



# Calvert County Environmental Commission

## Permaculture

### 1. What is Permaculture?

At its simplest, permaculture is the idea that by working with nature and human nature we can be more productive with less effort. We tend to grow food in ways that are convenient for large-scale, monoculture production, but this is counter to nature and a recipe for ever-increasing inputs of poisons – both herbicides and pesticides – and effort – which poisons the land.

In nature, communities of plants grow together. These plants each provide different inputs to the ecosystem and have different requirements that need to be met for growth. In other words, they complement each other. With the human environment it is the same – if we plan our work and the layout of our land, we can produce more for less effort.

Permaculture allows you to produce more food using less area with less effort than traditional gardening or farming practices.

For the earth, permaculture restores the soil rather than depleting the soil as happens with many traditional agricultural and gardening methods.

In permaculture, the grower applies waste from other operations, even the kitchen, back into the soil. No tilling means no disruption of the soil structure and no soil loss to erosion. In contrast to monoculture, companion planting means that the grower can use combinations of plants to control weeds and insects. In monoculture, the grower typically must keep applying expensive fertilizers and weed killers to get a small crop per unit of ground because tilling and monoculture destroy the soil structure and extract value from the soil.

### 2. What is integrated design?

“Integrated design refers to the inter-connectivity of elements within a system. Basically, we work to align the outputs from one element to the inputs of another so that there is no waste, high efficiency and work is ideally reduced.” Damien Bohler

[What is Permaculture and What are its Design Principles? - Conserve Energy Future \(conserve-energy-future.com\)](http://conserve-energy-future.com)

### 3. How does permaculture work with natural design?

Permaculture practices several things that make it different from normal gardening or farming and more natural.

- Plant communities. Corn can be planted next to beans and provide stalks for the beans to grow up. Lettuce or squash can be planted with them also and help limit the growth of weeds. Also, the beans will provide nitrogen to the soil that can be taken up by the other plants.
- Plant spacing. If you read the back of a seed package, it will tell you to plant the seeds so many inches apart in rows that are often several feet apart. This wasted space is not for the plants' benefit but for the gardener's. Eliminating the rows allows more plants to grow in a small space. Of course, the gardener still has to plan access to the plants that won't involve walking on the soil where the plants are growing.

- No till. Permaculture is sometimes called “lazy man’s gardening” because you don’t dig into the soil. The soil is alive with a “micro-herd” (Morag Gamble) of living organisms from earthworms to bacteria, all working together to keep the soil healthy. The way to avoid digging is to build up. In general, the gardener can use “lasagna” gardening to control weeds while not disrupting the soil. “Lasagna” gardening refers to putting in layers of material. The gardener can start by putting down a layer of cardboard, which will prevent plants from the original soil from coming up. Then cover that with dirt, compost and, finally, mulch. Next, plant seedlings in amongst the mulch. The mulch will also help reduce weeds. Morag Gamble, on the other hand, prefers to put the barrier on top as this will also prevent sprouts coming up from the compost or added soil.

[How to Make a No Dig Garden: Morag Gamble's Method for Simple Abundance - Our Permaculture Life - YouTube](#)

5. How would I know which plants to put together?

This is also referred to as “companion planting” and you can find lists:

[Permaculture - Companion Planting | Alt Dot Energy](#)

[Companion Planting \(.pdf\) - The Permaculture Research Institute \(permaculturenews.org\)](#)

Here are some considerations:

- Some plants, like herbs, may affect the flavor of the plants around them.
- Some plants work on different levels. Corn is tall and lettuce is short which would enable them to occupy the same ground space without interfering with each other.
- Beans need a pole to climb on which can be provided by the corn. In return, the beans fix nitrogen in the soil, which helps the corn. See [How to Grow a Three Sisters Garden – Native-Seeds-Search \(nativeseeds.org\)](#) for more details on this particular combination.
- Sequential crops can also be grown on the same space. Winter squash can be grown on the same space as beans that mature and are harvested in the summer.
- Insect management – some plants attract beneficial insects, some repel harmful insects, some attract insects that are harmful to other plants – judicious use of these plants can help control insect pests.
- Plants that need full sun can provide shade for plants that thrive in partial sun.

6. How do I know how far apart to space the plants?

You can find some answers in this publication but generally use the spacing given on seed packets, ignoring the row spacing.

[Maximize Your Garden Space with Permaculture \(yellowbirchhobbyfarm.com\)](#)

7. How do I plan a permaculture garden?

Complete permaculture planning is more than just a garden and should start the moment you acquire a property, before building on it. However, most of the time we will be starting with properties that already have buildings.

For design details see:

[Permaculture Design in 5 Steps - The Permaculture Research Institute \(permaculturenews.org\)](http://permaculturenews.org)

Many things come into consideration for planning a permaculture installation. Starting with the land and water, how do things flow naturally over the landscape? Can water and other resources be moved conveniently from one place to another? Convenience is an important consideration because things that are not convenient are less likely to happen. Water should be able to flow from one place it is needed to another. Does the installation involve livestock? Can the manure produced by livestock readily be moved to gardens or fields?

Generally, a property can be divided into zones 1-5. Zone 1 is the area immediately adjacent to the dwelling and where the gardener would plan to do the most intensive gardening – planting things that are used every day such as vegetables or herbs that can go directly to the kitchen. Farther out, the gardener would plant things that require less care and less daily interaction such as an orchard. As part of the planning, put the tool shed on the path between the house door and the garden to increase the chances that tools will actually get put back when they are done being used for the day.

8. What is layering?

In nature we find that plant communities consist of plants of different heights. In a forest there are the oaks and hickories, among others, that are very tall and dominate the canopy. Beneath them are smaller plants such as mountain laurel or red buds. Beneath those are herbaceous plants such as ferns and berry bushes, and below them are the lichens, fungi and so on. The same space supports plant life with different height requirements. In permaculture, the same kinds of things can be done with fruit trees, green vegetables and root vegetables, for example. Also, the sturdier plants can provide support. At Monticello pruned cherry tree branches were interwoven to support tomato plants, for example.

<https://thereedcenter.org/morningviewfoodforest>

9. What is agroforestry?

Agroforestry is the practice of combining agricultural and forestry so trees and livestock or crops can be combined in the same space.

For more information see [Agroforestry: An ancient 'indigenous technology' with wide modern appeal \(commentary\)](#)

10. Where can I find out more about permaculture?

There are courses available on line as well as YouTube videos and books. The Calvert County Environmental Commission does not endorse any particular permaculture information provider. The following links are provided as examples of what is available.

[A Free Introduction to Permaculture with Geoff Lawton](#)

[The Permaculture Student 2 Workbook](#)

[How to Make a No Dig Garden: Morag Gamble's Method for Simple Abundance - Our Permaculture Life](#)

[Permaculture Design in 5 Steps.](#)

## [Maximize Your Garden Space with Permaculture](#)

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