WASATCH COMMUNITY GARDENS

Introduction to Sustainable Gardening Practices

"We 'farm' as we eat. For example, if we consume food that has been grown using methods that inadvertently deplete the soil in the growing process, then we are responsible for depleting the soil. If, instead, we raise or request food grown in ways that heal the Earth, then we are healing the Earth and its soils. Our daily food choices will make the difference. We can choose to sustain ourselves while increasing the vitality of the planet." John Jeavons, *How to Grow More Vegetables*

The goal of gardening sustainably is to maintain a healthy environment, community, and economy while providing nutritious food. It is a "whole system" growing method. This means that all of its components—composting, companion planting, cover cropping, intensive planting, double digging, and water conservation—must be used together for the best results.

Five Components of Sustainable Gardening Practices

1. Composting

Composting is the keystone to a successful sustainable garden. Creating compost piles is one of the best investments you can make in your garden. As the soil's health improves, plants are more healthy and you will grow more food. Rather than sending your garden wastes to the landfill and spending upwards of $50 a year on fertilizers, your compost pile allows you to invest your precious plant materials to produce nature's finest fertilizer. Compost will:

- Add organic matter naturally
- Prevent plant and soil diseases
- Correct sandy or clay soil structure
- Make a great mulch or top dressing
- Provide a variety of nutrients when plants need them
- Aerate soil
- Improve drainage
- Prevent erosion
- Neutralize toxins
- Recycle garden wastes

2. Companion Planting and Interplanting

Companion plants are ones that produce better yields and healthier plants when they grow near each other. Interplanting is the practice of sewing 2 or more varieties of plants together (e.g. beans using corn as a living trellis). Some plants are useful in repelling pests, while others attract beneficial insect life. Borage, for example, helps control tomato worms while its blue flowers attract bees. Many wild plants have a healthy effect on the soil; their deep roots loosen the subsoil and bring up previously unavailable trace minerals and nutrients. And there seems to be no obvious reason why some plants would be companions, like carrots and tomatoes. Companion planting charts are available on the web and from Wasatch Community Gardens.

3. Cover Cropping

Cover crops are any type of planting that covers your soil when it is not being used for active production. Favorite cover crops are ones that produce a good amount of dry matter for the compost

bin (rye, wheat, sudangrass) and ones that "fix" nitrogen from the air to the soil, called legumes (peas, vetch, clover). Cover crops should be harvested and composted to add organic matter and nutrients to your soil. Although cover cropping has traditionally been used by farmers for maintaining healthy soil, many home and urban gardeners are using the same techniques on a smaller scale. Using cover crops can:

- Protect soil in winter months
- Attract beneficial insects
- Break up clay or hardpan
- Increase nutrients in your soil
- Conserve soil moisture
- Suppress weeds
- Cover & protect unused areas
- Prevent erosion by wind and rain
- Increase organic matter in your soil
- Recycle garden nutrients

4. Intensive Planting in Double-dug Beds

By spacing plants closely together, the home gardener can create a "living mulch" or mini-climate to protect and enrich the soil. Seeds or seedlings are planted in 3- to 5-foot wide beds using a hexagonal spacing pattern. Each plant is placed the same distance from all seeds nearest to it so that when the plants mature, their leaves barely touch. This provides a "mini-climate" under the leaves that retains moisture, protects the valuable microbiotic life of the soil, retards weed growth, and provides for high yields. Why not just mulch the soil around plants? Because the carbon wasted in the mulch you would use could have been recycled in the compost pile to enrich your soil in the future, and if you buy mulch, then you're simply depleting someone else's soil. Remember that there is only so much farmable land in the world to feed the millions of inhabitants, even though the U.S. seems to have more than enough.

Double digging is a method of preparing the soil that loosens and enriches 24 inches of soil—allowing plant roots to fully explore the fertile soil and produce healthy, productive crops. This digging method is easily learned from staff at Wasatch Community Gardens. Even though it may take a few hours to fully prepare a garden bed, the plant health benefits and lack of needing to weed with closely spaced crops more than make up for the up-front work.

5. Water Conservation

Paying attention to the amount of water we use in our homes and landscapes is important for the health of our communities and our gardens. Utah is the second driest state in the nation. It is surprising to know that our per capita water consumption levels are 290 gallons/day/person - the second highest in the nation, and far above the national average of 180 gallons/day/person. One of the best ways to reduce water consumption is to reduce your need for water. Intensive planting with closely spaced plants creates a microclimate above the soil that keeps soil from drying out as quickly. Cover crops also keep organic matter in the soil, which increases the soil's capacity to hold water. Bare soil is the #1 enemy to water conservation. Wasatch Community Gardens uses drip irrigation that slowly applies water at the base of the plant (where it's needed the most), over a longer period of time. Drip irrigation allows us to water deeply without wasting water. Water that is sprayed overhead with a hose or sprinkler risks being lost to evaporation when done at inappropriate times of the day. A great time to water is after 6pm or before 8am. Another way to conserve water is to choose plants that need less water or that have become acclimatized to our dry Utah conditions. Saving seeds from your best varieties of vegetables is a way to create your own store of vegetables that slowly adapt to our conditions.

Resources:

Wasatch Community Gardens' handouts on composting, double digging, intensive planting, companion planting, cover cropping, and water conservation
How to Grow More Vegetables..., John Jeavons