

Gardening Resources

For those New
To the Helena Area

Prepared by Gold Country Montana
Master
Gardener Association

Welcome to gardening in the Helena area! It can be a slightly challenging activity, but with the right resources and a bit of effort and persistence, you can plan and grow a successful garden.

One of the best resources will be your local Montana State University County Extension Agent. He or she will be familiar with conditions in your area and will be able to answer questions; offer suggestions about soil, plants and pests; and will know other helpful resources. Here are two Extension offices in the area:

County	Address	Phone #
Lewis & Clark	100 W. Custer, Helena, MT 59602 (Fairgrounds)	406-447-8346
Broadwater	417 Broadway, Townsend, MT 59644	406-266-9242

The Montana State University Extension website offers many very informational MontGuides for gardeners and others, most of which are free PDF downloads. You can access the Yard and Garden MontGuides guides at: <https://store.msueextension.org/Departments/Publications/AG-Yard-and-Garden.aspx>. Several MontGuides (and other information) referenced in the text are located in the endnote chart at the end of this document. Another excellent reference is the book "The Montana Gardener's Companion: An Insider's Guide to Gardening under the Big Sky", Second Edition, 2015 by Cheryl Moore-Gough and Bob Gough

CLIMATE

Our **USDA hardiness zones** are generally 4a to 4b. Low temperatures in the 4a zone range from -30° to -25° F, while zone 4b low temperatures range from -25° to -20° F. In other words, winters in Montana can be very cold! You will need to plant trees, shrubs and perennial plants that can withstand sub-zero temperatures during the winter. Seeds or plants purchased from local nurseries or through catalogs will indicate the hardiness zone on the label. Look for plants or seeds that are cold tolerant to Zone 4 or lower (3,2,1).

Precipitation amounts vary from 9 to 12 inches, depending on the year. Helena has a relatively dry climate, so most plants, **especially non-native** trees and shrubs, will require additional watering throughout the growing season.

		Useful Websites
USDA Hardiness Zone	4a, 4b	https://planthardiness.ars.usda.gov/
Low Temperature	-30° F ±	(USDA interactive hardiness zone interactive web site)
High Temperature	100° F ±	
Annual Precipitation	9-12 inches	https://helenachamber.com/climate/
Last Spring Frost (average)	Mid May	https://mtmastergardener.org/linksandresources/frostfreezedata.html
First Fall Frost (average)	Mid September	

SOIL

Soils in this area tend to be alkaline, with a pH between 7 and 8, although soil pH is dependent on location. Soils in the mountains of Jefferson County tend to be decomposed granite, while the Helena valley may have gravelly soil. Other locations may have a higher concentration of clay and silt. Testing¹ your soil before attempting to grow plants or amend the soil is extremely important. Your local Extension Agent will be able to provide instructions about collecting soil samples from your garden and can direct you to testing laboratories, as well as help you interpret the results of the testing. The USDA Natural Resources Conservation Service provides an interactive web-

based soil survey database at <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/>. With a bit of trial and error, you can zoom in on your location and retrieve a detailed soil map.

Most soils will benefit from the addition of organic material in the form of compost, aged steer or other manure (not from pets), as well as leaves and untreated grass clippings. A MSU MontGuide² can direct you in creating your own compost. Compost can be purchased locally, but be sure that the materials that you purchase have not been treated with herbicides³, as several common ones may stay in the soil for long periods of time and harm your new plants. Ask the provider if herbicides have been used; if he doesn't know, don't buy. If you already have compost to add, you can conduct your own bioassay test as described in reference 3.

WHAT CAN I GROW HERE?

Vegetables

You can grow everything from beans to zucchini squash, including carrots, peas, corn, lettuce, cucumbers, cabbage, broccoli, peppers, tomatoes⁴ and potatoes, among numerous others. The MontGuide "Planting a Successful Home Vegetable Garden"⁵ provides a starting point for your garden, while the MontGuide "Can I Grow That Here?"⁶ provides a worksheet for transplant dates, days to maturity, frost tolerance and sun requirements for many vegetables. You can also preserve your harvest through freezing⁷ or canning⁸.

Berries

Strawberries⁹, raspberries¹⁰, chokecherries, plums, currants¹¹ and serviceberries¹² can all be successfully grown in this area. Berry species such as blueberries require a soil pH of around 5; while they may grow in our alkaline soil, they may not produce enough fruit to be worth the effort.

Flowers

Annual flowers¹³ do well in our local area, provided they have plenty of water, adequate sunlight and the right length growing season. Many annuals can be direct seeded in gardens or flower beds, while others with longer days to maturity do best when started indoors and transplanted outside when conditions are favorable.

Perennial and biennial¹⁴ flowers are wonderful additions to most gardens. Biennials such as foxglove and Canterbury bells produce growth during the first season, then flower the second season and die back. To have a steady bloom of biennials, you will need to plant seeds each year. Perennial flowers bloom yearly and die back during the winter months. Some perennials are short-lived, so you may need to replant in three to four years.

Some types of roses can do well in this location, also. Find out all about it in the MontGuide "Growing Shrub Roses in Montana"¹⁵.

Trees and Shrubs for Conservation or Shade

The Montana Department of Natural Resources & Conservation runs a conservation seedling nursery¹⁶ which provides tree and shrub seedlings for use in shelter belts, windbreaks, wildlife habitat and erosion control. Their web site has a helpful list of trees and shrubs that grow well in our area. Seedlings can be ordered from the DNRC Nursery or through your local Extension agent. Since you must order in lot sizes ranging from 8 to 250, check with an Extension agent to see if you can get in on a combined order with others in the area.

Trees for Fruit

Several cold-hardy fruit tree cultivars have been developed for locations east and west of the Continental Divide. A MSU publication, "Growing Fruit Trees in Montana"¹⁷, provides information about apple, pear and plum varieties that may produce best in this area.

Lawns

Our Zone 4 location with its chilly temperatures requires cool season grass varieties such as Kentucky bluegrass, creeping red fescues and perennial ryegrass. Cool season grasses grow best in temperatures between 65° and 75° F. Varieties such as Zoysia and Bermuda are warm season grasses and will not thrive in our cold climate. The MSU MontGuide “Successful Lawns¹⁸” provides helpful information to get your lawn in great shape.

Native Plants and Xeriscaping

Since the Helena area is typically arid, receiving between 9 and 12 inches of precipitation in a year’s time, you may consider developing a garden area or landscaping with plants that use less water. Native plants fit right into this design, as they are adapted to our climate. They require less moisture and survive cold temperatures. The Montana Native Plant Society’s “Landscaping with Native Plants in the Helena Area¹⁹” web page describes resources to get you started with native plants, including a list of recommended native plants for this area, and a low-cost publication listing resources for purchasing native plants.

Montana State University, in cooperation with the Gallatin and Beaverhead-Deerlodge National Forest offices, has created a Xeriscaping guide²⁰ with helpful descriptions of soil, plant selection and efficient irrigation. Although the guide was designed for the Greater Yellowstone area, it has good information for Zone 4 growers.

IRRIGATION

Given our dry climate, watering vegetable gardens, flowers and trees is a requirement. Water needs differ depending upon your type of soil (did you get your soil tested?), the types of plants in your setting, the amount of wind you receive, and any shade or windbreaks around your location. A great MontGuide, “Yard and Garden Water Management²¹”, is available to assist you in deciding how much and when to water. Trees and shrubs typically need more water than your lawn, gardens or flower beds, so check out the MontGuide for the facts.

SEASON EXTENSION

Getting a head-start on the growing season is helpful for plants that take a long time to mature, such as tomatoes, peppers, cucumbers and squash. Season extension techniques can help on both the front end of the spring season and the tail end of the fall season. Cold frames, hotbeds²², row covers, low²³ and high tunnels can all provide an extra few weeks to help your plants thrive.

PESTS

Pests in the greater Helena area include animals such as deer²⁴, rabbits, voles, pocket gophers, ground squirrels, raccoons and skunks; insects like aphids, grasshoppers, thrips, potato beetles, cabbage moths and tomato hornworms; and plants^{25, 26} such as dandelion, field bindweed, creeping bellflower, Canada thistle, spotted knapweed and Dalmatian toadflax.

The best way to deal with pests in your domain is to first identify them – your local Extension agent will be able to help here. Once they have been identified, you will need to determine how harmful they are to your garden or landscape, and how much damage or annoyance you are willing to accept. Controlling pests does not necessarily mean the total elimination of the pest, but rather reducing the number or amount of the pest so you can live with the damage they cause. Pests are best controlled using Integrated Pest Management²⁷ (IPM), a system designed to reduce pest problems in the least toxic method possible. Your local Extension agent will be able to assist you with an IPM program.

Additional resources can be found in the “Growing Zone”, a former newsletter written by Helena area Master Gardeners. Back copies can be found at <https://goldcountrymg.org/growing-zone-newsletter>.

MontGuides and Other Resources for Montana Gardeners

	MontGuide/ Resource Title	Web Link
1	Home Garden Soil Testing & Fertilizer Guidelines	http://msuextension.org/publications/yardandgarden/MT200705AG.pdf
2	Home Composting	http://msuextension.org/publications/YardandGarden/MT199203AG.pdf
3	Minimizing Pesticide Contaminated Soil Around the Home and Garden	http://msuextension.org/publications/AgandNaturalResources/MT201008AG.pdf
4	Growing Tomatoes in Montana	http://msuextension.org/publications/YardandGarden/MT199217AG.pdf
5	Planting a Successful Home Vegetable Garden	https://store.msuextension.org/publications/YardandGarden/MT202002AG.pdf
6	Can I Grow That Here? Vegetable Seed and Transplant Schedules for Garden or Container	http://msuextension.org/publications/YardandGarden/MT199308AG.pdf
7	Freezing Vegetables	http://msuextension.org/publications/HomeHealthandFamily/mt200908HR.pdf
8	Home-canning Using Boiling Water Canners and Pressure Canners	http://msuextension.org/publications/HomeHealthandFamily/mt200905HR.pdf
9	Strawberries in the Home Garden	http://msuextension.org/publications/YardandGarden/MT199320AG.pdf
10	Growing Raspberries in Montana Gardens	http://msuextension.org/publications/YardandGarden/MT199804AG.pdf
11	Growing Currants and Gooseberries in Montana	http://msuextension.org/publications/YardandGarden/MT199214AG.pdf
12	Juneberries for Montana Gardens	https://store.msuextension.org/publications/YardandGarden/MT201821AG.pdf
13	Growing Annual Flowers	http://msuextension.org/publications/YardandGarden/MT199501AG.pdf
14	Choosing Biennials and Perennials for Montana Gardens	http://msuextension.org/publications/YardandGarden/MT199903AG.pdf
15	Growing Shrub Roses in Montana	http://msuextension.org/publications/YardandGarden/MT199603AG.pdf
16	Montana DNRC Tree Seedling Nursery	Welcome to the Montana Conservation Seedling Nursery — Montana DNRC (mt.gov)
17	Growing Fruit Trees in Montana	http://msuextension.org/publications/AgandNaturalResources/EB0222.pdf
18	Successful Lawns	https://apps.msuextension.org/montguide/guide.html?sku=MT199310AG
19	Landscaping with Native Plants in the Helena Area	https://www.mtnativeplants.org/helena-native-plant-landscaping/
20	Greater Yellowstone Area Xeriscaping	a0f00b_c113d02a05fe448b926e0b9712c0d807.pdf (filesusr.com)
21	Yard and Garden Water Management	http://msuextension.org/publications/YardandGarden/MT198915AG.pdf
22	Hotbeds and Cold Frames for Montana Gardeners	http://msuextension.org/publications/YardandGarden/MT199803AG.pdf
23	How to Build a Low Tunnel to Protect Plants from Frost	http://www.groworganic.com/organic-gardening/articles/how-to-build-a-low-tunnel-hoop-house
24	Deer-resistant Ornamental Plants for Your Garden	http://msuextension.org/publications/YardandGarden/MT199521AG.pdf
25	Montana Noxious Weeds	https://issuu.com/msuextension/docs/eb0159?e=33838256/63057008
26	Montana Weed Control Association Weed ID	https://www.mtweed.org/weeds/weed-id/
27	Integrated Pest Management (IPM)	http://www.clemson.edu/extension/hgic/pests/pdf/hgic2755.pdf

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