



## OUR MISSION STATEMENT:

To provide technical resource information and methods of land use to private land owners and to promote and support the stewardship of natural resources.



# COVER CROP

Here at the Discovery Garden cover crop and other techniques are utilized to build healthy soil; we avoid tilling or digging the ground before planting. One effective way to build soil health is to cover the ground with plants – called Cover Crop. This principle is simple:

- ☞ keep the ground covered as much as possible,
- ☞ avoid disturbing the soil as much as possible, and
- ☞ keep a live root in the ground as much as possible.

The life that takes place underground, in the soil, is intricate and dynamic. The more we can promote the work of nature underground, the healthier the soil is, ultimately producing healthier plants that are hardier and more drought tolerant. Healthy soil retains more moisture than soil with poor underground microbial activity. When a soil ecosystem is healthy and teeming with microbiology, more nutrients are available for the plants to access making them strong and healthy and resistant to pests.

Cover crops are planted during off-season times when soils might otherwise be left bare. By planting a cover crop we are not wasting resources and robbing nutrients from the soil, but rather building a healthy, lightly touched, delicate ecosystem that invites entire populations of micro-biological critters which produce bio-available resources for plants to utilize. Inviting earthworms, for example, helps the soil become “tilled.” When earthworms burrow, they make small tunnels in the soil. These tunnels supply air which makes the soil aerobic (having oxygen available to plant roots). Overly compacted soil tends to be anerobic (limited or no oxygen available to plant roots) producing weak and stressed plants which invite pests and weeds.



*Cover Crop in Row Farming*

Carbon is a key macronutrient necessary in growing plants. When land is tilled, carbon is released into the atmosphere and microbial habitat is significantly disrupted if not completely destroyed, nutrients are no longer made available for plants to utilize. Breaking small roots and other underground structures essential to healthy underground life can make it harder to achieve the results we want in our gardens. Sometimes when our soils get overly compacted there is no choice but to till the

ground once, but from that point on the goal should be to minimize future compaction and build up a multi-layered and diverse community of plants to keep the soil environment in balance.



*Cover Crop at Cross Orchard Historic Site Apple Orchard*

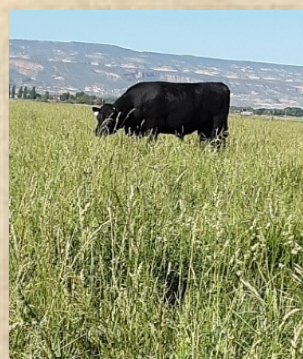
Cover crops are versatile and can accommodate the grower’s needs. Backyard hobby gardeners use these techniques as well as small and large farm produce sellers, orchards, and huge farming operations across the country and the world.

Specifically, in the Discovery Garden you will see cover crops used in the Uncommon Fruit Orchard. During the fall and spring months, cover crop seed is sewn in the vegetable garden and raised beds also to keep bare soil covered.



*Home Gardener Cover Crop*

Often people mingle the word permaculture with cover crop. Permaculture refers to the growth of agricultural ecosystems in a self-sufficient and sustainable way. This form of agriculture draws inspiration from nature to develop synergistic farming systems based on crop diversity, resilience, natural productivity, and sustainability. This is sometimes referred to as “companion planting”. Permaculture helps us to consider all of the multi-faceted relationships and connections that are affecting each other and thus causes us to make decisions that strengthen those relationships and reduce our dependence on outside sources. This idea can also be thought of as “sustainability”.



*Cover Crop Used to Feed Free-Range Cattle*

Resources abound on this topic!

# RESOURCES

## WEBSITES TO REFERENCE

[Treehugger.com/definition-of-cover-crop-3016953](http://Treehugger.com/definition-of-cover-crop-3016953)

<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/climatechange/?cid=stelprdb1077238>

## VIDEOS TO REFERENCE

*JoeGardner How to make a no-till garden:*

<https://www.govtech.com/districts/media/Learn-How-the-CARES-Act-Can-Help-Your-Special-District.html>

*Spring cover cropping for home gardeners:*

<https://www.youtube.com/watch?v=NTAwYtePQE8>

## LIBRARY TITLES FROM THE MCPLD COLLECTION

- 1) Creating a Forest Garden: Working with Nature to Grow Edible Crops
- 2) Grow Your Soil!: Harness the Power of the Soil Food Web to Create Your Best Garden Ever
- 3) Mini Farming: Self-sufficiency on a 1/4 Acre
- 4) The Mini Farming Handbook

**TO LEARN MORE ABOUT THE MESA CONSERVATION DISTRICT  
& THE DISCOVERY GARDEN, PLEASE VISIT [MESACD.COM](http://MESACD.COM)**



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