

“Invisible Fence” For Pastured Livestock

With the new Nofence virtual fencing system, you can “build” a fence simply by drawing a boundary on a computer screen and then turn animals loose. Solar-powered collars around their necks warn them when they’re near the “fence” and shock them if they try to cross over.

“It takes a matter of days for animals to learn how Nofence works,” says Christer Baltzeren, Nofence AS.

As the animal wanders close to the virtual boundary, an increasingly loud clicking is heard. As they get even closer, a harmless electric shock is delivered to the animal’s neck via chains on the collars.

According to Baltzeren, the animals soon respond quickly to the shock and then the clicking noise. “You can see them learn as you observe their interaction with the virtual boundary,” says Baltzeren.

Nofence has been in development in Norway for more than 20 years. A research pilot project with 850 goats started in 2016 with expanded pilots with sheep, goats and cattle in 2019. With commercial introduction in Norway and a few other countries, use has grown to 27,000 animals and 2,400 customers.

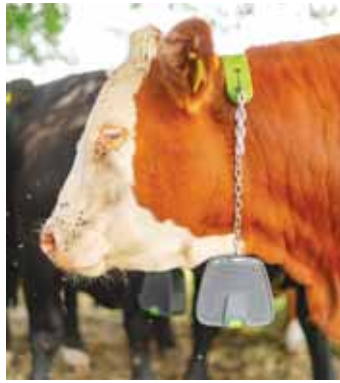
Both satellite and GSM provide location data, the former using triangulation from at least 3 or 4 satellites.

As an animal moves toward the boundary, it will receive 3 audio alerts, and if it continues, 3 successive electric pulses. The owner is notified with the first pulse and again if it crosses the boundary. At that point it is classified as an escape, and it is tracked electronically. If it crosses back, it receives no pulse. Experience with the collar has shown animals typically go back on their own.

Nofence offers a larger collar designed for cattle and a smaller one for goats and sheep. The cattle collar with its 20Ah battery weighs just over 3 lbs. The sheep and goat collars with 10Ah batteries weigh in at just over 1 lb.

Solar panels on both sides of the collars recharge the batteries. However, the smaller sheep and goat collars limit the size of the solar panels and the batteries. They may need to be replaced monthly for recharging. The larger cow collar batteries are expected to last the grazing season.

Other features include a motion sensor that



Nofence was introduced in the UK and uses a solar-powered collar for livestock. Satellite and GSM are used to create the boundary which can be monitored from a cell phone.



detects acceleration and grazing exclusion areas. Up to 9 exclusion areas can be defined within a designated boundary. Corridors for animals moving between grazing areas can also be designated.

Nofence was introduced to the United Kingdom (UK) earlier this year. Plans are underway to expand to the North American market in the near future, says Baltzeren.

“In the UK we offer a \$12 per month per collar rental agreement,” says Baltzeren.

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VetGun shoots like a paintball gun with insecticide gel capsules.

“Paintball Gun” Helps Treat Cattle For Flies

Treating cattle for fly prevention was actually kind of fun this year, says Mike Galloway, who used a VetGun for the first time. From the comfort of his side-by-side ATV, he drove around shooting his beef cows with insecticide gel capsules from what looks like a paintball gun.

Flies were abundant this summer and the cattle were in a pasture 5 miles from the corrals on his Gillette, Wyo., ranch. Galloway used fly bags in the past, but they were expensive and didn’t seem effective for the whole herd as some cows “hogged” them up and kept other cows away.



The Koochiching Soil and Water Conservation District applies wood ash from a paper mill to farmland as a liming agent.

Wood Ash Used To Boost Pasture Fertility

Applying wood ash to pasture lands to improve acidic soils is a cost-effective way to boost productivity. If you choose the right supplier, wood ash is cost-effective compared to equivalent amounts of lime and other fertilizers, say farmers who’ve tried it.

The wood ash used for agriculture is often an industrial byproduct. When wood is burned for heat, steam, or energy production, this ash is left behind after the wood’s oxygen, nitrogen, and sulfur content are thoroughly consumed.

Wood ash works similarly to agricultural lime and can be applied at the same concentration to fields and pastures. With it comes a beneficial dose of potassium (approximately 50 to 70 lb./ton) and calcium, as well as 5 to 8 lb./ton of quick-acting phosphorus. While wood ash contains a low concentration of magnesium and other micronutrients, it’s an excellent source of zinc and manganese, with trace amounts of boron and copper.

While wood ash’s lime and nutrient content will vary based on where it’s sourced from, expect it to be approximately half as effective as traditional agriculture lime for neutralizing soil acidity. Most industrial suppliers will provide a complete analysis available so you can determine what concentration fits your land-use plan.

In order to comply with U.S. organic standards, wood ash needs to come from clean wood and bark that’s free of paint,



Wood ash lime and nutrient content varies but is approximately half as effective as traditional agricultural lime.

adhesives, and other solvents. While ash derived from industrial uses will have trace amounts of heavy metals, the concentration should be low enough to meet safety standards.

To use, plan to spread wood ash at a rate between 1 to 5 tons per acre. This works best when using spreaders for gypsum or poultry litter rather than a lime truck, which produces too much dust. Traditional manure spreaders can work, so long as you layer the ash on top of manure to ease the distribution. Wood ash is soluble, which makes it easy to overapply. Use less than you think is necessary to reduce the risk of raising the pH to problematic levels.

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“It just came down to efficiency and how we could get fly control done without bringing them all home,” he says. “I bought the VetGun 2 years ago. It was an impulse buy.”

The flies weren’t a big problem the last couple of years, but this summer brought hordes of houseflies, horseflies and horn flies. While cows get some protection from their calves’ ear tags rubbing on them, it wasn’t enough. So, in June he tried out the VetGun for the first time.

Directions suggest putting out feed and dry firing the gun a few times to keep the cattle distracted and used to the sound of the gun.

“Who has time for that?” Galloway asks, noting he just started shooting each cow, aiming for the shoulder. The recommended distance is 15 to 30-ft., but 15 ft. seemed a little close and he was successful up to about 50 ft. away.

“I didn’t miss once. It’s easy to fire and aims pretty well, although there’s a little lob,” he says. With less than half the velocity of a standard paintball gun, cows sometimes jumped and ran a little distance, but that was it. Plus, they weren’t skittish when he returned with the VetGun a couple days later to finish the job.

Galloway learned from a couple of mistakes. First, do the whole herd at one time. The soft gel capsules that break and splatter on the cattle leave a lightly colored area, but it doesn’t last long. So, Galloway didn’t know which cows were treated the first time, so he

ended up treating them again.

Secondly, he didn’t remove the CO2 cartridge between applications and air drained out, so it was empty.

The VetGun sells for around \$250 online, and the insecticide-filled capsules cost about \$2 each.

“If you have a bad fly year and you are having trouble, this is a direct treatment that works. But it’s expensive,” Galloway says. “The big thing is profitability, and you have to determine if it’s worthwhile to make money.” Cows and calves that aren’t fighting flies or disease from flies should eat more and gain weight to justify the cost.

He notes that something was working - maybe a combination of calves’ ear tags and the capsules - because he didn’t see swarms of flies hanging around the cows like they were around the (untreated) bulls he brought in later.

Ranching for about a decade, Galloway and his wife, Erin, appreciate the importance of spending money wisely and diversification. They make and sell jerky and other products, have an Airbnb and RV parking, host ranch events and tell their story through their YouTube channel. Search for *Our Wyoming Life* and then *Fly Control on the Ranch* to see Galloway shooting his cows.

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