

Hardiness Zones and Tree Adaptability

For about 25 years, I have been interested in trees and plants. The question I find most fascinating is why certain plants will grow in one area and not in another. And most of the questions that my students and customers ask concern plant hardiness. The most commonly-used tool to answer the cold hardiness question is one of several plant hardiness zone maps. To properly use a hardiness zone map, though, one must understand its limitations.

The lower the hardiness zone number, the more cold hardy the plant. But such ratings *only* identify plants' cold tolerance--they do not describe plants' soil and moisture needs, wind tolerance, or anything else. So while a Zone 2 plant may be much more cold hardy than a Zone 5 plant, it isn't necessarily tougher in any other way. Another limitation is that there is no official zone rating for plants. Different people can give the same plant different zone ratings. This leads to confusion when one finds the same tree assigned four different zone ratings.

On the other hand, it's easy to accurately determine the hardiness zone in most areas. Zones are based on the average annual coldest temperature at the closest weather station. The Pocatello Airport weather station averages in the middle of Zone 5, while the downtown weather stations average even warmer. There is no debating what zone we are, for it is determined by a simple mathematical average of weather records.

Why then would some plants rated Zone 5 seemingly not survive winters here? Of several possible reasons, the most likely is that the plant was incorrectly rated. In other words, a Zone 5-rated plant that dies here from winter cold probably isn't rated correctly and may really be a Zone 6 or Zone 7 plant. Other possibilities are that the plant was damaged or killed by something other than winter cold, was poorly adapted to our soil, was not wind-tolerant, was improperly planted or cared for, etc.

Because I don't want my important shade and ornamental trees ever damaged by winter cold, I always make sure that they are well within their hardiness range. But I also like to engage in what I call "zonal denial" and enjoy experimenting with plants of marginal or unknown hardiness. These plants get tucked away in protected corners or out-of-the-way places, so that if they are damaged or killed, it won't be a major loss in the landscape.

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