



Using coarse aggregate supports cattle weight better than soil and encourages them to return to grazing rather than standing in the water source.

In the beef cattle business, producers tackle many challenges to ensure the health of their herd. Even if producers make all of the right decisions and every cow was to raise a healthy calf; market prices, input costs, and Missouri's weather are uncontrollable factors that impact profitability. What producers do control is providing their cattle the forage and water they need throughout their life cycle. Cattle get most of their nutrition from the forage they eat, and, except in extreme conditions, forage is seldom a limiting factor in the herd's health. However, cattle having access to clean water is more often a bigger challenge. The lack of sufficient clean water can have significant impacts to herd health, performance, and therefore decrease producer profit. Research has shown that if cattle are provided clean drinking water, they drink more, eat

Clean Water, Good Business

Water Source Management Types and Techniques for a Healthy Herd

*By Rob Pulliam
Fisheries Management Biologist*

more, and ultimately gain more weight. Conversely, some water contaminants can cause cattle diseases and infections which can reduce average daily gain. A more direct cattle impact from mud and water-borne diseases can be foot-rot, infertility, late-term abortion, liver damage, and in very rare cases death.

Over the past 25 plus years working with cattle producers, I have seen livestock water sources ranging from stock ponds, clay-pits, streams, springs, seeps, sloughs, and wells. All of these water sources have trade-offs each individual cattle producer has to consider, but the bottom-line is the water source has to be available and affordable. Regardless of the water source used or developed, providing and keeping good water quality is important to people, cattle health, performance and producer profitability. Quite simply, keeping livestock water clean is just good business. What I share below are some of the advantages and limitations of a few water development options that I promote as a fisheries biologist that take into account costs, herd health, cattle performance, and sustainable stewardship.

Limited Access

Limited access to existing surface water can be an inexpensive water source option producers can implement themselves. The basic design calls for preparing the site by removing soil if it is not adequate to support the weight of cattle. A geosynthetic textile blanket is then placed within the excavated area to create a barrier between the soil and rock to be installed. Coarse aggregate of about 4 inches in diameter is then brought in to reinforce the access point and approach ramp up to the top of the bank. Using 4-inch rock about 8 inches deep will support cattle and encourages them to return to grazing.

Cattle don't like standing on large rock. Fence is then installed to allow cattle access to the watering point, but exclude them from the remaining water

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body. Although limited accesses are relatively inexpensive and easy to build, they still allow cattle in the water. Standing water can freeze and fencing can be hard to maintain on larger streams that flood.

Spring/Seep Development

Ground water from springs or seeps, if available, could be an option to consider for a livestock water source. Although springs and seeps are fairly

common in the Ozarks, these are unique habitats that support some species of plants and animals that may not be found anywhere else on the farm. Developing this type of water source is really

a balancing act in which both cattle and natural habitats are supplied the clean water they need to function. To ensure the water quality and

Photo by April Anderson

Wells can be a reliable source for clean water for a cattle herd, but require consistent electric power supply and regular mechanical maintenance.





Rob Pulliam is a Fisheries Management Biologist for the Missouri Department of Conservation and has worked with cattle producers more than 25 years.

Photo by MDC

quantity meets livestock watering needs, I would highly recommend getting technical assistance with developing a spring or seep. Depending on the flow-rate and geology, the basic design often calls for collecting water in a spring box and installing pipe to gravity feed a tank(s). Springs and seeps water sources can be relatively inexpensive to develop and are freeze-resistant. The main disadvantage of springs and seeps are that the water is gravity fed to tanks and during drought years, they can go dry.

Wells

Using an existing well with suitable flow and pressure or drilling a new well gives the cattle producer the flexibility to move water where it is needed. Trenching, piping, and pumping water uphill to tanks becomes possible which allows producers more options to divide pastures into paddocks as part of a

planned grazing system. All of the previous water source options described above are “locked” in place (limited access), or rely on gravity feed. The obvious limitations of a well are start-up costs, having electricity on-site that you have to pay for every month, power outages, and more mechanical parts that can fail.

Technical/Financial Options

When it comes to developing a livestock watering system to meet a cattle producer’s needs, I learned early that there is no such thing as a one-size-fits-all approach. Each landowner, available water resources, existing infrastructure, and lay of the land

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must be taken into account before coming up with a plan.

To assist cattle producers with their livestock

watering needs, federal, state, local, and sometimes non-governmental organizations offer technical and/or voluntary cost-share programs. I realize cattle producers are very self-sufficient and creative thinkers that are more than capable of finding their own livestock watering solutions.

At the same time, I will always remember what a cattle producer friend of mine once said to me.

“I’ve been on this farm for more than 50 years, but you’ve been on 50 farms in a year,” he said. “I can’t afford to make other peoples’ mistakes. If you’ve seen something that works or doesn’t work, I want to know about it.”

My friend’s point was simple. He values other peoples’ information and experience if it can help him make more informed decisions. It does not matter if helpful information comes from a trusted neighbor, Soil and Water Conservation District technician, Natural Resources Conservation Service grassland conservationist, Missouri Department of Conservation fisheries biologist or private land conservationist. What matters is exploring all of the options that could improve your operation, stewardship goals, and bottom line.

Resources

I’m not about to say that technical staff available to assist cattle producers have all of the answers, because we don’t. But, I will say the staff I know

Photo by NRCS

Springs and seeps as water sources are relatively inexpensive. This spring is near the wood-line with trenching and piping to the tire tank.



that works with landowners got into this business to make a positive difference. If you happen to be a cattle producer looking for more ideas of how to improve your livestock watering system, then I would encourage you to consider reaching out to a trusted neighbor, your local natural resources staff, or attend a grazing school. ■

Sources of technical/ financial assistance may include:

USDA – NRCS/FSA

U. S. Fish and Wildlife Service

Soil and Water Conservation Districts

University of Missouri Extension

Missouri Department of Conservation

Non-Governmental Organizations