

Study shows wildfire does not damage barbed wire

March 17 2017, by Kay Ledbetter



Wildfire can leave posts damaged and in need of replacement, but the barbed wire could still be usable, according to a study. Credit: Texas A&M AgriLife photo by Kay Ledbetter

Don't assume that a grass fire has damaged the barbed wire on a fence.

That's the message of one Texas A&M AgriLife Extension Service specialist in Amarillo to ranchers who saw wildfire rip through their fenced grassland beginning March 6.

"Fences are one of the range developments often damaged in fires," said Dr. Ted McCollum, beef cattle specialist in Amarillo. "Certainly burned wooden posts and stays have to be replaced. But the damage to the barbed [wire](#) may be less than it appears and one assumes.

"Having the ability to reuse the barbed wire from a fence after a grass fire can reduce the recovery costs for the landowner."

Dr. Steve Amosson, AgriLife Extension economist in Amarillo, estimated fencing could be the second major expense tied to the fires on the 480,000 acres burned. Estimating half will be repaired and half replaced, he said the cost could be around \$6 million to ranchers in the Texas Panhandle.

Amosson said an estimated 975 miles of fence were affected. To repair the fence, the cost is \$2,500 per mile; to replace the fence, the cost is \$10,000 per mile.

"Research provides information ranchers can use to make decisions related to fences," said Danny Nusser, AgriLife Extension regional program leader. "Knowing that a fence is stable and repairs are sufficient could be valuable in making economical decisions."

Research was conducted by Oklahoma State University to examine the effects of grassland fires on barbed wire, he said. The study examined Class 1, 12 1/2-gauge, double-strand barbed wire.



Intense flames sweeping away grassland may not have damaged the barbed wire on fences surrounding pastures. Credit: Texas A&M AgriLife photo by Kay Ledbetter

The wire was about 14 years old when the study was conducted, McCollum explained. All of the wire examined in the study originated from the same lot at purchase. The fences were constructed from the wire 13-14 years before the study. Samples of wire were collected from these fences and unused wire from the original purchase lot that had been stored since purchase.

According to the study, wire collected from the fences had been subjected to grass fires zero times, one time, two times or six times during the previous 13 years. These grass fires occurred in the dormant season between February and April.

The unused wire and wire collected from the fences was examined for effects of fire frequency on breaking strength and zinc coating remaining on the wire, McCollum said.

"In this study, compared to the unused wire and wire from the fences that had not been burned, the exposure to grass fire or the number of times the wire was exposed to fire did not adversely affect the breaking strength or zinc coating on the Class 1, 12 1/2-gauge barbed wire," he said.

The breaking strength and zinc coating, which provides corrosion resistance, were not different between the unused wire, or the wire from the fences that had been burned up to six times the previous 13 years, McCollum said.

"So, the study showed that grass fire did not affect the breaking strength, zinc coating or ductility of the wire," he said. "After a fire, the galvanized surface of the wire is often stained or discolored. But, this should not be interpreted as failure of the coating or galvanization of the wire. This discoloration comes from iron-zinc alloy layers in the wire and does not represent a failure of the pure zinc coating on the wire."

McCollum said the researchers concluded that subjecting zinc-coated barbed wire to grass fires will not reduce its service life or its corrosion resistance.

"So there may be occasions where they need to replace the fence, but they shouldn't automatically assume that the wire needs to be completely replaced because of the [grass fire](#)," he said.

Provided by Texas A&M University

Citation: Study shows wildfire does not damage barbed wire (2017, March 17) retrieved 27 April 2024 from <https://phys.org/news/2017-03-wildfire-barbed-wire.html>

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