

F.A.I.T.H. Gardening

(Food Always In The Home)

Sustainable Agriculture



Training Pac

INSTRUCTIONS

This Training Pac has a text and a separate workbook that contains the exercises for the text. Follow these steps:

1. Read through the entire text to obtain an overview of the text content.
2. Become familiar with the Objectives at the beginning of each section.
3. Then reread the text while completing the exercises in the Workbook.

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Objectives

When you have successfully completed this Training Pac you should know:

- Reasons to grow vegetables
- Steps to successfully begin and grow a garden
- Practices that will help in the garden

I. INTRODUCTION

Importance of Vegetables

1. Vegetables are essential to our daily diet. Rich in vitamins and minerals, these plants contribute enormously to the nutrient requirements of the human body.

Many people do not eat enough fresh vegetables every day

2. In the Philippines, for example, the average per capita consumption of 12.4 kilograms of green and yellow vegetables is far short of the recommended allowance of 32.4 kilograms per year, write Generosa T. Medrena, a senior science research specialist of the *PCARRD Monitor*. In the Philippines, Filipinos just do not grow enough vegetables.

Reasons for low vegetable consumption

3. Many people do not know that vegetables are a cheap source of natural vitamins, minerals and proteins and therefore do not grow enough of them. Scientist believe that ignorance is the reason for low vegetable consumption. A general lack of knowledge prevents people from having a simple home garden.

Home gardening can reduce a family's daily food expense

4. Home gardening should be taken seriously especially by families with low income and whose members are nutritionally at risk. Daily food expenses can be reduced about 20 % if home gardening is practiced.

Closer knit family

5. Working in the garden helps strengthen family ties.

Vegetables from home garden are superior

6. Fresh vegetables from home gardens are generally superior that those sold in markets that might be polluted by exposure to dust, insects, fertilizers, insecticides, and because of handling, vitamins and minerals are lost.

Additional Income Home Gardening

7. Sometimes, home gardens produce more vegetables than a family can consume. The surplus may be shared with neighbors and friends or sold in the market to add to a family's income.

Other Benefits From Home Gardening

8. Home gardening can improve the appearance of your home lot. A yard with lush-growing vegetables is very pleasant to look at.

The "FAITH" Garden Technology

9. In 1974, to promote home gardening, the Asian Rural Life Development Foundation in Davao Del Sur, Philippines commenced to develop a practice in its farm a simple but effective vegetable growing technology called FAITH or Food Always In The Home.

Fresh Vegetables for you every day

10. As its name suggests, the FAITH garden will produce a continuous and sufficient supply of fresh vegetables for your family everyday. However, it is not felt that FAITH gardening is the final word in family gardening. This is only an attempt to develop a home garden that can provide adequate food with minimum cost, labor and land utilization. It is meant to be used as a guide.

II. The Ten Steps To FAITH Gardening

STEP ONE:

LOCATE THE BEST SITE FOR THE GARDEN

The criteria for good site selection is a good water supply, good soil drainage and fertility, sunlight availability, and good air circulation.

Good Water Supply

Water is an important factor in plant growth. In the dry season, it is a vital requirement of the vegetable grower. You should plant your vegetables in a sight where you can easily obtain water for the plants.

Good Soil Drainage

Establish your garden on a slight slope to provide drainage, especially during rainy season. If your land is flat, dig drainage canals or ditches around the planting area.

Soil Fertility

Soil-the natural medium for plant growth – is the primary resource of agriculture. The soil in your garden should be fertile enough to make plants grow. It should contain humus, a form of plant food. The types of soils needed for vegetable gardening are :

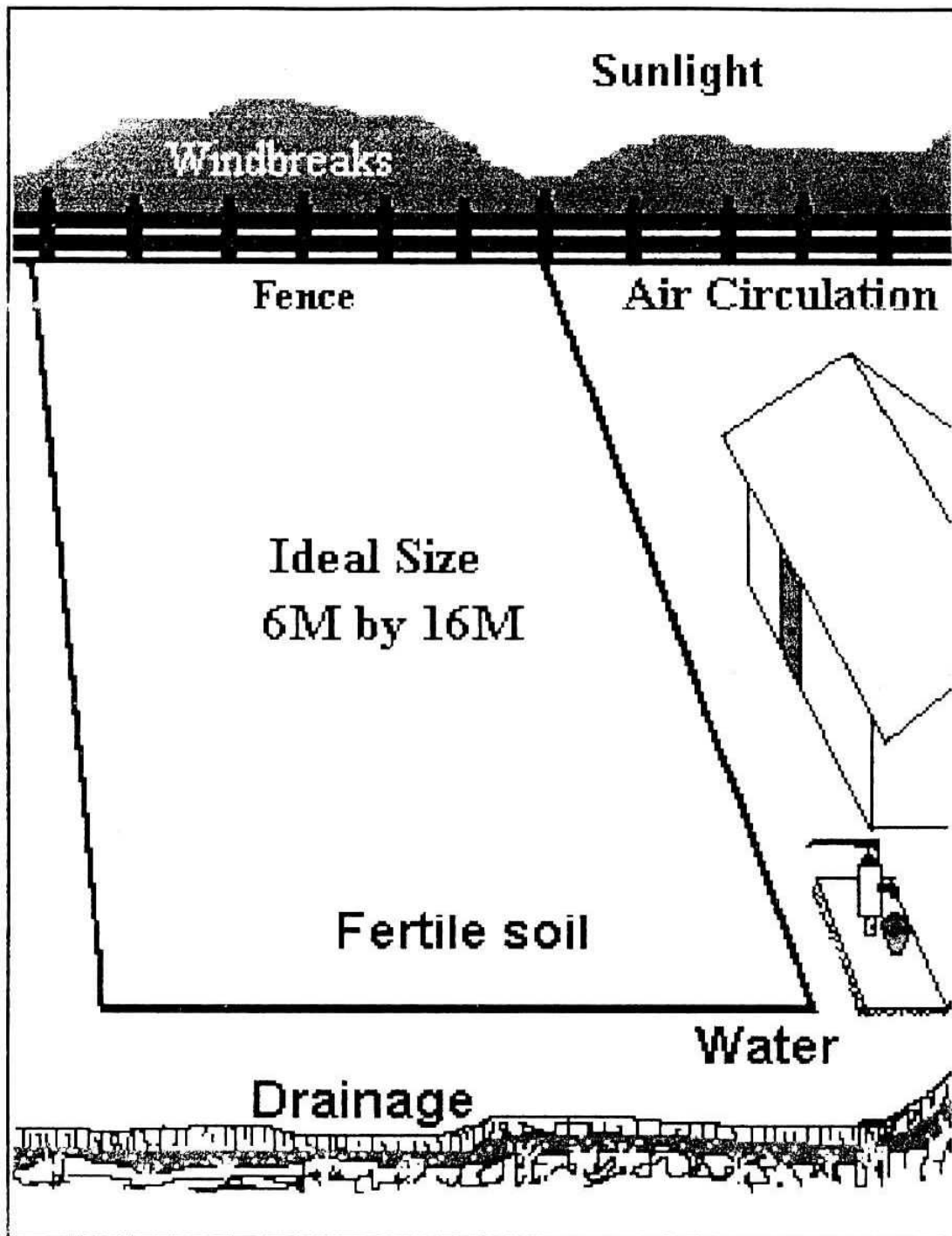
- 1) *loam* (23 to 52% sands, 20 to 50% silt and 0 to 27% clay)
- 2) *silt-loam* (0 to 50% sand, 50 to 88% silt and 0 to 27% clay)
- 3) *clay-loam* (20 to 42% sand, 18 to 52 % silt, and 27 to 40% clay.)

Sunlight Availability

Your garden site should receive sunlight throughout the day. Growing plants need sunlight to manufacture food.

Good Air Circulation

Air circulation refers to the intensity of wind passing through your garden site. Strong winds are not good for young plants. Your site should have natural windbreaks, including hills, trees and houses.

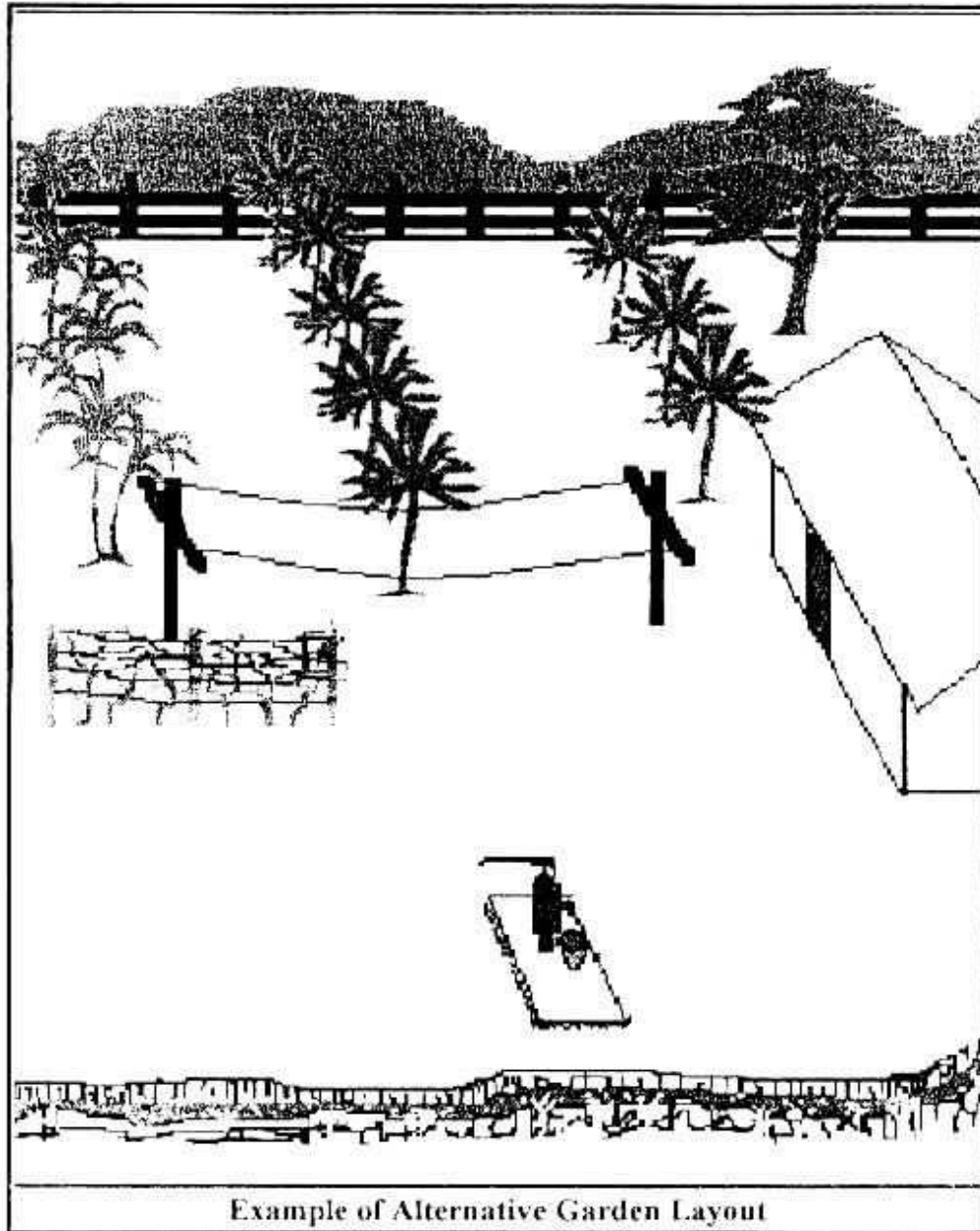


STEP TWO:

PROVIDE ENOUGH SPACE

Provide Adequate Garden Size

The ideal garden size for a family of six is 96 to 100 sq. meters. This size should supply enough vegetables every day.



STEP THREE:

THOROUGHLY PREPARE THE SOIL

Successful vegetable cultivation depends largely on how well you prepare the soil before planting. Vegetables grow and yield better in well-prepared soil.

Soil preparation

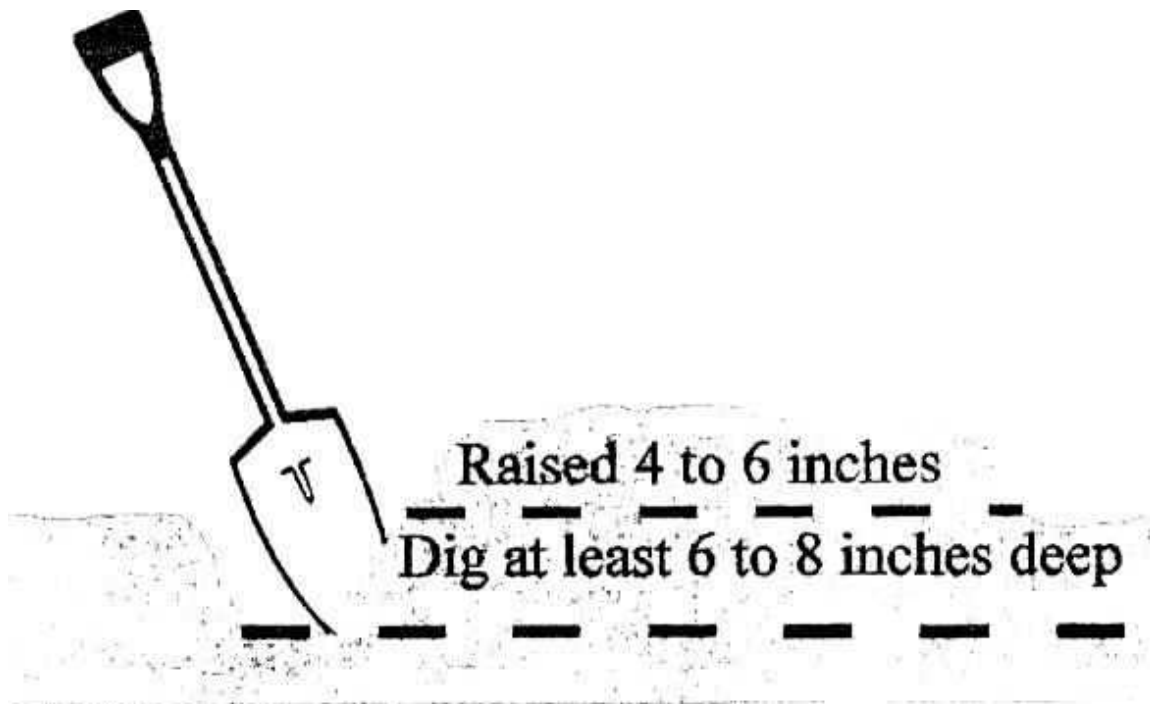
There are no hard-and-fast rules in preparing soil for vegetable planting. Much depends on the terrain, the soil type, the size of your garden, the vegetables you want to plant, and the season.

How to prepare the soil

Prepare the land manually with a hoe and rake. Do not work the soil when it is very wet so as not to destroy the structure. Clean the site and save cut grasses and weeds for composting. Dog the land at least two times to a depth of six to eight inches, harrowing with rake and pulverizing clods between diggings.

Making drainage

To provide good surface drainage, make raised beds four to six inches above the ground level. Raising beds this way facilitates your work, it also helps provide paths through the garden.



STEP FOUR:

FERTILIZE WITH COMPOST

Basket and Trench Composting

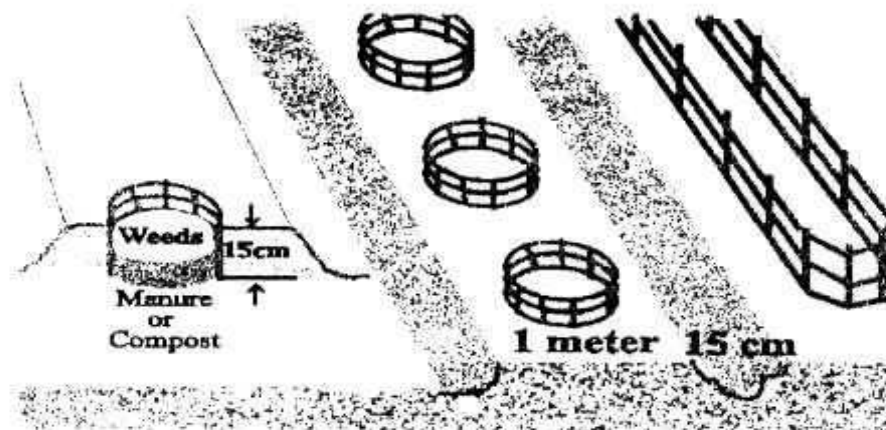
Make compost baskets of wire or shape flexible bamboo strips around stakes to make round forms at least one foot high. Make holes in your garden plot 6 inches deep and large enough to accommodate the baskets, spacing the holes one meter apart. Then place the baskets in the holes. If you prefer trench composting, dig a trench 6 inches deep and place bamboo stakes along the sides of the trench. Then weave bamboo strips around the stakes to form a "fence" about 6 inches high along the sides of the trench.

Procedure in Basket and Trench Composting

Put decomposed materials and manure (goat manure, chicken dung, etc.) in the basket or trench first, then grasses, weeds, and ipil-ipil (*Leucaena leucocephala*) or kakawate (*Gliricidia sepium*) leaves. There is no need to turn the composting materials. Just keep on adding new materials. After the harvest, remove the basket or trench and work the compost into the soil to make the soil more fertile and to improve its structure. Then place new compost materials in the baskets or trench for the next crop.

Method of Planting

The time to plant seeds/seedlings in your plots depend on the state of decomposition of the materials in your compost baskets or trench. If the materials at the bottom part are nearly decomposed you can plant seeds/seedlings immediately. If most of your plant materials are still fresh and green (called green manure) plant seeds/seedlings two to three weeks later. Plant seeds/seedlings two or three inches away from the compost baskets or trench. Then water inside the baskets or trench - *not* the plants directly. The roots of the plants will grow into the basket or trench.

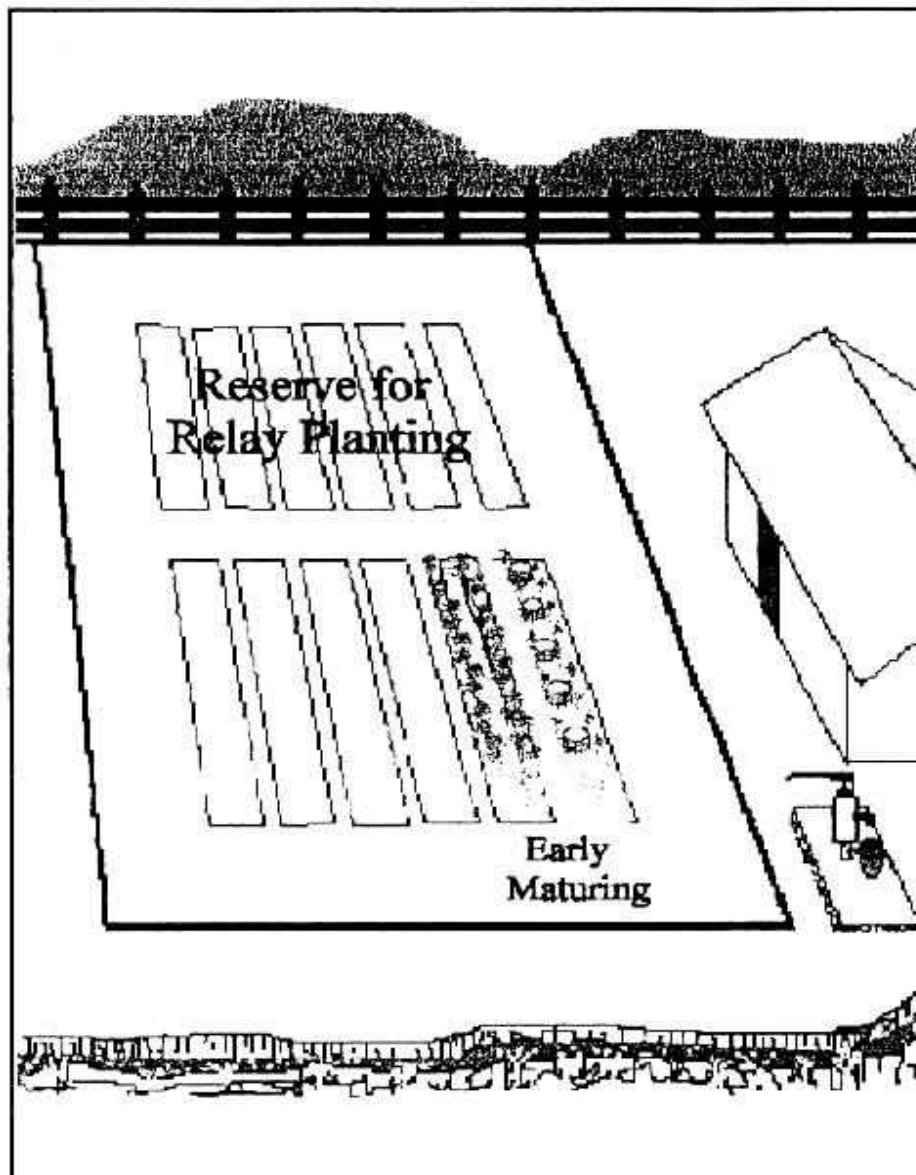


STEP FIVE:

PLANT ONE-THIRD TO EARLY MATURING VEGETABLES

Plant Early Maturing Vegetables

Divide your garden into three sections. Set aside the first section for vegetables that you can harvest in two to four months, such as soy beans, tomatoes, radish, mustard greens, cow peas, sweet corn, sweet pepper, mung beans, carrots, etc. Do not plant the whole section; reserve one-half of the section for relay planting.



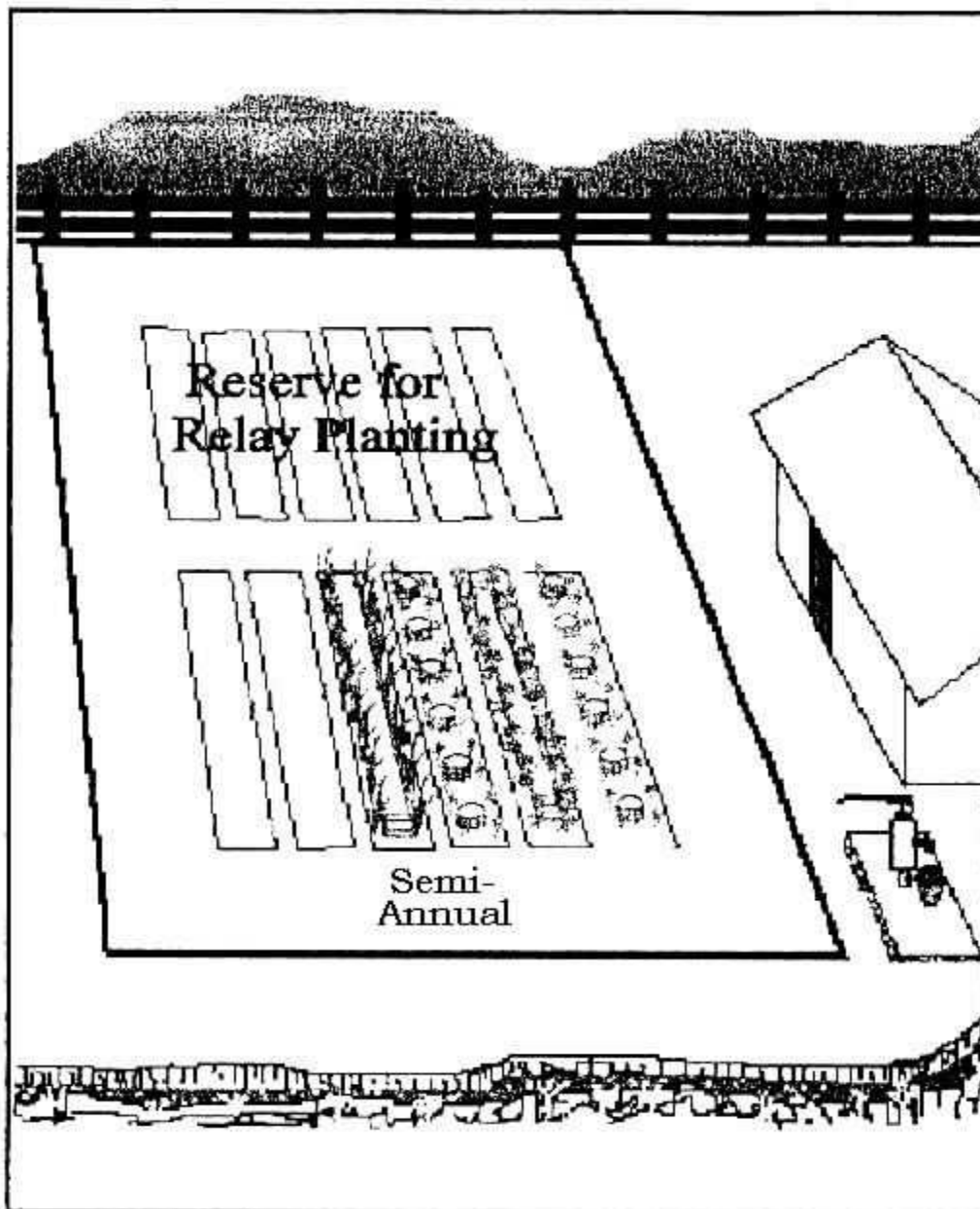
STEP SIX:

PLANT THE OTHER ONE-THIRD TO SEMI-ANNUAL VEGETABLES

Plant semi-annual vegetables

Set aside the second section for vegetables that are harvestable in six to nine months. These are winged bean, bitter gourd, eggplant, okra, squash, garlic, onion, cucumber, ginger, and others. As in the first section, plant one-half of this section and reserve the remaining half portion for relay planting.

In the Philippines: (*Chayote, upo, patola, wax gourd, ampalaya, kundo*)



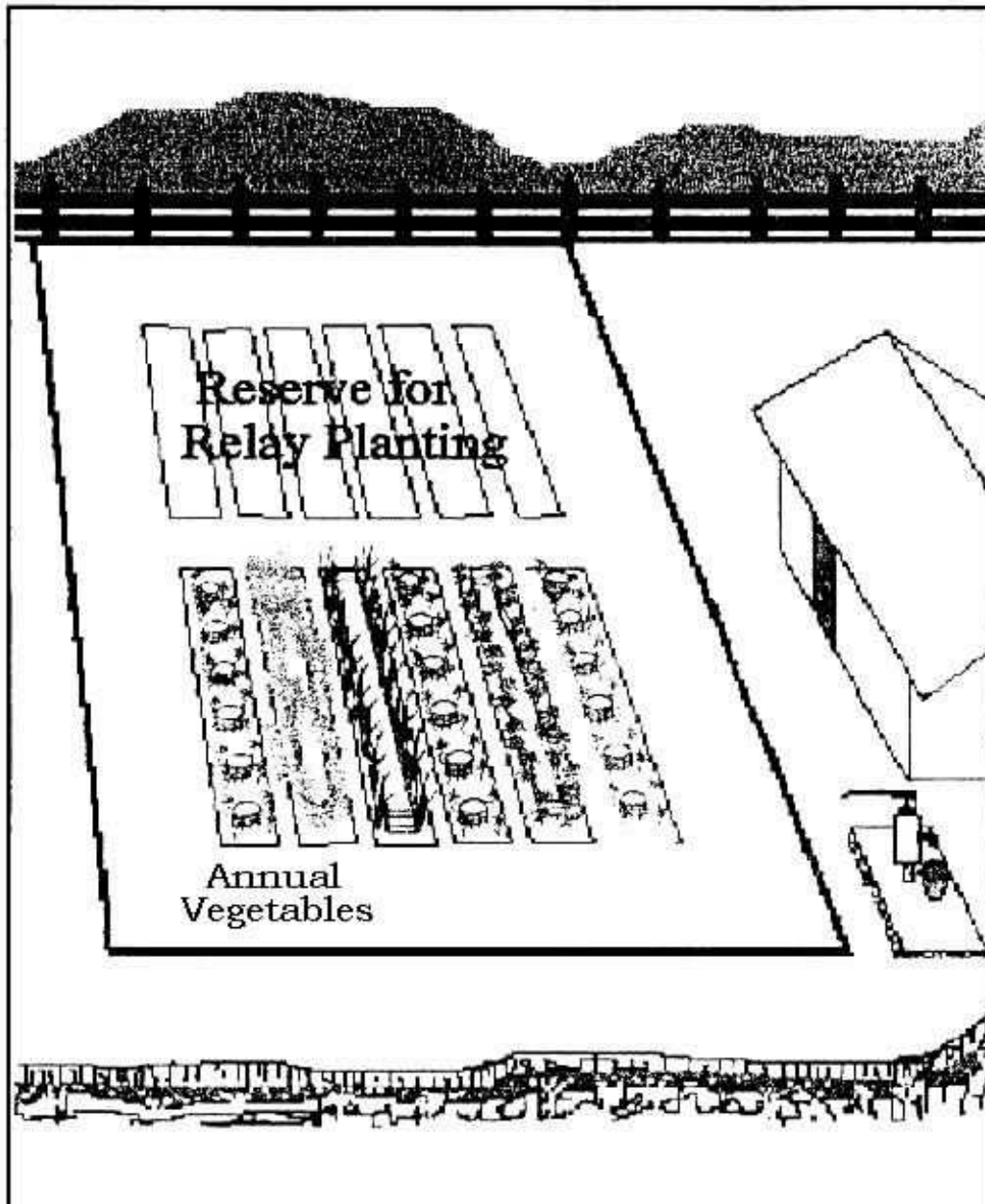
STEP SEVEN:

PLANT THE REMAINING ONE-THIRD TO ANNUAL VEGETABLES

Plant Annual Vegetables

Set aside the last section for planting year round vegetables like lime beans, sweet potato, cassava, peas, etc. As in the first and second sections, plant only one-half of this section and reserve the remaining one-half for relay planting.

In the Philippines: (*patani, kangkong, alugban, tinangkong, kamote, and kadios*)

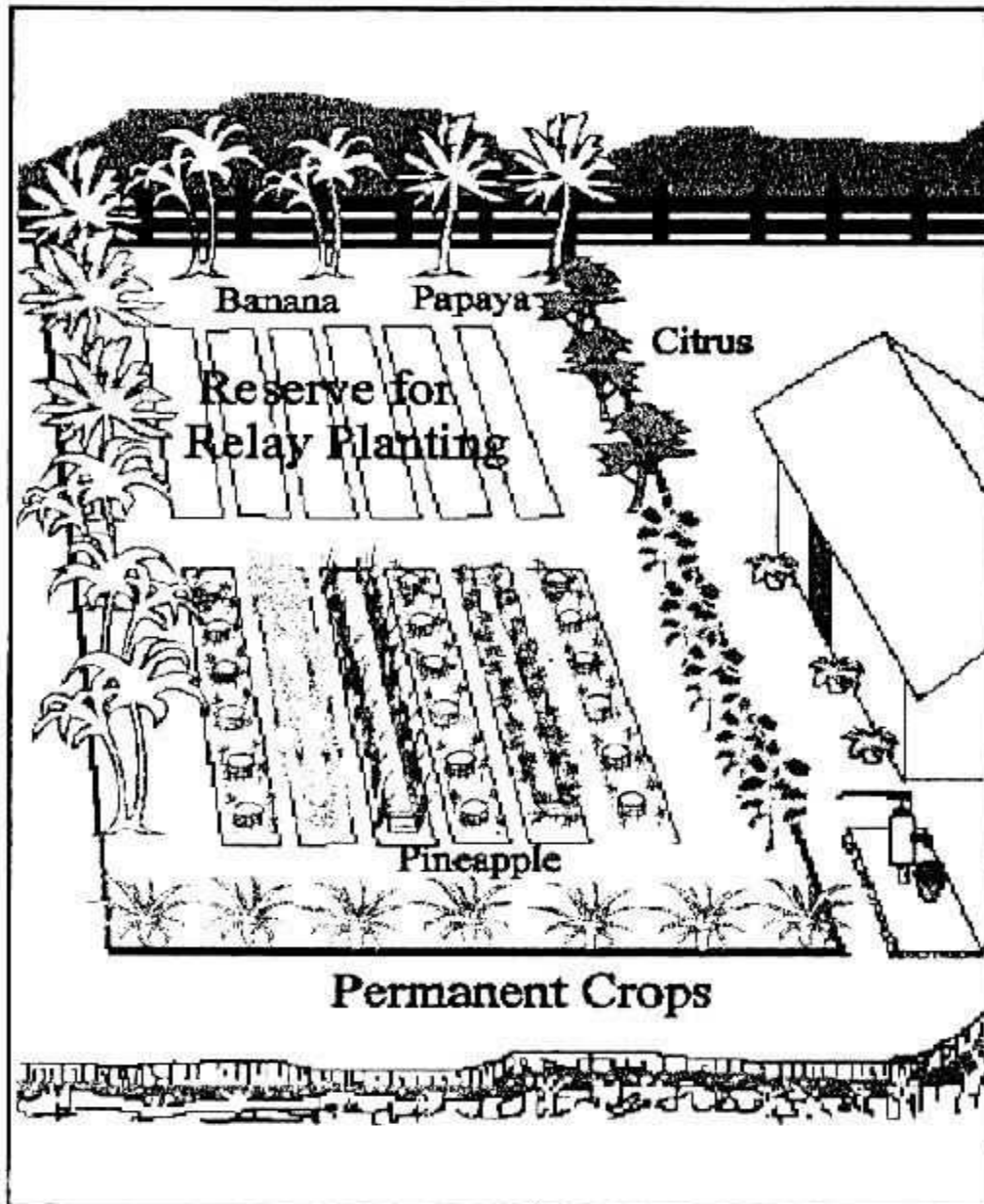


STEP EIGHT:

PLANT THE SURROUNDING AREA OF THE GARDEN TO PERMANENT CROPS

Plant Surroundings to Permanent Crops

Plant the surrounding area of your garden to permanent or semi-permanent plants like papaya (pawpaw) pineapple, sugarcane, banana, citrus and short fruit trees.

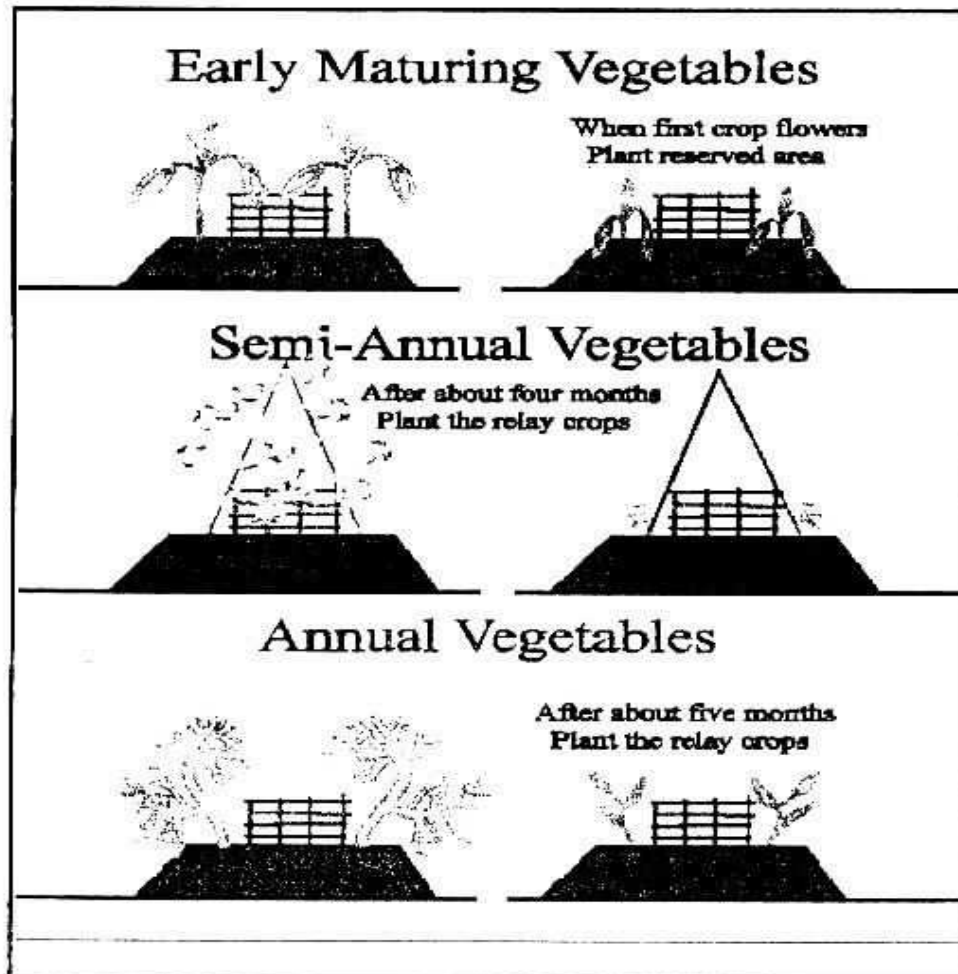


STEP NINE:

PLANT RESERVED PORTIONS ON TIME

Replant promptly the reserved portions

Replant promptly the reserved portions of your FAITH garden. This will further help ensure continuous and adequate supply of fresh vegetables in your home. In the first section (the early-maturing vegetables) plant the reserved portions when the first crops start to flower. In the second section, plant the reserved portions when the first crops are about four months old. In the third section (year round vegetables) of your garden, plant the reserved half-portions when the first crops in the other half are about five months old.

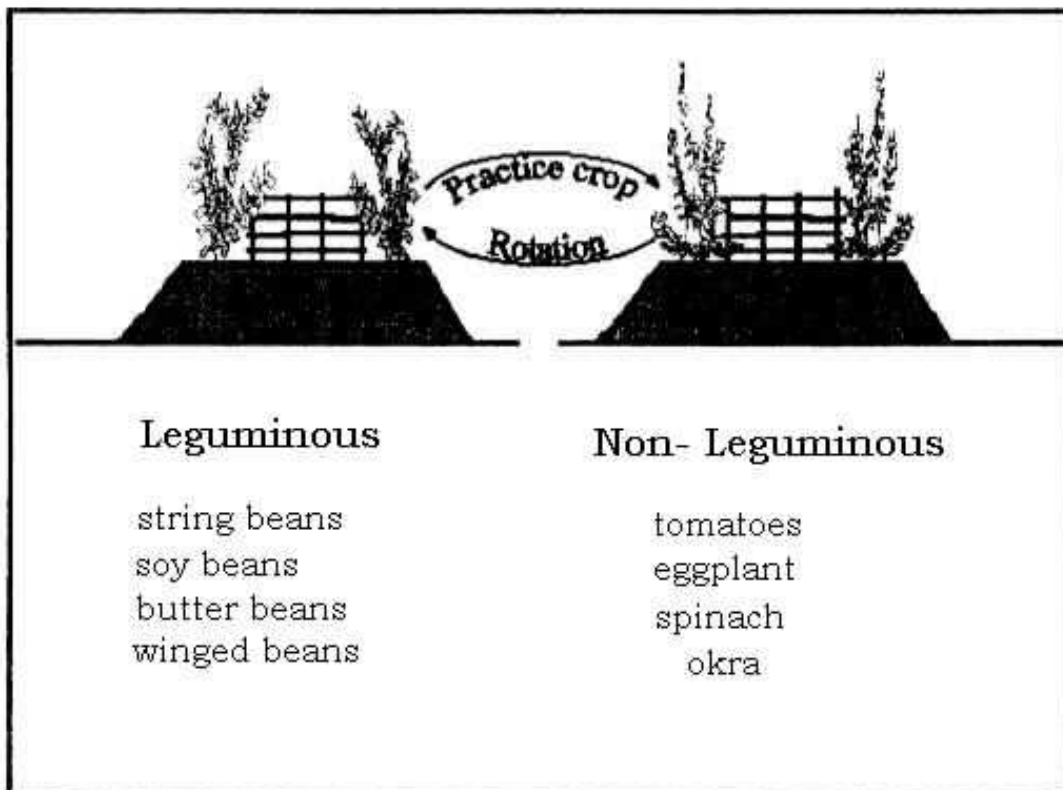


STEP TEN:

PRACTICE CROP ROTATION

Rotate your Vegetables

When replanting, practice crop rotation. This means that you plant leguminous vegetables (like soybeans, bush sitao, string beans, etc.) to garden plots where non-leguminous vegetables (such as tomatoes, eggplants, okra, kangkong, etc.) were previously planted and vice versa. Crop rotation helps prevent the spread of pests and diseases and also improves the fertility of the soil in your garden.



III. OTHER HELPFUL GARDEN PRACTICES

Besides following the TEN BASIC Steps to FAITH gardening, observe other needed vegetable gardening practices like:

Seed Treatment

Seeds should be treated with fungicides and insecticides prior to storage. Treating seeds with these chemicals will protect germinating seed from pre- and post – emergence damping off disease. Some chemicals used are Orthocide (Captan), Sevin 85S, or Brassicol (PNCB). Always try to get seeds from reliable sources for best results.

Inoculation

Leguminous seeds should be inoculated before planting. Example, string beans, cow pea, lima bean, garden peas, etc.

It prevents early nitrogen starvation of plants, thus reducing the demand for soil nitrogen.

To inoculate put seeds in a big container, moisten with water, mix with inoculant (available in agricultural supply stores) until all the seeds are well coated. Be sure to use the correct inoculant for the legume you are using.

HOWEVER you can still plant leguminous crops without inoculating the seeds.

Hardening the Plants

Before transplanting seedlings in the garden plots, “harden” them first for several days. This is done by exposing them gradually to strong sunlight in the field if they had been shaded. You can also harden seedlings by gradually withholding water from them. Withhold more and more water as transplanting time draws near. This method slows down the growth rate of plants. Their tissues become thicker, less succulent and harder, hence the term “hardening”. Hardening helps plants recover rapidly from the stresses of transplanting. A succulent plant needs much water and nutrients for rapid growth. It cannot tolerate dry field conditions. A hardened plant will grow slower after transplanting but will resume normal growth much sooner than a non-hardened plant.

Transplanting

A day before transplanting, water the seedbox or seedbed thoroughly to facilitate pulling of the seedlings and minimize root injury. Then transplant the seedlings to the prepared garden plots. After transplanting, firm the soil slightly around the base of the plants, water then firm again. Starter solution (40 grams

or approximately 4 tablespoons of complete fertilizer dissolved in one big kerosene can of water) may be used in watering. If it is very hot, cover the seedlings with leaves obtained locally such as coconut leaves or banana bracts.

Water Supply

Without water, fertilizers cannot be effectively absorbed by the roots and soil nutrients cannot be transported to the leaves. Photosynthesis will not take place.

Leafy vegetables should be watered daily. Garden fruit crops such as tomato, eggplant, and sweet pepper need watering at least three times a week until they blossom. Root crops do well with a small amount of water.

Cultivation

Cultivate or loosen the soil around the plants to enable their roots to expand and develop fully. Plants with fine roots spreading out near the surface should not be cultivated too deeply. Deep cultivation is needed only for deep-rooted plants like radish, beet, and carrot.

Cultivate only when there is enough soil moisture. Do this late in the afternoon or early morning. Cultivation maybe done with a hoe.

Trim Ratooning Plants

Some plants that need supports or trellises include cucumber, bitter melon, chayote, winged bean, Kentucky wonder bean, lima bean, snapbean and string bean. Poles 2.4 to 2.7 meters in length are usually set in the ground to a sufficient depth in a teepee-like arrangement.

Staking

Vegetables that need stakes include tomato, okra, eggplant and sweet pepper. Stakes are used to support the plants and keep the fruit off the ground. Use any strong local materials such as ipil-ipil, kakawate, and bamboo.

Mulching

Mulch can be made from any of the following rice straw, rice hulls, cut grass, sugarcane bagasse, sawdust, and paper. Spread the mulch on the surface of the ground, around the plants or between the rows of plants. Mulching controls weeds by preventing sunlight from reaching the ground.

Mulching (continued)

Mulching is very important during the dry season to reduce moisture loss and to save irrigation water. Straw mulch keeps the soil moist even on the warmest days. During heavy rains, mulch reduces the impact of raindrops on the soil surface and prevents fertile topsoil from eroding or being washed away.

Plant materials used as mulch improve soil structure and increase soil fertility when they decompose and become part of the topsoil.

Crop Protection

Insects, worms, and diseases are the principal enemies of vegetables. But these can all be controlled. Success greatly depends on the prompt action. The best and cheapest way to eliminate caterpillars, beetles, and insect eggs is to pick them off the plants by hand.

Enriching the soil with natural fertilizers – rotted leaves, grass, and straw – provides the natural chemicals that makes plants resistant to pests and diseases.

You can also use insecticides and fungicides to protect a vegetable garden from pests and diseases. Many of these may be sprayed or dusted on plants.

Acknowledgements

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