

#### Description

The activity consists of looking at the uses and functions that we can give to the different plant species in our permaculture garden.

Each group works with a pack of cards with information about different plant species. The groups read the information and try to deduce what uses can be given to that plant in order to achieve a balanced ecosystem within the garden.

#### Teaser

Title: How much sunlight does each plant need?

Summary: Soil is the great neglected element of conventional agronomy. Look at the difference in richness between conventional and organic soil.

Text: The soil of our vegetable garden is the central element. We can know its composition with analyses like this one (Pfeiffer chromatography) where it is separated into its different components. Here we see a soil of traditional agronomy (a) that only retains the compacted mineral part, while organic agriculture has an aerated soil, rich in active microorganisms and organic matter.















Image credit: Armando Olivo Martín del Campo, CC BY-SA 4.0, via Wikimedia Commons







Image credit: Kurt Stüber - caliban.mpiz-koeln.mpg.de/ mavica/index.html part of www.biolib.de, CC BY-SA 3.0

### **Competences addressed**

- Knowledge about biodiversity and fauna
- Diversity and inclusion (biodiversity)
- Communication
- Learning to learn











## Learning objectives

- Know some of the uses of different species within permaculture.
- Understand the importance and benefits of biodiversity
- To know some natural alternatives to the use of pesticides.

# **Preparation for the activity**

Print and cut the cards in Annex 1

Prepare 4 pieces of paper for each group with the titles:

- Protection
- Health (of plants)
- Human use
- Fertilization

Prepare 1 table for each group

# The activity / the content

1. Introduce the subject:

One of the principles of permaculture is based on observing nature in order to try to emulate it and create a system that is self-regulating.

In a permaculture garden, many species of plants, animals and micro-organisms coexist to form a small ecosystem. Each of the species has a role to play in establishing a natural balance.

We have seen that combining different plant species in a garden allows us to reduce dependency on external inputs. In addition, we can combine our plants in an efficient way so that some species benefit others. In this sense, we can assign some functions or utilities to the plants according to the benefit they bring to the garden system as a whole. Let's take a look at some of them.

2. Describe the four main functions we can give plants in our garden:

**Protection:** Some plants serve to modify the climatic conditions of the orchard and make them more suitable for the rest: protection against the wind, absorption of excess humidity, providing shade, etc.











**Health:** We can grow plants that serve to minimize the impact of pests on our crops by repelling or confusing harmful insects.

**Human use:** Most plants are cultivated for the benefits they have for us. Mainly to provide us with food, but also to produce medicinal preparations, condiments, wood, dyes...

**Fertilization:** Some plants have the ability to extract nutrients from the atmosphere or from deep soil layers. We can grow these species and then integrate them into the soil or make preparations that fertilize the soil.

- 3. Show the cards to the participants (Annex 1). Explain that each card contains a description of the species in the picture.
- 4. Divide the group into small subgroups of 3-5 people. Give each group a pack of cards and 4 pieces of paper with the names of the 4 functions of plants.
- 5. Give the instructions: Each group should read the information on the cards and assign a place to each one according to the function they think the plant might have in a vegetable garden by placing it next to the label with the name of that function. Make it clear that some cards may have more than one function and that they will therefore have to place them in a way that shows that they are in several groups at the same time.
- 6. While the groups are working, visit the tables to clarify doubts. Point out that for plants that have two or more uses, it is not necessary to choose only one, help them to find a way to represent several functions at the same time (for example, we can place the orange tree between the labels "protection" and "human use" to show that it has both functions at the same time). Let each group find their own way to represent this.
- 7. Invite the groups to share the information they found most interesting.
- 8. After the reflection, you can give the participants a summary table of uses of plants (Annex 2)

### **Questions for reflection, self-assessment and conclusions**

- Which of these species are commonly found in a traditional kitchen garden? Which are not?
- What benefits can biodiversity conservation have?
- Why do permaculture gardens sometimes look like jungles full of mixed species?







