

# Why are we losing our rangelands?

## *Recommendations for change*

The amount of land receiving cedar control treatments is far less than the amount of land being invaded and transformed to cedar woodland.

It now costs over \$1 million to mechanically treat 1,000 acres of rangeland in southern states where cedar has invaded the majority of their rangelands. In Nebraska, costs to mechanically treat 1,000 acres currently range from \$150,000-\$200,000 and will likely increase if invasion continues. Mechanical removal is a short term, unsustainable solution to cedar invasion.<sup>1</sup>

Fires are much smaller and less frequent today than those that occurred historically and kept cedar in low abundance. Further, fire is heavily regulated and controlled today so it is difficult for landowners to burn in conditions where fire is able to kill adult cedar trees and restore rangeland.<sup>2</sup> To restore rangelands, the size, frequency, and intensity of fires needs to increase across the Great Plains.



1. Twidwell et al., *Ecosphere* 4.8 (2013): 1-27
2. Twidwell et al., *Ecosystems* 19.2 (2016): 356-368



For more information on cedar invasion, visit:  
<http://cedarliteracy.unl.edu>

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**EASTERN REDCEDAR**  
*Common Questions and  
Curiosities*



# Eastern redcedar

The current rate and extent of Eastern redcedar (*Juniperus virginiana* L.) invasion into rangelands has become a major concern to rangeland managers. Prior to European settlement of the Great Plains, fire prevented the spread of cedar, a fire-intolerant, non-resprouting species, by limiting its abundance to regions where fire could not spread. Recent changes in the frequency, intensity, and size of fire and continued planting of this tree for use in windbreaks have been identified as the primary factors enabling the invasion of cedar into rangelands across the Great Plains.



## Questions and Curiosities

### Will cedar spread from my windbreak?

Cedar windbreaks are one of the primary factors facilitating cedar invasion by providing a viable and plentiful seed source.<sup>1,2</sup>

### Does cedar provide habitat for grassland wildlife species?

The abundance of many grassland wildlife species, especially grassland birds, decline when grasslands become dominated by cedar.<sup>3,4</sup>

### Can cedar negatively impact my livestock operation?

When rangelands become dominated by cedar, total forage production can decline by 75%, livestock handling costs increase, and undesirable changes in plant species composition may occur.<sup>1,5</sup>

### Is cedar a wildfire risk?

Cedar produces flame lengths well-exceeding those recognized as capable of being suppressed by firefighters.<sup>3,6</sup>

1. Briggs et al., *Ecosystems* 5.6 (2002): 578-586
2. Ganguli et al., *Rangelands* 30.6 (2008): 27-32
3. Engle et al., Oklahoma Cooperative Extension Service (1996)

4. Horncastle et al., *Journal of Mammalogy* 86.6 (2005): 1144-1155
5. Fuhlendorf et al., *Western North American Juniperus Communities*. Springer New York, (2008): 219-238
6. Twidwell et al., *Frontiers in Ecology and the Environment* 11.s1 (2013)

