

## Fire as a Management Tool

### AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

Fire is one of the most powerful tools shaping natural ecosystems. Over the past fifty years we have gone from viewing fires as being “horrible destruction that needs to be put out at all costs” to “a critical management tool in virtually all ecosystems.” This transition has not happened easily and due to previous long held beliefs that fire is bad, we have had extremely destructive wildfires over the past couple of decades. We are slowly returning to the middle ground where fire is finally being recognized as a necessary tool in ecosystem management.

We live in the Flint Hills region of Kansas. The Flint Hills, which extends south just into northern Oklahoma, is tallgrass prairie. It is estimated that only 2% of all the tallgrass prairie that existed prior to Europeans settling this continent remains and the vast majority of it, somewhere over 90%, is in the Flint Hills. The tallgrass prairie has existed, in fact was molded, by periodic fires for thousands of years. In the absence of fire, the grasslands slowly are taken over by woody species. Early colonizers are the eastern red cedar (actually a juniper). Following that, various deciduous trees start to colonize with the long term oak/walnut timber regime being the outcome in the absence of fire.

Fire is probably the most crucial management tool that needs to be used to maintain grasslands. It is the quickest and most effective way to keep the cedar invasion in check. Fire recycles nutrients and manages the mulch layer, which, if it becomes too thick from years of not burning, can influence species diversity in the prairie as well as become a wildfire hazard. Grasslands do not have to be burned every year, but they probably need to be burned every three to four years.

The challenge is that burning pastures produces smoke. Smoke presents a health hazard if the smoke levels become excessive. People have to curtail outdoor activities and people who have respiratory conditions have to stay inside. My brother is one of those people so I am very sensitive to their concerns and challenges.

Is there a way to manage grasslands without fire? Not really and certainly not very easily. In the absence of fire we would need to control cedar trees in other ways which may include more use of herbicides. Heavy use of herbicides can become a water quality issue. The problem with water quality issues is that once water has been impaired, it takes a long time to repair that damage. With smoke from pasture fires, we have issues for a few days each April and then it's over.

There are a lot of regulations that producers have to comply with to conduct controlled burns. A voluntary smoke management plan was developed for the Flint Hills region several years ago that has state and federal agencies, producer groups and producers all working together to reduce the risk of causing problems in large metropolitan areas (Wichita, Kansas City, Lincoln and Omaha). A very good website is maintained by the program that discusses the history of fire as a management tool as well as information to help producers plan their burns. You can visit the website at <http://www.ksfire.org/>.

Fire is a crucial pasture management tool. Those who use the tool have a responsibility to do so judiciously. The rest of us, who may be impacted by the smoke benefit in the long run through maintenance of an incredible ecosystem as well as enjoying the beef that is produced in those tallgrass prairies! If you have any questions about prescribed burning or smoke management, please call me!