

Progress Every Day

Simple ways to measure soil health improvements in real time.

The field was ablaze with the fluttering, flame-orange wings of thousands of migrating monarch butterflies chasing a favorite fall nectar source — the yellow blooms of the golden crownbeard (cowpen daisy), standing vibrant against the green grass growth. This had been a solid bermudagrass monoculture before a rancher aimed to add diversity to restore the grazing land to its native prairie.

“Talk about an ‘ah-ha’ moment. To get to walk amongst that pasture with that rancher and his family was truly unbelievable. I’ll remember that

moment forever,” says Will Moseley, Noble Research Institute regenerative ranching advisor.

The breathtaking moment provided Moseley a once-in-a-lifetime glimpse into the progress the rancher was making toward his goal of adding more life to the land. Still, Moseley says it’s also important for ranchers to mark day-to-day improvement.

It starts with measuring soil health, which doesn’t have to involve flashing ‘ah-ha’ moments, deep scientific analysis, time-consuming sampling or pricey tests. Instead, Moseley suggests taking a minute or two to tune your

senses — sight, sound, smell and touch — when you’re out in a pasture fixing fence, restocking salt and mineral or checking water.

Note ground cover, diversity and erosion

The first step is to stop merely looking out across your pastures, Moseley says. Instead, look straight down. Whether you’re in your side-by-side, on your horse or on foot, look down and imagine throwing a hula-hoop at your feet. Consider the ground cover that would land inside that circle.

Photo courtesy of Noble Research Institute



Taking the time to observe what’s under your feet can tell you a lot about the health of your soil.

The goal of keeping soil covered is to armor it and reduce the amount of exposed, bare ground. If you were at 70% cover last year, and this year you see 75% or 80%, you're making progress.

Next, take a look at species diversity. If you start with one dominant species — a Bermudagrass monoculture is a prevalent one in most of the Southern Great Plains — and you observe three species at your feet the next year, Moseley says, “Well, that’s a big increase from where you started.”

Finally, look for signs of erosion. Do you see litter dams or plants that look like they’re on a pedestal with the ground around them washed away? If so, is what you’re seeing active erosion, or is it healing?

“If you’re looking at these three things, you’re looking at some pretty solid indicators of your soil’s health,” Moseley says.

Listen for sounds of living, vibrant land

While you’re at it, take a minute to turn off the engine and listen to the sounds of your land, Moseley suggests. Especially in the spring and summer months, it should not be silent.

“If you want your soil filled with life, you should be able to hear the life out there,” he says. Do you hear the buzz of the pollinators, the flap of bird wings, the rustle of grass or branches moving as critters scurry nearby? When it comes to the tiny life that thrives in healthy systems, he says, look especially for spiders.

“They’re the apex predator of the insect world, so if they’re abundant, you have lots of life,” Moseley says. Dung beetles burrowing holes in cow pats as they recycle nutrients into the soil, and pollinators, like bees, butterflies and moths, are two other important classes of soil health indicators.

Check soil health with touch and smell

Next, grab a shovel and feel how easily it slides into the soil. This alone can give you a feel for the amount of soil compaction or changes in the soil’s makeup over time.

Turn over a spade-full of soil, then feel for its moisture content. You’re aiming for a spongy texture, similar to cottage cheese or chocolate cake. Take note of how your soil smells. You know the rich, earthy, fresh aroma of healthy soil. A handful with no smell likely indicates a lack of biological life; a metallic or sulfur smell indicates a heavy bacterial load in the soil.

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— Will Moseley,
Noble Research Institute
regenerative ranching advisor

Note the color of your soil — the more organic matter it contains, the darker it will be. Snap a photo and compare year-over-year images to look for a change in soil color. Note how deep the darkest shades extend below the surface. Did that rich topsoil extend an inch last year, but now you can see it extend an extra half inch lower? That’s progress. Consider the below-ground life you can observe — grubs, worms and invertebrates.

“These are all things we can access in a matter of a minute or two to tell us how we’re doing in terms of our soil health,” Moseley says.

Track and compare observations over time

“What’s most important is that you compare yourself to yourself,”

Moseley says. “Every ranch’s starting point is different.”

Record these simple observations in a notebook that lives in the side-by-side, in your pocket or on your phone in notes and photos. A spreadsheet tracking system designed by Noble regenerative ranching advisors to help measure progress over time is part of the Noble Land Essentials course, but Moseley says what matters most is finding a system you’ll stick to and use to record your observations consistently.

“A lot of these are going to be small victories over time,” Moseley says. “It might not be pretty in the process. You’re not going to go from a monoculture to a native tallgrass prairie overnight.”

So, while you may not get the great ‘ah-ha’ of a monarch migration homing in on your efforts to increase diversity, you might taste equally sweeter, if smaller, victories.

“To me, it’s almost just as amazing when a rancher begins to form this deeper appreciation for the things he sees every day on his ranch,” Moseley says. He points to watching lifelong ranchers suddenly take note of dung beetles, excitedly crawling on their hands and knees to track the tiny recyclers.

“Things like that might have been there all along, but now they’re noticing it for the first time,” he says. “Sometimes it’s not necessarily an ‘ah-ha;’ it’s more of an awakening, which is pretty cool, too.” **HW**

Editor’s Note: This is part of a continuing series of articles about regenerative ranching from Noble Research Institute, long trusted by beef cattle producers for supporting the industry with research, education and consultation. Follow the series in future issues of *Baldy Advantage* and *Hereford World*, as well as in special *1881* podcasts, at Hereford.org. Additional regenerative resources and past articles in the series are also at Noble.org.

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