



How to Understanding Plant Hardiness Zones

Two Parts: [Finding Your Hardiness Zone](#) [Growing Plants in Your Zone](#)

Hardiness zones were created to help home gardeners and nursery owners make informed decisions about what plants will perform well in certain areas. The USDA hardiness zone map has undergone many versions through the years and was most recently updated in 2012. Due to the availability of more accurate data, several areas experienced a zone change during the latest map revision.

Part
1

Finding Your Hardiness Zone

- 1 Understand what is meant by a plant hardiness zone.** Hardiness zones are based on regional temperature averages. These colorful bands have a difference of about 10 degrees Fahrenheit from one to the next.
 - Each zone is further divided into subzone a or b, with the former being 5 degrees (Fahrenheit) cooler than the latter.
 - One's official zone indicates the lowest or highest possible temperature in their area during a normal year.
- 2 Check plant tags to find the recommended zone for planting.** Gardeners should check plant tags and purchase specimens that are considered suitable for their particular zone.
 - For example, a perennial that is classified as being for zones 8 to 10 would probably not survive the winter in zone 6.
 - Likewise, gardeners in zone 11 would have a hard time getting the aforementioned plant through the summer.
- 3 Recognize the issues with the plant hardiness scale.** The hardiness zone map is not a completely infallible resource but it is good as a general guide. Some of the faults with the map are outlined below:
 - Though efforts have been made to incorporate known microclimates into the updated map, the revised edition may not account for all of the nuances that are out there.
 - The plant hardiness zones don't take into account extreme weather patterns, so gardeners who are experiencing unseasonably cold or warm periods may experience some plant loss as a result.
 - Growers should keep in mind that some specimens that are said to grow in their zone may not necessarily thrive there. After all, there are many factors besides temperature which may account for a perennial's overall success or failure.
- 4 Use the USDA zone map to find your exact plant hardiness zone.** The USDA has published a USDA Hardiness Zone Map which makes it easier to determine your exact zone. Go to the website and click on your state. A detailed map of the state that includes major cities will pop up to show you exactly which zone you live in.
 - To make this map, the USDA gathered average low winter temperature data for all areas throughout the United States and then grouped areas with similar temperatures together to form zones. Each individual zone is 10 degrees F warmer or cooler than the zones adjacent to it.
 - For instance, USDA Hardiness Zone 5 is assigned to areas where the average winter low is between -20 and -10 degrees F. USDA Hardiness Zone 6 is assigned to areas where the average winter low is between -10 and 0 degrees F (an average of 10 degrees warmer than zone 5). And USDA Hardiness Zone 4 is assigned to areas where the average winter low is between -30 and -20 degrees F (an average of 10 degrees colder than zone 5).
 - The zones are further subdivided into 5-degree Fahrenheit increments. USDA Hardiness Zone 5A winter lows are between -20 and -15 degrees Fahrenheit while zone 5B is -15 to -10 degrees Fahrenheit.

5 Familiarize yourself with the temperature scale.

The range of average annual minimum winter temperatures for each zone on the USDA Plant Hardiness Zone map is as follows:^[1]

• Zone 0:

- a: $< -53.9\text{ }^{\circ}\text{C}$ ($-65\text{ }^{\circ}\text{F}$)
- b: $-53.9\text{ }^{\circ}\text{C}$ ($-65\text{ }^{\circ}\text{F}$) to $-51.1\text{ }^{\circ}\text{C}$ ($-60\text{ }^{\circ}\text{F}$)

• Zone 1:

- a: $-51.1\text{ }^{\circ}\text{C}$ ($-60\text{ }^{\circ}\text{F}$) to $-48.3\text{ }^{\circ}\text{C}$ ($-55\text{ }^{\circ}\text{F}$)
- b: $-48.3\text{ }^{\circ}\text{C}$ ($-55\text{ }^{\circ}\text{F}$) to $-45.6\text{ }^{\circ}\text{C}$ ($-50\text{ }^{\circ}\text{F}$)

• Zone 2:

- a: $-45.6\text{ }^{\circ}\text{C}$ ($-50\text{ }^{\circ}\text{F}$) to $-42.8\text{ }^{\circ}\text{C}$ ($-45\text{ }^{\circ}\text{F}$)
- b: $-42.8\text{ }^{\circ}\text{C}$ ($-45\text{ }^{\circ}\text{F}$) to $-40\text{ }^{\circ}\text{C}$ ($-40\text{ }^{\circ}\text{F}$)

• Zone 3:

- a: $-40\text{ }^{\circ}\text{C}$ ($-40\text{ }^{\circ}\text{F}$) to $-37.2\text{ }^{\circ}\text{C}$ ($-35\text{ }^{\circ}\text{F}$)
- b: $-37.2\text{ }^{\circ}\text{C}$ ($-35\text{ }^{\circ}\text{F}$) to $-34.4\text{ }^{\circ}\text{C}$ ($-30\text{ }^{\circ}\text{F}$)

• Zone 4:

- a: $-34.4\text{ }^{\circ}\text{C}$ ($-30\text{ }^{\circ}\text{F}$) to $-31.7\text{ }^{\circ}\text{C}$ ($-25\text{ }^{\circ}\text{F}$)
- b: $-31.7\text{ }^{\circ}\text{C}$ ($-25\text{ }^{\circ}\text{F}$) to $-28.9\text{ }^{\circ}\text{C}$ ($-20\text{ }^{\circ}\text{F}$)

• Zone 5:

- a: $-28.9\text{ }^{\circ}\text{C}$ ($-20\text{ }^{\circ}\text{F}$) to $-26.1\text{ }^{\circ}\text{C}$ ($-15\text{ }^{\circ}\text{F}$)
- b: $-26.1\text{ }^{\circ}\text{C}$ ($-15\text{ }^{\circ}\text{F}$) to $-23.3\text{ }^{\circ}\text{C}$ ($-10\text{ }^{\circ}\text{F}$)

• Zone 6:

- a: $-23.3\text{ }^{\circ}\text{C}$ ($-10\text{ }^{\circ}\text{F}$) to $-20.6\text{ }^{\circ}\text{C}$ ($-5\text{ }^{\circ}\text{F}$)
- b: $-20.6\text{ }^{\circ}\text{C}$ ($-5\text{ }^{\circ}\text{F}$) to $-17.8\text{ }^{\circ}\text{C}$ ($0\text{ }^{\circ}\text{F}$)

• Zone 7:

- a: $-17.8\text{ }^{\circ}\text{C}$ ($0\text{ }^{\circ}\text{F}$) to $-15\text{ }^{\circ}\text{C}$ ($5\text{ }^{\circ}\text{F}$)
- b: $-15\text{ }^{\circ}\text{C}$ ($5\text{ }^{\circ}\text{F}$) to $-12.2\text{ }^{\circ}\text{C}$ ($10\text{ }^{\circ}\text{F}$)

• Zone 8:

- a: $-12.2\text{ }^{\circ}\text{C}$ ($10\text{ }^{\circ}\text{F}$) to $-9.4\text{ }^{\circ}\text{C}$ ($15\text{ }^{\circ}\text{F}$)
- b: $-9.4\text{ }^{\circ}\text{C}$ ($15\text{ }^{\circ}\text{F}$) to $-6.7\text{ }^{\circ}\text{C}$ ($20\text{ }^{\circ}\text{F}$)

• Zone 9:

- a: $-6.7\text{ }^{\circ}\text{C}$ ($20\text{ }^{\circ}\text{F}$) to $-3.9\text{ }^{\circ}\text{C}$ ($25\text{ }^{\circ}\text{F}$)
- b: $-3.9\text{ }^{\circ}\text{C}$ ($25\text{ }^{\circ}\text{F}$) to $-1.1\text{ }^{\circ}\text{C}$ ($30\text{ }^{\circ}\text{F}$)

• Zone 10:

- a: $-1.1\text{ }^{\circ}\text{C}$ ($30\text{ }^{\circ}\text{F}$) to $+1.7\text{ }^{\circ}\text{C}$ ($35\text{ }^{\circ}\text{F}$)
- b: $+1.7\text{ }^{\circ}\text{C}$ ($35\text{ }^{\circ}\text{F}$) to $+4.4\text{ }^{\circ}\text{C}$ ($40\text{ }^{\circ}\text{F}$)

• Zone 11:

- a: $+4.4\text{ }^{\circ}\text{C}$ ($40\text{ }^{\circ}\text{F}$) to $+7.2\text{ }^{\circ}\text{C}$ ($45\text{ }^{\circ}\text{F}$)
- b: $+7.2\text{ }^{\circ}\text{C}$ ($45\text{ }^{\circ}\text{F}$) to $+10\text{ }^{\circ}\text{C}$ ($50\text{ }^{\circ}\text{F}$)

• Zone 12:

- a: $+10\text{ }^{\circ}\text{C}$ ($50\text{ }^{\circ}\text{F}$) to $+12.8\text{ }^{\circ}\text{C}$ ($55\text{ }^{\circ}\text{F}$)
- b: $> +12.8\text{ }^{\circ}\text{C}$ ($55\text{ }^{\circ}\text{F}$)

**Part
2****Growing Plants in Your Zone**

- 1 Take a plant's heat tolerance into account.** While the average low temperature in the winter is a big factor in determining which plants will grow in your zone, the average high summer temperatures must also be considered.
 - Many plants cannot take the heat in hot southern climates. This high end of a plant's temperature tolerance is actually taken into consideration when a plant is assigned a zone range.
 - For instance, Japanese spirea (*Spiraea japonica*) is hardy in USDA Hardiness Zones 4 to 8. This means it will only thrive in climates where winter temperatures drop to below 20 degrees Fahrenheit. It will not grow well in the mild winters and hot summers of USDA Hardiness Zone 9 or higher.

- 2 Consider whether you live within a microclimate.** Living in warmer climates in the west, south and along the coast can make finding your gardening zone a little more complicated. These areas are riddled with microclimates that are influenced by elevation. Temperatures within these microclimates are not the norm for the general area.
 - Fortunately, "Sunset Magazine" has gathered information about these microclimates to help gardeners purchase the right plants. Go to their "Plant Finder" page, click on "What is your Sunset Climate Zone?" and simply enter your zip code.
 - Sunset climate zone tolerances are not often listed for plants purchased through the mail, though. So when you live in these warmer areas, it is better to go to a local nursery or garden center to purchase plants. They will be very familiar with these microclimates and can recommend the right plants for your gardening zone.

- 3 Know that planting times will vary according to your hardiness zone.** The best time to plant trees, shrubs and perennials depends to some extent on your USDA Hardiness Zone.
 - In Zones 9 through 1, where temperatures dip to below freezing during the winter, deciduous trees and shrubs should be planted right around the first killing frost in the fall.
 - Evergreens and perennial plants should be planted right after the last hard frost in the spring. If evergreens are planted in the fall, they often sustain damage to the leaves due to drying winter winds and cold temperatures.
 - The Farmer's Almanac is a very helpful resource when trying to determine when the first and last frosts usually occur in your area.
 - In USDA Hardiness Zones 10 and above where temperatures rarely drop below freezing, the best time to plant trees and shrubs is in late fall, winter or very early spring to give the plants time to get established before the heat of the summer. Perennials should be planted after the last frost in the spring.

- 4 Play it safe.** Take the ever-fluctuating climate into consideration when selecting trees, shrubs and perennials. All areas throughout the United States experience unusual highs and lows from time to time.
 - Determine your Hardiness Zone then choose plants that are rated hardy for at least one Zone higher and one Zone lower to insure the plant will survive an unexpected extreme.

Tips

- When trees, shrubs, perennials and spring bulbs are ordered on-line, the nursery they are ordered from will often use your USDA Hardiness Zone to determine when they should be shipped for planting.
- It's not unusual for a plant to survive outside of its designated zone range. Sometimes a canna plant rated zone 7 can be hardy to zone 5. You can help many plants survive winter by planting in well-drained soil (digging deep and adding a 6 inch to a foot of rocks then adding the soil and plant) or covering the soil of plants that need dry winters (rot more than cold kills plants), planting tender plants in heat hot spots like near a garage, brick or white wall that reflects heat to the plants, mulching heavily, also snow is a natural blanket as well.
- The zone ratings on plant levels are really based on assumptions and are used in the trade to be well safe. Many plants are hardier one to two zones above and below. Don't worry too much about Zone 5a or 5b.
- The hardiness map isn't just for cold hardiness. The first number represents how cold hardy a plant is. The second number is how heat tolerate a plant is. Some plants can't take a lot of heat.

Warnings

- Container grown plants are much less resistant to cold temperatures than their contemporaries. Therefore, these perennials should to be regarded as a zone or two less hardy than the same plants would be if they were being grown in the ground.

Sources and Citations

1. http://en.wikipedia.org/wiki/Hardiness_zone
- <http://planthardiness.ars.usda.gov/PHZMWeb/#>
- http://cagardenweb.ucanr.edu/Your_Climate_Zone/

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