp	1	1.11
Averrhoea bilimbi	1	1.11
Dillenia indica	1	1.11
Musa sapientum	1	1.11
Baccaurea ramiflora	1	1.11
Eriobotrya japonica	1	1.11
Euphorbia longan	1	1.11
Tamarindus indicus	1	1.11
Cocos nucifera	1	1.11
Diospyros kaki	1	1.11
Nephelium lappacium	1	1.11
Annona squamosa	1	1.11
Fragaria vesca	1	1.11
Persea americana	1	1.11
Aegle marmelos	1	1.11

A total of 925 species and cultivars under 413 genera were found to be available at the nurseries under investigation; of them, the total fruit yielding species and cultivars available in the selected nurseries were 125 under 41 genera, 28 families. The numbers of fruit yielding plants were found not to be static because of increasing demand and consequently the collection of new cultivars by the nurseries from home and abroad. So updating the number of species and cultivars of fruit yielding species by frequent survey together with updated conservation techniques are of immense importance.

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