FOREST GARDEN

FARMER’S WORKBOOK

Year 2
English–Anglaise
Acknowledgments

The Forest Garden Approach was developed by the team at Trees for the Future, drawing on 27 years of experience working at the grassroots level. The technical content referenced in this Farmer’s Workbook was developed by Trees for the Future staff drawing on the experience, knowledge and technical resources from several partners, including the United States Peace Corps, Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), ACDI/VOCA, the TOPS Permagarden Technical Manual, the International Council for Research in Agroforestry (ICRAF), and the New Zealand Digital Library.

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Extend your learning online at trees.org/training where you can access the latest resources, interact with the community and earn your certification.
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Welcome to second year of the Forest Garden training program!

Dear Farmer,

You are on your way to growing a Forest Garden by protecting, diversifying and optimizing your farm with trees and other crops.

This is the second year Farmer Workbook which includes activities and resources you will use throughout the second year of the Forest Garden Training Program. We hope you will keep it clean and safe and bring it to all the Trees for the Future workshops.

There is an evaluation checklist with all the skills you are expected to demonstrate in this second year. We have provided this checklists for you to do a self-assessment, and our technicians will use the same checklists when they visit your farm for annual assessments.

If you participate in the workshops, implement the techniques you learn on your own farm, and meet the evaluation criteria, you will earn a Forest Garden Certificate at the end of the program.

Please do not hesitate to tell your facilitator, trainer, or extension agent how this resource has helped you or how it can be improved. We want you to be successful and wish you luck as you progress through the program.

Good luck,

The team at Trees for the Future
Year 2 Self-Evaluation Criteria

At the end of each year, you will be evaluated on the practices that you learned and discussed during training events. After demonstrating that you have completed that year’s evaluation criteria, you will be invited to continue in the second year of the project. Use this list to do a self-evaluation and ensure you are meeting all the year’s major evaluation criteria.

- **Green Wall**
  - At least two rows planted, surrounding the entire site
  - At least part of the third row is planted
  - Dead trees and gaps from the first year are replanted
  - Proper spacing between rows
  - Proper spacing between trees within rows
  - Woven branches
  - Pruned into a hedge
  - Brush and weeds cleared

- **Alley Cropping and/or Contour Planting**
  - Minimum of 8 rows planted across cropping area
  - Agroforestry trees interspersed throughout site
  - Proper spacing between rows
  - Proper spacing between trees within rows
  - Contour lines followed (on sloped sites)
  - Coppiced or pollarded in year 2

- **Fruit Trees**
  - At least 3 species of fruit trees/plants
  - Proper spacing between fruit trees planted
  - Trees appear to receive enough water
  - Each tree is weeded and mulched
  - At least 2 species of fruit root stock growing
  - Fruit trees for grafting are transplanted from beds to sacks or trenches

- **Compost**
  - Three active piles
  - Passes stick test
  - Demonstrated product and use

- **Permagarden**
  - Raised or sunken beds
  - Amended soils
  - Mulching
  - At least six species/types
  - At least two new species/types that were not planted previously by the family
  - Rotation planting
Module 5: Review Forest Garden Design
Forest Garden System Design

1. Make a **plan** to meet subsistence needs and market opportunities

2. **Protect** the field with a green wall of trees
3. **Stabilize** soils with rows of fast-growing trees

4. **Diversify** the field with vegetables and fruit trees
5. Farmers learn to **optimize** their field with several **layers**

6. Each family achieves **permanent increases** in food security and income
Priority Fruit Trees

Which types of fruit can I sell?

1.
2.
3.
4.

Which fruit trees will I grow for my family’s nutrition?

1.
2.
3.
4.
Update Your Own Forest Garden Design

Draw your Forest Garden
Update Your Own Forest Garden Design

Draw your Forest Garden
Design Your Own Forest Garden

This grid represents 1 hectare.
Each block represents 20 meters.
Design Your Own Forest Garden

This grid represents 1 hectare.
Each block represents 20 meters.
Module 6: Growing Fruit Tree Seedlings
Fruit Tree Nursery

Cashew correctly seeded in the nursery

Mango seedlings trenched in the nursery
Mango seedlings trenched in the nursery

Coconuts in the nursery (left) and above other vegetation in a Forest garden (right)
Most papaya varieties produce some male trees which have stamen that look like flowers. The male papaya tend NOT to bear fruit.

The solo variety of papaya is short, fruits within the first year, and almost always bears fruit.
Module 7: Planting Fruit Tree Seedlings
Tree Spacing Diagram

**Figure A.** Fruit trees planted using traditional row spacing

**Figure B.** Fruit trees planted using triangular spacing
Planting and Care

Dig fruit tree holes at least 50 cm wide, 50 cm long, and 50 cm deep.

Remove many of the leaves on the stem. Leave the leaves on the top. Put mulch around the base of the seedling.
An example of rows of papaya seedlings

Dig a cuvette around each small tree. The ring should be as wide as the branches.
Ways to Protect Trees
Module 8: Permagardening for the Market
Genetic Families of Vegetables for Rotation Planning (Pest Management)

**Cruciferaea**
“cabbage family”
Kale, Cauliflower, Cabbage, Broccoli, Brussels, Sprouts, Radish, Turnip

**Curcurbitaceae**
“vines” Cucumber
Melons, Pumpkin, Squash, Zucchini, Gourds

**Malvaceae**
Kale, Hibiscus, Okra, Cotton

**Chenapodiaceae**
Beets, Spinach

**Amaryllidaceae**
“onion looking things”
Chives, Garlic, Leek, Onion, Spring onion, Shallots

**Solanaceae**
“popular standing plants”
Potatoes, Tomatoes, Eggplant, Peppers, Tobacco

**Leguminoseae**
“peas & beans”
Black-eyed peas, Beans, Cow peas, Pigeon peas, Sugar snap peas

**Compositeae**
Artichoke, Lettuce

**Apiaceae**
“parsley-top”
Carrots, Celery, Parsley, Parsnip

**Others:**
Corn, manioc, sweat potato

Permagardening for the Market - 23
Simple Families of Vegetables for Rotation Planning (Nutrition Management)

Leaf

Fruit

Root

Legume
Types of Vegetables for Crop Rotation Planning

Alternatively, crops can be rotated by type rather than families.

**Crop Types:**
- **Leaf** (needs more Nitrogen) – lettuce, spinach, kale, chard, mustard greens
- **Fruit** (needs less nitrogen, more phosphorous) – tomato, pepper, eggplant, okra
- **Root** (needs little nitrogen, more potassium, some phosphorous) – carrot, potato, beet, radish
- **Legume** (returns nitrogen to soil) – beans, cowpea, pigeon pea, peanut
# Seasonal Crop and Market Analysis Chart

Fill in the calendar with ☺, ☻, or ☼ to show if the price is good, average or bad at different times of the year.

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Seasonal Crop and Market Analysis Chart

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Market Opportunities

Top market opportunities

1.

2.

3.

4.

5.

Additional vegetables I want to grow for the family

1.

2.

3.

4.

5.
Garden Design

Draw the design of your new garden
Garden Design

Draw the design of your new garden
Notes