

Rancher vs. Redcedar

Overabundance of invasive plant species sparks novel idea for one Texas Panhandle landowner.

by Lynsey McAnally, associate editor



Ranchers are caregivers, and not just of their livestock. Whether land is passed down generation after generation or is purchased by someone just entering the industry, the ground we rely on to provide for our ag lifestyle is something to be safeguarded.

“If you’re a rancher, your grass is your income,” says Jason Abraham, a Texas Panhandle rancher and the inventor of a new way to conveniently control trees and brush known as the Brush Bullet. “You don’t want to damage grass any more than you must. Unfortunately, junipers are already removing grass just by existing.”

The backstory

The Eastern redcedar (*Juniperus virginiana*) — though native to certain regions within the United States — was proliferated throughout the central and high Plains as a method to protect livestock and homesites from winds and weather infamous for their volatility.

What the individuals introducing these

trees could never have foreseen was how well non-native cedars and junipers would eventually adapt, the stress they would place on native grasslands and water resources, and the figurative match these trees would throw on the inferno that managing grassland fires would become in their wake.

Adding tinder to the flame

A helicopter pilot for a large portion of his life, Abraham has thousands of hours of experience helping local first responders and state agencies fight grassland fires from the air.

The expanding populations of non-native species in the Texas Panhandle are unquestionably having an effect on grassland fires. Whether due to landowners taking better care of their ground and seeing increased forage production, or more ranchland, meaning less farm ground to potentially break up the path of a fire, larger wildfires are becoming a reality.

“What we see from the helicopter is these

trees explode. It’s almost as if a can of gasoline was set on fire,” explains Abraham, adding that the tree will throw embers a quarter-mile ahead, catching another cedar on fire. “If you can imagine, [the fire] leapfrogs. The fire starts getting bigger and moving faster. We just can’t keep up with them.”

While scary on many fronts, it’s not only grassland and livestock that can be in harm’s way. Ground crews and residents in the path of these fires are also put at risk.

“You can’t imagine the heat these fires put off. Even in the air — up above them in the helicopter with a water bucket — you cannot get close to them because of the heat they’re putting off,” says Abraham. “It’s real when you see these fires hitting junipers, and that causes so much uplift in the atmosphere that they’re producing fire tornadoes 300-400 feet high that move at 70 miles per hour.”

The thing that really frustrates landowners and livestock producers alike with the juniper? The next spring — after



PHOTO PROVIDED BY BRUSH BULLET.



PHOTO PROVIDED BY BRUSH BULLET.

Apply one bullet for every 3 feet of plant height/width.

being burned completely to the ground — they will come right back.

“The cedar tree was introduced in many areas 50-60 years ago as a windbreak. If you think about these trees, they’re kind of like compound interest: When you have 100 of them, they can turn into 1,000 pretty quick. When you get 1,000, they turn into 100,000. So on and so on,” notes Abraham. “They’ve really just gotten to the point where we’re seeing a shift to springs drying up because of the needs of cedars, the loss of millions of grazing acres per year due to these trees.”

The Mendota

Shortly after graduating college in 1989, Abraham purchased his first piece of the Texas Panhandle on the courthouse steps in Pampa, Texas. Around that same time, working with his grandfather and brothers, Abraham was able to purchase more ground in the surrounding area.

One of the ranches that became available, the Mendota, had family ties: Abraham’s great grandfather once owned the ground

and, unfortunately, lost it during the Great Depression. One could say the rest was history.

Along with his brother, Eddie, Abraham has owned and managed the 26,000-acre Mendota Ranch located in Hemphill and Roberts County, Texas, with conservation and wildlife management at the forefront since 1993. Serving as the cornerstone of an operation that pioneered advancements in both equine and whitetail deer reproductive technologies and cloning, the Mendota continues to thrive.

The Caprock country comprising the Mendota is ruggedly beautiful. But this regional geological feature has also provided the perfect habitat for certain invasive plant species to thrive with very little competition. Though eliminating these nuisance species was a priority for Abraham, the potential damage to existing rangeland through traditional methods of brush management — whether chemical or mechanical — was both unrealistic and unappealing.

Brush Bullet was developed by Abraham for ranchers. Designed to be handled and applied without coming in contact with the product, Brush Bullet is completely unrestricted so that it can be available to any producer or landowner facing the battle with invasive plant species.

“My main goal was to develop a product that would target the middle of the tree. By doing that, we would have better control and use less chemical,” says Abraham. “The options were that we hire a group to come out and physically treat each tree, they’re

getting a few acres a day treated at a cost of \$200 an acre. Or we get a trackhoe and physically remove each tree at a cost of \$400-500 per acre. I had a lot of room to improve upon that.”

Neither option was appealing to Abraham. He has seen the damage chemicals and heavy equipment did to his property in previous years, and that just wasn’t something he could tolerate. Neither was the idea that leaving the trees to their own devices could mean his ranch becoming part of the nearly 19 million acres of grassland in Texas that has been lost to non-native tree and brush species.

A unique combination

It was while working with a unique group of ranch guests that Abraham had an equally noteworthy idea to combine his ranching background with his military training expertise.

“We do some military training here on the ranch, and I train them how to shoot from helicopters. The shooting range is aerial and is about 50 miles long with over 100 targets. We’re out here and I’m teaching them how to engage a target from the air while flying and I thought, ‘If I could just shoot these trees. I would be better off,’” says Abraham. “There’s a little bit of science and a lot of fun. I’m flying all over the ranch, in and out of canyons and draws. Seeing cedar trees and shooting targets all amongst them.”

If you look at a tree from above — the helicopter view — it looks like a funnel, explains Abraham. When you shoot the tree

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with Brush Bullet pellets, the branches pull the bullet in toward the crown.

Once the bullet falls to the ground, it's designed to take 1.5-2 inches (in.) of rain to dissolve so that the chemical stays within a focused area at the bottom of the tree. The slower breakdown of the product allows the tree's roots to pull the chemical into the tree, killing it from the inside out and allowing the tree to break down much faster than trees removed via other methods.

The water-soluble, completely dry bullet means applying Brush Bullet is simple. When you're ready, the application is one Brush Bullet for every three feet of height or width of the targeted plant.

But what is the best way to apply the product? That depends on your individual operation. Application options range from applicator guns to ground applicator kits, helicopter application pods and — eventually — drone-mounted equipment.

With plans for Brush Bullet to be applicable with a drone, landowners would have the ability to control cedar and brush aerially. With just 2 pounds (lb.) of herbicide, up to 300 trees could be treated once a drone-mounted Brush Bullet applicator is available.

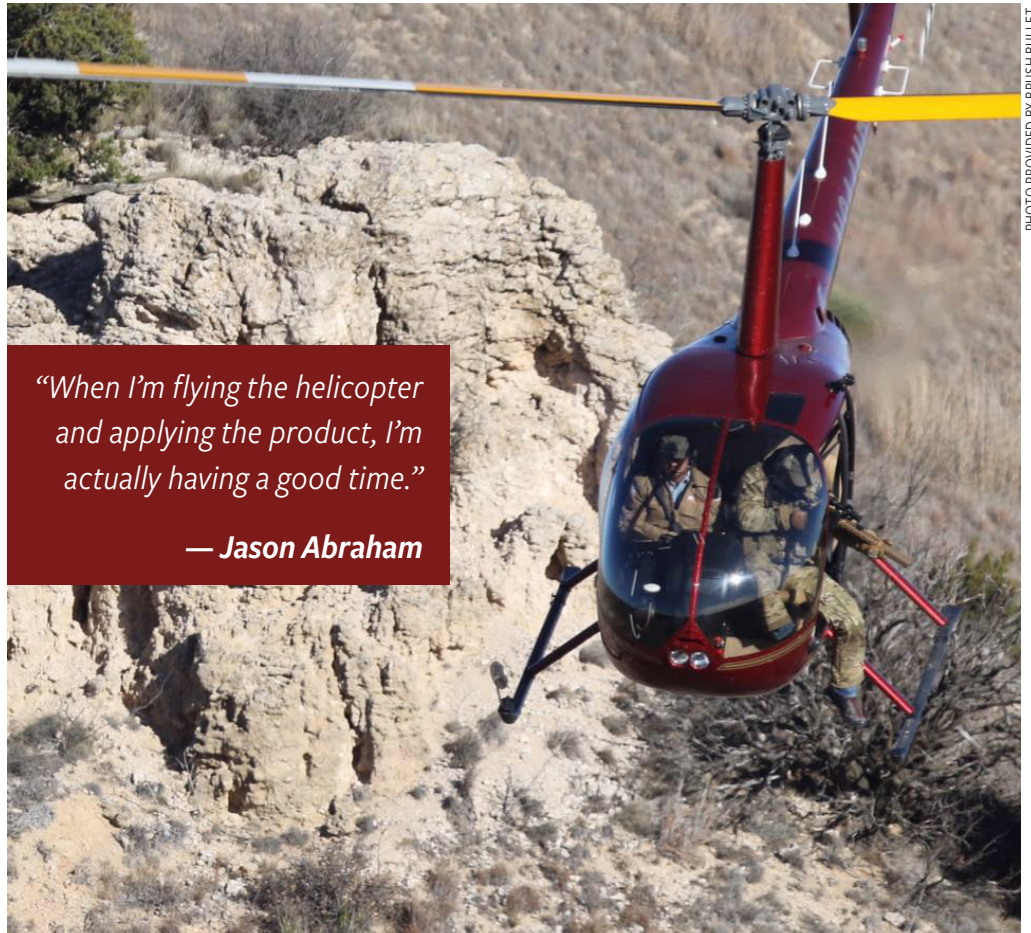
Flexibility

"When I'm flying the helicopter and applying the product, I'm actually having a good time. But the guns we designed are easy-handling and fun to shoot. If you've ever applied chemical before, it's not fun. We've made it where you never have to touch the chemical or smell the chemical," says Abraham. "You never have to do anything to apply the chemical other than pull the trigger. That was really important to me. You can literally throw this in the feed pickup and while you're driving around, shoot 1,000 trees in an afternoon."

Though Brush Bullet was designed with cedar and juniper trees in mind, the chemistry also allows flexibility to treat mesquite trees, Russian olive trees and salt cedars all the way down to cholla cactus. It can treat nearly anything you want to put it on, according to Abraham.

On the Mendota alone this summer, Abraham estimates he'll treat 4,000 acres.

"It allows you to go in with a scalpel.



Aerial military training venture Rotor Recoil sparked the idea to combine a sniper's precision with brush control.

Some people say, 'I like a few junipers, but I don't want them to take over.' That's fine! In that case, just go in and treat the female trees to stop the spread of the non-natives. If you just shoot the female trees, you can stop the expansion of the trees on your own property."

By ranchers, for ranchers

Foregoing large partnerships and advertising campaigns, Brush Bullet has focused on a grassroots effort to keep costs down while educating local landowners and ranchers on the benefits of not only the product itself, but potentially less visible damage these invasive trees may be causing.

"That's why we chose this grassroots approach for Brush Bullet. We don't have dealers, we have applicators that put [the product] out," explains Abraham. "I make it here on the ranch, and we sell it right here. We cut the middleman out, and cut the cost down for ranchers so they have options to control these trees."

By treating his own property, the Mendota has become a testament to conservation management and the Brush Bullet. After recently receiving a call from a neighbor asking what methods were being employed to remove cedar on his own property, Abraham treated 120,000 trees on that landowner's property in just eight days.

If you do the math, that's 1.6 million gallons of water that non-native trees could have been absorbing in a single day. That's more than one-and-a-half million gallons that would otherwise have been available to native species and grasslands.

"It's a rancher's invention, and it's for ranchers," says Abraham. "I did it for myself. If I had just controlled the trees on my own ranch, I would have considered it a success."

Whether from a conservation perspective or a rancher's point of view, the Brush Bullet stands to pack a punch when it comes to non-native species in the Texas Panhandle and beyond. **ABB**