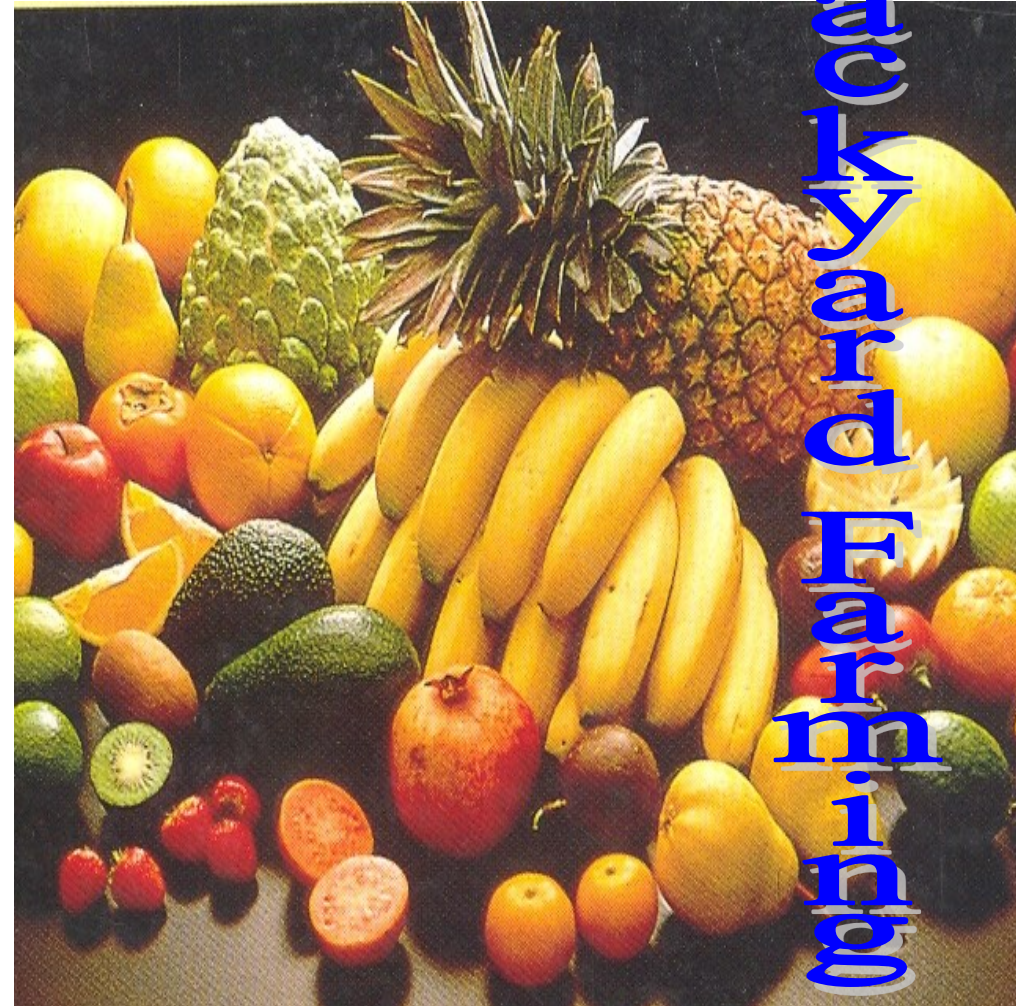


For more information contact
The Ministry of Agriculture and Marine Resources
East Bay and Okra Hill
P. O. Box N-3040
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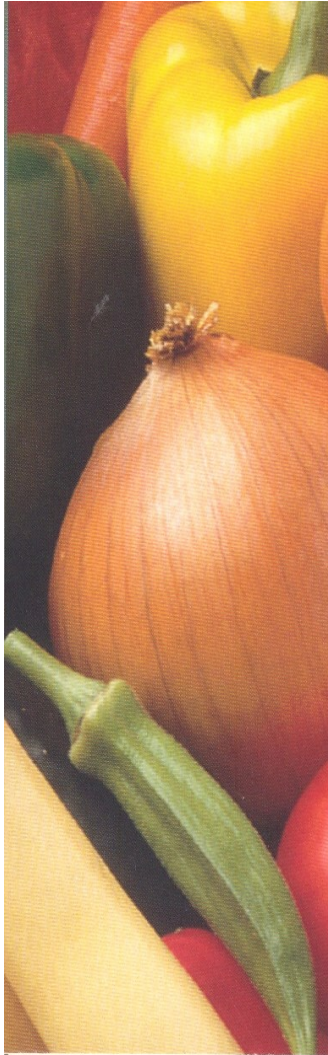
Telephone: 397-7400
Fax: 322-1767
Email : minagriculturemarine@bahamas.gov.bs



Backyard Garden Programme



IN THE BAHAMAS



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IN THE BAHAMAS

“And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat.”

Genesis 1:29

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<http://www.hort.ufl.edu/trees>
 E How To Do Just About Everything
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Foreword

In response to the urgent need for lowering food imports and household food bills in these economically hard times, the Ministry of Agriculture and Marine Resources has embarked on a 'Backyard farming program' for householders in The Bahamas. The information in this booklet was prepared with special reference to the climatic conditions prevalent in The Bahamas.

The booklet has been compiled by the Ministry for both private and commercial use. Special thanks are extended to Mr. Stan Smith and Mrs. Gwendolyn Hammerton, (Assistant Directors of Agriculture) who provided invaluable ideas and assisted with proofing the material.

Additionally, I wish to recognize the following documents, periodicals, organizations and authors that were utilized in the development of this booklet: *Bahamas National Geographic Information Systems (BNGIS) Centre, IICA Office In The Bahamas, BAIC, J. Janick (Ed.), James E. Simon, Mario R. Morales, Winthrop, B. Phippen, Roberto Fontes Vieira, and Zhigang Hao, Bozın B, Mimica-Dukic N, Simin N, Anackov G Chiang LC, Ng LT, Cheng PW, Chiang W, Lin CC de Almeida I, Alviano DS, Vieira DP, et al, .de Almeida I, Alviano DS, Vieira DP, et al (July 2007). "Antigardial activity of Ocimum basilicum essential oil". Parasitol. Manosroi J, Dhumtanom P, Manosroi A (April 2006). "Anti-proliferative activity of essential oil extracted from Tohti I, Tursun M, Umar A, Turdi S, Imin H, Moore N (2006). "Aqueous extracts of Ocimum basilicum L. (sweet basil) decrease platelet aggregation induced by ADP and thrombin in vitro and rats arterio-venous shunt thrombosis in vivo". Thromb. Duke, James A. Department of Statistics Reports—2003/4/5. Simone Van Ee CTA, Agrodok Series # 5 second edition, Ortho books; The Board of Agriculture, 1948; CTA practical guide Series #7, Jackson K. Larry & Futch H. Stephen. University of the Virgin Islands Cooperative Extension service (EFNEP)*

Deborah Abang-Ntuen
Author
September, 2008

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RAGGED ISLAND

Ragged Island had quite a prosperous salt industry in times past.

The salt ponds were opened on Ragged Island in the late 19th Century by Mr. Duncan Taylor; hence Duncan Town, the only settlement on the island.

The salt industry has almost stopped now, but up to a few years ago, salt was still a viable industry in Ragged Island.

Prior to the start of the Castro era in Cuba, Ragged Island boasted of a thriving salt trade with that country.

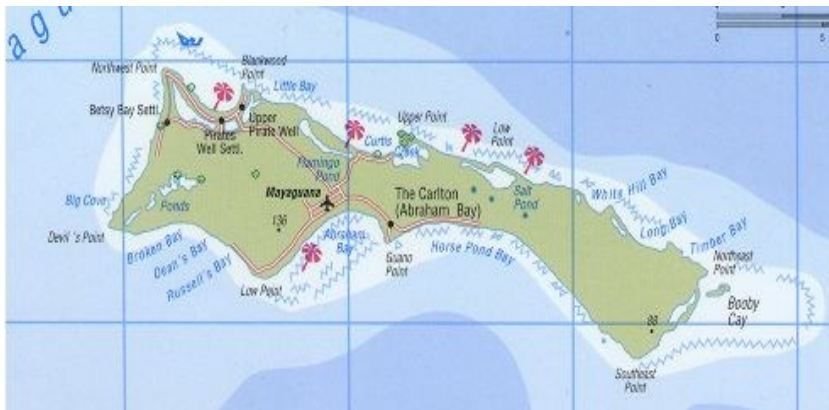
Trade was also carried on with Haiti which supplied Ragged Islanders with mango.

After 1950, many inhabitants left Ragged Island and relocated to New Providence. Hurricane Donna in 1960 swept many roofs off houses and left considerable land damage.



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MAYAGUANA



Mayaguana is the eastern-most island in the Bahamian chain, bordered on the east by the deep waters of the Atlantic Ocean. Mayaguana is home to the Bahamian huita, a rodent that was thought to be extinct until the mid-1960s. It is also home to wildlife especially the flamingo., osprey and nesting sea turtles, which can be found throughout the undeveloped eastern part of the island.

Mayaguana is known for its fertile soil, which is good for farming, and its woody terrain. Lignum vitae and other hardwoods can be found throughout the island.

The island is home to several government nature preserves. It was uninhabited until 1812, when people began to migrate from the Turks and Caicos Islands, which are located about 60 miles southeast.

BACKYARD FARMING

INTRODUCTION:

With the high and rising cost of fuel in the world and in The Bahamas, in particular, it has become a **must** to encourage homeowners to grow some fruits, vegetables and herbs. It is estimated that The Bahamas imported just under \$24 million dollars worth of vegetables, root and tuber crops in 2003; another \$24 million in 2004 and \$26 million in 2005. The import estimate for Edible Fruits & Nuts, Peel of Citrus, Fruit and/or Melons in 2003 was valued at \$15 million in 2003, \$17 million in 2004 and in excess of \$21 million in 2005.

One way to decrease the high rate of imports is for every Bahamian to grow his own basic vegetables and fruits in his backyard. Growing your own vegetables and fruits can be a very rewarding experience. Although a garden takes a lot of time and energy, if you work hard you can make a success of it. Indeed, we *“need to grow what we eat and eat what we grow”*.

Planning your garden and space usage is necessary before you start your garden to ensure optimal use of your property. To start a backyard garden, all you need is the will and the desire to want to grow your own fruits and vegetables. The size of your space will determine the quantity and type of fruits and vegetables that you grow. Successful gardening can be done whether you are living in an apartment with no yard space or you have a very large property with lots of space.

Simple fruits and vegetables that we take for granted, such as tamarind, guava, tomatoes, sweet peppers and others can provide economic benefits for us in more healthful ways than we realize. Backyard grown fruits and vegetables are full flavoured and rich in nutritional value and can be tree or vine ripened and harvested for consumption as compared to chemically ripened fruits.

We should plant vegetables and fruits that meet our family’s immediate needs. Also, care must be taken to ensure that the garden is colorful and provides nutritional benefits that are both beneficial and economical to ensure good health and proper growth for the family. Children should be encouraged to appreciate plant life at a very early age, as it can be beneficial for the whole family.

The thinner and greener the leaves, the richer the food value e.g. (cabbages, collard, lettuce and mustard green) are good sources of calcium, iron and vitamins.

Green vegetables are similar in value to leaf crops e.g. (beans, green onion, sweet pepper)

Yellow vegetables provide a good source of vitamin A (e.g.. Carrots, yellow corn, rutabagas and sweet potato).

Tuber vegetables and some fruits (breadfruit) offer complex carbohydrates such as starch (eg. Cassava, eddoes, potatoes, yams, dasheen etc.)

Tomato, often referred to as the poor man's orange, provides vitamin C. Other vegetables including cucumber, bread fruit and turnips supply vitamins and mineral in varying amounts, each valuable in their own particular way.

Fruits, on the other hand, provide benefits in the lowering of cholesterol, controlling blood pressure, promoting good health and strengthening bones.

The more a person works or plays, the more food he or she needs to consume. Each person needs at least two servings daily of vegetables and fruits in his diet to maintain good health.

Backyard gardening can offer a variety of benefits such as:

- Make economic use of available space;
- Savings;
- Provide family with healthy, nutritious, fresh fruits, vegetables and cooking herbs;
- Exercise;
- Recreation;
- Relaxation and quiet time to think and relieve stress;
- Pleasure;
- Develop and improve family relationships;
- Build pride and community spirit in the neighborhood;
- Promote love of plants;

SPACE/SITE SELCTION

Selecting a good site to locate your garden can be worrisome depending on the available space. However, it is suggested that this process be made as simple as possible. Two of the most important features to consider are the plant's need for sunlight and water.

Protect your garden from insects and pets, especially those that dig the soil, (chickens, dogs, cats etc.). Make sure there is sufficient water nearby to water your plants. Leave space around your plants so that you can tend to them.

Efficient space usage suggestions:

- Backyard
- Side walk
- Walk way
- Placing trays on table tops
- Portable garden
- Where any space is available

LONG ISLAND



There are approximately 6,000 acres of arable farm land in Long Island as identified by the Land Resources Survey of 1970.

Long Island has a sub-tropical climate with heavy rainfall during the months of June and October. December through April are the driest months.

Long Island has a fair amount of red soil considered good for pineapple growing and black organic soil contained in man-made quarry pits that are carved out of the rocks. For decades, Long Island farmers have been pit-farming. In pit-farming the thin layer of soil that overlays the rocks is pushed into heaps. The underlying rock is bull-dozed and excavated down to the water table. The thin soil layer is replaced and spread at the base of the pit. Further building up with available organic material or compost is done until a suitable depth of soil is achieved. Pit land is generally used for banana production.

The major agricultural production includes goat pepper, onion, sweet potato, pigeon pea and corn. Fruit crops consist of mango, lime, pineapple, grapefruit, orange, avocado, banana and watermelon.

INAUGUA



Inagua is the third largest island in the archipelago . Lake Windsor comprises almost one-quarter of the interior, and most of the remaining area is dominated by low, swampy terrain. The highest elevation is 108 feet.

The first permanent settlers in 1803 were in search of salt. Salt, harvested in the shallow lakes, was sold to passing ships. In 1848, the Bahamian economy was in desperate need of an alternative salt supply when the Turks and Caicos Islands ceded.

In 1899, Great Inagua became one of the main sisal growing areas in the Bahamas. Two sisal companies, “Bahama Fiber” and “Standard Sisal Hemp,” cultivated thousands of acres of land. Inagua sisal was used mainly as a binder twine for grain harvest in the United States. The industry failed after the production of fiber in Mexico increased. Plantation owners were no longer able to compete because the American buyers considered the Mexican product a superior fiber. Foreign investors also tried cotton and cattle rearing during this era.

During the latter part of the 19th Century, despite their smaller size and drier climate, the southern Bahamas was very attractive to root crop horticulturalists.

In 1936, the Erickson brothers, of Swampscott, Massachusetts revived the salt industry into a successful operation. . Today, Morton Salt cultivates 2,279 acres of salt ponds, producing over one million tons of salt and employing most of the labour force on the island.

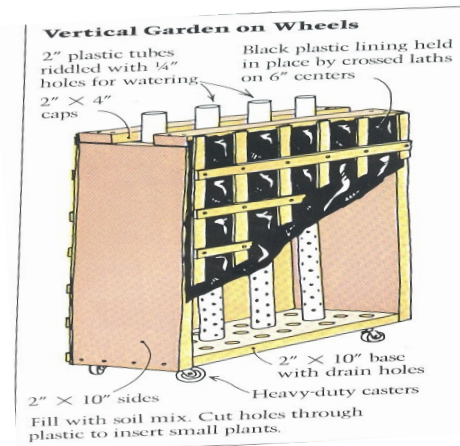


Sectional planting trays

Before Planting



Recycle ceramic pots/ jiffy pots



Window sill Plant containers



Wooden boxes or crates



After planting



Walkways

TOOLS

The right tools are essential for successful gardening. A small hand spade helps to dig and a rake is needed to scratch and level the soil. A shovel can be used to dig into the soil and turn it over. Be careful when handling tools and put tools away when you have finished your tasks. Do not leave them lying around.

Some simple tools for backyard gardening are shown below.



Pot and spade



Watering Can



Rake



Wheel Barrow

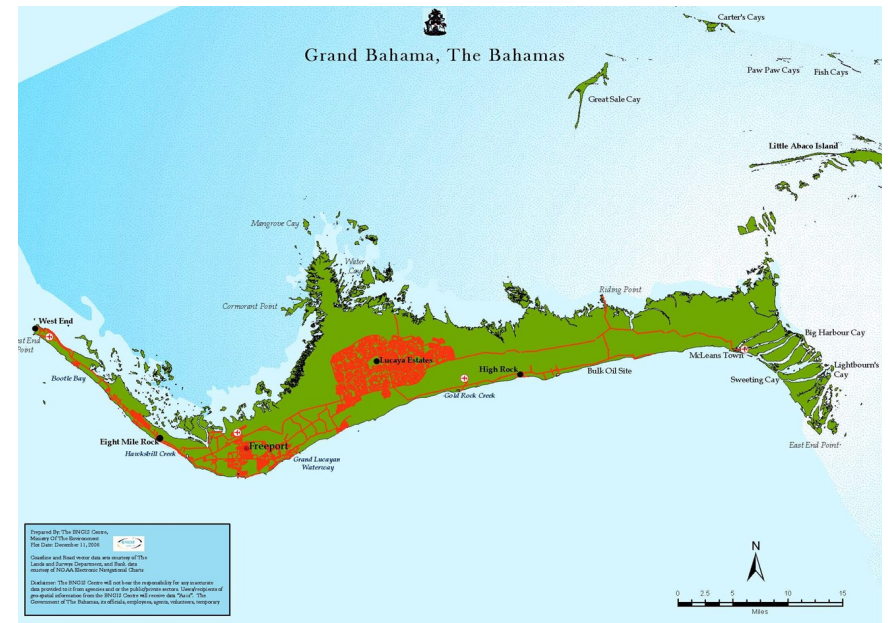


Half recycle PVC pipe



Seedling Tray

GRAND BAHAMA



There are approximately 30,000 acres of arable land in Grand Bahama as identified by the Land Resources Survey of 1970. In 1993, 10,542 acres of forest land were conveyed from the Department of Lands and Surveys to the Department of Agriculture.

Grand Bahama has a sub-tropical climate with heavy rainfall during the months of September and October. December through April are the driest months.

There are no rivers and rain-water soaks away rapidly through the calcareous soil, forming a lens of fresh water floating on salt water.

The soil is similar to that of Abaco: thin layered and limestone in nature. With intensive ploughing, added nutrient, compost and irrigation, the soil can be made very productive.

Small farmers grow traditional vegetable crops such as cabbage, sweet pepper, okra, goat pepper and tomato. Non-traditional vegetable crops such as zucchini, lettuce, squash and broccoli are grown by larger farmers. Fruit crops such as citrus and papaya, are also grown.

EXUMA



There are approximately 2,000 acres of farm land as identified by the Land Resources Survey of 1970.

Exuma has a sub-tropical climate with heavy rainfall during the months of June and October. The driest months are December through March.

Exuma has a rich history of producing onion. The traditional methods of farming are used extensively and there is no large commercial farming.

There are two major fresh water lenses found on the island - one in the area of the Forest and the other south of George Town.

Exuma has three types of soil that are good for farming. The following types of soils found on Exuma are: red or pineapple soil, brown soil and mineral soil. Brown and mineral soils are found in pot holes (banana holes).

Another type of soil found in Exuma is muckland. This is a deep peaty soil which occupies wide hollows that flood during periods of heavy rainfall. Farmers add sand, rocks and leaves to the soil to make level planting areas. These muck soils produce excellent crops of onion and watermelon as they lie just over the fresh water lens.

Vegetables grown are onion, tomato, goat pepper, cabbage and Irish potato and major fruit crops are banana and watermelon.



Watering hose



Jiffy/peat pots

SOIL

For plants to grow well and in an organized manner, mark out the area into a square or rectangle with string to get a perfect square or rectangle. Use wooden boards, blocks or large stones and/or wires to enclose the area. The soil should be fertile and well-drained. Chicken manure, sea weed, compost and other fertilizers can be added to the soil to improve it. Any large stones or rocks must be removed, otherwise they will make it difficult for the roots to develop properly. If you are planting root crops like sweet potatoes, beets and carrots, you can build mounds or raised beds to give the roots more room to grow.

If you do not have enough good soil in your area, you can create compost heaps using discarded vegetable materials.

COMPOST



Compost is rotted material obtained from plant waste or in combination with animal and other waste.

Compost works by providing the right conditions to support the growth of tiny living creatures, micro-organisms, which break down the waste to release nutrients in a form that can be used by crops.

CAT ISLAND



There are approximately 5,000 acres of farmland as identified by the Land Resources Survey of 1970.

Cat Island has a sub-tropical climate with heavy rainfall during the months of October through June. The driest months are February through April

Cat Island is a long narrow island with three large ground water resources. They are located north of Devil's Point, Smith's Bay and in the Dumfries area.

Cat Island has a fair amount of red soil, suitable for pineapple production. There is also a fair amount of brown mineral-rich soil that is usually found in pot holes. Some black-land soils are found in the more sloping areas. It is estimated that the areas of pineapple or red soil amounts to nearly 500 acres. The red soil is especially suited to pineapples while the other types are suited for vegetables, corn and pigeon peas production.

The island has a strong tradition of small scale crop farming in tomato, sweet pepper, onion and cabbage. Field crops include pigeon pea, corn and sweet potato while the main fruit crop is watermelon.

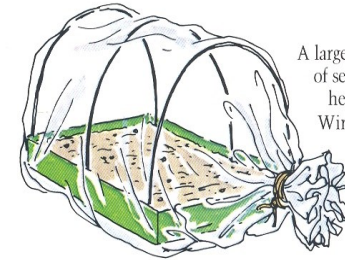
PLANTING THE GARDEN

A seedbed is used to sow the seeds before they are transplanted to the vegetable plot where they will grow. The seedbed can be placed in a small section of the vegetable plot. The young plants in the seedbed must be shaded from the strong sunlight to protect them. Some seedlings need to be thinned out from the seedbed and transplanted. This strengthens the root system and gives them more room to develop. Other plants must be planted directly into the soil, as they do not recover well from the shock of transplanting (for example, watermelon, cucumber and pumpkin).

Below are suggestions for use in areas of inadequate space and facilities:

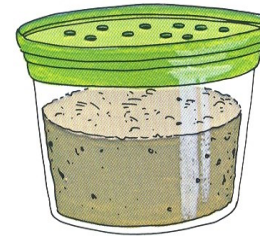
Starting Seeds

Here are some good ideas, which we picked up from backyard gardeners, for starting seeds and handling transplants.



A large plastic bag around a flat of seeds seals in moisture and heat for quick germination. Wire wickets hold up plastic.

Ventilation holes



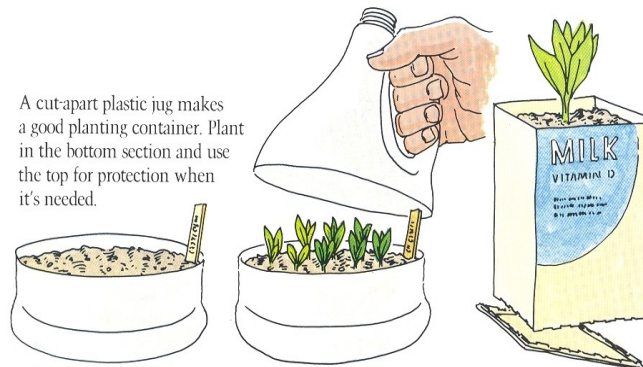
Tubs that held cottage cheese or margarine make good seed-starting containers.



The plastic bag works around a tray of pots, too.



A propagating mat or heating cables keep containers or flats at the proper temperature.



A cut-apart plastic jug makes a good planting container. Plant in the bottom section and use the top for protection when it's needed.

Cut-off milk cartons make excellent transplant containers. Perforate around the bottom for easy removal when transplanting time comes.

CROP ROTATION

Crop rotation works by interrupting the life cycle of the harmful organisms. The idea is that you deprive pest of their only or preferred food source. Examples include pest such as potato tubeworms that will starve to death without the tomato family. Onion maggots will die-out if they cannot find other host plants to live on. Examples of some crop families are:

Crop	Crop Families
• Tomato Family:	Tomato, potato, pepper, eggplant
• Onion Family:	Onion, shallot, leek, chive, garlic
• Beet Family:	Beet, Swiss chard, spinach
• Cole crops:	Cabbage, Cauliflower, broccoli, radish, collards, mustard
• Melon Family	Cucumber, Squash, Watermelon, Cabbage

Take care of your garden:

The garden must be adequately taken care of, in order to have a good harvest of vegetables and fruits. Water is essential for plants to grow well. It is better to soak the ground thoroughly once a week rather than give a small amount of water every day. Your garden should be kept free of weeds. Do not let the weeds choke your plants and take over your garden. Pull them out as soon as they appear. Fertilizer can be added to the soil before planting or after the plants have sprouted. Chicken manure can be used, but it must be allowed to age for about 6 to 8 weeks before being used.

Insects, snails and other pests can be a problem in your garden. These can be picked off the plant or removed by hand. There are some beneficial insects that are essential for your plants and these must be protected especially when applying pesticides. If chemical pesticides are used, care must be taken to correctly follow the instructions on the label. Protect your eyes and skin from direct contact with the chemicals and avoid breathing in the fumes. Always spray downwind to avoid accidental contact with pesticide.

ANDROS



Andros, the largest island in the archipelago has 134,000 acres of agricultural land as identified by the Land Resources Survey of 1970. A total of 13,869 acres of forest land were conveyed from the Department of Land and Surveys to the Department of Agriculture in 1993.

Heavy rainfall occurs during the months of June, September and October. December through May are the driest months.

Andros has no rivers or lakes, and rain soaks quickly through the limestone rocks and forms a fresh water lens that floats on the salt water. Extensive water lenses up to 100 feet in depth, are found on Andros, particularly in the northern portion of the island in the pine forest.

Andros has a thin soil layer which is derived from oolitic limestone. Soils are made highly fertile by adding nutrients, compost and irrigation water.

The major crops grown are vegetables, oranges, grapefruits and limes.

ACKLINS AND CROOKED



Acklins and Crooked are two of the four islands forming an atoll which hugs the beautiful shallow waters of the Bight of Acklins. Bordered by the nearly uninhabited Castle Island and Long Cay, they are as natural as they were when The Bahamas was first "discovered."

The islands existed in virtual obscurity until 1783, when American Loyalists began to settle there. These former plantation owners brought slaves and money to start a short-lived cotton industry which, by the beginning of the 19th Century, had more than 40 plantations employing twelve hundred (1200) slaves.

The population turned from the land to the bounties of The Bight, after cotton growing became uneconomical due to Emancipation and soil depletion. Diving for sponges became the economic cornerstone of these islands until the sponges were decimated by a fungus. The inhabitants now earn their living by fishing and simple farming.

WATER SUPPLY

A uniform supply of water is needed to carry dissolved nutrients to the vegetable crop. In the case of hybrid vegetable crop varieties, without adequate water, the crop will never reach optimum levels. Also, abnormal conditions can occur at high rates. These include blossom end rot of tomatoes and watermelon, incomplete pollination, small fruit size and low sugar content.

To help your vegetables give a successful harvest, there is a critical period during which time your vegetables should get ample water: Examples of crop and critical point are as follows.

<u>Vegetable</u>	<u>Critical Period</u>
• Broccoli	Head development
• Cabbage	Head development
• Carrot	Root enlargement
• Cauliflower	Head development
• Corn	Ear silk and tassel development
• Cucumber	Flowering and fruit development
• Eggplant	Flowering and fruit development
• Lettuce	Head development
• Lima bean	Pollination and pod development
• Melon	Flowering and fruit development
• Onion	Bulb stage
• Tomato	Flowering and fruit setting
• Sweet Pepper	Flowering and fruit setting

CROP BENEFICIAL INSECTS

Seven-Spotted Lady Beetle
Actual size: 1/4"



Twice Stabbed Lady Beetle
Actual size: 1/4"

Green Lacewing Adult
Actual Size: 3/4"



Green Lacewing Larva
Actual Size: 1/4"



Predaceous Stinkbug
Actual Size: 1/4 - 3/4"



Praying Mantis
Actual size: > 2"



Praying Mantis Egg Case



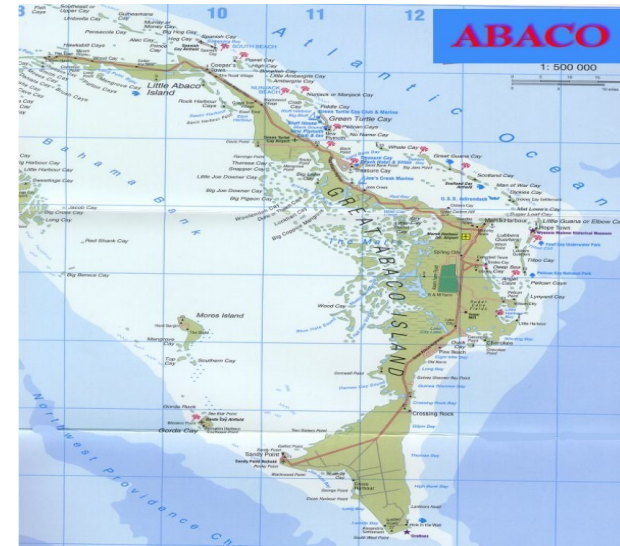
Assassin Bug
Actual size: 1/2 - 1"



Assassin Bug Nymph



ABACO



There are approximately 50,000 acres of good farmland in Abaco as identified by the Land Resources Survey of 1970. A total of 11,737 acres of forest land were conveyed from the Department of Lands and Surveys to the Department of Agriculture in 1993.

Abaco has a sub-tropical climate, with June and September being the rainy months and December through March being the driest months.

There are no rivers in Abaco and the rain soaks quickly through the soils forming lenses of fresh water floating on salt water. Water lenses are up to 60 ft. deep. The deeper water lenses are found especially in the central and southern areas of the island which are broad and flat.

The soil is thin layered and limestone in nature. With added nutrition, compost and irrigation the soil can be very productive.

Vegetable crops grown are primarily cabbages, tomatoes sweet pepper, Irish potatoes. Abaco was especially known for its citrus (grapefruits, oranges limes), mangoes and Irish potatoes. Unfortunately, the citrus industry has been put on hold due to the occurrence of 'citrus canker' disease.

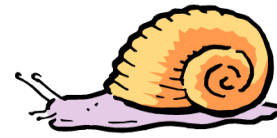
Map of The Commonwealth of The Bahamas



CROP-HARMFUL PESTS



Rat



Snail
Slug



Ants



[Alfalfa Weevil](#)



[Grasshopper](#)



[Boll Weevil](#)



[Codling Moth](#)



[Colorado Potato Beetle](#)



[Green Peach Aphid](#)



[Leafroller](#)



[Lygus Bug](#)

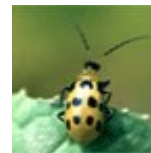


[Pear Psylla](#)

Apgi

Beetle

[Aphids](#)



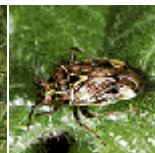
[Spotted Cucumber Beetle](#)



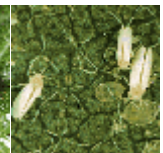
[Stink Bug](#)



[Sweet Potato Silverleaf Whitefly](#)



[Tarnished Plant Bug](#)



[Whitefly](#)

INSECT CONTROL

To manage some pests, chemical spraying may become necessary. However, you should contact an agricultural expert/Officer or other competent person when selecting a chemical control program for your garden. Chemical pesticides are selected on the basis of the insect pests feeding habits. For example, a chewing pest needs a stomach poison. Some have both chewing and rasping mouth parts. Products such as Malathion, Diazinon, Sevin and Bacillus thuringiensis can be selected. For the sucking insects such as whiteflies, thrips and aphids that hide under the leaf, systemic chemicals like Cygon, Karate, Trigard and Admire can be used.

For those persons who are adamant in not using any chemical pesticides, they can consider companion planting as an alternative.

Some plants have the ability to help repel unwanted pests. Some compatible plants that help to repel insects are:

Crop	Companion Plants	Influence
Asparagus	Parsley, basil	Add vigor
Beans	cauliflower, carrots	Help in growth
Broccoli	Dill, sage, mint	Moths, carrot flies
Cauliflower	Celery	Repel cabbage moths
Corn	Potatoes, beans, sunflower	Reduce armyworm
Lettuce	Carrots	Reduce thrips
Melons	Sunflowers	Reduce borers
Tomatoes	Nasturtium, marigold carrots, chives, onions	Protect from red spider mites

In the case of diseases, the most challenging are those transmitted by insect vectors. Whiteflies (*Bemisia tabaci*, and *Bemisia argentifolii*) can transmit Tomato Yellow Leaf Curl Virus to tomatoes causing crop failure. Aphids can transmit Papaya Ring Spot Virus causing crop failure, and cucumber mosaic virus to watermelons causing no fruit development. These pests must be controlled, as there are no current chemical sprays to cure the diseased condition once it occurs.

Plant type	Time to Maturity	When to harvest	Season
Small tree that grows to about 25 ft.	Fruiting occurs about 3 months after flowering.	Fruit is ripened on the tree and harvested when it softens and turns red or purple.	One main crop per year. Season extends from June to October.
Medium-sized tree	Flowering and fruiting begin when tree is 6-8 years old.	Pick fruit cluster when it ripens to a deep purple colour.	Fruit ripening occurs mainly during summer months, between March and October.
Small to medium sized tree	Flowering to harvesting takes about 8 months.	Fruits can be picked when fully matured and still green or after ripening to a deep orange colour.	Fruiting season is generally at the end of the year.
Medium-sized tree, up to 30 ft in height.	Rapidly growing tree which bears in 3 to 5 years.	Fruit is picked when full grown and still firm.	Fruiting season extends from June to October, but is harvested throughout the year.
Medium-sized to large tree (25ft - 100ft)	Trees bear in 5 to 10 years. Budded trees can produce fruit within one year of planting.	Fruit does not fall when ripe and is picked when fully matured.	December to February
Small tree, 10 to 20 ft in height.	Trees bear in about 3-5 years. Fruits ripen about 3 months after flowering.	Pick fruit when rind segments begin to separate, when the spaces between them turn yellowish or pinkish.	Trees flower from March through May, and fruit is harvested from June to September.
Large tree reaching 100 ft in height.	Trees bear after 4-5 years of growth from seed. Trees flower in summer months and bear green fruit in December-January	Fruit is harvested when fully matured. Tamarind fruit can remain on the tree for up to 6 months after ripening.	Fruits ripen from April to June.

SELECTED LOCAL

Common name	Scientific name	Propagation	Cultivation
Scarlet plum	<i>Spondias purpurea</i> L.	Vegetatively propagated from stem cuttings. Take cuttings when leaves begin to appear on stems.	Sprout cuttings in shaded area for a few weeks, then plant in an open area. Prune young trees to encourage branching.
Sea grape	<i>Coccoloba uvifera</i>	Propagated almost exclusively by seed.	Very hardy plant that tolerates drought and saline conditions.
Sour orange	<i>Citrus aurantium</i> (L.)	Propagated almost exclusively by seed.	Provide adequate amounts of water during first two years of growth. A hardy plant that thrives with very little care.
Soursop	<i>Annona muricata</i> L.	Grown from seeds. Usually germinate in 15-30 days.	Propagate in pots, plant in the ground when plants are about 1 ft in height. Water during dry periods. Prune trees for ease of harvesting.
Star apple	<i>Chrysophyllum cainito</i> L.	Grown from seeds. Air-layering takes 4-7 months and bear early.	Plant trees in full sunlight. Water plants weekly for first six months of growth. Prefers water evenly distributed throughout the year.
Sugar apple	<i>Annona squamosa</i> L.	Seeds germinate after about 30 days.	The sugar apple is not particular about soil type and performs well in limestone soils with good drainage.
Tamarind	<i>Tamarindus indica</i>	Seeds germinate in 7-10 days	May be planted in place, but must be watered and kept free of weeds. Trees are slow growing and reach about 2 ft after one year of growth.

Crop

Basil
 Borage
 Catnip
 Garlic

 Lavender
 Marigold
 Mint
 Petunia
 Rosemary
 Thyme

Deters

Flies and mosquitoes
 Tomato worms
 Flea beetles
 Japanese beetles, aphids
 Weevils, spider mites
 Clothes moths
 Nematodes, many more
 Cabbage moths
 Beetles
 Malaria mosquitoes & Carrot flies
 Cabbage moths

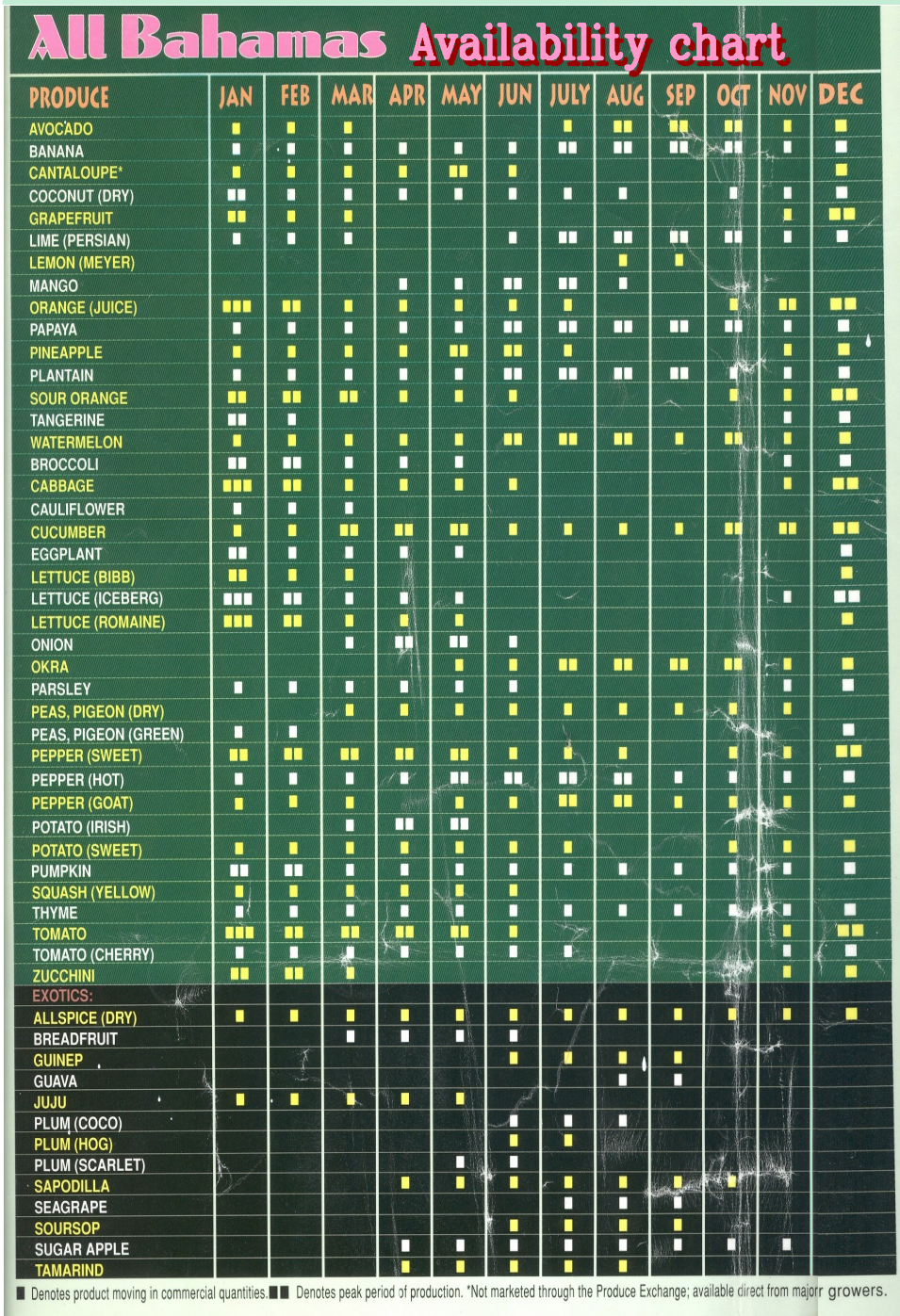
Other diseases such as Powdery Mildew on okra, Downy Mildew on onions, Anthracnose on mangoes, Melanose and Greasy Spot on citrus, and Black Sigatoka on bananas, can be controlled with a range of fungicides currently available at the Fish and Farm Supply Store. Again, the Department of Agriculture can be contacted for advice on preventive spray programs. However, some locally available fungicides are: Cupravit, Dithane M-45, Bravo, Rovral, Aliette and Antracol.

MARKETING

The Government's Produce Exchange on Potter's Cay Dock along with the Packing Houses in the Family Islands, market most of the local fruits and vegetables which generally originate in the Family Islands. There are a few major distributors as well as the major wholesalers and retail food stores which also market some local produce.

The Produce Exchange was established to provide a sure market for small farmers, primarily in the rural Family Islands. The chart overleaf provides an indication of fruits and vegetables purchased by the Produce Exchange, and their peak periods of availability.

FRUIT TREE FACTS



Plant type	Time to maturity	When to harvest	Season
Large tree measuring up to 60 ft in height.	Trees bear in 8 to 10 years	Do not pick fruit until fully matured. When ripe, scratching the rough skin surface reveals a yellow colour underneath.	Produces throughout the year.
Large tree	Grafted trees can produce fruit within 2 years. Mangoes reach maturity about 5 months after flowering.	When ready for harvesting, the fruit will break free from the stem at the slightest tug.	Fruiting season from May to January, depending upon the variety.
Medium-sized tree	Grown from seed, may take more than 10 years to bear fruit.	Harvest when fruit turns from red to a deep purple colour.	Produces throughout the year.
Small tree, 10 to 20 ft in height.	The noni tree bears fruit about 9-12 months after planting.	Fruit is harvested before it is fully ripened and turns a pale yellow colour on the tree.	Fruit may be harvested year round.
Small to medium-sized tree up to 25 ft.	Flowers appear early in the year from March to April, while the fruit ripens during September through October.	Harvest fruit clusters when they turn completely dark purple.	Fruit ripens late in the year.
Large tree (60ft)	Trees take 5 to 8 years to bear. Fruiting occurs 4-6 months after flowering.	Fruit mature over a 5-month period. Pick when stem breaks easily.	Produces fruit throughout most of the year, depending upon variety. Main production occurs from May to September.

SELECTED LOCAL

Common name	Scientific name	Propagation	Cultivation
Mammee	<i>Mammea americana</i> L.	Seeds germinate in 2 months or less	Tolerates adverse growing conditions. Does well in limestone soils and is resistant to pests and diseases.
Mango	<i>Mangifera indica</i> L.	Usually grafted on rootstock, but germinates readily from fresh, fully matured seeds.	Plant tree in sunny location. Irrigate and fertilise for first 4-5 years of life.
Mulberry	<i>Morus nigra</i>	Vegetative propagation. Can be grown from seed, but takes too long to bear.	Spreading tree which requires full sunlight with lots of space. Drought tolerant.
Noni	<i>Morinda citrifolia</i>	Propagate by seeds or by stem cuttings.	Plant in full sunlight. Is tolerant to drought and saline conditions.
Pigeon plum	<i>Coccoloba diversifolia</i>	Propagated by seed.	Adapts well to adverse growing conditions. The pigeon plum is drought and salt tolerant. It is able to withstand strong winds. It thrives well in partial or full sunlight on well-drained soils.
Sapodilla	<i>Manilkara zapota</i> van Royen	Seeds germinate readily, but are slow growing.	Requires full sunlight. Is tolerant of drought and saline conditions.

PLANTING

Succession Planting: One of the most frustrating situations in gardening is to have everything ripen at the same time, if you are growing primarily for your household.

To avoid or minimize such a situation it is best to stagger your planting. For example, plant some tomatoes in October, and again in November about four weeks apart. This can be done for most crops until the planting season for the selected crop is nearing an end. In the event that there are heat tolerant varieties these may be substituted to prolong the season.

CALENDAR FOR PLANTING

JANUARY & FEBRUARY:

All peas, beets, beans, brussel sprouts, cabbage, chinese cabbage, cantaloupe, carrots, cauliflower, cucumber, egg plant, lettuce, leek, mustard, okra, onions, parsley, peppers, garden peas, potatoes, radish, spinach, squash, tomatoes, turnips, rutabagas and watermelons.

MARCH

All types of beans, peas, beets, bennie cabbage, carrots, cantaloupes, cucumber, egg plants, lettuce, mustard, corns (different varieties), sweet potatoes, white potatoes, radish, onions, okra, tomatoes, turnips, peanuts, soy beans, pumpkin, spinach, sorghum, sunflowers, and watermelon.

APRIL & MAY

Pole and field beans, cantaloupes, cucumber, cow peas, bennie, field corn, soy beans, mustard, okra, peanuts, peppers, pumpkin, radish, sorghum, sunflower, tomatoes, watermelon.

JUNE

Egg plant, soy beans, corn, cow peas, peanut, peppers, okra, mustard, sorghum, sun flower, turnips and rutabagas tomatoes.

JULY

Egg plant, corn, mustard, okra, cow peas, spinach, peanuts, peppers, sorghum, turnips, rutabagas and all varieties of beans and tomatoes.

AUGUST

Broccoli, brussel sprouts, all types of cabbages, cucumber, cauliflower, celery, endives, leek, lettuce, Irish potatoes, radishes, spinach, squashes, tomatoes, turnips and rutabagas.

OCTOBER

Bush beans, beets, brussel sprouts, cabbage, carrots, cauliflower, celery, endives, leeks, lettuce, mustard, onions, parsnips, parsley, garden peas, potatoes, radishes, spinach, turnips and rutabagas.

NOVEMBER

Carpet and rye beans, beets, broccoli, cabbage, cauliflower, egg plants, endives, leek, lettuce, mustard, onion, parsnips, parsley, potatoes, garden peas, peppers, radish, spinach, turnips, and rutabagas

DECEMBER

Beets, broccoli, brussel sprouts, cabbage, carrots, cauliflower, celery, collards, eggplant, parsley, tomatoes, garden pea, pepper, radishes, spinach, turnips and rutabagas.

FRUIT TREE FACTS

Plant type	Time to maturity	When to harvest	Season
Medium-sized or large tree (usually up to 30 ft, but could be 60 ft or more.	Trees produced from seeds bear in 5-6 years, while grafted varieties bear fruit earlier, in 3-4 years.	Avocado does not ripen while still on the tree, but must be picked when full grown and mature.	Bears from May to March, depending upon variety.
Palm tree, ranging from dwarf types (5-6 ft) to tall trees reaching 90 ft in height.	Trees begin to fruit in about 5 years. Fruit set to maturity is 8-10 months.	Mature fruit may be picked for its juice and soft flesh when husk is still green, or dried and brown for its meat (copra).	Produces all year round
Medium-sized tree (6-30 ft)	Trees bear in 4 years	Fruit is picked when fully matured.	Trees bear mainly in summer months, with scattered fruiting throughout the year.
Small tree with spreading branches	Trees bear first fruit 2 years after transplanting. Fruit matures 5 months after flowering.	Fruit flavour is best when allowed to ripen on the tree.	Bears throughout the year, but heaviest during summer months.
Large tree growing up to 100 ft.	The time between flowering and harvesting of fruit is about 3 months.	Fruit clusters are harvested when fully ripe.	The season extends from July to October.
Medium-sized tree growing to 60 ft in height.	Fruiting occurs about 3 months after flowering.	Fruit is ripened on the tree and harvested when it softens and turns a golden yellow colour.	September to October
Medium-sized tree, can grow up to 40 ft.	Fruit matures 6 months after flowering.	Fruit can be picked full and green, after ripening to a pale yellow or orange, or when brown and wrinkled.	Fruit is ready for harvest by late summer.
Small tree	Seedlings fruit in 3-6 years after planting. Fruits ripen and fall 5-6 months after flowering.	Fruit can be picked while still green or after ripening to a pale yellow colour.	Trees bear fruit all year round.

SELECTED LOCAL

Common Name	Scientific Name	Propagation	Cultivation
Avocado	<i>Persea americana</i> Mill.	Fresh avocado seeds sprout in 4 to 6 weeks.	Does not tolerate flood conditions.
Coconut	<i>Cocos nucifera</i>	Seeds germinate in 4-6 months	Propagate using seeds from fully matured nuts. The coconut palm is well adapted to sandy soils and saline conditions. It resists strong winds and often withstands hurricanes.
Gooseberry	<i>Phyllanthus acidus</i> Skeels	Seeds germinate readily, but can be propagated by cuttings.	Trees grow in a wide range of soil conditions but prefer moist locations.
Guava	<i>Psidium guajava</i> L.	Seeds germinate in 3 to 6 weeks	Drought tolerant, tolerates poor growing conditions, prefers full sunlight. Trees will flourish with little care, but respond to fertilizers.
Guinep	<i>Melicoccus bijugatus</i>	Grown from seed	Young plants should be given lots of water during dry periods. The plant does well in nearly all types of soil. It is drought tolerant and thrives well under seaside conditions.
Hog plum	<i>Spondias mombin</i> L.	Vegetatively propagated from stem cuttings. Take cuttings when leaves begin to appear on stems.	Young plants should be given lots of water during dry periods. The plant does well in nearly all types of soil. It is drought tolerant
Ju jube	<i>Zizyphus jujuba</i> Mills	Can be grown from seed	Prefers sunlight and should not be shaded by taller plants. Tolerates poor growing conditions. Drought tolerant, but should be watered during growth season to ensure good fruit.
Key lime	<i>Citrus aurantifolia</i> (L.) Swing.	Can be grown from seed	Provide adequate water during first two years of growth. Plant in full sunlight. Trees need warm temperatures to produce quality fruit.

Suggestion for a Home Garden in the Bahamas to meet the needs of a family of five

Vegetable Crop	No. running feet of row	Seed & plant guide	Depth to cover in inches	Space between rows	Plant set/thin-out in rows	Days (Time) to reach maturity
Bean, Bush	200ft.	4 lb.	2 in.	3 ft.	2-3in.	48-56
Bean, Pole	80-100 hills	½ lb	2 in.	3-4 ft.	3 ft. hills	65-70
Bean (Bush Lima)	40 ft.	½ lb	1 in.	2½-3 ft.	4-5 in.	65-70
Bean, (pole Lima)	20 hills	1 lb	1 in.	3-4 ft.	3 ft. hills	88-90
Beets	80 ft.	2 oz	½-1 in.	1½ -2ft	2-3 hills	56-68
Broccoli	40 ft.	½ oz	½-1 in.	3-4 ft.	18-24 in.	115
Cabbage	60 ft.	50 plants	½ in.	2½-3ft	12-15 in.	80-115
Chinese Cabbage	20 ft.	½ oz	½ in.	2½-3ft	12-15 in.	85
Carrots	40 ft.	½ oz	½ in.	1½-2ft	2-3 in.	75-92
Cauliflower	40 ft.	30 plants	½ in.	2-3 ft.	18-20 in.	85-105
Cucumber	10 hills	1 pkt.	½ in.	4-5 ft.	18-24in.	68-85
Eggplant	30 ft.	12 plants	½ in.	4-5 ft.	36 in.	115-125
Kohlrabi	60 ft.	1 oz.	¼-½ in.	1½-2 ft.	4-6 in.	50
Lettuce	150 ft.	1 oz.	¼ in.	1½-2 ft.	10-15 in.	60-90
Mustard	40 ft.	1 pkt.	½ in.	2 ft	12 in.	60-90
Okra	75 ft.	2 oz.	¼-1in	3-4 ft.	10-15 in.	60
Onions	80 ft.	1 oz.	¼-½ in.	18 ins.	3-4 in.	42-45
Onions set	40 ft.	1 qt.	1 in.	18 ins.	2-3 in.	30-60
Parsley	50 ft.	1 pkt.	½ in.	1½-2ft.	3-4 in.	120
Peas	200 ft.	3 lbs.	2 in.	3 ft.	2 in.	60
Peppers	20 ft.	12 plants	½ in.	3-4 ft.	18-20 in.	105-125
Potato/Irish	200 ft.	25 lb.	6 in.	2 ft	15 in.	75-80
Radish	50 ft.	2 oz.	½ in.	18 ins.	1-2 in.	21-25
Spinach	25 ft.	1 oz.	½ in.	3 ft.	20 in.	60
Squash	12 hills	1 oz.	¼ in.	4-5 ft.	2 ft. hills	42-52
Tomatoes	150 ft.	48 plants	½ in.	5-6 ft.	2 ft. hills	85-110
Turnips	60 ft.	2 oz.	¼ in.	15-20 in.	1 in.	35-50

WHEN IS MY CROP READY?

You have followed the procedures of fertilizing, planting, watering/irrigating, weeding, applying the right amount of mulching and excluded the pest from your crops, but you don't know when to pick or harvest them. If you pick the corn too early, its kernels will be watery; pick it too late and it will be starchy and tough.

The harvest and storage tips reflect the experience and the advice of farmers and agriculturists. Some crops slip easily off the plant when they are ready, others need a helping hand. Use a sharp knife or pruning shears to harvest vegetables such as green or snap beans and eggplant, which should be picked when they are slightly immature.

With many vegetables, the act of harvesting fruits that contain developing seeds stimulates the plants to keep producing (corn, melons, and onions are exceptions).

Prompt harvest also prevents crops like summer squash from getting too big and pithy to use, and fruits like tomatoes from rotting on the vine. If you spot over-ripe or rotting vegetables, pick and toss them on the compost pile.

Eat Local Fruits In Season

2	3	4
Controls blood pressure	Promotes normal clotting of blood	Strengthens bones
Strengthens bones	Supports immune system	Helps nerves function properly
Supports immune system	Lowers cholesterol	Combats cancer
Lowers cholesterol	Controls blood pressure	Maintains healthy bones
Protects against heart disease	Helps prevent birth defects	Supports immune systems
Supports immune system	Promotes normal clotting of blood	Helps heal wounds
Controls blood pressure	Lowers cholesterol	Combats cancer
Promotes healthy skin	Helps prevent anemia	Supports immune system
Promotes normal clotting of blood	Supports immune systems	Helps nerves function properly
Controls blood pressure	Maintains healthy bones	Helps heal wounds
Supports immune systems	Promotes healthy skin	Lowers cholesterol
Helps heal wounds	Support immune systems	Strengthens tendons
Helps prevent anemia	Helps nerves function properly	Controls blood pressure
Combats cancer	Strengthens tendons	Supports immune systems

Four Health Reasons To

FRUITS	SEASONS	1
Avocado	October - March Depending on variety	Lowers cholesterol
Banana	Year-round	Controls Blood pressure
Carambola	Year-round	Helps heal wounds
Guava	Year-round	Support immune systems
Mamey Apple	July-October	Helps brain function properly
Mango	February-September	Control blood pressure
Papaya	Year round	Support immune Systems
Passion Fruit	Year-round	Controls blood pressure
Pomegranate	Year-round	Help brain function properly
Soursop	Year-round	Support immune Systems
Sugar Apple	July-November	Helps heart function properly
Surinam Cherry	Year-round (varies with rainfall)	Combats cancer
Tamarind	April-July (also October-July)	Lowers cholesterol
West Indian Cherry	Year-round (varies with rainfall)	Helps heal wounds

ASPARAGUS Start harvesting when the spears are 6 or more inches long and as thick as your little finger. Snap them off at ground level and stop harvesting after several weeks so the plants have time to recharge for next season

BEANS: Green or snap types (such as 'Blue Lake'). Nip beans off as sides of pods start to swell, but before they get stringy and lose their ability to snap

BEANS (Snap): Best eaten when beans inside the pod are about one-quarter of full size. Pick frequently because they are quick to turn tough and starchy.

BEETS: Ready for eating when the roots reach an inch or more in diameter. Start your harvest with the tops, which make excellent greens

CABBAGE: Begin harvesting them if the heads feel solid when pressure is gradually applied. The heads often split if allowed to grow overripe.

CARROT: Depends on variety and size preference. Pull one from the ground to check its length and then give it a raw taste test.

CAULIFLOWER (& BROCCOLI): Harvest when the heads are full and smooth and before the colour starts to turn.

CORN: When silk tassels start to dry, peel husk from an ear and pop a kernel with your thumbnail. If water comes out, it's immature. If it's tooth-pasty, the corn is past its prime. If milky fluid comes out, it's perfect. The "milk" of white corn is clearer, while liquid from yellow corn is yellowish.

CUCUMBERS: For fresh eating, pick standard cucumbers at about 8 inches long, Armenian and Japanese types up to 20 inches, lemon cucumbers under 3 inches.

CUCUMBER: (and Zucchini): Inspect daily and pick early and often. "Zucchini can be troublesome," Haynes said. "... If it gets too big, it can get too soft. But the more you harvest, the more the plants fruit for you."

EGGPLANT: Shiny-skinned, immature eggplant is tender and good. Dull-skinned, mature eggplant has hard seeds and flesh that separates into channels - not what you want

MUSKMELONS (CANTALOUPE): After the skin has become netted, give the fruit a gentle tug, bending the vine slightly as you do; when it's ready, it will "slip" (separate) from the vine.

OKRA: This vegetable can be harvested in less than two months of planting. They must be harvested when they are very young, normally when they are two to three inches long, or in their tender stages.

ONIONS: Before bulbs mature, harvest green onions (scallions) for chopping into salads. When bulbs are large enough to pick, use your foot to bend the leafy tops down to the ground and let the bulbs harden and cure for three weeks before you pull them.

PEA: Pods should feel full but not plump or the peas will have hardened and become bitter. Peas are like strawberries; they cry out to be sampled. Pigeon peas however, can be harvested either as a green or a dry product. The green pea is harvested when the pea feels firm in the pod; while the dry peas is allowed to completely dry on the tree before harvesting. Dry peas can be shelled or left unshelled and stored for later use.

PEPPERS: You can pick any pepper when the pod is firm and fully developed, regardless of color.

POTATO: In the case of 'buried treasure,' like garlic and potatoes, you need to look at their leaves for signs of readiness. Potatoes can be harvested when their foliage starts to turn yellow. 'Dig slowly and carefully to avoid slicing or bruising the tubers'.

SQUASH: Summer squash - Harvest fruits before they mature. Pick zucchini at 5 to 8 inches long, yellow crookneck at 4 to 7 inches, scalloped squash (patty pan) before it turns ivory white.

Plant pineapple 35.5 inches to 47 inches apart. The distance between rows is 23.5 inches and the distance between plants is 12 inches. (see diagram).

Irrigation: A minimum annual rainfall of 24 inches is required but, 39-59 inches of rainfall evenly spread throughout the year is better for optimal production.

Fertilizer: The nutrient N(4) P(9) K(6) can be used to compensate for nutrient losses in the soil.

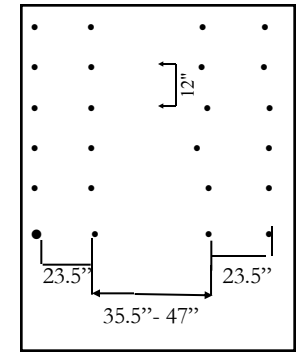
Flowering: To induce flowering, Calcium Carbide can be used. Mix 1 oz of calcium carbide in 7 pints of water and pour 1/10 pint into the crown of each plant. Apply in the evening to avoid burning the plant. Use when plants are 10 to 12 months old. The plant will flower in 45 days after the treatment and the fruit will be ready 6 months after the flowering.

Harvesting: Pineapples can be harvested 12 to 24 months after planting. It is harvested with a long knife or cutlass. Harvest when fruits are half ripe (when half of the fruit has changed colour). Once harvested, leave the plants in place and retain one or two side shoots at the base from which a new plant will grow. It is advisable to harvest no more than three times from the original plant. The longer the same land is used the higher the risk for nematode infestation.

Pests and disease: Nematodes are a major problem in pineapple cultivation. An infected plant turns yellow, growth slows down and lumps and lesions appear on the roots. Root knots are also caused by nematodes. To prevent nematodes from attacking your pineapple crops use healthy planting materials and rotate crops after a maximum of three crops either with a grain, sweet potato, sugar cane or grass crop for at least 3 years before planting pineapples again.

Mealy Bugs: A mealybug can be recognized by its grayish white colour covered with a white waxy substance. The mealybug is 4mm long and it causes wilting. To prevent the spread make sure your planting material is free from mealy bugs. Diazinon or Malathion can help to control the mealy bug. Ants should also be controlled as they are a carrier of mealy bugs. Be careful when spraying your plant so that you do not pollute the environment or create health problems. When in doubt seek professional advice.

Fungal disease causes the heart of the pineapple to rot. A fungicide solution can be used to combat this disease. Strong, direct sunlight can damage the fruit. If necessary, tie the leaves over the fruit to protect it.



To avoid unnecessary problems later on, it is recommended that you purchase a grafted or budded tree.

Papaya & Passion

Crops that are propagated by seeds are papaya and passion fruit. Choose plants that produce large, good quality fruits. Make sure plants are disease-free. Remember that some diseases are seed-borne. This means that the diseases occurring on the parent plant will be transmitted to the new plant through the seeds.

Banana

Bananas are propagated by suckers via cuttings.

Pineapple

Pineapple (*Ananas comosus*) is a perennial plant that is propagated from side shoots. The plant grows to a height of about 2½ feet and after 1-2 years begins to bear fruit. Pineapple requires:

- Minimum rainfall of 24 inches - 59 inches rainfall evenly spread throughout the year.
- A sunny climate is necessary although direct sunlight can damage plant and fruit.
- An acid soil. with a pH 5.0-6.5. It will not grow in alkaline or chalky soil.
- In areas with very high rainfall a well-drained soil is essential.
- Can survive dry periods without extra water, but irrigation during these period will shorten the cultivation period.

Planting Materials: There are many different pineapple cultivars available. Choose the one that suits your climate. Do not plant different cultivars too close to one another as cross-pollination can occur. If this occurs, the fruit will set making it worthless.

Crowns, suckers and slips from the pineapple plant can be used. Slips are preferred for planting materials. If you want the whole field to ripen at the same time, you must plant cuttings at the same size and type. If you have a small amount of planting materials and want more you make cuttings from the stem of an old plant. Cut the stem lengthwise in two, then cut these pieces into 2 inches lengths. Plant them in nursery in peat moss or sand. Stem cuttings rot very easily and therefore cannot be used in humid areas. Always use healthy materials that are free from diseases and pests.

After cutting, let them dry out for a few days before planting. If kept dry the cuttings can be stored for up to a month. Each sucker has a different growing rate.

SWEET PEPPER: These are sweetest and most flavorful when fully mature. That's usually (but not always) signaled by a color change. Bell peppers can mature green, yellow, red, orange, maroon, or brown; pimiento ripens red; wax types go from yellow to orange or red.

TOMATO: In summer, harvest after fruit colors fully. In fall, when night temperatures drop below 55°F, pick all fruits with color and allow them to ripen indoors (dark green fruit will never ripen but may be used in chutney).

WATERMELON: Look and listen for these four signs of ripeness:

- A withered tendril where vine meets melon.
- Creamy white belly (or yellowish on seedless kinds).
- Dull skin.
- A hollow sound when thumped.

HERB GARDENING

BASIL

Basil is a tender, low-growing herb that is grown as a perennial in warm, tropical climates. Before sowing, ensure that the compost or soil is moist (water generously the day before sowing).

Basil seeds should germinate in about a week and once the seedlings have developed 2 pairs of true leaves then you can thin out the weakest seedlings in each pot, leaving the stronger ones. It should be grown in a position that receives a good amount of sunlight - around 6-8 hours a day. Basil can be grown indoors on a sunny windowsill or outdoors in containers or soil. If growing outside try and position the basil in a sheltered spot that avoids cold winds.

Basil likes a fertile soil that has been well dug to allow good air circulation. Introducing well rotted organic compost or manure into the soil a month or so before sowing will help this situation.

Water every week (more often if growing in outdoor containers or indoors). When watering your basil make sure to water at the base of the plant, avoid showering the leaves and stems. Be sure to pinch out any flowers that appear. This will help preserve the plants' flavour and also channel the plants' energies into more leaf growth.

Basil can be used in fresh or dried form. To dry basil, cut the stems at soil level and dry them in a dehydrator or hang bunches of stems up to air dry in a warm room; this should take about a week. Once the leaves are dried you can remove them from the stems and then store them in a dry airtight container for up to 12 months.

Basil is most commonly recommended to be used fresh; in cooked recipes it is generally added at the last moment, as cooking quickly destroys the flavour.

FRUIT CULTIVATION

PREPARATION

Ground should be cleared of stones and debris

Windbreakers

Plant windbreakers at right angles to the prevailing wind direction so as to protect the young plants from wind and to provide shade.

Planting Patterns

Plant trees in rows. The distance between the rows should be larger than the distance between trees. The spacing of plants and rows will allow space for movement mechanically or otherwise in your garden.

Transport and Planting

Transport plant in polybags (plastic bags) or pots with a big ball of soil around the roots.. If it is bought with exposed roots, cover them with a plastic or wet newspaper.

Plant trees at the start of the rainy season. but you can prepare the hole in the dry season. Add compost, manure and phosphate fertilizer before placing the plants. Press the original top soil down firmly around the trees., then water thoroughly. During planting, place a sturdy pole that can serve as a support in the first years. This should be about 6½ feet long and driven 1½ feet in the ground before or during the planting. Grow fruit trees on a well drained soil. Destroy weeds, bruised or infected and infested plant materials.

Intercropping

In the first 2-4 years, while the trees are young, a secondary productive crop can be grown between the rows. This strategy allows you to take advantage of the spaces by intercropping. Do not sow crops near trees as they will compete for the same nutrient and water as the young trees.

Points to remember are: do not plant the same crop on the same land season-after-season; rotate crops, use healthy planting materials and your garden will reward you with luscious crops for many seasons.

Good quality planting material is essential for long life and a good crop. Fruit trees should not be grown from seed because it may not inherit all the characteristics of the parent plant. Also such trees can take up to five years or more before bearing and indicating whether or not they meet expectations.

MINT

Step 1



Choose a site where mint can roam freely without disturbing other plants in your garden. It is often happiest in partial shade and in moist, moderately rich, slightly acid soils, but it will grow in any light from full sun to full shade and in any kind of soil you happen to have.

Step 2

Buy mint plants at the nursery for planting in early spring, as soon as the ground can be worked. (Mint does not grow well from seed.)

Step 3



Plant mint in its ideal conditions if you want a vigorous ground cover. To contain its enthusiasm, give it a less-than-perfect home (for instance, full sun and soil that's on the dry side).

Step 4



Set plants 12 to 18 inches apart, depending on the variety. To control their rampant ways, plant them in bottomless containers sunk into the soil. Clay drainage tiles, about 10 inches deep and 6 to 8 inches across, are ideal.

Step 5

Keep the soil moist until the plants are established.

Step 6



Pinch stem ends off each spring to keep plants bushy. At the end of the gardening season, prune plants back to near ground level and top-dress with compost.

Step 7

Harvest sprigs as you need them throughout the growing season.

THYME



One of the most useful herbs for the kitchen is thyme. Thyme reaches a height of about 12 inches and is best suited either to the rock garden or the front of a border. Sometimes it is grown between paving stones. It is highly aromatic and when trodden on, its scent is intensified.

Thyme likes a well-drained light soil; it should not be too rich in nutrients which will only make the plant 'leggy' and lose its compact shape. Being a native of the Mediterranean, it needs a place in full sun.

Roots should be divided in April using plants three or four years old. Dig up the plant, clear away as much soil as possible from the roots and gently separate the plant into three or four pieces. The pieces (each should have a portion of root and foliage) can then simply be planted in the ground and left to grow. They should be ready for moderate harvesting in early July.

Seeds should be sown during March, in normal potting compost. Because the seeds are so small, only cover them very lightly with the compost. Place them in a warm place, 16° C (60°F), and the seedlings will emerge in week or so. When the plants are about 10 cm (4 ins high) they can be moved outside to their final position (harden them off first). They have a spread of about 30 cm (12 ins) and should be spaced at this distance apart.

Thyme requires very little attention - water only in very dry conditions and feed sparingly. A good mulch with organic matter in October will help protect them from draughts and will also provide most of their feeding needs. If organic matter is not available, a handful of bone-meal per plant in mid-May and July will meet their needs.

Thyme is used most widely in cooking and provides lots of iron. Thyme is a basic ingredient that is widely used in Arab and Caribbean Cuisine; and also among other European and Latin American countries.

Thyme is often used to flavour meats, soups and stews. It has a particular affinity to and is often used as a primary flavour with lamb, tomatoes and eggs.

ROSEMARY



Rosemary has leaves which look like pine needles. It is these needles which can be finely chopped and used to flavour a variety of dishes, especially stuffing. Many cooks simply cut sprigs of rosemary and place on many roasted meats, especially lamb, pork, chicken and turkey with great results.

Rosemary prefers a light soil, a sandy soil will fully satisfy its meager feeding needs. Rosemary is tolerant of most soil conditions as long as they are not water-logged. It prefers a slightly limey soil (the opposite of acid) because this results in smaller plants with more fragrant leaves. Rosemary prefers sunny and sheltered conditions.

The ideal time to plant rosemary is April. Dig a hole in the soil slightly larger than the size of the pot. Add about 1cm (quarter inch) of sandy soil to the bottom of the hole. Place the plant in the hole and fill around with a mix of half sandy soil and half of the soil that was removed from the hole.

Rosemary does not like to have its roots disturbed, so leave as much of the root ball undisturbed as possible. Water well if the conditions are at all dry.

The herb rosemary grows extremely well in large pots or other containers. The pots need to be reasonably deep because rosemary is a deep-rooting herb. Fill the pot with a mixture of 20% sand or grit and 80% standard potting compost. Make a hole in the compost and place one rooted cutting in the middle of the pot. Water the plant well to help it settle in and consolidate the soil around the roots.

A windowsill out of direct sunlight is an ideal position. The seedlings can be transplanted to their permanent position when they have rooted, this will be in roughly eight weeks time.

Rosemary requires very little care throughout the year. Water only when the compost is clearly dried out and feed once a month with liquid fertilizer from April to October. Trim the side stems to keep the plant to the size you want, the best time to do this is just after they have flowered.

PARSLEY



Possibly the most popular herb grown in cooler areas, but also one of the most 'failed' herbs. There are two reasons for this - firstly parsley is not so quick or easy to germinate as many other herbs. Secondly, it does require a reasonably rich soil to perform well.

The two common varieties are curled-leaf and flat-leaf, although a wide range is available from specialist seed companies. All varieties are treated the same.

Parsley is often very slow to germinate because it needs high temperatures. For this reason it is always recommended that the seed is sown in pots and kept indoors in a warm room until the seedlings have sprouted.

In March, sow four or five seeds to the pot. If you are lucky, most of them may germinate; thin out to one seedling per pot. Prepare the soil outside by digging it well, and incorporating as much organic matter as possible. Add bone-meal to the top layer of soil. The seedlings can be planted outside when they are about 8 cm (3 in) high.

Once growing well in a good soil, it is a low maintenance plant. Its leaves are attractive, and can be used both as an attractive garnish and a flavouring for many foods.

A monthly dose of general fertiliser will keep the plants healthy. Parsley sown in March can normally be harvested until July of the following year. Because it is a biennial, it will then begin to produce seeds which ends the plant's use as a herb. Sowing later than March is fine, the plants will mature later and this will extend the harvesting time.

Parsley does not usually suffer from pests and diseases. Occasionally, greenfly attacks them. Spray with derris (available at almost all garden centers) as a preventative measure in June and August.

Parsley is an excellent plant for growing in all sorts of containers - some very attractive pots are made especially for growing parsley. No special care is required - just keep them in a sunny spot, feed regularly with a liquid plant food, and ensure the pot compost is kept moist.

The fresh flavor of parsley goes extremely well with fish. Parsley is a key ingredient in several West Asian salads, a bundle of fresh herbs used to flavor stocks, soups and sauces. Additionally, parsley is often used as a garnish.