

LESSON 4

Choosing Plants and Basic Botany

Since your garden is meant to feed you and your family, grow foods that you want to eat! Gardening can also be a way to expand your family's tastes in vegetables and fruits. Keeping preferences in mind when planting will lead to a satisfying gardening experience. Also keep in mind plants' needs, growth time, and your particular location. San Diego County has many microclimates (see appendix "Vegetable Garden Planting Guide" for a map), so your location will partially determine what will grow well in your garden.

Learning Objectives

1. Know the botanical categories of food plants, their growing seasons, and differences in their care.
2. Know what to consider when choosing particular plants.

Plant Parts and Seasonal Planting

San Diego has two growing seasons: the "warm" season (May to September) and the "cool" season (October to April). These seasons can overlap somewhat and may vary within the different climate zones in the county (see appendix "Vegetable Garden Planting Guide" for details on planting times in different zones). Different plants provide different edible portions. Plants that provide edible roots, stems and leaves are most often grown in our cool season. Plants providing edible flowers, fruit and seeds are most often grown in our warm season.

Warm and cool season plants have evolved to grow best during their particular part of the year. When grown at the right times they typically have fewer pest and disease problems. For example, even though we have mild winters in San Diego, tomatoes grow best (and taste best) during the summer.



ACTIVITY 1

As a group, name several foods that fit into each of the following plant part categories and during which season they typically grow. (See appendices "Plant Parts", "Growing in San Diego", "Vegetable Garden Planting Guide", "Cool Season Vegetables" and "Warm Season Vegetables").

- Roots - Cool
- Stems - Cool
- Leaves - Cool
- Flowers - Warm
- Fruit - Warm
- Seeds - Warm



Types of Plants for an Edible Garden

It is good to have a variety of plants in your garden, as variety mimics nature by creating a balance of organisms, including animals that provide pollination and pest-predation. Perennials and woody perennials are the “bones” of the garden: always present and holding the shape. Annuals and biennials can be rotated and shifted around by season and year to keep soil fertile.

1. Herbaceous annuals are plants that grow, bloom, and die all in one year. They must be planted from seeds or starts every year. Herbaceous means they do not produce woody parts like a shrub or tree. Time from seed to harvest varies, but in San Diego annuals are typically planted in fall for cool season growing and spring for warm season growing. (See pages 2-3 of appendix “Vegetable Planting Guide” for a list of annual plants)
2. Biennials are similar to annuals in planting and care, but they take two years to complete their reproductive cycle. They typically grow in their first year, then rest, then grow, bloom and die in their second year. Vegetables such as leeks, lettuce, some radishes, turnips and carrots are considered biennials because they do not bloom until their second year. You can leave a biennial root in the ground after the first year’s harvest if you plan to collect seed or get more edible growth.
3. Perennials are plants that live and produce their edible parts for several years. They grow, bloom and die back in one year, but renew growth again the next year. Common food perennials include asparagus, artichoke, and rhubarb. Many herbs and flowering plants that attract beneficial insects (see Lesson 7) are perennials.
4. Woody perennials are trees such as citrus, stone fruits (peaches, apricots, plums, etc.), pomme fruits (apples, pears), nuts, avocados, tropical fruits (bananas, papaya), etc. Shrubs like blueberries and vines such as berries, grapes, and pomegranates are also considered woody perennials. Trees typically take 3-5 years before any fruit is produced, so they require some time investment before they feed you.

Choosing Plants

The following are some considerations to help you choose the best plants for your garden, in no particular order:

1. What do you and your family like to eat (or want to learn to like!)?
Typically it’s most satisfying for diet and cooking to have variety of types of plants (leafy greens, root vegetables, fruits, onions, leeks, garlic). Network for a Healthy California www.cachampionsforchange.net/en/Recipes.php has some great seasonal recipes to expand your healthy meal choices. A garden can be your opportunity to diversify your diet and improve your health with an array of nutrients and minerals. See Lesson 8 for more on using the food you harvest.
2. Do you want to garden year-round?
Whether in a particular season or year round, try to choose plants with varying times to harvest, so you’ll always have something to harvest and enjoy. For times to harvest and other information on particular crops use the University of California Cooperative Extension’s (UCCE) Vegetable Research & Information Center: vric.ucdavis.edu/main/veg_info.htm information by CROP home garden. In San Diego, we have extended growing seasons, which allows for a wide variety of vegetables in our diet.
3. How much time will you realistically be able to spend gardening?
If you prefer to have a low-maintenance garden, pick crops that typically require less time and attention. The UCCE’s Vegetable Research & Information Center is good for this information.

4. How much space do you have?

If your space is small, you'll have to decide which you most want to eat (or maybe those that cost you most at the store).

5. Which plants will grow best together?

Some gardeners have found that certain plants grow better when particular plants are grown nearby – this is referred to as companion planting. A good example of this is the traditional Central and South American “Three Sisters” planting of corn, beans, and squash. In this style of planting the corn provides a structure for the beans to vine up; the beans (a legume) fix nitrogen in the soil for the other two; and the squash helps shade the soil with its broad leaves, thus helping the soil to retain moisture. For suggested combinations, as well as pairings to avoid, see the following resources:

www.howtogardenadvice.com/garden_info/companion_gardening.html

www.gardenguides.com/410-good-amp-bad-companions-vegetables.html



ACTIVITY 2

Choosing vegetables to eat with the seasons- Think about a typical week of meals at your house in summer and winter to brainstorm the foods you could grow to fit your meal needs.



References

1. Bailey, M.
"Growing in San Diego, Planning for Seasonal Planting - Cool Season."
Tips on planting and growing in the cool season and list of crops.
2. "Cool Season Vegetables"
from VGSD Garden Ed manual
A list of cool season crops and some of their possible companion plants.
3. Exploring Nature.
"Parts of the Plant Diagram."
A diagram of the parts of the plant for identifying edible parts.
4. Garden Guides.
"Good and bad companions for vegetables."
Available at: www.gardenguides.com/410-good-amp-bad-companions-vegetables.html
A simple list of vegetable crops and their suggested companions and plants to avoid planting nearby.
5. How to Garden Advice.
"Companion planting for vegetable, herb, fruit, and flower gardening."
Available at: www.howtogardenadvice.com/garden_info/companion_gardening.html
A short explanation of companion planting, along with a list of vegetable crops and their suggested companions and plants to avoid planting nearby.
6. Lazaneo, V. UC Cooperative Extension.
"Vegetable Garden Planting Guide for San Diego County."
An explanation of vegetable crop types, cool and warm season crops, recommended planting dates, and growing regions in SD County.
7. Network for a Healthy California.
Available at: www.cachampionsforchange.net/en/Recipes.php
A searchable index of fruit and vegetable recipes (not vegetarian) and tips on incorporating more fruits and veggies into your diet.
8. Vegetable Research and Information Center. UC Cooperative Extension.
"Vegetable Information"
Available at: http://vric.ucdavis.edu/main/veg_info.htm
Details on planting and care of various vegetable crops; searchable.
9. "Warm Season Vegetables"
from VGSD Garden Ed manual
A list of warm season crops and some of their possible companion plants.