GROWING WITH TREES

Millennium Tree Planting Guide

BELCO

THE MINISTRY OF THE ENVIRONMENT

Trees are a vital part of Bermuda's fragile environment. They reduce air pollution, provide shelter for wildlife and supply food for thousands of insects, mammals and birds. They beautify natural habitats such as Walsingham Nature Reserve, Paget Marsh, and Spittal Pond. Often there is a lack of appreciation for the benefits that trees provide, but natural disasters remind us how barren the landscape would be without trees. The Ministry of the Environment's goal is to develop and promote Growing with Trees as a continuing program of tree replacement/woodland improvement. We envision this project as a proactive measure that will provide everyone with a deeper understanding of nature and society, a better quality of life and a sustainable and healthy environment for present and future generations. This booklet has been developed to promote the propagation and planting of suitable native and non-native trees, and it is our hope that as you read the millennium tree guide, you will come to recognize our interdependence on the island's ecological life-support systems. Take the opportunity to become a partner with the Ministry of the Environment, the Ministry of Works & Engineering, the Bermuda Zoological Society, the Bermuda Aquarium Museum & Zoo, BELCO and our corporate partners. Participate in the "Growing with Trees" project. Together we will provide trees in parks, open spaces, recreation grounds and public gardens.

In 1907, President Theodore Roosevelt made a proclamation to the school children of the United States that stated:

> *A people without children would face a hopeless future; a country without trees is almost as hopeless; forests which are so used that they can not renew themselves will soon vanish, and with them all their benefits.*
>
> ***Theodore Roosevelt***

PROJECT OBJECTIVES:

- Our aim is to implement a continuing program of tree replacement for future generations.
- Our short-term goal is to promote and encourage care of the environment through community planting programs.
- Our long-term objective is to selectively improve woodland areas.

Ways that you can participate:

- You can provide a home for wildlife on your property by creating a Bermuda-friendly habitat
- You can participate in a community planting program
- You can collect and grow seeds
- You can start a millennium tree planting club
- You can host a tree education workshop
- You can give a tree for a special occasion
- You can assist in monitoring and maintaining woodlands

Your comments and suggestions are vital to the shaping of Growing with Trees

If you know someone who would like to receive information about "Growing with Trees", send their contact information to:

"Growing with Trees"
P.O. BOX FL 145,
Flatts FL BX
Tel: 441-293-2727
Fax: 441-293-3176

SITE SELECTION AND PREPARATION

Open space in Bermuda is disappearing. Housing developments, industrial developments and the introduction of invasive exotic species are eroding and fragmenting many of our natural areas. You can create a landscape that can be an asset to nature. Plan to construct a Bermuda-friendly landscape. It consists of four basic characteristics: space, shelter, water, and food. Also, a Bermuda friendly landscape utilizes a diverse arrangement of native and endemic trees which require less fertilizer, less time and less money to maintain. Furthermore native and endemic trees are usually drought resistant, slow growing, wind tolerant and non-invasive.

Here are a few points to consider before you plant your millennium trees:

1. **Plan first and plant last.** Following a planned design is the key to achieving a Bermuda-friendly landscape. Also visit the National Parks or visit public gardens for tree planting ideas.

2. **Determine your landscape objectives**. Consider whether you want to achieve aesthetic qualities or shade. This is good time to review resource reading material (see appendix) and consult your local plant nursery.

3. **Consider how you will use your property**. Do you want a vegetable garden, a pool, a pond, or a low maintenance garden?

4. **Survey the existing landscape and the surrounding area.** What is the most dominant vegetation? Do you have invasive exotic plants? Consider power lines, underground utilities, sun, shade, and salt and property lines.

5. **Prepare a visual land-use plan.** Use a pencil, ruler, and paper to sketch the area. Acquire a photocopy of the property layout from the mortgage papers. Indicate where power lines, water tanks, sewage tanks and underground utilities exist. Make many different visual plans until you have two or three that you like.

6. **Select your plants and other landscape materials**. Consider each plant's wildlife value.

7. **Implement your Bermuda-friendly landscape**.

8. **Maintain and enjoy!**

N.B. Consider Container Gardening as an alternative way of growing trees, when space is limited.
(see appendix for more information)

NATIVE & ENDEMIC

An endemic plant is a native species that has been isolated for such a long period of time that it has evolved into its own species. Therefore, it is only present in that country or location, and it is unique to that area. A native species occurs naturally in any area without the aid of man. However, this species is found elsewhere –particularly in the country from which it originated.

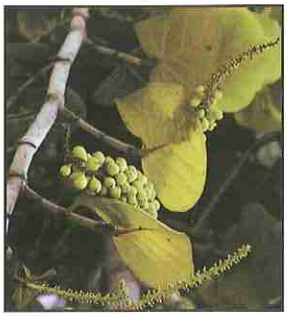
TREES

1. **Bermuda Cedar** (Juniperus bermudiana)
   Endemic, evergreen tree growing up to 40 feet in height.
   Found in upland, coastal and peat marsh habitats.
   Harvest Time: September-November
   fruit turn dark purple when ripe.
   Salt Tolerance: high
   Soil Requirements: wide
   Drought Tolerance: high
   Additional Notes: young cedars are prone to aphids and mites

2. **Bermuda Palmetto** (Sabal bermudiana)
   Endemic, palm tree up to 25 feet in height. Often found in upland habitat.
   This palm has distinct curved leaves with yellow markings on leaf blades.
   Harvest Time: October - January… palmettos produce round black berries.
   Salt Tolerance: high
   Soil Requirements: wide
   Drought Tolerance: high
   Additional Notes: sometimes confused with the Chinese Fan Palm (Livistonia chinensis); Chinese Fan Palm has oval turquoise fruit

3. **Olivewood Bark** (Cassine laneana)
   Endemic, evergreen tree that exhibits slow growth up to 25-40 feet.
   Found in nature reserves, but widely planted around the island.
   Harvest Time: September-November…1" oval yellowish-white fruit
   Salt Tolerance: medium
   Soil Requirements: wide
   Drought Tolerance: high

NATIVE & ENDEMIC



4. Bay Grape (Coccoloba uvifera)
A sprawling, semi-deciduous tree up to 30 feet. Grows in coastal and upland habitats.
Harvest Time: October-January…reddish-purple round fruit.
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: edible fruit that is used in jelly; good seaside plant

5. Yellow Wood (Zanthoxylum flavum)
Semi-deciduous tree 15-20 feet high. Very rare. Seen in rocky woodlands between Harington Sound and Castle Harbor.
Harvest Time: September
Salt Tolerance: low
Soil Requirements: well drained
Drought Tolerance: high
Additional Notes: very slow growing

6. Buttonwood (Conocarpus erectus)
Buttonwood is sometimes found prostrate to the ground or as a low growing tree. It has a height from 5-20 feet .
Commonly found in coastal habitat.
Harvest Time: November-December… clustering, cone-like purplish green fruit.
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: green and silver varieties are available

7. Southern Hackberry (Celtis laevigata)
Native deciduous tree that can reach 40 feet in height. Found in isolated patches of upland hillside.
Harvest Time: Autumn…produces orange-red to blue-black small berries.
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: high

NATIVE & ENDEMIC

SHRUBS

1. Bermuda Snowberry (Chiococca bermudiana)
Endemic shrub, found uncommonly in disturbed upland habitat.
Harvest Time: March-July…yellow flowers followed by a mass of snow-white fruits.
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high

2. Coast Sophora (Sophora tomentosa).
Silver-leaf, gray-green oblong-pinnate, yellow flowers with long segmented seedpods. This native shrub is usually seen in coastal habitats.
Harvest Time: early Summer
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: also known as the 'Necklace pod.' Susceptible to caterpillars, but it will come back

3. Wax Myrtle (Myrica cerifera)
Native evergreen shrub reaching up to a height of 10 feet. This can be seen widespread, and it is common in peat marshes.
Harvest Time: July - September…grayish-white fruit less than 1/8" in diameter.
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: grows best in peaty soils; yields wax that is used to make candles

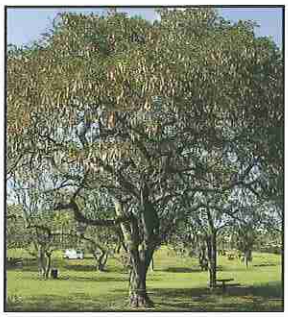
4. Jamaican Dogwood (Dodonaea viscosa)
Native shrub that is widespread; mostly found in undisturbed upland habitat, especially if sandy soil is available.
Harvest Time: mid - late summer… paper-like seed capsules.
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high

NATIVE & ENDEMIC

5. White Stopper (Eugenia axillaris)
An evergreen shrub that can reach 12 feet high. Found mostly in undisturbed upland hillside habitat.
Harvest Time: Late summer-early autumn…black berries.
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: related to the Surinam cherry

6. Doc-Bush (Baccharis glomeruliflora)
Native evergreen shrub that can reach up to 8 feet high. It is usually found in a peat marsh habitat.
Harvest Time: Fall
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high

ORNAMENTAL TREES & SHRUBS

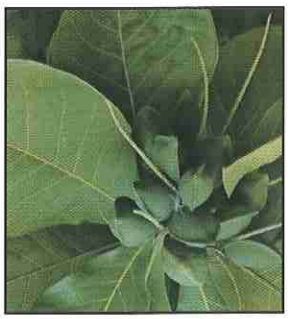


1. Black Ebony (Albizia lebbeck)
Large deciduous trees. This tree has feather-like leaves and provides beautiful shade.
Harvest Time: November-March… puffball flowers followed by golden-yellow seedpods
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: weak-wooded

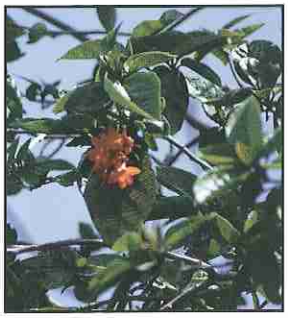
2.Royal Poinciana (Delonix regia)
Giant exotic deciduous tree that reaches up to 40 feet high. This tree produces bright red flowers during the summer time.
Harvest Time: late summer
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: messy & weak wooded

ORNAMENTAL TREES & SHRUBS

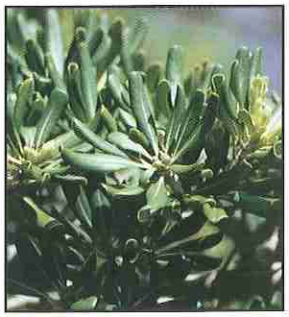
3. Mahogany Tree (Sweietenia mahogani)
Evergreen tree that reaches up to 60 feet high.
Small white flowers, and large brown seed pods.
Harvest Time: June-August…hard large brown seedpods.
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: tolerates high winds



4. West Indian Almond (Terminalia catappa)
Small tree with wide spreading branches. Very large leathery leaves.
The flowers are tiny white-green on spikes.
Reaches up to 30 feet in height.
Harvest Time: September-November…2". slightly flattened fruits, greenish/reddish.
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: excellent red color prior to foliage dropping period; seeds are edible



5. Scarlet Cordia (Cordia sebestena)
A small tree that can reach up to 25 feet high. Dark green, oval leaves in a cluster on branched leaves. Creates beautiful orange-red flowers.
Harvest Time: September-November…fruit white, slightly conical, and fleshy.
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: good flowering tree that is commonly used in roadside plantings



6. Japanese Pittosporum (Pittosporum tobira)
Ornamental shrub or hedging plant.
Harvest Time: December-March
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: medium
Additional Notes: good seaside plant, however, it may be susceptible to fungal disease

7.Yellow Poinciana (Peltophorum pterocarpum)
This a deciduous tree that blooms in the summer. Can reach 45 feet in height.
Harvest Time: October-December…brown flat-like 3.5" seed pods.
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: tender tree; immerse seeds in boiling water for 2 minutes prior to sowing them

ORNAMENTAL TREES & SHRUBS

8. Golden Shower (Cassia fistula)
Lovely deciduous tree with bright yellow flowers. Can reach 35 feet high.
Harvest Time: November-December
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: medium
Additional Notes: this tree prefers sheltered locations

9. Pink Shower (Cassia javanica)
Low spreading deciduous tree with red-pink flowers.
Can reach 45 feet high.
Harvest Time: November-December
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: medium

10. Jacaranda (Jacaranda mimosifolia)
Flowering tree that exhibits erect clusters of lilac-blue flowers with a tubular shape during the spring and summer. Can reach 45 feet high.
Harvest Time: Fall
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: sometimes it exhibits the characteristics of both an evergreen and a deciduous tree

11. Frangipani (Plumeria sp.)
Frangipani is a deciduous tree that can reach 20 feet high.
There are many varieties of Frangipani and all of them have showy and fragrant characteristics.
Harvest Time: Summer
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: Frangipani is propagated by cuttings; flower season is generally during the summer; flowering varieties include red, pink, yellow, and white

ORNAMENTAL TREES & SHRUBS

12. Flame Tree (Brachychiton acerifolius)
This is a deciduous tree that can reach 50 feet high. It originates from Australia and exhibits a showy red flowering almost all year-round.
Harvest Time: Fall
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: leafless when in flower; beautiful flowering shade tree

13. Giant Magnolia (Magnolia grandiflora)
This tree is typically seen in the southern states of North America. It is an evergreen tree that displays a large cup-shape flower. The cream color flower is very fragrant and quite attractive. This tree can grow up to 65 feet.
Harvest Time: Spring-Summer
Salt Tolerance: high
Soil Requirements: acid
Drought Tolerance: medium
Additional Notes: This is a hardy tree

14. Bauhinia (Bauhinia acuminata)
This is also called the Orchid Tree. It is semi-deciduous tree that produces a orchid-like flower. The Bauhinia can reach up to 25 feet high.
Harvest Time: Fall
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: This flowering tree is showy

15. Jamacian Caper Tree (Capparis flexuosa)
This tree is originally from the Caribbean and it can reach up to 20 feet high. It is an evergreen shrub that can be planted in coastal areas.
Harvest Time: Summer
Salt Tolerance: high
Soil Requirements: wide
Drought Requirements: high
Additional Notes: Good coastal plant

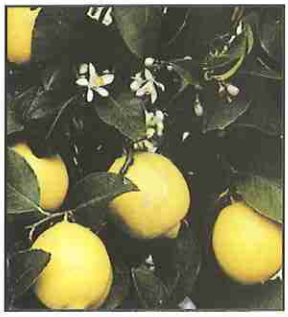
16. Spicy Jatropha (Jatropha interrima)
This is an evergreen shrub that can reach up to 8 feet high. Jatropha is common in many garden settings.
Harvest Time: N/A; however this plant is propagated from cuttings.
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: This shrub flowers all year long

ORNAMENTAL TREES & SHRUBS

FRUIT TREES

1.Peach Tree (Prunus persica)
A small deciduous tree that exhibits a pink flower.
Harvest Time: Summer
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: low
Additional Notes: leaves and seeds are poisonous; edible fruit that is reddish on the side that is exposed to the sun

2.Orange Tree (Citrus sinensis)
Bermuda's "Washington Navel Orange" is among the sweetest in the world.
Harvest Time: Winter
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: medium
Additional Notes: most citrus has a problem with pest; all cultivars are grafted



3.Lemon Tree (Citrus limon 'meyeri')
Also know locally as the 'Rough Lemon.' This tree can reach between 12 and 15 feet high.
Harvest Time: Fall
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: medium

4.Lime (Citrus aurantifolia)
This tree is small in stature when compared to other citrus trees.
It produces a seedless fruit.
Harvest Time: Fall
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: medium

ORNAMENTAL TREES & SHRUBS

5.Paw-Paw (Carcia papaya)
A small tree with a stout trunk. Its fruit may be eaten green as a vegetable or ripe as a fruit.
Harvest Time: Summer
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: low
Additional Notes: susceptible to viruses; relatively short life cycle

6. Loquat (Eriobotrya japonica)
Very popular small tree that can reach 20 feet high. Very dark green foliage. Flowers are rust and cream petals.
Harvest Time: Winter...small pear shaped orange fruits with brown seeds inside.
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: fast growing tree, with edible fruit

7. Avocado (Persea americana)
Large tree with spreading leathery leaves. This tree can reach 45 feet high. It contains large flesh-like fruit.
Harvest Time: Summer & Winter
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: weak wooded

8. Mulberry (Morus rubra.)
This tree was introduced to Bermuda around the early 1600s.
Trees can reach 50 feet high. It has delicious red to black edible fruit.
Harvest Time: Spring
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: sweet, but messy edible fruit

ORNAMENTAL TREES & SHRUBS

9. Grape (Vitis vinifera)
A woody climbing vine. It is deciduous and has green flowers.
Harvest Time: Late Summer
Salt Tolerance: low
Soil Requirements: wide, well drained
Drought Tolerance: high
Additional Notes: great container plant; many varieties

10. Banana (Musa acuminata)
This plant was introduced to Bermuda around 1616. Hanging bunches of pale yellow flowers are followed by yellow bananas.
Harvest Time: 18 months from planting
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: low
Additional Notes: great container plant; it produces many cultivars; dividing and planting suckers propagates it

11. Locust and Wild Honey -Swiss Cheese Plant (Monstera deliciosa)
This plant is originally from South America. It has large glossy leaves that appear to have segments and distinct patterns. A white flower encloses an edible fruit. This fruit is fragrant.
Harvest Time: Propagated by cuttings
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: medium
Additional Notes: flowers during the summer months; used extensively in tropical landscapes

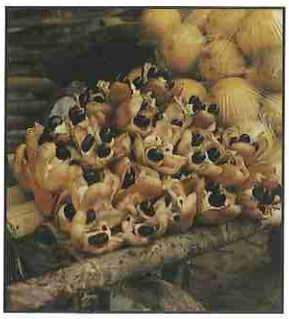
12. Tamarind (Tamarindus indica)
Tamarind trees originate from the East Indies and this tree can reach 50ft high. This evergreen has feather-like leaves and produces seedpods that contain a bittersweet pulp.
Harvest Time: Late Spring
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: wind resistance; edible pulp of seedpods that is used in sauces

13. Mango (Mangifera indica)
Evergreen plant that can reach 50 feet. It can usually spread 30 feet, however this will depend on the variety. This plant is considered as the apple of the tropics. The skin color can be green, yellow, red or purple, but it is usually a combination of several colors. The fibrous flesh is yellow to orange when ripe. However, chutneys are prepared from green mangos.
Harvest Time: Varies but it will probably be between May-July or fall-winter
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: medium
Additional Notes: not suitable for containers

14. Oriental Persimmon (Diospyros kaki)
This is an extremely handsome tree and displays green leaves that turn brilliant shades of yellow, orange, and red in the fall. Persimmon is a multi-trunked or single-stemmed deciduous tree up to 25 feet high and at least that wide. The fruit is sweet when it is allowed to ripen.
Harvest Time: Fall-early winter
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: medium
Additional Notes: this an ideal plant for a large container garden; minimal fertilizing is required

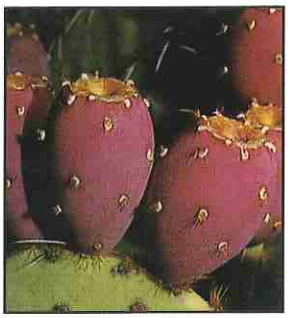
15. Pineapple (Ananas comous)
Evergreen, grows to 4 feet high by 6 feet wide, with rosettes of long, sword-like leaves. The fruit is oval, often yellow with tones of brown, green and orange. It also has a scale-like texture.
Harvest Time: Depends on the variety, 2 years after planting
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: good container plant; edible fruit; great rock garden plant

16. Macadamia Nut (Macadamia sp.)
These are nut evergreen trees that can reach up to 30 feet high and almost as wide.
Harvest Time: Late Fall-Spring
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: medium
Additional Notes: slow growing –12 years before fruit production; plant in full sun



17. Akee (Blighia sapida)
This is an evergreen tree that has an average height of 35 feet. The Akee fruit develops a thick reddish-orange skin which encloses shiny black seeds, each with a flesh-like whitish-colored structure at its base. The base is edible only when it has turned red and split open. Beware unopened, unripe, or overripe fruit as they can be poisonous and can result in death. However, ripe fruit combined with local fish dishes (ackee and cod-fish) is a delicacy.
Harvest Time: Spring
Salt Tolerance: medium
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: excellent shade tree; immature or overripe fruit may be poisonous

18. Sugar Apple (Annona reticulata)
This deciduous tree can reach up to 30 feet in height. It has spreading bushy branches and a grayish bark. Each fruit is a yellowish-green, heart shape structure that contains a sweet custard-like pulp.
Harvest Time: Spring
Salt Tolerance: low
Soil Requirements: wide
Drought Tolerance: medium
Additional Notes: it is eaten raw as a dessert



19. Prickly Pear (Opuntia ficus-indica)
This an evergreen, mostly thornless cactus that may reach 8 feet in height. The oval fruit is yellow to reddish-purple and 3-4 inches in diameter with a slightly tart red flesh.
Harvest Time: Summer
Salt Tolerance: high
Soil Requirements: wide
Drought Tolerance: high
Additional Notes: handle with care

INVASIVE TREE MANAGEMENT AND IDENTIFICATION

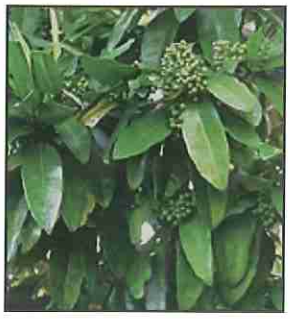
In recent years the emergence of exotic pest plants has led to significant changes in Bermuda's natural habitats. Most of these plants were either accidentally or purposefully introduced, for either social or economic reasons.

Non-native introductions such as the Brazilian Pepper, and the Indian Laurel have proven to be costly invasive pest plants. These plants are responsible for the destruction of retaining walls, the weakening of masonry substructures, and environmental degradation. In Bermuda non-native pest plant populations have continued to expand unmanaged and often unnoticed.

There is a lack of available, condensed information identifying pest plants and conveying the problems associated with them. Therefore, you can assist the Environment Ministry by identifying the location of non-native plants that may exhibit invasive characteristics. If you recognize any of the following plants contact Keanya Francis at 293-2727 x129 or fill out the invasive plant assessment sheet (this is located in the Appendix section) and send it to: Growing with Trees P.O. Box FL 145, Flatts FL BX, Bermuda, Fax: (441) 293-3176

This list has been compiled in order to document various plant species that exhibit invasive characteristics. Plants were selected so that we may assess their degree of invasiveness.

1. Fiddlewood (Citharexylum spinosum)
Family: Verbenaceace
Origin: West Indies
Typical Height: 50ft
Soil Requirements: wide



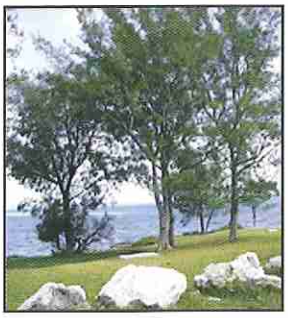
2. Allspice (Pimenta diocia)
Family: Myrtaceae
Origin: West Indies
Typical Height: 30ft
Soil Requirements: wide

INVASIVE TREE MANAGEMENT AND IDENTIFICATION

3. Brazilian Pepper (Shinus terebinthifolius)
Family: Anacardiaceae
Origin: Brazil
Typical Height: 20ft
Soil Requirements: wide
Additional Notes: also referred to as Mexican Pepper

4. Long Leaf Asparagus Fern (Asparagus africanus)
Family: Liliaceae
Origin: South Africa
Typical Height: 2ft
Soil Requirements: wide

5. Asparagus Fern (Asparagus densiflorus)
Family: Liliaceae
Origin: South Africa
Typical Height: 2ft
Soil Requirements: wide



6. Casuarina –Australian Pine (Casuarina equisetifolia)
Family: Casurinaceae
Origin: Asia; Pacific Islands; Australia
Typical Height: 70ft
Soil Requirements: wide

INVASIVE TREE MANAGEMENT AND IDENTIFICATION

7. Indian Laurel (Ficus retusa)
Family: Moraceae
Origin: India
Typical Height: 50ft
Soil Requirements: wide

8. Sword Fern (Nephrolepsis cordifolia)
Family: Davalliaceae
Origin: Tropics / Sub-tropics
Typical Height: 2ft
Soil Requirements: wide

9. Guava (Psidium guajava)
Family: Myrtaceae
Origin: Mexico; Central America
Typical Height: 25ft
Soil Requirements: wide

10. Umbrella Tree (Schefflera actinophylla)
Family: Araliaceae
Origin: Australia; Java; New Guinea
Typical Height: 40ft
Soil Requirements: wide

11. Chinese Fan Palm (Livistona chinesis)
Family: Palmae
Origin: China; Malaysia
Typical Height: 30ft
Soil Requirements: wide

12. Wedelia (Wedelia trilobata)
Family: Compositae
Origin: West Indies
Typical Height: low ground cover
Soil Requirements: wide

INVASIVE TREE MANAGEMENT AND IDENTIFICATION

13. Chinaberry -Pride of India (Melia azedarach)
Family: Meliaceae
Origin: South Asia
Typical Height: 50ft
Soil Requirements: wide

14. Cat's Claw Vine (Macfadyena unguis-cati)
Family: Bigoniaceae
Origin: Mexico; Argentina
Typical Height: woody vine
Soil Requirements: wide

15. Russian Olive (Elaeagnus angustifolia)
Family: Elaeagnaceae
Origin: Europe; Western Asia
Typical Height: 20ft
Soil Requirements: wide

16. Cow Cane -Giant Reed (Adrundo donax)
Family: Gramineae
Origin: Mediterranean region
Typical Height: 20ft
Soil Requirements: wide

17. Pink Trumpet Vine (Podranea ricasoliana)
Family: Bignoniaceae
Origin: South Africa
Typical Height: trailing vine
Soil Requirements: wide

18. Green Wandering Jew -Creeping Day Flower
(Tradescantia flumininsis)
Family: Commelinaceae
Origin: West Indies; Central America
Typical Height: low ground cover
Soil Requirements: wide

19. Oyster Plant -Canoe Plant (Rhoeo spathacea)
Family: Commeliaceae
Origin: West Indies; Mexico; Guatemala
Typical Height: 1ft ground cover
Soil Requirements: wide

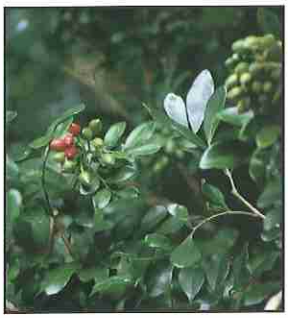
20. Surinam Cherry (Eugenia uniflora)
Family: Myrtaceae
Origin: Brazil
Typical Height: 10ft
Soil Requirements: wide

21. Golden Pothos (Epipremnum aureum)
Family: Araceae
Origin: Southeast Asia
Typical Height: 2ft across
Soil Requirements: wide

22. Morning Glory (Ipomoea indica.)
Family: Convolvulaceae
Origin: N/A
Typical Height: Trailing vine
Soil Requirements: wide

23. Jumbie Bean (Leucaena leucocephala)
Family: Leguminosae
Origin: South America
Typical Height: 12ft
Soil Requirements: wide

24. Buddleia (Buddleia madagascariensis)
Family: Loganiaceae
Origin: Madagascar
Typical Height: Scrambling Vine
Soil Requirements: wide



25. Mock Orange (Murraya paniculata)
Family: Rutaceae
Origin: Southern Asia
Typical Height: 15ft
Soil Requirements: wide

26. Mother-in-Law's Tongue (Sansevieria trifasciata)
Family: Agavaceae
Origin: South Africa
Typical Height: 2ft
Soil Requirements: wide

APPENDICES

CONTAINER GARDENING

Container gardening is a concept that has been around for many years. In fact, flowering plants were grown in vases in China before the Christian era. However, container gardening has become increasingly popular due to the expansion of paved structures as a component of the Bermuda landscape.

The advantage of container gardening is that ground space is not required. Another advantage is that container plants can mask eyesore areas. Finally, plants can be moved and there is less chance of pest damage. Also, there are many places where you can establish a container garden. A front door, porch, patio, pathway, outdoor steps, windowsill and a wall are excellent places to situate a container garden.

Before you start your container garden, there are a few things you need to consider.

- Plan first and plant last. Container gardening requires a lot of imagination.
- Determine your landscape objectives. (eg. consider whether you want to achieve aesthetic qualities, shade, or perhaps privacy.)
- Consider how you will use your property. Do you want a vegetable garden, a pool, a pond, and a self-sustained or low maintenance garden?
- Survey the existing landscape and the surrounding area. Consider power lines, underground utilities, sun, shade, and salt and property lines.
- Prepare a visual land-use plan. Use a pencil, ruler, and paper to sketch the area. Make many different visual plans until you have two or three that you like.
- Choose a suitable container –try to visualize the size and shape that will suit your needs in the future.
- Choose suitable plant varieties –make sure the plants you purchase suit your height, light, growth and climate condition requirements.
- Select an ideal soil mixture –a few plants have very specific nutritional requires.
- Always purchase quality plant stock –avoid buying diseased plants or plants that appear to have deficiencies.
- Feed and water your plants regularly.

For more information on container gardening, consult your local plant nursery. Also, review the suggested reading appendices for titles of books that highlight container gardening.

APPENDICES

SUGGESTED READING

- Atterborough, David.... **"The Private Life of Plants,"** London, BBC BOOKS, 1995.
- Brookes, John...Ed.... **"101 Essential Tips Series: Planning a Small Garden,"** London, DORLING KINDERSLEY, 1996.
- Coombes, Allen J. ... **"Dictionary of Plant Names,"** Oregon, TIMBER, 1995.
- Cooper, Barbara (Tuppy) .... **"Roses in Bermuda,"** Bermuda, BERMUDA PUBLISHING CO., 1993.
- Courtright, Gordon.... **"Tropicals,"** Oregon, TIMBER, 1997.
- Department of Planning... **"Bermuda Landscape Guide,"** Bermuda, Department of Planning, 1992.
- Greenwood, Pippa...Ed..... **"101 Essential Tips Series: Practical Gardening,"** London, DORLING KINDERSLEY, 1998.
- Greenwood, Pippa and Halstead, Andrew...Eds. .... **"Pest and Diseases: The Complete Guide to Preventing, Identifying and Treating Plant Problems,"** London, DORLIN KINDERSLEY, 1997.
- Hessayon, Dr. D.G.... **"The Container Expert,"** London, TRANSWORLD, 1997.
- Hessayon, Dr. D.G.... **"The Easy-Care Gardening Expert,"** London, TRANSWORLD, 1999.
- Hillier, Malcom.... **"Container Gardening,"** London, DORLING KINDERSLEY, 1991.
- Phillips-Watlington, Christine...."**A Field Guide To Bermuda's Botanical Wonderland,"** London, MACMILLAN EDUCATION LTD., 1996.
- Tarling, Thomasina.... **" The Container Garden,"** London, CONRAN OCTOPUS LTD.,1993.
- Walker, Jacqueline.... **"The Subtropical Garden,"** Oregon, TIMBER, 1999.

N.B. Most of these books are available at the Bermuda Botanical Gardens Gift Shop (441) 236-5291, Paget.

APPENDICES

FIELD SURVEY SHEET

ASSESSMENT RECORD FOR INVASIVE NON-NATIVE PEST PLANTS

Name or address of site: _____

_____

_____

Assessment date: _____

Nearest road/street: _____

Parish: _____

Observers: _____

Contact name & address: _____

_____

_____

Description of area: (peat marsh; woodland area; roadside; potentially hazardous-near power-lines; park land; residential area; etc.)

_____

_____

_____

_____

_____

APPENDICES

INVASIVE PEST PLANT SPECIES

	Plants Species	Estimated No. of Plants	Flowers, Fruits Seen?	Seedlings, Sprouts Seen?	Spreading on Site?	Spreading into Natural Area?
1						
2						
3						
4						
5						

NOTES