

Synecoculture Principles Learning Kit

**Ver. 0.2e
September, 2019**

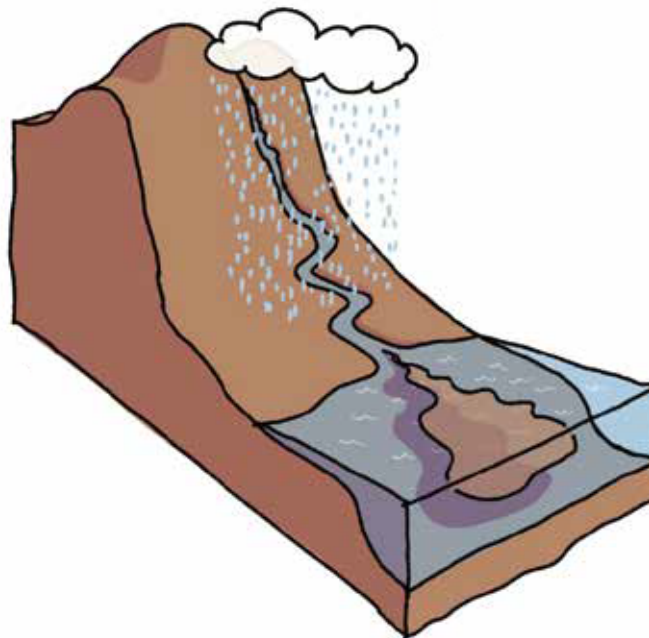
**Sony Computer Science Laboratories, Inc.
Synecoculture Association**

**Written by : Kei Fukuda, Yoko Honjo
Supervised by : Masatoshi Funabashi**

The Power of Vegetation



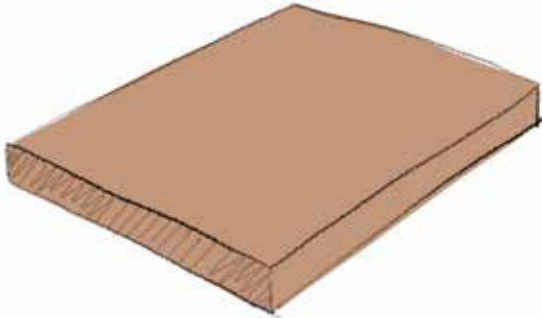
Rain falling on land with sufficient vegetation is filtered by topsoil and becomes ground water with suitable nutrition. The water then pours into the sea, and brings up sea life.



However, rain falling on the land where the vegetation has been destroyed washes away the topsoil in the form of mud. It pours into the sea, and ends up harming sea life.

The goal of the Synecoculture principles is to lead to a symbiosis between humans and nature by means of promoting land to recover its topsoil and vegetation.

Basics behind starting a Synecoculture farm on land with poor vegetation and topsoil



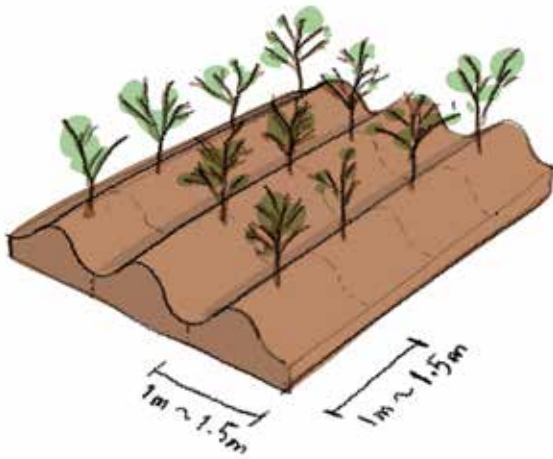
Suppose there is a land where the vegetation is destroyed and the soil is exposed.



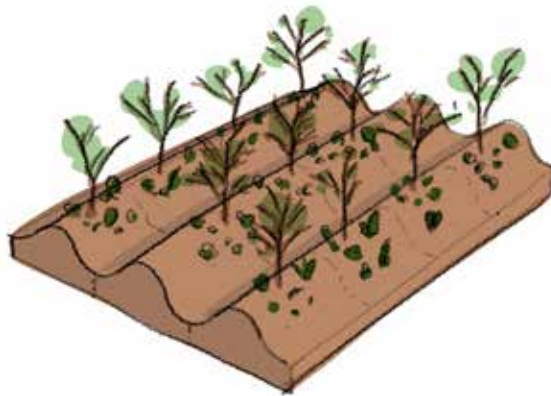
Dig this ground at intervals of 1.5 meters and create ridges. There is no need to plow.



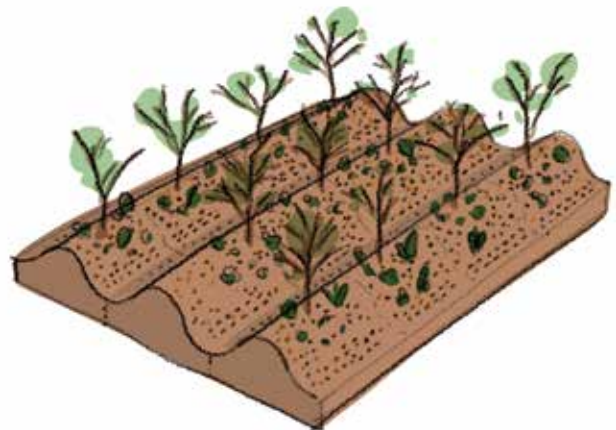
It would look like this.
There is no need for ridges for plants, but it is convenient to have them as passages for humans.



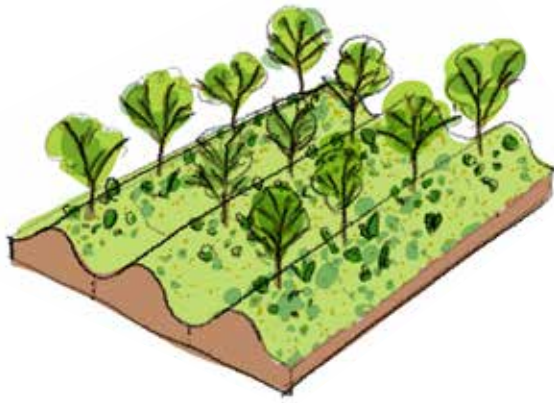
Next, plant 1-2m tall fruit trees at intervals of approximately 1.5m. The fruit trees will provide semi-shades to the plants that would grow on the ground. Also, they will help nourish the insects and birds that are summoned by the fruits. Leaves will eventually fall in autumn and form mulches. You may even get some fruit.



After planting the fruit trees, plant vegetables and herbs. Attention and consideration should be extended to sunshine, shade and sunbeams through the fruit trees. Then sow seeds between these seedlings.



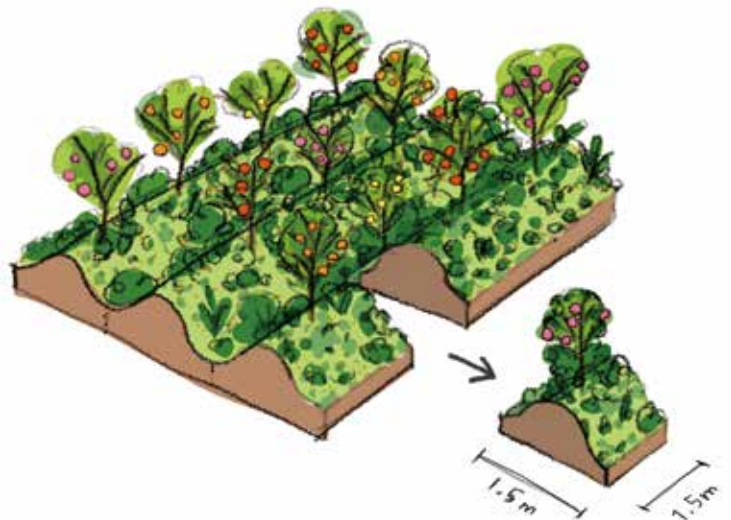
Mix a wide variety of seeds and sow them in high density. Vegetables that grow tall should be sowed in rows, and beans should be buried in the soil. Aim for a ground covered as dense and tight as possible with plants and vegetables.



Seeds will germinate and the land will be covered with plants.



We may say that the vegetation has somewhat recovered, once the plants settle in their respective places. From this state, you can endeavor to manage and improve the soil structure by replacing plants with your favorite ones. This mechanism in which different species cooperate with each other to recover topsoil is the foundation of the Synecoculture principles.



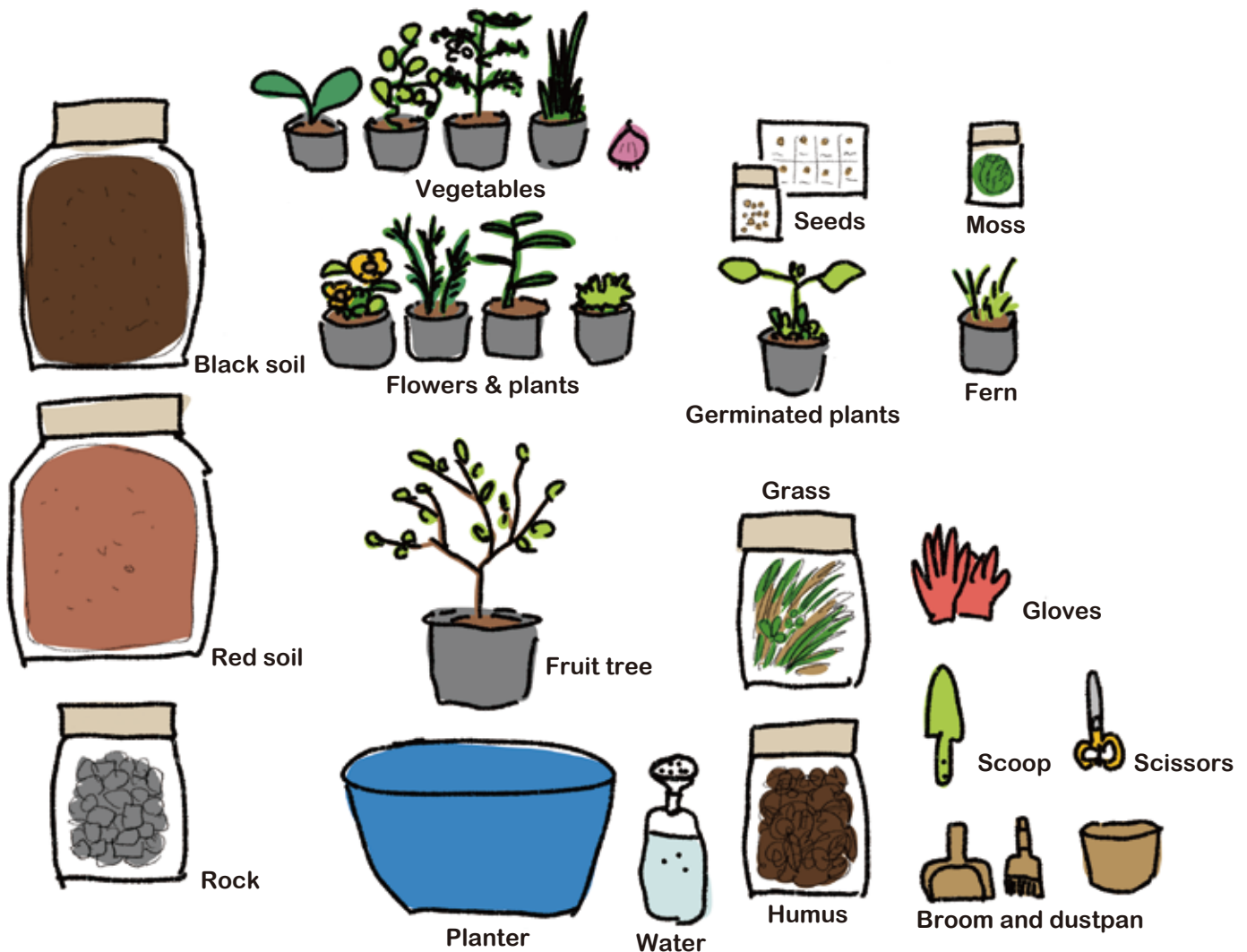
Should there already be some grass or vegetation in the original land, use them well, and you may be able to reach the initial state more easily. The more diverse the plants, the richer will be the vegetation and you will be able to see and enjoy the co-operative effect. A slice taken out of this framework is what we define as the basic unit of the Synecoculture learning kit.

The Prototype of a Learning Kit

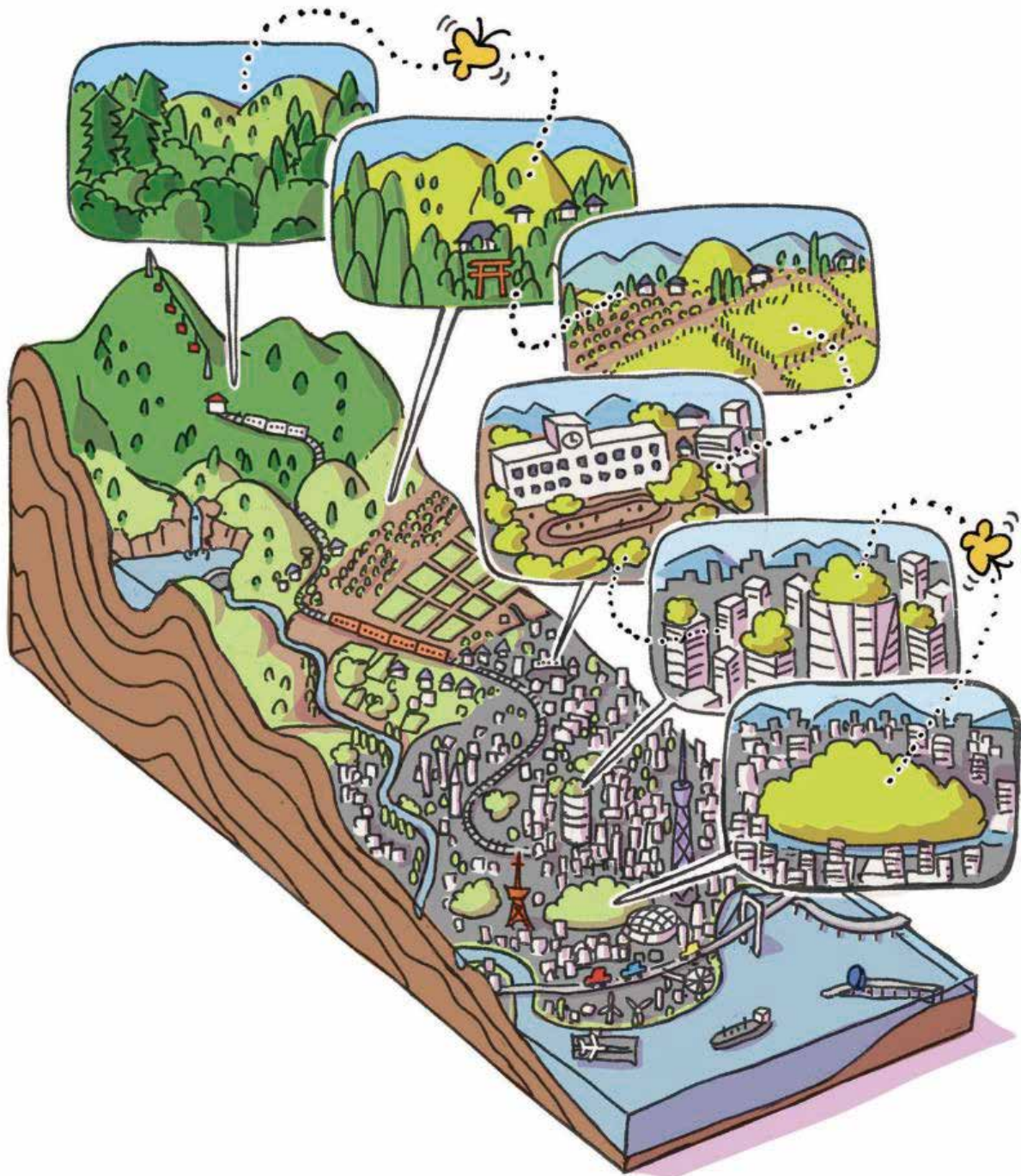
The smallest unit of the kit is a slice of land that contains one fruit tree. You may not see the ecologically optimized state, but observation of cooperative effects will be possible.

Conditions necessary for the experiment

- Daily sunshine
- Water and sewage
- Additional plants and seeds to add or replace.
- Please note that the planters are highly influenced by the environments they are placed. Also you may learn principles with the planters, but conditions are more favorable experimenting on real land.



The Idea behind the Synecoculture Learning Kit



The main purpose of the Learning Kit is to learn "the functioning of ecosystem cycles" in the raw. By actually putting in place the Learning Kit and experiencing it, you will find yourself constituting part of the connected network of ecosystems. Imagine a story of a butterfly that starts flying from the mountains, travels from one green to another, and eventually reaches the center of the city. Your kit may well help this butterfly travel by providing a small resting spot. Or data from your experiments may become useful to the practice of Synecoculture farming in other areas.

For information about our project visit:
<https://www.sonycsi.co.jp/tokyo/407/>

