

Today is December 17, and yet we are still four days away from winter's official arrival. It is still autumn; late autumn! With temperatures dipping into the single digits throughout these last two weeks and with skiffs of snow falling here and there, most of us feel that winter has already arrived.

Adapting to the seasonal changes can become a challenge for not only us humans, but for plants and animals as well. Let's face it, we humans have little resilience when it comes to seasonal changes. Fortunately, we can seek shelter indoors from extreme environmental conditions and dress accordingly when outdoors.

Have you ever given thought to the resilience of those plants and animals that must spend their entire lives outdoors: twenty-four hours a day, seven days a week? Unlike plants, most animals do have the ability to move and most have the capability to seek shelter if and when the need arises. Plants, however, such as trees and shrubs, must stand firm where planted, enduring all that Mother Nature throws at them. For me, they are the true survivors.

Over time, through a process of natural selection, plants have achieved genetic adaptability— a life-sustaining adaption to environmental changes. Thus, some plants grow exceptionally well in tropical environments; whereas, others thrive and survive only in colder environments. As a result, the United States Department of Agriculture developed hardiness zones and has rated plants to certain zones in order to help us gardeners with our selections.

Keep in mind, hardiness zones are just guides. They are based on the average lowest temperatures during a thirty-year period in the past, not the lowest temperature that has ever occurred in the past or might occur in the future. As a result, should gardeners choose to push their hardiness zone by growing plants not rated for their zone, success is limited. Gardeners should also understand that past weather records cannot be a guarantee for future variations in weather.

Interestingly, many species of plants gradually acquire cold hardiness in the fall when they experience shorter days and cooler temperatures. Normally, this hardiness is lost gradually in late winter as temperatures warm and days become

longer. A stretch of extremely cold weather early in the fall may injure plants even though the temperatures may not reach the average lowest temperature for the zone. Similarly, exceptionally warm weather in midwinter followed by a sharp change to seasonably cold weather may cause injury to plants as well. Such factors are not taken into account in the USDA plant hardiness zones.

Many other environmental factors, in addition to hardiness zones, contribute to the success or failure of plants. Wind, soil type, soil moisture, humidity, pollution, snow, and winter sunshine can greatly affect the survival of plants. The way plants are placed in the landscape, how they are planted, and their size and health might also influence their survival.

With the recent bout of winter-like weather, having arrived well before winter officially begins, some gardeners are asking me, "Will this cold spell threaten the survival of the trees and shrubs growing in my yard?" To their question, I can only respond, "It is truly up to the genetic adaptability of the particular plant." That is why I always encourage gardeners to plant only those plants rated for their hardiness zone. For us living in the Kearney area, that zone is USDA Zone 5b. Even then, there are no guarantees.