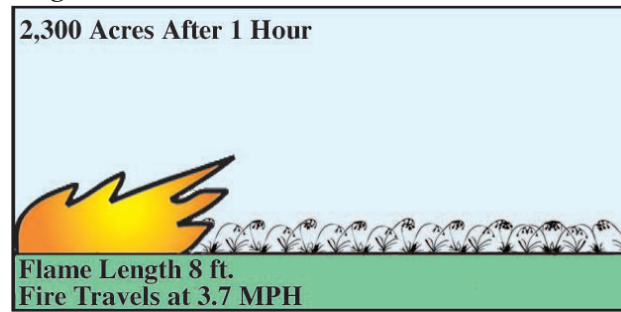
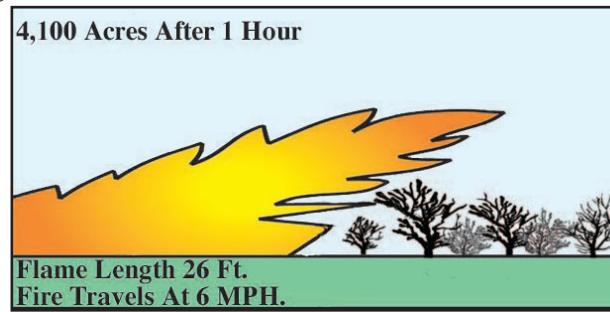


# EXAMPLES OF LOCAL FIRE BEHAVIOR IN GREAT PLAINS FUEL TYPES

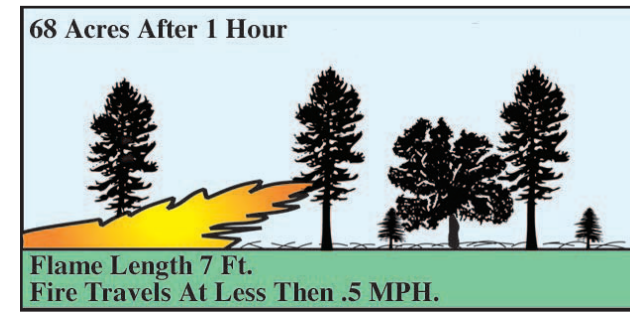
Presented below are several types of vegetation common to our region with computer generated estimates of how they would burn under certain conditions. These predictions assume a wind speed of 20 mph, flat terrain, typical moisture contents of living and dead vegetation for summertime, and normal August weather for the Great Plains area.



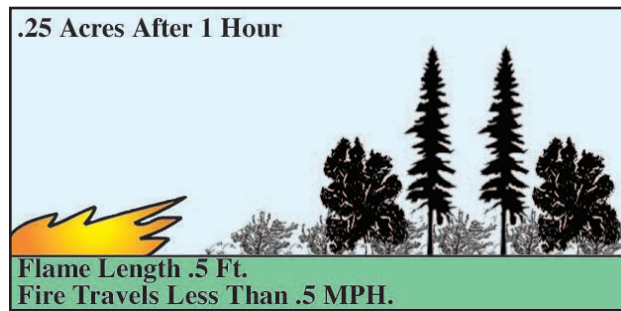
Grasslands: hay, wheat, ungrazed pasture



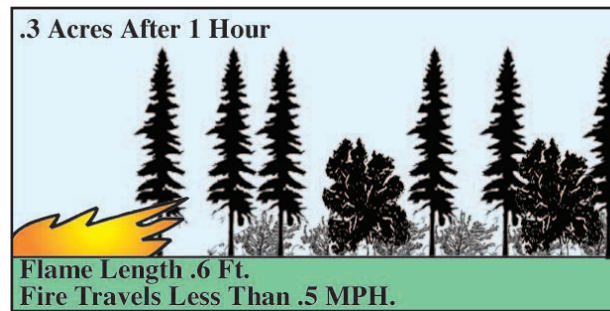
Wetlands: cattails, marshes, late season corn



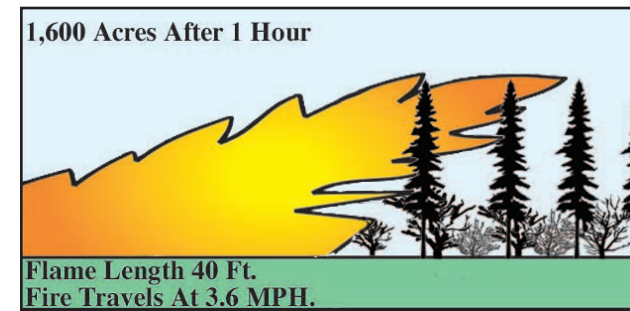
Shelter belts: open canopy with mostly grass, hay, cattails, elm, pines, juniper understory with large elm (like) trees and a few short junipers



Shelter belts: closed canopy mostly elm (like) trees, large pines, little grass



Shelter belts: closed canopy mostly juniper and pines, little grass or elm (like) trees {early summer}



Shelter belts: closed canopy mostly juniper and pines, little grass or elm (like) trees {late summer}

\*Fire behavior estimates prepared by Charles Frohme and Shane Del Grosso USFWS



When wildfire flame lengths exceed 11 feet, direct firefighting efforts are ineffective. Under these conditions firefighters use roads, streams and other barriers to control the wildfire.

## THE LIMITATIONS OF WILDLAND FIREFIGHTING

A lot of people assume that when wildfire starts, it will be quickly controlled and extinguished. This is an accurate assumption 97% of the time. Firefighters have the ability, equipment and technology to effectively suppress most wildfires. But 3% of the time, wildfires burn so intensely that there is little firefighters can do. Presented at right are firefighter tactics as they relate to wildfire flame length. Compare this to the flame lengths shown in "Examples Of Local Fire Behavior in Great Plains Fuel Types."

FLAME LENGTH	EFFECTIVE FIRE SUPPRESSION TACTICS
Less than 4 feet	Fireline constructed with hand tools, such as shovels and axes can be effective at the front of the fire.
4 to 8 feet	Bulldozers and other heavy equipment will be needed to construct an effective fireline. Where bulldozers are not available, fire engines with hoses and water will be required to "knock down" the flames before the fire crews with hand tools can be effective, or fire crews must construct a fireline at a considerable distance from the fire.
8 to 11 feet	Airtankers with fire suppressing retardant or helicopters with water are required to reduce the fire's rate of spread before fireline construction by crews or bulldozers can be effective.
More than 11 feet	Direct fire suppression efforts will be ineffective. Retreat to existing roads, streams and other barriers. Burn out vegetation between the fireline and the advancing fire front to eliminate wildfire fuels.