PHOTO BY SHAUNA ROSE HERMEL

It's Dry Somewhere

Is drought a devastating natural event, or a wake-up call for better cattle management?

Story & photo by ***Troy Smith,*** *field editor*

Does it seem like cattle producers must contend more frequently with problems related to drought? To Eric Scholljegerdes it does seem as though, at nearly any given time, some portion of cow country is experiencing a long dry spell. According to the New Mexico State University range nutritionist, it's a rare occurrence when a cattlemen's convention or conference does not include some discussion of drought management.

Scholljegerdes took his turn at leading the discussion during the Applied Reproductive Strategies in Beef Cattle (ARSBC) symposium this fall. He talked about challenges that cattle producers face as a result of drought's effects on both water and forage and offered advice for drought survival.

A prolonged scarcity of precipitation often limits the recharge of stock ponds and even wells. Besides the obvious problem of diminished supply of water for livestock, this can change the "composition" of the available supply.

"This is particularly true in ponds where rapid evaporation results in a higher concentration of minerals. Within a well system, where little recharge occurs, mineral concentration also may increase," explained Scholljegerdes. "Water quality must then be accounted for when developing a nutrition program during droughts."

►Increased mineral concentrations in water also increase the likelihood of mineral antagonisms, said Eric Scholljegerdes, New Mexico State University range nutritionist.

While increases in total dissolved solids and sulfate concentrations can lower animal performance, Scholljegerdes said reductions in performance are more often linked to reduced intake of poor-quality water, which also leads to lower dry-matter intake. This response can be further exacerbated by hot temperatures and the associated increase in water requirement.

Scholljegerdes said increased mineral concentrations in water also increase the likelihood of mineral antagonisms. High sulfur levels can be antagonistic toward copper absorption, and high levels of iron can interfere with absorption of both copper and zinc. Increased levels of calcium may antagonize selenium utilization by cattle.

"These antagonisms can result in not only reduced growth performance but also decreased pregnancy rates and increased morbidity," added Scholljegerdes. "Therefore, water quality should be measured on a yearly basis and perhaps more frequently during drought."

Regarding drought effects on forage quality, Scholljegerdes said crude protein levels may become deficient. Once the crude protein content of forage drops below 7%, supplementation is warranted. Scholljegerdes advised producers to consider using natural sources of degradable intake protein (also called ruminally degradable protein), which are readily utilized by rumen microbes, as part of a supplemental protein program. Feeding supplemental protein also aids forage digestibility, thus increasing the energy value of low-quality forages.

Scholljegerdes cited the New Mexico experience of multi-year droughts, which reduced the energy content [total digestible nutrients (TDN)] to 40% or less. In such cases, supplementation with structural carbohydrates, such as high-quality hay or co-products, can provide added energy and stimulate forage intake without negative impacts to the rumen environment. Replacing part of the forage supply with non-structural carbohydrates (grains) will supply added energy, but they must be managed carefully to avoid digestive upsets and reduced forage utilization.

"From our experiences in New Mexico, it seems that in order to survive drought one must be vigilant in monitoring nutrient supply (forage and water) and be willing to change management and nutrition programs," said Scholljegerdes, emphasizing the importance of routine forage testing. "However, we do not make any decision without putting pencil to paper first to ensure it makes economic sense and has no long-term ramifications."

Scholljegerdes spoke during Monday's ARSBC session focused on females. Visit the Newsroom at *www.appliedreprostrategies.com* to view his PowerPoint, read the proceedings or listen to his presentation.

AJ

Editor's Note: *Troy Smith is a freelance writer and cattleman from Sargent, Neb. Comprehensive coverage of the symposium is available online at* www.appliedreprostrategies.com. *Compiled by the* Angus Journal *editorial team, the site is made possible through sponsorship by the Beef Reproduction Task Force.*