

## Dry Winter Damage

### AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

In our latitudes, winter is considered a time of dormancy. With four very distinct seasons, winter is the time of rest for our plants. Unless it gets really cold, we generally don't give our plants a second thought from about November 1 until early March. What we don't think about is the fact that even seemingly dormant plants can suffer problems if we have a winter drought.

From November 1, 2021 through February 28, 2022 we had 15% of average precipitation. That is not a good situation especially when the five months prior to that (June through October) was also running at a deficit of 66% of normal precipitation. Essentially we had a dry summer that lead into a dry fall followed by a real dry winter. We kept getting just enough rainfall events that it didn't seem as dry as it really was.

I planted six mum plants last fall. They went into somewhat dry soil but I kept them watered, or at least I thought I did. They bloomed fine and then went dormant as we moved into Thanksgiving and then December. This spring only three of them have greened up and started growing. The soil was dry when I planted them and while I watered them while they were blooming, I neglected to water them on into winter. More than likely the dry soil around the plants pulled moisture out of the crowns of the plants causing them to dehydrate and when those crowns dehydrate the new growth buds will die.

We often plant new trees and shrubs in the fall, just as they are going dormant. We plant them, water them down well and then feel that since they are dormant they don't need water. What we don't take into account is that soil moisture has two ways of moving. Gravity will pull soil moisture down. We all know that. But water will also move laterally in the soil from areas of higher soil moisture to areas of lower soil moisture. Think of spilled water being absorbed by a paper towel. The greater the soil moisture differential, the quicker it will move. Given enough time, and lack of natural precipitation, the soil around the root ball will dry, it will develop small cracks. The roots will physically start to dry out and any cracks in the dry soil, even small ones, will allow cold winter air down into the ground. Dry soil will be colder than wet soil because water has a great ability to insulate and absorb that cold air.

The worst case scenario, for dry winter damage, is going to come from evergreens. Since these plants retain their chlorophyll containing tissues (needles or leaves,) anytime that the sun is shining and it's above freezing, those leaves are carrying on photosynthesis. Photosynthesis requires water. If there is no plant available water in the soil for the roots, they'll start stealing it from other plant tissues. If this tissue water isn't replenished from the roots, the leaves (needles) will die.

I have two blue spruces in my yard. I know that they can dry out severely in droughty periods. I didn't start watering soon enough for one of them. By the first of December I noticed the top 2/3 of one tree was turning grayish blue, not the crisp blue it should be. By spring all the needles in the top part of the tree had fallen off. Now I'm faced with the dilemma of whether I cut the entire tree down, or just cut out the dead top and turn it into a blue spruce shrub!

We continue to be in a very dry pattern. If we go for a couple of weeks with no rainfall (or less than an inch a week) get the hoses out and water down the evergreens, and young plants that don't have big root systems yet. A slow trickle of water at the base of plants from an open hose can go a long ways towards saving a plant from drought.