

# Caution: Rough Pastures Ahead

Experts offer strategies for pasture renovation and grass management.

Story & photos by **Brenda Black**



**T**he greatest *El Niño* on record left its mark on the Midwest in 2015. The concern this spring is how deep the scars are on pastures and hay ground that endured the repeated and ongoing deluges last year. As cattlemen see the upshoots of green grass, they may also face ruts, rough ground and bare spots where forages no longer grow. The fallout from so much rainfall in 2015 will beg a closer look at pasture renovation and grass management this year and beyond.

Travis Meteer, University of Illinois (U of I) Extension educator, and David Davis, superintendent of the University of Missouri (MU) Forage Systems Research Center (FSRC), weighed in on the problems and the strategies for pasture reclamation.

## Combatting damage

“Where soils were continually saturated and plants struggled for oxygen, there is certain to be reduced stands this season,” Meteer said.

“On the grazing side,” Davis said, “because of excessive rainfall last spring and early summer, we ended up getting pugging (damage caused to pasture by cows tearing up the paddock’s soil structure) and torn-up pastures.”

The wetter the soil, the weaker it becomes, affording less ability to withstand high traffic. Livestock hooves can destroy it in a wet year, creating massive punctures in the ground that contribute structural damage and decrease pasture productivity.

The damage can range in intensity. It depends on factors such as the physical properties of the soil type, the soil moisture content, and the number and size of cows on the damaged area, as well as the length of time they are left there.

Research indicates that pugging can result in up to 40% loss in pasture utilization and a 30% decline in pasture regrowth, reported the Peace Country Beef & Forage Association. Depending on the severity of

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initial damage, productivity can be reduced to as much as 80% for eight to 12 months. Nutrients like potassium (K), sulphur (S) and nitrogen (N) leach from the soil in heavily pugged areas. As a result, undesirable weeds and rubbish grasses take advantage.

Additionally, the uneven ground contributes to stress on stock and can exacerbate health problems like mastitis, cracked teats, lameness, foot rot and grass tetany. Plant root damage from pugging alone can last for weeks, months and, in extreme cases, affect forages permanently.

“It is probable to have death loss of the plants themselves,” Davis said, “legumes more than grass, mainly because of damage to the taproot, allowing for disease to move in. Plus, forage legumes generally don’t like wet, soggy soils.”

Some producers who anticipated the damage may have drilled in grass seed during drier days in fall 2015. Meteer said, however, that many cattle farmers are also grain



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farmers in the Midwest and were focused on crops instead of grass during that window of opportunity.

“As they come into spring and start now to see those holes in pastures,” he added, “the reality will hit that there has to be some kind of rescue strategy.”

### Grass management

Limited pasture across the Heartland makes grass management crucial, according to Meteer. It also makes it challenging.

“We can put a band-aid on those bare spots with frost-seed clover, but unfortunately, if it’s not a good stand, there will be holes left,” he said. “Without proper management and stocking rates and giving that pasture some rest, it is very difficult to reestablish stands. Not to say we can’t do it, but it is a struggle because it is so hard for producers to leave available pasture alone.”

The extension educator recommended repairing bare soil with a vigorous frost-seeding of clover in early spring. By April and May, other options are preferred to address failing forages and compacted ground. Compacted soil can follow wet seasons where ruts and damage will need leveling and tillage, according to Meteer, before any seed can be applied.

“If the problem is ruts, take a disc to it,” Meteer said. “Pugging can be corrected by simply harrowing the pasture a couple of times. The amount of tillage will have to increase in proportion to the amount of damage.”

“A chisel plow, deep ripper or a subsoiler are all good options for heavy tillage,” Davis said, “but the least invasive would be a disc or harrow. Another option is a pasture renovator. It’s more like an aerator;

essentially it is a drum with spikes on it that punches holes and breaks up the soil in the top 6 to 8 inches. Even in April and May, you can use these methods, which are not disturbing everything on top of the soil.”

The best approach to correcting compacted soil is to adopt a “cover-crop mentality,” said Meteer. “Those plants can break up soil. They help alleviate compaction, but you’ll need to weigh the pros and cons. When a producer has compaction issues and then they apply a bunch of tillage, they can also till up part of their grass and alfalfa stand. Real success is part art and part science.”

Some producers may feel like they are behind the eight ball by mid-spring. Meteer agreed that by then “you’ll have what you have.” He contended that there are still some controls to put in place, but there is a bigger lesson to learn and ways to correct damage long term.

### Evaluate the problem

“We really need to protect the land this year and look at this as a system,” he said. “We need to evaluate what truly created the problem. Was it weather one year with added moisture? If major holes are a problem, they are probably not just due to weather last year. Overgrazing, poor pasture management and lack of rest have created the lack of forage stand. It’s typically more of a management issue than a weather problem. Until we change the management, we’re going to continue with the problem.”

Steps to solutions begin with evaluation. “The first thing is to take a good look,”

Meteer said. “Assess your pasture and see where the bare spots are and how big.”

If there’s not much bare, let the pasture rest, he advised. If it’s continuously

overgrazed and there are lots of bare spots, and then further into spring you begin to see weed-type or grass-type species that are not favorable to the grazing scenario, then you need to think about some type of weed control.

Davis recommended introducing grass seed mixed with a small grain like spring oat or wheat into the existing sod to ward off the weeds.

“If it’s torn up to a large extent, you might be able to lightly disc and harrow in a small grain for spring grazing,” he said. “It gives the grass time to recover on its own. The grains grow rapidly, and once harvested off, they won’t be competing with grasses you’re trying to establish.”

If the damage seems extensive, both experts agreed it may be time for a major pasture overhaul.

If a producer is going to do a full renovation, Davis suggested grazing the pasture this spring as it is. Following grazing, spray the pasture to knock out what’s there and establish a summer annual. For replacing fescue sods, he advised choosing one of the new novel-endophyte tall-fescue cultivars.

“In the fall use a winter annual cover crop to smother out old existing sod,” Davis said. “At that time, evaluate the old fescue for escape plants. If eliminated, then you can establish a novel endophyte tall fescue. If it’s still in there, spray it out and use a winter

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annual for winter and spring grazing or hay. The cover crop, if managed correctly, will provide forage during the renovation process.”

The process seems arduous, especially for Midwestern producers with limited pasture to graze, who can't afford having land out of commission. Meteer suggested alternative ways to supplement pasture, allowing land to rejuvenate.

“I'm always encouraging folks to look at how they can better utilize cover crops and extend their grazing seasons with crop acres for fall and early spring grazing,” he said. “The fact of the matter is, we are not going to get back a lot of the pasture lost in recent years; it will remain in tillable acres. Producers who want to maintain and build cow numbers will have to look for other options.”

### Soil health

Key to the success of reclaiming and extending grazing, according to Meteer, is the need to understand that “we can't continually abuse these pastures and expect them to be productive.”

While planning for better forage, Davis emphasized the need to check the soil.

“It's always a good time to improve grass pastures with improved cultivars, this is especially true when you can take advantage of already damaged pastures; you will not be losing much production,” he said. “The other thing is to address soil fertility. It's hard to keep good vigorous forage stands vigorous unless you make sure soil fertility

is up to snuff. A lot of pastures don't get fertilized the way they should. That's an added stress.”

Adding legumes to hay and pasture fields, according to a study conducted at the University of Kentucky (UK), provides yet another solution. The study by the UK Department of Plant and Soil Sciences compared renovating a tall-fescue pasture using red clover to fertilizing the grass with nitrogen. In this study, red clover with fescue produced higher yields than fescue fertilized with up to 180 pounds (lb.) of nitrogen per acre. The one-two punch increased palatability, intake, digestibility and nutrient content. Likewise, more growth took place during the summer months, improving the seasonal distribution of forages.

A choice of solutions is not the problem, according to Meteer. The problem is doing something proactive.

Meteer concluded that if no remedies are taken, “Cattlemen are going to see barnyard grass or opportunistic grass-type weeds take hold. Will the cattle eat them? Yes. But it's not very productive forages.”

Few forages are well-adapted to continuous grazing, according to the Natural Resource Conservation Service *Pastures for profit: A guide to rotational grazing*. Only plants such as Kentucky bluegrass, white clover and many prostrate weeds, whose low-growing leaves escape being completely

grazed off, survive well under continuous grazing. Taller growing forages, on the other hand, usually die under continuous grazing, the manual said, since most of their leaves can be grazed off. They need rest between grazings to survive in a pasture.

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In the Midwest, the challenges come season to season with fickle weather that renders fluctuating moisture. Limited grass continues to add to the pressure on pastures and overstocking wet or dry paddocks can create lasting

damages. In 2016, pastures may not only need recovery from floods in 2015, they may also need an overhaul to keep grassland productive for years to come.

“Who knows what the weather will throw us this year,” Meteer said. “It's always a challenge, no matter how it turns out.”

His greater warning has more to do with range management than rainfall.

“If you continue to overgraze, you'll have weed problems for years to come,” he said. “If it gets too bad, you can't go in and just seed, you have to go back to Step 1 and some type of weed control or herbicide application, then seed. The more and more you ignore it, the bigger the problem becomes.”



**Editor's Note:** Former president of the Missouri CattleWomen's Association, Brenda Black is an author, speaker, publicist and freelance writer from Deepwater, Mo.