
COLORADO STATE UNIVERSITY EXTENSION
BOULDER COUNTY

BOULDER
COUNTY RURAL
LIVING
RESOURCE
GUIDE

Gardening



COLORADO STATE UNIVERSITY
EXTENSION

INTRODUCTION GARDENING

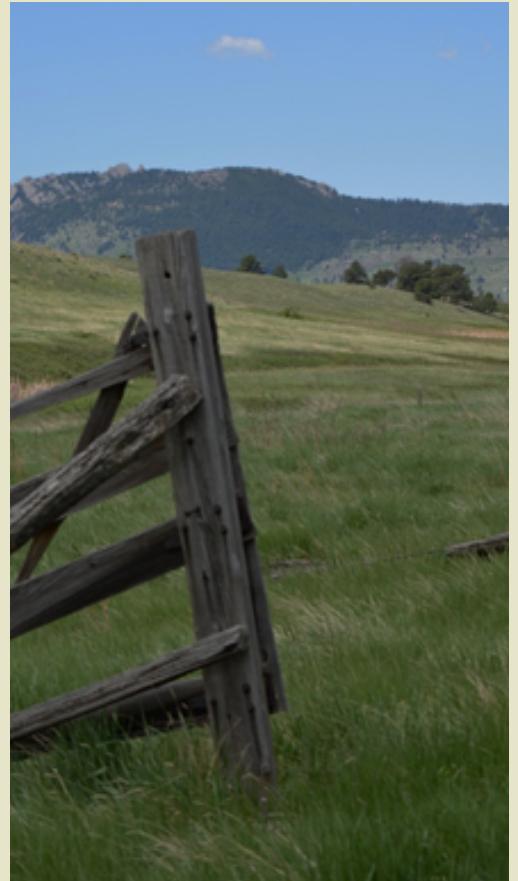
In this section, we'll cover some basics about gardening in Boulder County.

Landscape Planning Essentials

Plant Selection

Water Conservation

Gardening at Higher Elevations



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Landscape Planning Essentials

Landscaping is an art form. It requires planning, knowledge, and hard work. It entails a whole lot more than going to the local nursery, picking a couple of plants that look nice, digging some holes, and calling it done. To save yourself time and money, before you start a landscape project, you need to answer some basic questions that will help you pick the right plant and put it in the right place. Whether you decide to design the landscape yourself or hire a designer, you need to make some basic decisions.

First, you need to decide the basic theme or layout and space available for the plants you are going to purchase. Take a survey of your property and make a drawing of the shape of your property. Draw in the location of your house, driveway, sidewalks, and any other permanent structures. It is also a good idea to try to determine the slope of your property and note any areas that may be influenced by surrounding structures or plants. An example of this would be the amount of shade coming from trees. Sketch some ideas on paper to get an idea where you may want to add new plants or replace old ones. It is also a good idea to pencil in the location of the windows on your house. Determine the distance from the window to the ground level and write it underneath each window. This information is useful when choosing foundation plants. It is better for your foundation if you do not plant anything directly next to the foundation. You should leave 1' unplanted and covered with non-combustible material. In wildfire prone areas, you need to leave 5' unplanted with a non-combustible material covering the ground.

Second, you need to decide why you are planting what you are planting. Is it going to be a focal point of the landscape, or is it going to be used to fill in an open space? Are you purchasing it for its beauty and looks, or will it be functional, such as a border or hedge that produces food (i.e. grape vine, quince), or act as a visual barrier? Do some research by looking at landscape guides, garden magazines, or by visiting a local nursery or garden center. It is important to know the ultimate height and/or width of the plants you are considering. One common mistake that many do-it-yourselfers make is putting too many plants in too small of a space. Another common mistake is not considering the height or width of the plant at maturity. If the window is 3 feet from the ground and the plant you choose grows to 10 feet, there may be a problem in a very short-time or you may want it that tall for screening. The same holds true when placing plants next to a door or window. If the plant grows to a width of 8 feet and it is planted 2 feet from the front door, then it may soon become difficult to find the door. It can be deceiving when you go to purchase a plant that is only 24" wide and try to envision it at its full size. It is important to keep this in mind or you may be redoing your landscape every 10 years or so.

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The third consideration is plant placement in relationship to the growing conditions of the planting site and the plant's growing requirements. An example of this is putting shade loving plants in shady areas and sun-loving plants in sunny areas. Remember to consider the potential size of the surrounding plants.

Finally, consider the aesthetic value and appeal of the plants you are choosing. You need to decide what looks good to you. You could hire a landscape designer or landscape architect to make many of the decisions for you and offer suggestions for plant selections. That process costs extra money, but it may be worth it if you are at your wit's end deciding which plants to choose.

Plant Selection

Appropriate plant selection means choosing plants that not only are compatible with the landscape design but also are well suited to the site and growing conditions. Plants that are adapted to the site's soil type, sunlight, annual temperatures and water availability have a better chance of thriving than those that are not. In most areas of Colorado, plants require some level of irrigation especially for establishment. It is very important to plan for the plant's water needs. Drought tolerance is an important consideration, but it should not be the only criteria used to select plants. Junipers, for example, are extremely drought tolerant, but they cannot tolerate poorly drained soils or dense shade. Peach trees are found on the Western Slope, but they are not recommended for the Front Range without added frost protection. Instead consider apple and cherry trees which thrive in the region. Resources for the best trees for this area are listed below.

Native plants are not necessarily the most drought tolerant. In general, higher elevation natives require more water than lower elevation natives, and they may be adapted to different soil types. For example, aspen is a native, but it does not thrive in the lower valleys and plains with the hot summers.

Avoid planting a tree that is abundant in your neighborhood; monocultures are more susceptible to insect and disease problems than mixed plantings.

Other important criteria to consider include:

- Mature size: Will the plant remain in scale with the rest of the landscape as it matures?
- Growth rate: Slow-growing dwarf plants require little pruning but are slow to mature.
- Texture: Does the leaf texture (fine, medium or coarse) combine well with adjacent plants?
- Color: Is the flower/foliage color compatible with other plants or the color of the building?
- Functional use: Is the plant suitable for the location and intended purpose?

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Select healthy, vigorous plants. Examine the root system for well-developed roots throughout the root ball and an abundance of small white roots (absorptive roots) along the root ball's exterior. Avoid plants with girdling roots (roots that have been growing around the pot's interior. They can act like a noose around the other roots or trunk restricting future growth). Examine the leaves, stems, and trunk for insects, diseases or damage. Consider planting smaller diameter trees, less than two inches caliper, they will establish more rapidly and outperform large caliper trees within three or four years.



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Resources:

Tree Selection: Right Plant, Right Place. CMG Garden Notes #632

www.cmg.colostate.edu/gardennotes/632.html

Colorado State University Extension Publications, Yard and Garden Fact Sheets

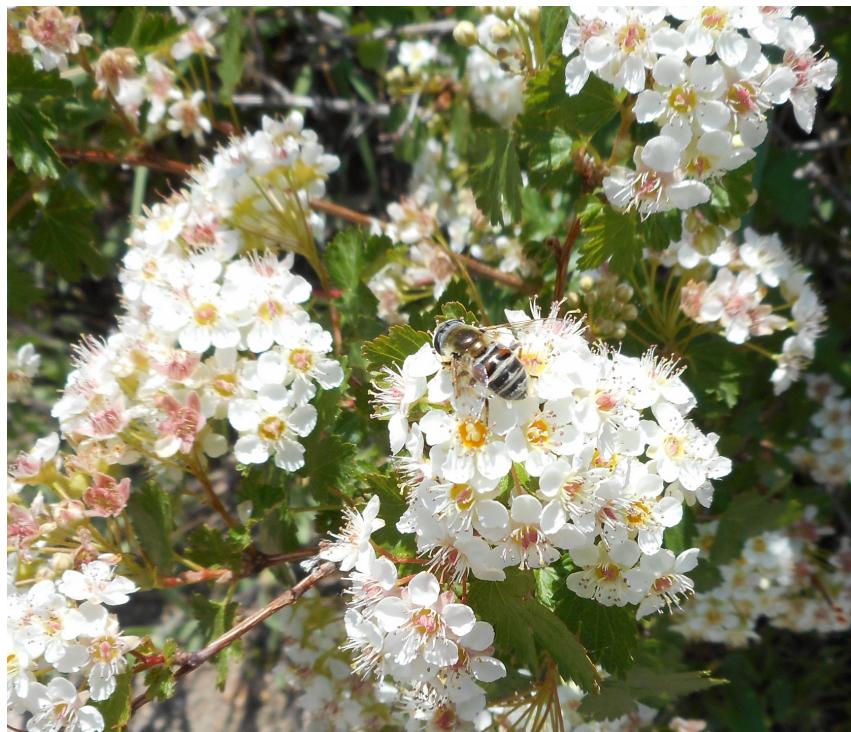
<https://extension.colostate.edu/topic-areas/yard-garden/?target=publications>

Colorado State University Extension Publications, Home and Garden Water Fact Sheets

https://extension.colostate.edu/topic-areas/water/?target=publications#water_home

Colorado State University Extension Publications, Native Plant Fact Sheets

<https://extension.colostate.edu/topic-areas/natural-resources/?target=publications#native>



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Water Conservation

Irrigation and Your Lawn

The greatest water consumption source, after water used inside a home, is the lawn. Nearly 50% of the water consumed for residential use is applied outdoors. Save water by:

1. Do not use sprinklers when there is high wind blowing.
2. A heavy rain means you do not have to water at all. Consider installing a soil moisture meter to prevent system from activating when enough soil moisture exists.
3. Water your lawn every third day at most.
4. Determine the irrigation amount and duration based on the evapotranspiration rate.
5. Always water during the cool time of the day. Early morning is best. Avoid the peak water consumption hours (4pm-9pm).
6. Adjust your automatic sprinkler settings to meet your needs.
7. Consider installing drip or micro irrigation.

Xeriscaping

Xeriscaping (pronounced “Zeer-eh-scaping”) is landscaping adapted to Colorado’s semi-arid and arid climates. Natural precipitation is extremely limited in our area where we may receive less than 14 inches annually. Compare that to more than 30 inches of rain New England receives in a typical year, or 70 inches Mississippi typically receives, and you will understand why we cannot grow the same Kentucky Bluegrass lawns so often seen in the East. When installed correctly, xeriscaping can save up to 30 percent on home water bills.

Xeriscaping incorporates the following basic principles:

1. Limit your turf area. Consider planting warm season grasses (Buffalograss) for their drought-tolerance and ability to survive with minimal fertilizer in areas that have limited use.
2. Maintain taller grasses and leave the clippings on the lawn to recycle their nutrients.
3. Choose native, drought-tolerant plant species. Ask your local nursery for suggestions and see the fact sheets below.
4. Choose an efficient irrigation system. Turf areas do best when watered with sprinklers, but drip irrigation is enough for shrub beds. Conduct an audit on your irrigation system periodically to ensure its efficiency.
5. Use mulches liberally. They maintain soil temperature, retain water, and reduce weed growth.

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Gardening at Higher Elevations

Gardening in Colorado presents unique challenges. Temperature is not the only factor that determines plant survival. Intense sunlight, low humidity, short growing seasons, desiccating winds, extreme weather fluctuations, difficult soils, recurrent drought and wildlife damage present challenging conditions for growing plants. The USDA Hardiness map rates Colorado as 2b (mountain peaks, -45 to -4 degrees F) to 7a (small areas of the Western Slope, 0 to 5 degrees F) with most of the state in the 4 (-30 to -20 degrees F) to 5 (-20 to -10 degrees F) range.

Soil Properties

Common soil issues include poor aeration as seen in clay soils; low organic matter and nutrients from decomposed rock; and hard to plant areas due to rocky soils. Some soils have a high pH (alkaline) and can create nutrient deficiencies in plants. Colorado soils are often high in iron but yellowing symptoms of iron deficiency are common because high calcium in the soil “ties up” the iron making it unavailable to the plant. Therefore, choose plants that do well in existing soil conditions, improve the soil, or plant in raised beds and containers.

Short Growing Seasons

Growing seasons are shorter at higher elevations. Foothill and mountain locations and lower valley floors often have even shorter seasons due to cold air drainage from surrounding terrain features. The air drainage phenomenon can make a difference in garden location as well. Avoid placement of hedges, fences and other landscape features that may obstruct the air flow. Cooler night temperatures also delay the vegetable and flower maturation. You may need to consider using cold frames or green houses for growing certain plants.

Extreme Weather Fluctuations

It is not uncommon for Front Range and mountain communities to have an already short growing season interrupted by a killing frost. The real plant killers, however, are the infrequent but rapid changes in temperature. Temperature swings can leave scars on trees and shrubs for years and serve to eliminate many plants with borderline hardiness. Heavy, wet snows can also occur in spring or fall. When that happens, trees, shrubs and garden flowers are caught in full leaf, or just at the peak bloom. These snows are “limb-breakers” often causing damage that increases the susceptibility for insects and diseases and can leave permanent scars. Colorado also experiences high wind velocities, hail and drought.

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The Brighter Side

Colorado gardeners might want to throw up their hands and say, "What's the use?", but there is a brighter side. Colorado's high intensity sunlight gives stronger stems and brighter flower colors. Colorado's semi-arid climate means there are fewer insect and disease problems. By understanding and using microclimates to your advantage and careful plant selection, we can have colorful garden flowers, vegetables, and hardy trees and shrubs.

Resources:

Native Trees for Colorado Landscapes. CSU Ext. fact sheet # 7.421

www.ext.colostate.edu/pubs/garden/07421.html

Large Deciduous Trees. CSU Ext. fact sheet # 7.419

www.ext.colostate.edu/pubs/garden/07419.html

Small Deciduous Trees. CSU Ext. fact sheet # 7.418

www.ext.colostate.edu/pubs/garden/07418.html

Evergreen Trees. CSU Ext. fact sheet # 7.403

www.ext.colostate.edu/pubs/garden/07403.html

Colorado Master Gardener Garden Notes

www.cmg.colostate.edu/gardennotes.shtml

Colorado Mountain Gardening Basics. CSU Ext. fact sheet # 7.244

www.ext.colostate.edu/pubs/garden/07244.pdf

Flowers for Mountain Communities. CSU Ext. fact sheet # 7.406

www.ext.colostate.edu/pubs/garden/07406.pdf

Trees and Shrubs for Mountain Areas. CSU Ext. fact sheet # 7.423

www.ext.colostate.edu/pubs/garden/07423.pdf

Groundcovers and Rock Garden Plants for Mountain Communities. CSU Ext. fact sheet # 7.413

www.ext.colostate.edu/pubs/garden/07413.pdf

Buffalograss Lawns. CSU Ext. Factsheet No. 7.224

www.ext.colostate.edu/pubs/garden/07224.html

Lawn Irrigation Self Audit (LISA). CSU Ext. Publication

<http://www.ext.colostate.edu/lisa/lisa.pdf>