

# Biodiversity

2013

H U B E R T O



# · CROP ROTATION AND INTERCROPPING ·

## WHAT IS IT?

TWO OF THE MOST IMPORTANT TECHNIQUES TO DO A CORRECT HANDLING OF THE BIODIVERSITY IN THE GARDEN ARE **CROP ROTATION** AND **INTERCROPPING**. ON THE ONE HAND, THE CROP ROTATION IS A TECHNIQUE OF SUCCEEDING PLANTS OVER THE TIME WHILE WITH THE INTERCROP YOU CAN INCREASE THE BIODIVERSITY IN THE SPACE.

## HOW DO YOU MAKE IT?

### CROP ROTATION

Different crops have different nutrient requirements and affect the soil balance differently. In this case, crops that remain in the same soil permanently can cause a depletion of certain nutrients and this situation can affect the next crop in the same soil space.

In a correct crop rotation the successive crops belong to different families from the previous. Normally 4 years should pass before the same species is cultivated on the same plot again, however also 2 or 3 years can be acceptable. Different plant typologies, distinct root systems and variation in nutritional requirements are all good elements for successful crop rotation.

### INTERCROPPING

Cropping different species of plants in the same plot is made only when both crops are benefited and none of the crops grown is compromised.

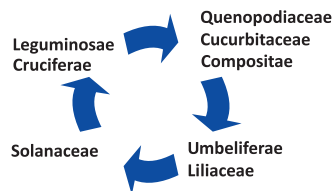
Intercropping enables plants to use the resources that would not be efficiently used by a single crop. It includes the cultivation of various crops in the same space and time, although cycle length may vary. Intercropping is generally organized in rows or strips, wide enough to avoid competition and enable easy cultivation practices, but close enough for the crops to interact positively.

## THINGS TO BEAR IN MIND

### CROP ROTATION

Some basic aspects for planning the crop rotation in the garden:

Families rotation:



An example of type rotation:

	Plot 1	Plot 2	Plot 3	Plot 4
Year 1	Fruit	Root	Leaf	Flower
Year 2	Flower	Fruit	Root	Leaf
Year 3	Leaf	Flower	Fruit	Root
Year 4	Root	Leaf	Flower	Fruit

### INTERCROPPING

Some usual intercrops are commented below:

- Intercropping of cereals and grain legumes: Exhausted soils are often low in nitrogen, to avoid applying mineral fertilizer, we can incorporate legumes into the cropping system, due to Leguminosae have a special relationship with a nitrogen-fixing bacteria called Rhizobium.
- “Pre-Colombian” intercrops: Beans are often grown in association with corn and pumpkins. Bean is using the corn for growing between its stalks; here pumpkins find the ideal humidity and shady conditions to grown below

## SOME CONSIDERATIONS

### Using crop rotation:

- The soil in the garden is richer in nutrients and is more balanced, so we have to add less nutrients to the soil and you will not have to add organic matter as frequently.
- You would not have to dig as often.
- Crop rotation is very important to reduce the risks of plagues diseases and weeds.

### Using intercropping:

- It increases the biodiversity of crops in the garden.
- Intercropping maintains the soil fertility because the nutrients are taken up in different layers.
- It reduces the soil runoff.
- There are less health problems and it controls the weeds.

## INTERACTIVE QUESTIONS.

- Do you think that the crop diagrams helped you to understand it?
- What kinds of crop can you include in your crop rotations? How would you plan the rotation?
- Which intercropping is better for your garden?
- What families or species are compatible?
- How can you plan the intercropping to take advantage of space in your garden?
- What kinds of intercropping are more common in your region?