

Kansas Flint Hills Smoke Management Plan: Using a burn plan

The following is a slightly edited transcript of the seventh in a series of K-State's Agriculture Today radio broadcasts on the Kansas Flint Hills Smoke Management Plan. This is an interview with David Kraft, State Rangeland Management Specialist, USDA Natural Resources Conservation Service - Emporia, conducted by Eric Atkinson of the K-State Radio Network. Podcasts of all Agriculture Today interviews can be found at:

<http://www.ksre.k-state.edu/DesktopDefault.aspx?tabid=197>

Q: It's wise for grassland managers to develop a burn plan before lighting a fire, and smoke management can and should be weaved into that plan. What should be in a prescribed burn plan?

A: A prescribed burn plan is a plan that defines the target area that is going to be exposed to fire and elements of how the burn will be accomplished – the ignition sequence, the preparation prior to ignition, and equipment and manpower needs. Something new to this is an understanding of the impacts down range of the fire. In the past we've done a good job of illustrating the safety of the fire right on the site. But we're now increasingly realizing that the impact of prescribed burning has a very wide-ranging scope that can extend hundreds of miles down range.

Q: Let's walk through several of the ingredients in the preparation of a burning plan. That would include items such as fire breaks and lessening the fuel load in areas you don't want to burn, correct?

A: Certainly those are key aspects. The purpose of the burn plan is to document the objective you have for the particular unit that you're going to burn, and how you're going to reach that objective. It should identify the sequence of events for the purpose of carrying out that fire. It should also identify climatic conditions under which the fire can be conducted safely. That would include the time of day, the wind direction and speed, transport winds, moisture at the surface, and relative humidity. For smoke management purposes, also record the desirable mixing height and the transport winds that are going to move that smoke down range.

The burn plan should also identify the fuel types present, the volatility of those fuel types, and the types of dangers that the different types of fuels might present. Those factors help determine what kind of manpower and equipment a producer will need to manage the fire and account for contingencies if something goes wrong.

A good plan will help the producer identify hazard areas, and also identify safety areas so that if something does go wrong then the individuals involved in the fire will have a very clear and safe route to safety. A plan also provides managers with a tool to use in a pre-burn conference where the manager sits down with the people who are going to help conduct the fire and talk about how the fire is going to be conducted safely. Once everybody is very clear on what the objective is and what their roles are, it makes the fire go more smoothly.

The plan also provides a document to describe exactly the fire activity. The document can be referred to later to see if anything could have been done differently to reach the goal more effectively. And if something should go wrong and the volunteer fire department should be called in to provide assistance, if there's some kind of burn plan available then at least everybody will know where the hazards are and some of the things for which they need to be watching.

Q: One wants to cover all contingencies before the match is ever lit. You mentioned something a little earlier that may get lost in the shuffle when planning a burn, and that is whether we have adequate manpower. We probably short that aspect a little bit, don't we?

A: That is one of the biggest elements that is underestimated. Like anything else, it's always better insurance to have more help than you need and not have to call on additional help in an emergency than to try to shortcut that need up front and then realize you don't have enough manpower to conduct that fire safely. A lot of times that involves not only manpower, but the experience of that manpower. A few experienced individuals might be able to conduct a fire safely while multiple inexperienced individuals may not be able to conduct that fire safely. So it's important to not only understand what you have in the way of manpower, but the experience level of the manpower you have.

The other ingredient is sizing up what kind of equipment is available. Do you need to find someone to help out who not only has experience, but also has equipment that can help conduct the fire is done safely, and reach the objective?

Q: Should one incorporate smoke management into the burn plan?

A: Yes, now more so than ever. Today we have a lot of different tools available to us, including smoke prediction tools. We can more accurately predict where that smoke's going to go than we could in the past. When the burn plan is being developed, you might have certain conditions in mind so that the smoke will move down range in a certain direction. The day of the fire, those conditions might not be there. You might still be able to conduct that fire safely on site, but it might have a very severe impact down range that you hadn't originally anticipated. The advent of these new smoke prediction tools is going to improve our ability to predict where that smoke's going to go, not only on-site but when it disperses down range.

-- Steve Watson, Agronomy e-Update Editor
swatson@ksu.edu