



## What's New In Suspension Fencing

by HEATHER SMITH THOMAS

Suspension fences have been used on western farms and ranches and in New Zealand and Australia for many years. Advantages to suspension fencing include fewer posts (an advantage in rocky terrain, and also less labor for installation and maintenance), more resilience when struck by animals or vehicles and, therefore, less damage to the fence from wildlife or highway accidents. The posts can be set wider apart, with several lightweight stays between them. Animals running into these fences are less apt to be injured because there is so much flex and give; the fence can be pushed several feet without damage to it or the animals, and then rebounds back into place.

Southwest Fence Systems and Southwest Fence and Supply Company Inc. in California have been working for several decades to improve suspension fencing. Chris Hanneken, its President, says their unique braces and lightweight stays make their fencing highly durable, thus minimizing maintenance. The Hanneken family developed their first suspension fence products in the 1970's, originally as a means to create better fencing on their own ranches in the South. Today, their system is used throughout the country, not only on private farms and ranches but also by county and state municipalities, oil-fields, the Nature Conservancy, USDOT (US Department of Transportation), EBRPD (East Bay Regional Park District), NRCS (Natural Resource Conservation Service), SFWD (San Francisco Water District), LADWP (Los Angeles Department of Water and Power) and many other entities.



Early suspension fences were constructed using wooden stays, which provided good visibility to livestock and wildlife but were labor intensive and costly to install, partly because of their weight. The Hannekens then tried metal twist stays but those provided poor visibility and were not always easy to install. The twist stays were also easily bent by wildlife hitting the fence or going under or over it, leaving the stays permanently bent—compromising the height or positioning of the wires. Metal stays are almost impossible to remove once they are bent; it usually takes bolt cutters to remove them when you need to replace them.

More than 20 years ago the Hanneken family developed their ©SuperStay in an extruded HDPE (high density polyethylene) form, and this enabled the company to provide a lifetime guarantee. The latest design is similar, but created with an injection mold process, providing a stronger and more consistent profile. Other improvements to this stay include added reinforcement near the attachment lock-pin notches (there's a lock pin for easy installation which is also effective for an electric fence) and more visibility. Another plus is that this stay is made in the USA from recycled material. The SuperStay is also widely used for rejuvenating old fences and making quick repairs.

Posts for the suspension fence can be metal or wood, set anywhere from 16 feet apart from center to center to 50 feet (30 feet is the average distance). "This allows the fence to give and flex without compromise. Along a highway, cars often go through a fence. We have constant problems in highly populated areas where commuters travel county roads, with vehicles going through fences," says Hanneken. It's important that a rancher use fencing that won't be torn down completely—or livestock may get out on the highway and be injured or cause accidents.

Traditional fences usually won't stay standing enough to hold livestock after a vehicle crashes through them—taking out posts and knocking the fence down. "We've found that cars can hit our suspension style fence and often the fence will stay up enough to contain the animals until repairs can be made. Even if they knock out a post and there's an 80-foot section of unsupported fence, the wires generally will not break, and the fence will still be in place, and will still hold cattle or horses," says Hanneken.

Weather can be hard on fences. Heavy snow may weigh down traditional or electric fencing and break its wires, or even push a fence over. Freezing and thawing can disrupt the stability of traditional posts and braces, as frost heaves the posts upward. After a few years, the posts and braces may not stay in line or may come out of the ground. Con-

crete or railroad ties rarely stay in place in an area where frost or moisture levels rise and fall during the year.

“The bracing system for our fences was designed to withstand freezing and thawing. Our braces utilize a diagonal rod similar to the anchor system on modular homes. This is where we got the idea. No suspension system can be successful without a good brace. We needed something simple, that anyone could put in,” says Hanneken.

His family developed a permanent type of driven brace, which is quick and foolproof to install, without having to dig post holes. In good ground, it can be put in place within 15 minutes and installs one way only—which eliminates the chance of placing it incorrectly. The fence can be stretched as soon as the brace is installed.

“The two brace posts are driven into the ground, and there’s a guide tube on each post that is cut and welded into that post at a 45-degree angle,” says Hanneken. “After you’ve driven the post into the ground to the depth of the guide tube, you put the anchor rod through the post (via the guide tube), drive it into the ground and bolt it in place. In updating our patent, we have lengthened the brace (to eliminate the uplift effect) and this angled rod gives it even more stability,” he says.

The Parker Ranch in Kamuela, Hawaii, installed the Southwest Fence suspension system 23 years ago, in 1987, and this fence has remained effective with virtually no maintenance.

The stays in a suspension fence can be any material, but if the stays come clear down to the ground it is not truly a suspension fence. “Our black poly SuperStays are light and only come down to the bottom wire, so the fence is floating free between posts,” says Hanneken. This makes a better suspension system because it has a lot more give if an animal or car hits it.

The stays manufactured by Southwest Fence Systems are lightweight and durable. This product can also be used with multi-strand smooth electric fencing. “Horse ranches find this very safe and effective. The first stays we made were steel, but they weren’t resilient enough and would bend. We’ve now had poly stays in 40-foot wire gates that have probably been run over by trucks thousands of times when the gates were laid down, and they are still performing. You can’t do that with metal stays,” he explains.

The purpose of a suspension fence is to be flexible and resilient. “It won’t be successful, however, without a good brace. So we came up with a bracing system that would be part of the fence,” explains Hanneken. “There’s no way this type of brace will fail, unless you don’t drive the posts deep enough,” he says.

Buddy Simmons, the Executive Vice President of Southwest Fence and Supply Company, says the SuperStay today is greatly improved over the previous versions. “One big plus is greater visibility. This is a tremendous deterrent for animals; if they can see the fence they are less apt to crash through it. They can see this stay a lot better than they can see a twisted wire stay,” he says.

Almost any type of gate will work with the braces. Hanneken designed a latch system for a wire gate that can keep a wire gate taut. The gate does not get saggy or become hard to open and close.

“The new technology in wire—and improvements in tensile strength and durability—makes it to where traditional bracing with wood posts may be inadequate,” says Simmons. “We did years of research with our brace, and field-testing. This brace is stronger than the new wire technology, so these braces will always hold. If you’re using the new high tensile 14-gauge green wire (much higher strength than the old, softer, high-carbon wire), this brace exceeds the test for pulling that wire. This is so important, for the foundation of your fence,” he explains.

“Most brace systems are not engineered; they are just a type of brace that people have been using for years and years and they don’t realize the wire technology has passed up the strength of the brace,” he says.

Their suspension fence is engineered for a brace every quarter of a mile, and line posts approximately every 40 feet. By contrast, traditional fencing requires posts every eight to 12 feet if there are no stays. “A suspension fence can work with posts every 16 to 50 feet, using stays in between,” says Hanneken. 🐾

