

Evergreen Trees in Kansas

AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

Kansas, specifically Kansas weather, does not like evergreen trees. Or to put it more correctly, most evergreen trees don't like Kansas weather/climate. When we talk about evergreen trees we are talking about pine, spruce, fir, arborvitae and cedar (junipers). To put it in perspective, Kansas is the only state that does not have a native pine or spruce or fir. All of the other 49 states do have a native pine! The only native evergreen tree in Kansas is good old *Juniperus virginiana*, the eastern red cedar.

Upon finding this out the first thing that many residents ask is "Why?" Quite simply it is our climate and geographic history. We are a plains state through and through. For millennia periodic fires would roar through the grasslands. Fire is not evergreen friendly. But more than that the state is located where there is a great deal of natural variation in day to day and season to season weather.

There are native pines in southern states well suited to the warmer temperatures. There are pines from the arid western states that are well suited to dry conditions. There are pines from the north that are quite adept at dealing with long bitter winters. But when you put all of those conditions together, as we do in Kansas, it is very difficult for evergreens, really any woody plant, to thrive. Even our native cedar can be challenged by drought.

Here is where things get complicated. Think of those times that you've been on the go-go for several weeks. You're burning the candle at both ends and the stress starts to catch up to you and bam! You just got nailed by a cold. Plants get stressed too. Excessive high or low temperatures, too much rainfall or drought. Any of these climatic factors in excess will cause a tree to stress. A stressed tree, through chemicals that it releases, becomes far more attractive to insect pests and at a much greater risk to diseases. Because they are stressed they don't have the same defenses that they would have under ideal conditions. You have the stress of the unfavorable growing conditions and add in the stress from the insect or disease attack and you now have a tree that is dying, sometimes quickly, sometimes slowly.

Take a tree like a blue spruce. It is very popular with the homeowners but they struggle in Kansas. Summer nights when the temperatures stay above 70 degrees really stress them. Warm dry winter conditions cause them to burn up needles while they try to obtain moisture that isn't in the root zone. A wet and soggy summer can cause other species to literally drown out. Even though there's no water standing on the soil surface the soil is saturated enough that there is no oxygen in the root zone. Low or no oxygen leads to dead roots.

If you ask me for a durable evergreen I'll tell you to plant a cedar tree. Sure, they are subject to bagworms, but that is something that we can treat. If you want an evergreen other than a cedar we will have to get very site specific to match the needs of the species to the location you will plant them. There are certain trees to just plain avoid starting with any fir species as well as any spruce species other than perhaps a Black Hills spruce. Pines need to be species that are native to North America to reduce risk from pine wilt. We can consider both southern and southwestern white pine. Ponderosa pines can work but they may have to be treated for insect pests as they age. Pinyon pines can handle hot and dry if you can handle something with a slow growth rate. Kansas is a challenging place to grow any plant and evergreens especially. Take the time to match the location you want a tree in with the growing conditions that the tree needs to thrive and survive!