

This time of the year, it's hard to remember that the cold is necessary for plants. Everyone, and myself included, is ready for warmer temperatures, sunshine, and green things to start growing. Especially when we get temperatures like last Sunday that make it so easy to enjoy being outside again. But believe it or not, the cold is actually very important to the lifecycles of our perennial plants.

A cold period is necessary for a process called vernalization. Vernalization is a cold period required by the plant in order to flower. If they don't receive this cold period, the response that triggers flowering won't occur and flower buds won't be made. This is why many bulbs are sold in the fall and early winter, because that is the best time to plant them in order to get flowers the next spring. You can still plant your bulbs now, but you won't get any flowers from the spring flowering bulbs until next year. If you buy bulbs in the fall, but don't have a chance to get them into the ground before it freezes, you can store them in your refrigerator to give them the vernalization period that they need. However you'll need to keep an eye on them, because you don't want them to dry out, or stay too wet. If they are too dry you risk killing the bulb, but too wet and they could mold or sprout. If they begin to sprout in the fridge and it is still too cold to place them outside, you can place them in the sun inside and let them bloom. This process is called forcing and is used to force bulbs to bloom outside of their regular season. After a bulb has been forced, they don't tend to transplant into a garden very well, and can be difficult to get to bloom again, so use caution when forcing bulbs such as amaryllis, daffodil, or tulip. Bulbs aren't the only things that need vernalization, however. There are some species of trees that need it in order for their seeds to begin germinating and producing new trees. Most biennial plants, those that need two years to complete the lifecycle of germinate, grow, reproduce, and die, need the cold period to induce flowering to produce seeds. Examples are things like carrots or cabbage.

Some plants are more adapted to cooler temperatures than others. Notice that I said cool, not cold. Very few plants can survive being below freezing because of the ice crystals that form in their cells, puncturing the cell wall and membrane. Plants like peas aren't able to handle the heat of a Nebraska summer as well as something like corn can, so the peas need to be grown as a spring and early summer or late fall vegetable. Corn has a different type of photosynthesis that is better adapted to the hot, dry Nebraska summers. Plants that don't take the heat well can be grown here in Nebraska, but they'll have a shorter growing time. This can be worked around by starting seeds indoors while it is still too cold to plant outside. You'll want to read on the seed packet to make sure that the plant will have enough time to produce seeds or fruit before the heat sets in.

Vernalization is the cold period needed in order for some plants to begin the process of flowering. Not all plants need vernalization, but the ones that do can't flower without it. Refrigeration can be used as a substitute if plants aren't put into the ground before it freezes, but if put into cold storage too early this can force the flower to bloom out of season. Many biennials need a cold period in order to flower and complete their life cycle. Some plants need cooler weather because they can't thrive in the hot, dry Nebraska summers. If you have any questions or would like to suggest a topic for me to write about, feel free to contact me at the Buffalo County Extension Office, at 308-236-1235, or mearnest2@unl.edu.