



Desert autumn

SHORTER DAYS MEAN A LOT OF PLANT ACTION

As we start to think about the autumn - cooler, shorter days and longer nights - we can feel a range of emotions. There could be melancholy, since there will be more hours of darkness, but probably some will be relieved that daytime temperatures will at last drop below 100°F. People who originally came from areas where trees change leaf colors might become wistful for the reds and oranges that flame across northern hillsides in fall.

Plants have their own range of responses to autumn as well. For many plants, spring and summer are the periods when they do much of their growing. There is little growth when daytime temperatures rise above 90°F, however, so plants in the desert do most of their leaf production before and after the hottest times.

In late summer and early fall, temperatures become more conducive to growth. These are also the times with fewer daylight hours. Certain plants have very particular responses to shortened days. For instance, a chrysanthemum normally flowers in the fall. Many flowering cacti will only bloom after days have shortened to a particular number of hours. If a day has too many hours of light, these plants will not flower. There is a good reason that poinsettia are emblematic of Christmas. Days need to be very short before these plants produce their vivid colors.

One reason people have difficulty growing potatoes in Southern Nevada is that this is a crop that grows better when temperatures are cool. In the Mojave, cooler temperatures mean shorter days. As a result, the poor potato plant growing in the area would be trying to produce leaves and potatoes at the same time, which it just cannot do.



Poinsettia

For many trees and shrubs, shorter days provide the cues that cause them to begin entering dormancy. They stop growing, and produce buds for the next year's leaf production. This is most important for deciduous trees (those that lose their leaves in the fall).

Plants such as lilies put out flowers in the spring, after they have experienced a winter. When days become shorter, they move their resources from their leaves, allowing them to accumulate and store nutrients and water for survival over the winter.

For plants growing in the desert, it is important to grow and flower when there are the best resources for their continued well-being. There are many potential responses. If, for example, a plant's seeds will not survive extreme summer temperatures, then those seeds should be produced in time for the cooler temperatures of fall, perhaps even winter. If a whole plant must survive a winter, then it must use the cues provided by shorter days to prepare for it – dropping leaves, creating terminal buds, etc. When a lily needs to survive through the winter to flower in the spring, it must have the raw materials that are stored in its bulb.



While we people have our responses to the beginning of fall, plants have the most interesting responses!

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