Beat the Three M's

A pandemic project provides a solution for mud, manure and mire.

by Becky Mills, field editor

Dennis Pearson had a messy problem. Three seasons out of the year, he can spread his 80 cows and their calves over 500 owned and leased acres. But come artificial insemination (AI) and embryo transfer (ET) season at Soldiers' Hill Angus Farm, which also coincides with winter rain and snow, he has to keep them close to his pens. The result was a 70-acre breeding pasture turned into what he calls the three M's; mud, manure and mire.

Unless you live in the desert, it doesn't take much imagination to picture the Warrenton, Va., cattleman trying to get in and out of the muck with his tractor and round bale hay wagons.

"I wanted to get out of that. It wasn't good for the equipment, cattle or land. We wanted to improve our situation, our property and the health of the cattle," Pearson says.

Not to mention when he'd move the cattle off that field, he'd usually have to disc and reseed to repair the damage.

Enter Pearson's pandemic project — a 32 foot (ft.)-by-72 ft. concrete-floored hay feeder. Although it was inspired by the hay feeders at the Kentucky Beef Network's Eden Shale Farm, he designed it himself; and other than the framing and concrete work, built it himself.

The base of the feeding pad is 62 yards of concrete poured to an average depth of five inches (in.). The finished product supports a skid loader, a 12,000-pound tractor and provides a nonslip surface for his cows and calves.

Tim Mize, Fauquier County, Virginia, county extension agent, had input on the design of Dennis Pearson's hay feeding pad.

Running down the center of the pad is a 48-ft. long raised concrete platform, seven inches high, that slopes to the end so moisture can run off. It also has a 12-in. kick panel. Eight ft. wide, it holds 12 bales of 4-ft. by 5-ft. hay and is wide enough for a skid steer to operate at clean-up time.

"The only waste is moldy hay," Pearson notes.

He can bring his tractor to the outside opening and push the bales in, and not have to come in contact with the cattle. At the other end, he put a swinging metal gate to keep the cows and calves out of the hay.

The sturdy metal slant bars and gates were custom-made by a local welder.

"He did an outstanding job," Pearson says.

The alleyways around the slant bars are both 12 ft. wide, so cows can easily move to a different feeding spot.

The outside of the hay pad has a four-board fence, open at the tractor entrance and where the cows come in and out. He also put in a 6-in. curb under the fence to catch runoff, but says if he had a do-over, he'd make it 8 in.

To enter and exit the feeding pad, there is a 16-ft. wide, 24-ft. long ramp made with a geotextile base, 6 in. of

#3 stone and 3 in. of 21A stone.

Fauquier County extension agent Tim Mize, who had input on the design, says, "The entrance and exit points are always issues with these type systems. This one is a little steeper than we intended, but we had to build up here on top of the hill."

After a season of use, however, Mize and Pearson say there wasn't a problem with cattle making trails or ruts.

One of Pearson's favorite features of the feeding pad is the manure storage bunker. When he cleans the feeding pad every two weeks, he pushes it into the 32-ft. by 24-ft. bunker.

"Then I can spread the manure in the summer when the ground is firmer," he explains.

After a season of use, though, Pearson found he does need more manure storage, and plans on expanding the bunker by 25%.

The gate at the open end of the storage bunker does double duty. Besides keeping cows and calves out of the stacked manure, he can swing it the other way and shut them in or out of the feeding pad. He says this is especially handy if he needs to get an animal up to doctor it.

One thing the feeding pad doesn't have is a roof.

Pearson had already bought the poles but says, "A dairyman told me not to do it. He said with a roof, the manure would be hard-packed. Then I'd have to use a steel blade to clean it and it would chip the concrete. This way it stays in a slurry."

The roof, or lack of, was also one of the reasons Pearson self-funded the project rather than applying for cost-share funds from the Natural Resource Conservation Service (NRCS), who insisted on a roof. By doing most of the work himself, the feeding pad cost around $27,000.

"I think it has paid for itself in the first year," he states. "It is much healthier for the cattle. They're not always knee-deep in manure."

Every winter he says he almost always treated several cases of pneumonia in his calves, but didn't treat any this past year. He adds, "We had our best-ever conception rates in our fall herd."

He ended up with 86% bred by AI or ET in two breedings, with the clean-up bull breeding the remaining 14%.

"The feeding pad didn't do all of it," he says. "December was mild." However, he adds, "It was easier on the equipment, and the area wasn't torn up like it usually is. We didn't have to reseed it."

Although it doesn't show up in the profit and loss columns, Pearson is also pleased with the environmental benefits from the hay feeding pad.

"We're right here on the banks of the Great Run River, which flows into the Rappahannock a half a mile away; and we're 100 miles upstream from the Chesapeake Bay. We're serious about water quality and wanted to do our part."

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Steve Higgins, director of animal and environmental compliance at the University of Kentucky, and designer of the hay feeding pads at Eden Shale Farm, agrees that feeding pads are a sound investment. "When you're feeding hay on the ground, there is 37% to 58% waste. It can go up to 97% waste. When you're feeding a roll in containment, there is 20% waste at the most. At Eden Shale, we're probably getting 7% waste."

He estimates a hay feeding station saves $100 a cow for a 90-day hay feeding period. "We save money, we save time, and it is a better environment for the cattle. Plus, tractor slide is dangerous."

There's another bonus as well — the manure that Pearson scrapes off the all-weather surface of his hay feeder and stores goes back on his pastures.

"That means there is a yield response in the forages, and an increase in organic matter," says Higgins. "Then we get more grass."

All in all, pretty darn good results for a pandemic project. AJ

Bonus Fenceline Hay Feeder

When Warrenton, Va., Angus producer Dennis Pearson finished his 32-ft. by 72-ft. hay feeding pad, he realized he had enough leftover materials to get a good start on a fenceline two-bale hay feeder.

"This only took three yards of concrete and I had to buy four posts and the roof," he says.

While he hasn't figured the exact cost of the feeder, which opens at both ends, he estimates it is around $2,500.

"If I had to buy two hay rings, that would be $600 or $700. If there is a bull in the pasture, he'll tear them up in a year. I figure this will pay for itself in three or four years."

Like his larger hay feeding pad, the fenceline feeder lets him put the hay in the feeder without coming in contact with his cattle. With a concrete floor, it also cuts down tremendously on the mud and manure around the hay, and the slant bars cut down on hay waste. Just like his larger hay feeding pad, it is a win-win project.

For more information, see:
Eden Shale Farm fenceline feeders
https://www.edenshalefarm.com/fence-line-feeders.html

Soldiers' Hill Angus Farm
https://soldiershillangusfarm.com/

Soldiers' Hill Angus Farm, hay feeding pad
Large hay pad
https://binged.it/3seLebm
Two-bale pad
https://binged.it/2XqD5Fz