

AGRI AMBASSADORS



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Introduction Brochure

OVERVIEW

As sustainable farming is such a critical issue world-wide, this business concept seeks to not only provide a source of income to the implementing organisation through vegetable sales, but also to provide hands-on training to people from local communities in agriculture to encourage their own food gardens to provide food security to their families.

The Agri-Ambassador Programme takes participants through a 4-year development programme incorporating agricultural expertise, entrepreneurship and leadership training. During regular sessions participants receive input on the basics of food growing while applying the knowledge by tending to the organisation's farm. The aim is to equip participants with the understanding, knowledge and passion to pursue a career in agriculture, while providing food for their families and the community.

Participants for this program may be sourced from local schools, community members or volunteers. Typically, this program is run out of a central community organisation that homes the first-year garden and the second-year seedling project, together with the regular education sessions.

The programme is offered with an open framework that can be adapted to meet the needs of any community or location according to their needs.

The progression of the students will be selected based on their performance in the previous year, for example, second-year students will be selected from the group of successful participants from the first-year and third-year students will be selected from the group of successful participants from the second-year.

Students who have successfully progressed onto the fourth year will be given the title of 'Senior Agri-Ambassadors' and be responsible to oversee the third-year participants as well as plan and develop a community-based garden that assists in feeding a school or community in need.

Graduated Agri-Ambassadors will go on to complete their project and then be available as possible staff positions at the centre or as candidates at local agriculture colleges and internship positions or for funding to start and grow their own agriculture business.

MODULES THAT WILL BE COVERED



MODULE 1: GARDEN SETUP

MODULE 2: GARDEN EQUIPMENT



MODULE 3: BIRDS BUGS & SLUGS

MODULE 4: GROWING YOUR OWN FOOD



MODULE 5: ALTERNATE WAYS TO GROW VEGETABLES

MODULE 6: VEGETABLES AND HERBS



MODULE 7: HARVESTING TO SELL

MODULE 8: THE BUSINESS OF VEGETABLES



MODULE 9: NUTRITION EDUCATION

FUTURE MODULES



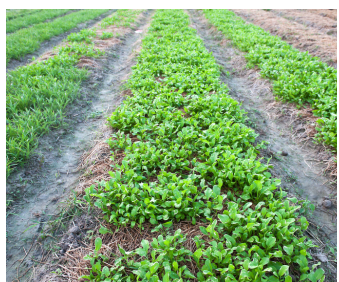
MODULE 10: PLANTS FOR MEDICINE

MODULE 11: THE BUSINESS OF SEEDLINGS



MODULE 12: PLANT ILLNESS AND DIAGNOSIS

MODULE 13: LEADERSHIP



MODULE 14: ORGANIC FARMING

MODULE 15: COMMUNITY DEVELOPMENT



MODULE 16: DEVELOPING A COMMUNITY GARDEN

EXAMPLES OF MODULES



MODULE 1: GARDEN SETUP

Lesson 1.1 - Soil Types

Introduction

A healthy productive garden starts with knowing your soil. In this lesson you will learn about the different types and layers of soil.

a) Soil types

Soil consists of mineral particles of various sizes and both plant and animal matter. There are as many soil types as there are locations. Understanding what type of soil you are working with is the first step to developing your garden.

- Clay is a very fine grain soil with little or no plant matter. It becomes sticky and slimy when wet and retains a lot of water but during the dry season it becomes very hard and almost impossible to dig. Only a few plant species can grow in clay and is not good for vegetables who need to develop fast and deep roots.
- Sandy soil contains particles that can originate from rocks or the sea. Typically, sand soil contains very little nutrition and does not retain water. It is very difficult to grow any type of healthy plant in sandy soil.
- Mud or silt soil is found in valleys and close to rivers or wetlands. Depending on the origin of the soil, it may contain many needed nutrients and plant or animal matter. The darker the soil the better it will be for vegetables. But mud can also just be washed away clay or sand that has little or no value at all and when it dries it cakes into a cracked dry surface.
- Rock shale is often found close to sandstone hills. It is dry and filled with rocks of various sizes. This type of soil is perfect for grape vineyards and plants in the fynbos family, but not productive for vegetables.

b) Soil Layers

Soil in gardens will have two different layers namely, topsoil and subsoil.

Topsoil is the upper or surface layer of soil, where most of your vegetables will take root and draw their nutrition from. Subsoil is the lower layers and is often more compact and contains more mineral deposits. This is where deep rooted plants will develop taproots and root-based vegetables.



MODULE 2: GARDEN EQUIPMENT

Lesson 2.1 – The Right Equipment For The Right Job

Introduction

Make it a rule in your garden: Always use the right tool in the right way for the job. This will ensure that your garden is always well kept, and this will reduce the amount of personal injuries and help your tools last longer.

Garden tools are each designed with a specific task in mind. They have had years of engineering and development put into their creation. Knowing what each tool is used for and how to use it will help you achieve your tasks in your garden.

Using tools in the correct way will also reduce personal injury, that is common in labour intense environments. Tools that are used correctly and well maintained will last for a very long time and give you many years of productive use.

In the tool catalogue that follows we will describe each tool under the following headings:

- Description
- Use
- Care and Maintenance
- Storage

Lesson 2.2 – Tool Catalogue

Hand Trowel



Description

A hand trowel is going to be the most used tool in your garden. They are light and easy to use to dig, plant and mixing soil. Hand trowels come in many different shapes and sizes, but all have a short handle with a V-shaped triangular blade.

Use

Hand trowels are great for any small digging and mixing of soil. They are an essential part of planting as well as regular garden maintenance such as weeding and soil aeration.

Care and Maintenance

Always rinse off your garden trowel with water and dry before storage.

Storage

Most hand trowels come with a hole or hook in the handle for easy storage on a hook or peg.



MODULE 3: BIRDS BUGS & SLUGS

Lesson 3.1 - Birds

Introduction

Birds should always be welcome into your garden. They are an important part of the ecosystem and will help eradicate many of the unwanted pests but be aware of those that come to feast on your vegetables and create havoc in your garden. In this lesson you will begin to understand the different types of birds and what to look out for.

Birds Beaks

Normal wild birds are common to any garden and should be welcomed as they will help with several important tasks such as pollination and pest control. There are many different bird species and will differ by location and environment, but birds can be categorised into larger, easy to identify groups by the shape of their beaks. This will help you identify which birds are doing good in your garden and which are looking for a quick easy meal.

Seed Eaters have short almost triangular shaped beaks. These will be the most common birds you will see in your garden. They are harmless for your garden and should be welcomed by putting up a feeding station with some clean water and wild bird seed grains or a feeding seed ball. Examples of these are the common sparrow.

Insect Eaters have a sharper pointed beak. This is used to catch bugs in flight or dig them out of holes and hidden spots. These birds should be welcomed into your garden, they will help eat any nasty pests such as grasshoppers and other bugs that feast on your plants.

Nectar feeders have a thin curved beak that is used to insert into flowers to drink up the nectar as they hover in the air. Hummingbirds and Sun birds are common in most gardens with flowers. These birds are often vital to the pollination of your flowers and are a welcome guest.

Generalist feeders have a larger beak and can eat almost anything. They eat both insects, fruit and small animals. Birds such as the Crow and Mousebirds fly in small to large flocks and have been known to devastate a crop of vegetables in a matter of minutes. Leafy vegetables such as spinach, lettuce and peas are at great risk with these birds in your garden. You can encourage them away from your vegetables by providing them with an alternative and more convenient source of food away from your vegetables. You may have to cover some crops during their prime ripening stage to protect them from these opportunistic feeders.



MODULE 4: GROWING YOUR OWN FOOD

Lesson 4.1 – Food Security

Introduction

One of the key fundamental needs of people is food. A regular healthy source of food that is reliable is key to the development of a healthy community.

About 10 to 15 thousand years ago early man began to plant crops and raise domestic animals in farm style villages. This changed the need to hunt and gather from a wide area of land and improved food security for the village. This improved population growth and led to the development of larger villages and towns. A better diet was discovered and people began to live longer and start to develop learning that led to arts and culture.

Improved food security and predictable food sources also led to the specialisation into different skills and professions. With not having to use the entire family or tribe to hunt and gather, people could now specialise in skills such as tool making, crop growing and animal farming. Skills could also then be used in non-food related artisans like making clothes, buildings and other members of the community could then protect the people and their boundaries.

Over many thousands of years, we have seen the development of civilizations around food sources and fertile areas that lie along rivers and good rainfall regions. With the increased population in cities the need to outsource food to larger more commercial farms has developed into many farmlands being developed outside the city region to allow for the huge demand of food by those who work in other skills.

Commercial farms created a reliable cheap form of food that was sold through farming corporations into retail stores in various forms from raw to precooked and cooked meals for us to consume.

The need to supply a lot of food to many people all year in all seasons has led to the use of chemical pesticides and artificial preservatives to keep food fresh and ready to eat when we need it. But this has resulted in the degrade of the nutrients found in organically grown food.

There is now a modern movement for society to go back to organic farming and move away from commercially grown food and to grow smaller crops in a controlled manner that produce a healthy vitamin rich vegetable and fruit crop.



MODULE 5:ALTERNATE WAYS TO GROW VEGETABLES

Lesson 5.1 – Wall Gardens

Introduction

A wall garden is an arrangement of various containers that are secured to a sun facing wall that are then used to plant and grow various flowers, herbs and vegetables.

The wall that is used should get at least 6 hours of sunlight in a day and be protected from the wind and any water drainage from an overhanging roof that may wash the plants away. Plants in smaller pots or containers will need more regular watering to prevent them drying out and dying.

There are several different types of containers that can be used, here are some examples:

1. Moulded wall planters – these are purpose designed plastic planters with a flat surface and screw holes that are used to secure them to a wall. They come in many different sizes and designs. These can be purchased from any plant nursery or garden hardware store. They are however expensive.



2. Cloth wall plant bags. There are a number of designs made from water retaining cloth that offer different solutions for a variety of plant groups. Shallow pockets for flowers and herbs and deeper pockets for vegetables. These are easy to install and use and can be moved to different locations depending on the weather conditions.



MODULE 6:VEGETABLES AND HERBS

Lesson 6.1 – Food Categories

Introduction

Vegetables can be classified into 6 major groups.
Vegetables in each group share common characteristics and properties.

The five different categories are:

1. Fruits

Fruit and vegetables are harvested from plants that produce a fruit or flower. They contain the seeds, skin and edible flesh.

2. Nuts and Seeds

Nuts and seeds are harvested from plants that produce a fruit or flower, and then once dried the nuts and seeds are harvested from the plant.

3. Root Vegetables

This category covers all the vegetables that grow below the ground as part of the plant’s bulb roots. They can be regrown by planting them in the soil to produce another plant. Examples include potatoes, onions, garlic and broccoli.

4. Legumes

These are grown on the vine like plants and produce pods that contain the vegetables. This category covers all beans and peas, lentils, chickpeas, soybeans and peanuts.

5. Grains

Grain is basically all seeds of grasses and include all wheat, barley, corn, oats and rice.



EXAMPLE OF THE VEGETABLE CATALOGUE INCLUDED IN MODULE 6

Broccoli

Uses:

Broccoli is super nutritious and can be enjjouyed raw in salads or lightly steamed.



LOCATION	HARDINESS	GERMINATION	PLANT SPACING
<div><input checked="" type="checkbox"/> Full sun</div> <div><input type="checkbox"/> Semi-shade</div> <div><input type="checkbox"/> Shade</div>	<div><input checked="" type="checkbox"/> Hardy</div> <div><input type="checkbox"/> Semi-hard</div> <div><input type="checkbox"/> Soft</div>	<div><input type="checkbox"/> 1 week</div> <div><input checked="" type="checkbox"/> 2 weeks</div> <div><input type="checkbox"/> 3 weeks</div> <div><input type="checkbox"/> 4 weeks</div>	<div><input type="checkbox"/> 15 cm</div> <div><input type="checkbox"/> 20 cm</div> <div><input type="checkbox"/> 30 cm</div> <div><input checked="" type="checkbox"/> 40 cm</div>
POLLINATION	SOWING DEPTH	GROWING HEIGHT	HARVEST TIME
<div><input type="checkbox"/> Self</div> <div><input type="checkbox"/> Wind</div> <div><input checked="" type="checkbox"/> Insect</div> <div><input type="checkbox"/> Bird</div>	<div><input type="checkbox"/> 5 mm</div> <div><input type="checkbox"/> 10 mm</div> <div><input checked="" type="checkbox"/> 15 mm</div> <div><input type="checkbox"/> 20 mm</div>	<div><input type="checkbox"/> 20 cm</div> <div><input type="checkbox"/> 50 cm</div> <div><input type="checkbox"/> 80 cm</div> <div><input checked="" type="checkbox"/> 100 cm</div>	<div><input type="checkbox"/> 30 days</div> <div><input type="checkbox"/> 45 days</div> <div><input checked="" type="checkbox"/> 60 days</div> <div><input type="checkbox"/> 90 days</div>

Feeding and Watering:

- Broccoli should be fed with balanced organic fertilizer 5 weeks after transplanting and when cutting off the central head
- Tender heads should be watered more consistently

Companion Plants:

- Celery, cucumber, dill, mint, oregano, rosemary, sage and thyme

Pests:

- Leaf-eating bugs will damage the central growth points
- Aphids, birds and caterpillars
- In warmer climates, watch out for mildew



MODULE 7: HARVESTING TO SELL

Lesson 7.1 – When to Pick

Introduction

Making money from your efforts in the garden will provide a welcomed source of income to cover your expenses. This module introduces you to the basics of starting a business.

Remember that your vegetables need to look their best when presented at the market, so ensure they are fresh and well-watered and plump before you pick them. The day before picking, water the crops well in the evening to ensure a good intake of water overnight. Harvest your vegetable early in the morning before they are affected by the heat of the sun.

Only harvest what you plan to sell, it is better for the vegetable to be attached to the plant than sit on a shelf or in a box. Plan out your quantities and harvest accordingly. Harvest smaller quantities from different plants rather than stripping everything off a single plant. This is especially relevant for leafy vegetables such as spinach. Always leave enough on the plant for it to recover and regrow new leaves and vegetables.

Then harvesting, use a sharp knife or scissors to cut the stems. Do not tug or break the plant that will cause damage to future crops.

Know where to cut, try to leave some of the greenery and stem on fruit vegetables to avoid further drying out.

For vegetables such as lettuce, broccoli and cauliflower, cut off the bottom root and leave that in the soil to regrow. This would allow for faster regrowth than a planting a seeds from scratch.



MODULE 8: THE BUSINESS OF VEGETABLES

Lesson 8.1 – Determining The Needs of Your Customers

Introduction

Knowing the needs of your targeted customers help drive your business and product development. In your case this will help you plan, plant and harvest what you can sell without having to worry about unsold and spoilt produce.

The 3rd Golden Rule of Business is all about developing a trust relationship with your customers. Relationships comes from regular communication and trust comes from delivering what and when you say you will.

Let's start by defining your various customers:

1. Contracted Customers are companies, organisations and individuals who want an agreed amount of produce from you on a fixed delivery schedule. This could be retails stores, restaurants or individual clients. This is the best way to sell your produce, as you will know beforehand how much to harvest and how to prepare the produce for each order.

2. Regular Customers as people or organisations that buy from you on a regular cycle, but they determine their purchase needs when they shop. This creates a regular source of income but with an unknown need of what produce they will require.

3. Walk-in Customers are random customers who buy on a needs basis when they have money or are in the area. Planning for them is difficult and unpredicted, but it is a good way to get rid of left-over stock at a reduced price. As you build your business you will need to develop relationships with the first two sets of customers, and you can begin to understand what they need and build this into your planting schedule.



MODULE 9: NUTRITION EDUCATION

Lesson 9.1 – Healthy & Unhealthy Eating: Choosing the Right Amount of Food Energy

Introduction

Food gives us the energy that we need to move, to work, to feel good and to live well. This is called nutrition. In this module we'll learn about choosing the right foods for your nutrition.

Our health is affected by what we eat, how often we eat and how much we eat. If we do not eat the right types and amounts of food, we will suffer from malnutrition. There are two forms of malnutrition – overnutrition and undernutrition, both of which are unhealthy states of eating.

Overnutrition:

When people eat more than they need, they become overweight or obese. Obesity is the condition of being so overweight that it compromises your wellbeing and puts you at risk of developing various health problems, including:

- Diabetes
- Heart disease
- High blood pressure
- Joint and back pain
- Breathing difficulty with exertion or exercise

Overnutrition is usually within our own ability to prevent and control.

Undernutrition:

When people eat less than they need, they will suffer from a lack of energy and will be more likely to get sick and less able to work. Undernutrition is not always within our control and can be a result of the following factors:

- Lack of income to buy food
- Lack of access to healthy food
- Illness, which can prevent the ability to eat
- Limited education surrounding food and health

Undernutrition is more difficult to correct if there is a lack of food security (reliable financial and physical access to an adequate amount of healthy food), but the correct education can ensure that we always eat to the best of our ability within our means.

A healthy body weight results from finding the correct balance between overnutrition and undernutrition.

SAMPLE OF A PLANTING SCHEDULE

Season	Summer		Autum			Winter
Ave Temp C	23	24	20	18	15	12
Rainfall mm	150	130	120	70	30	15
	January	February	March	April	May	June
	Beetroot	Beetroot	Beetroot	Broad Beans	Broad Beans	Celery
	Broccoli	Broccoli	Carrots	Beetroot	Carrots	Peas
	Brussels Sprouts	Brussels Sprouts	Cauliflower	Carrots	Celery	Potato
	Cabbage	Cabbage	Garlic	Celery	Rocket	
	Carrots	Carrots	Kale	Garlic		
	Cauliflower	Cauliflower	Leeks	Parsnip		
	Kale	Garlic	Parsnip	Radish		
	Parsnip	Kale	Peas	Rocket		
	Radish	Parsnip	Radish	Spinach		
	Rocket	Radish	Rocket	Turnips		
	Spinach	Rocket	Spinach			
	Swiss Chard	Spinach	Swiss Chard			
	Turnips	Swiss Chard	Turnips			
		Turnips				