FOREST GARDEN

FARMER'S WORKBOOK

Year 2
English–Anglaise

Acknowledgments

Extend your learning online at trees.org/training where you can access the latest resources, interact with the community and earn your certification.

Table of Contents

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 the 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

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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

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Draw your Forest Garden

Update Your Own Forest Garden Design

Draw your Forest Garden

Design Your Own Forest Garden

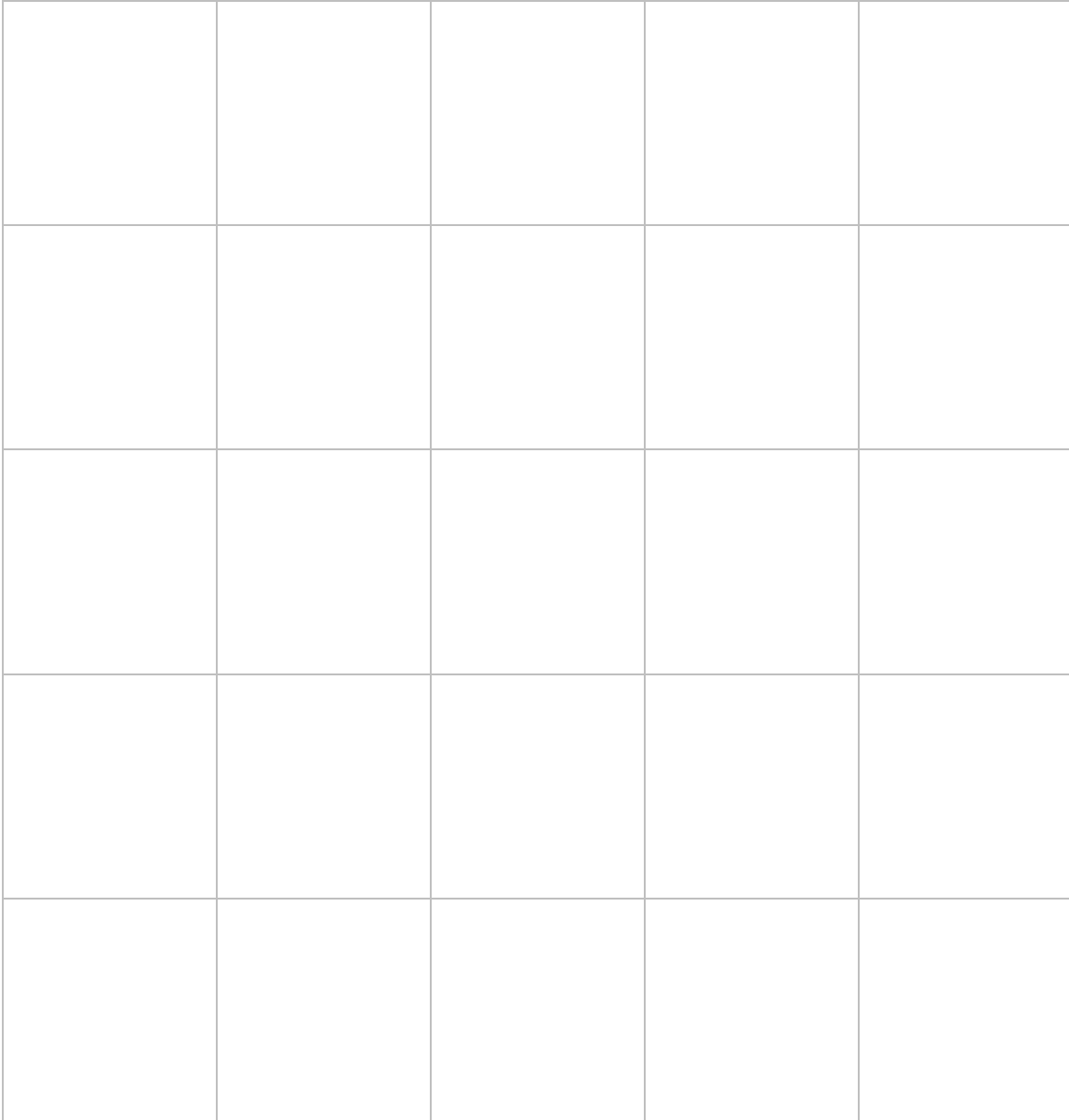▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼▲▼

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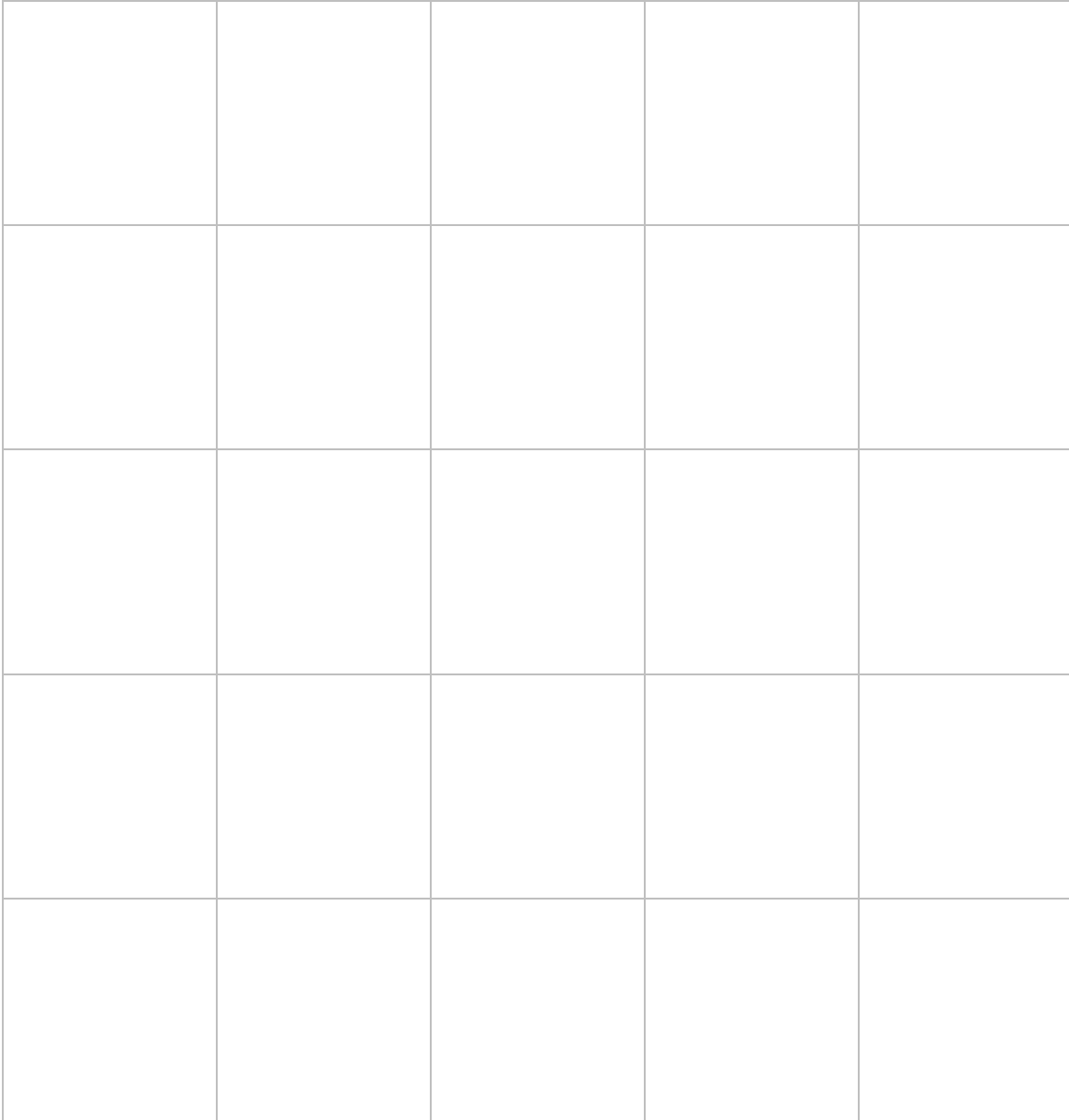
Design Your Own Forest Garden

This grid represents 1 hectare.
Each block represents 20 meters.

Notes

Module 6: Growing Fruit Tree Seedlings

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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.
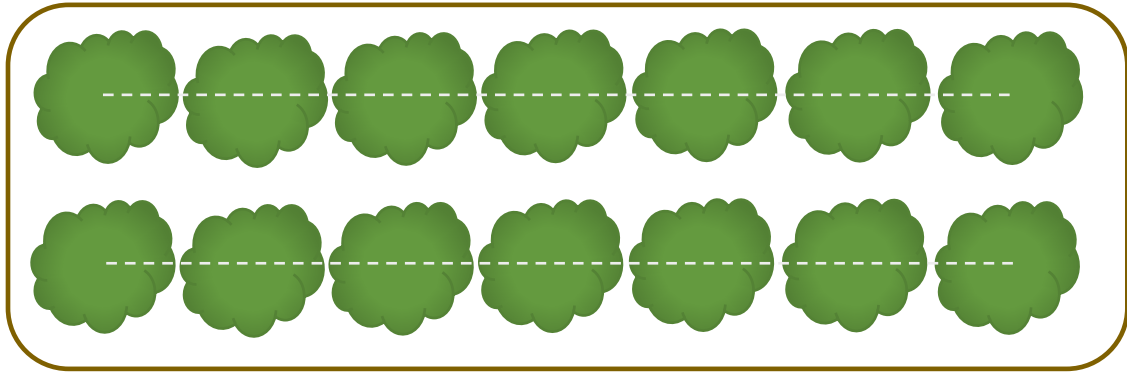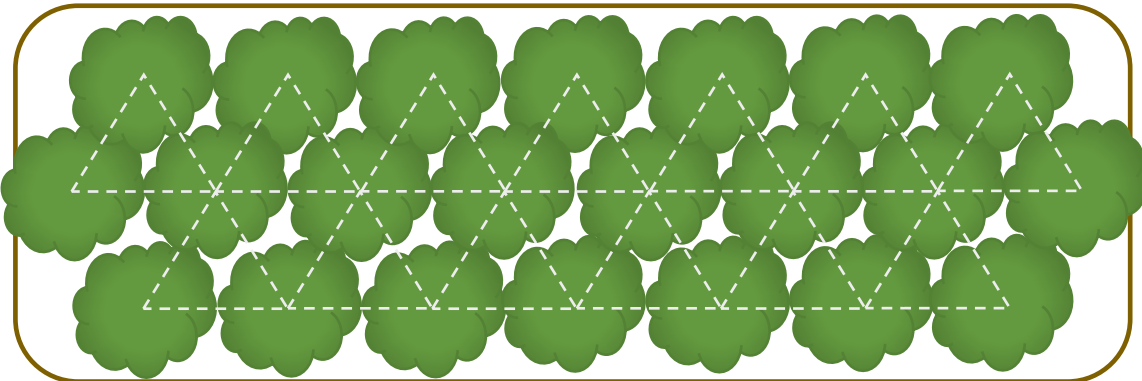
Notes

Module 7: Planting Fruit Tree Seedlings

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Tree Spacing Diagram

Figure A. Fruit trees planted using traditional row spacing

Figure B. Fruit trees planted using triangular spacing

Planting and Care

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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

Notes

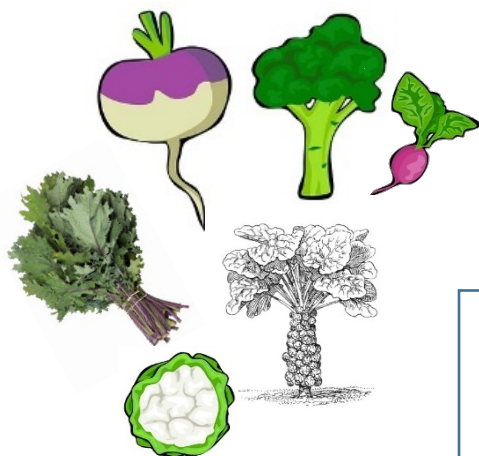# Module 8: Permagardening for the Market

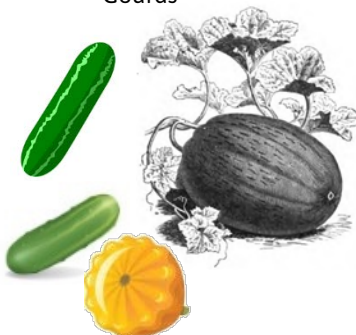# Genetic Families of Vegetables for Rotation Planning (Pest Management)

Cruciferaea "cabbage family"
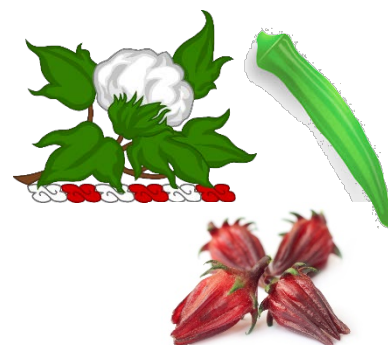Kale, Cauliflower, Cabbage, Broccoli, Brussels, Sprouts, Radish, Turnip

Curcurbitaceae "vines" Cucumber
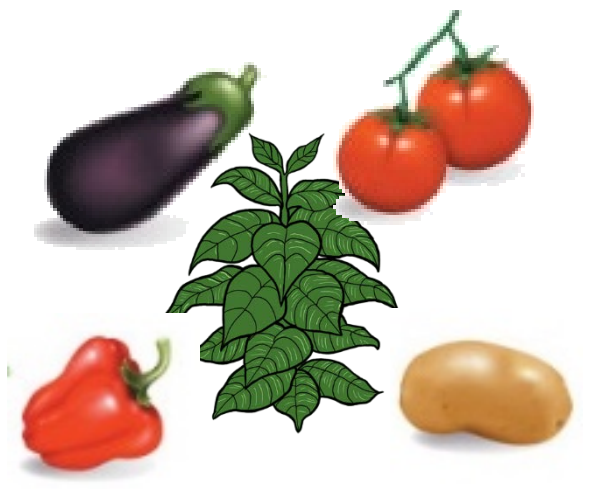Melons, Pumpkin, Squash, Zucchini, Gourds

Malvaceae
Kale, Hibiscus, Okra, Cotton

Solanaceae "popular standing plants"
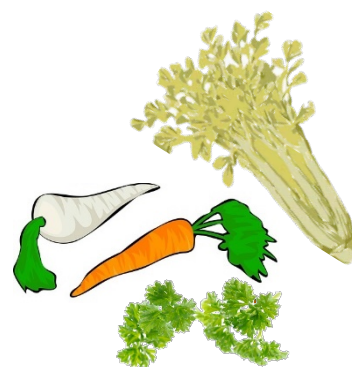Potatoes, Tomatoes, Eggplant, Peppers, Tobacco

Apiaceae "parsley-top"
Carrots, Celery, Parsley, Parsnip

Chenapodiaceae
Beets, Spinach

Compositeae
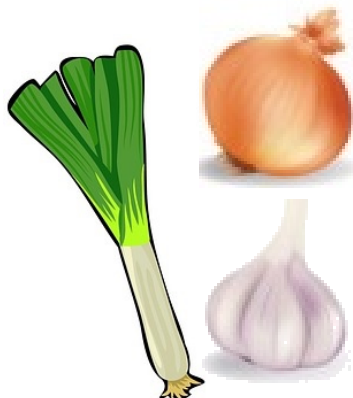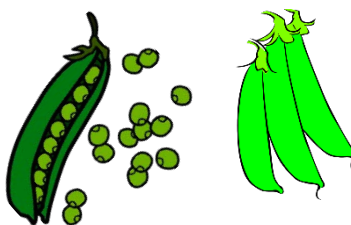Artichoke, Lettuce
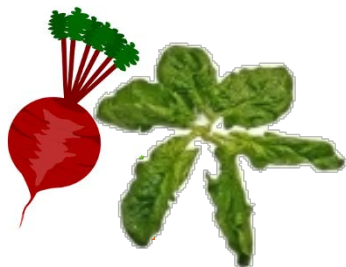
Amaryllidaceae "onion looking things"
Chives, Garlic, Leek, Onion, Spring onion, Shallots

Leguminoseae "peas & beans"
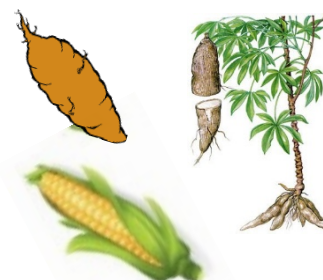Black-eyed peas, Beans, Cow peas, Pigeon peas, Sugar snap peas

Others:
Corn, manioc, sweat potato

Simple Families of Vegetables for
Rotation Planning (Nutrition Management)

Leaf

Fruit

Root
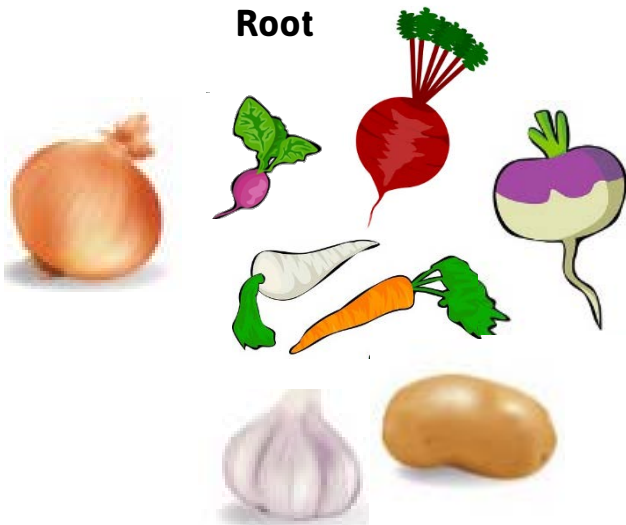
Legume
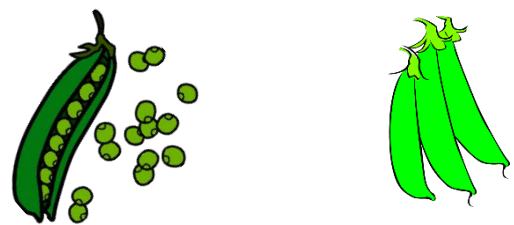
Types of Vegetables for Crop Rotation Planning

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

4 Part Crop Rotation

Bed 1
Season 1: Beans
Season 2: Roots
Season 3: Fruits
Season 4: Leaves

Bed 2
Season 1: Roots
Season 2: Fruits
Season 3: Leaves
Season 4: Beans

Bed 3
Season 1: Fruits
Season 2: Leaves
Season 3: Beans
Season 4: Roots

Bed 4
Season 1: Leaves
Season 2: Beans
Season 3: Roots
Season 4: Fruits
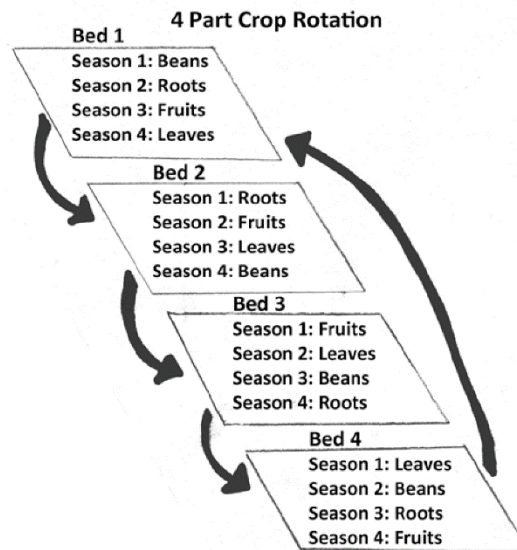
Seasonal Crop and
Market Analysis Chart

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

Here are two examples:

	J	F	M	A	M	J	J	A	S	O	N	D
Wheat	☺	☺	☺	😐	😐	☹	☹	☺	☺	😐	😐	☺

	J	F	M	A	M	J	J	A	S	O	N	D
	☁	☀	☀	☀	☀	🌧	🌧	🌧	🌧	☁	☁	☁
Beans	☺	☺	☺	😐	😐	☹	☹	☺	☺	😐	😐	☺
Sorghum	☺	☺	☺	😐	😐	☹	☹	☹	☹	😐	☺	☺

Seasonal Crop and Market Analysis Chart

Month or Season											
Holiday / Crop											

Seasonal Crop and Market Analysis Chart

Month or Season											
Holiday / Crop											

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
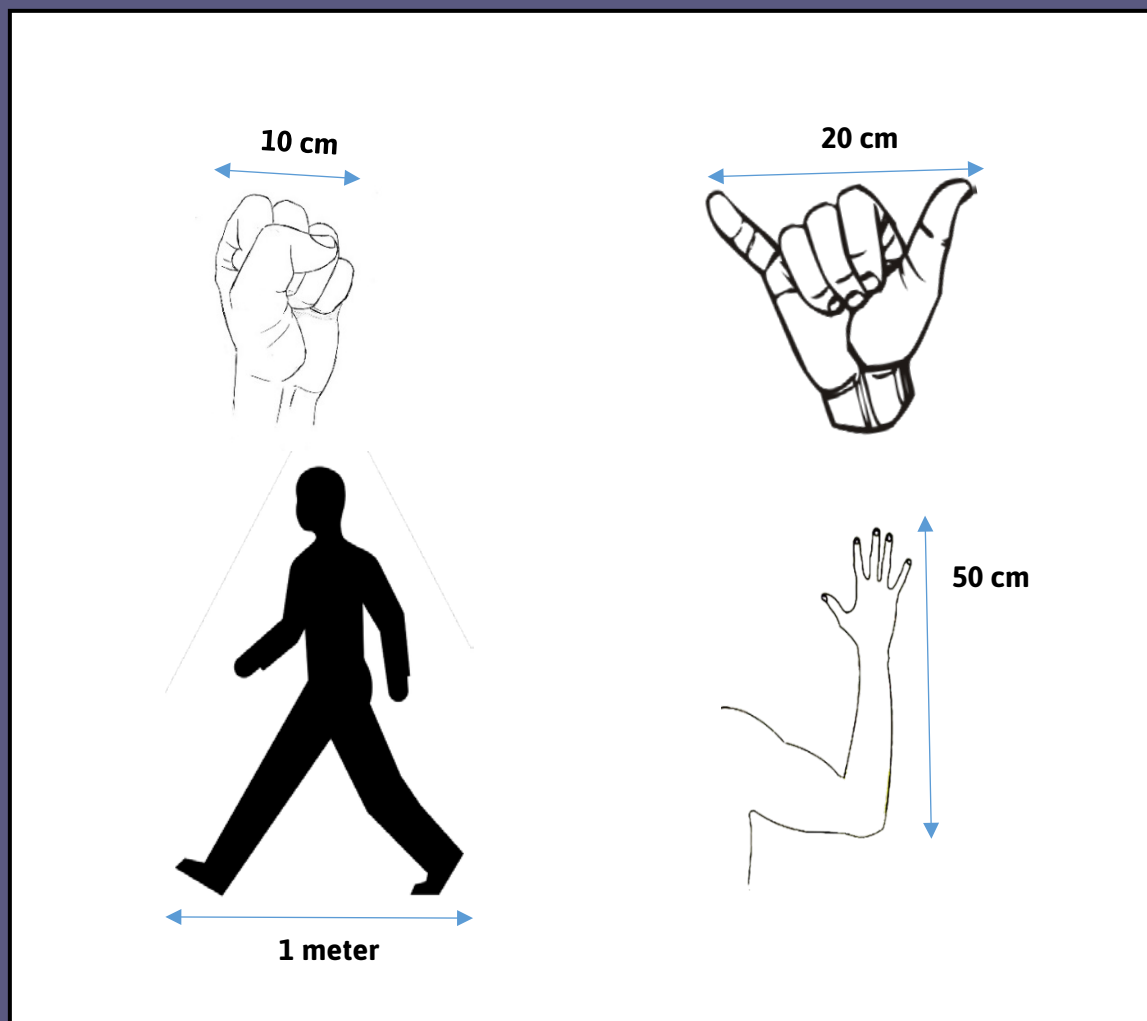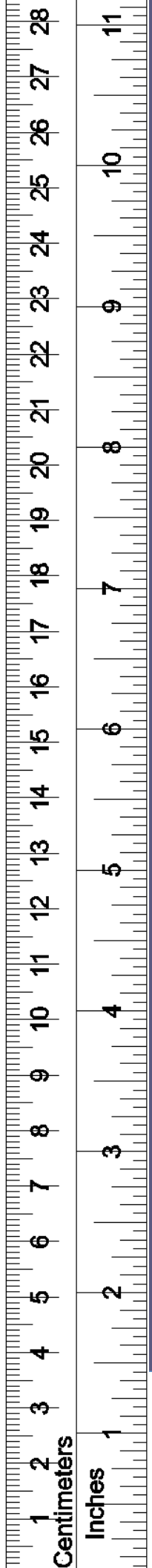
Draw the design of your new garden

Garden Design

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Draw the design of your new garden

Notes

10 cm

20 cm

50 cm

1 meter