

VETERINARY CALL

by Bob Larson, Kansas State University

Reproduction and Health Concerns in Different Environments

Beef cattle are raised in every U.S. state and most regions of the world. Geographical location greatly influences important production characteristics such as grazing density, reproductive efficiency and overall health.

Different environments determine the type and abundance of forage, the extent of heat or cold stress, the occurrence of certain insect pests, and the presence of toxic plants. These environmental differences create diverse health concerns and reproductive strategies for herds.

Cattle of a different kind

Breeding and calving season will be influenced by the type, abundance and seasonal growing pattern of native and cultured forage. Cattle should be matched to that environment to optimize calf growth and the dam's lactation performance.

In environments with the potential for particularly high heat and humidity stress — such as the Gulf Coast — cattle producers often use a crossbreeding strategy that incorporates *Bos indicus* breeds with *Bos taurus*. Their increased tolerance for heat and insect stress compared to the breeds developed in Europe make them well-suited for the warmer climates. In contrast, these same breed-crosses would not be well-suited in colder regions.

The types and abundance of flies and ticks are heavily influenced by the temperature, humidity and other environmental factors. Because ticks and insects serve to transmit diseases, herds in different parts of the country experience differing risk of disease. Control of certain ticks and flying insects requires different timing of chemical applications and other management strategies based on the area's life cycle.

Some toxic plants are found in only a few areas of the U.S. Some forage species that can be toxic are only cultivated in certain environments. For example, fescue toxicosis is well-known only in areas of the country where fescue grass has been introduced; and specific weeds that can cause birth defects, abortion and death are often in certain climates.

Versatile animals

The fact that cattle can be raised in diverse environments that range from areas with abundant rainfall to deserts, and from high altitudes to below sea level demonstrate the versatility of cattle to adapt to nearly

every environment on the planet. It also illustrates the limitations of universal recommendations about production and health strategies.

The best disease control strategy for a herd will capitalize on the most appropriate disease-testing plan, vaccination protocol, animal segregation design, and pest management for the herd's specific environment. Each environment offers its own opportunities for cattle to thrive.

To manage the production limitations and disease risks requires that producers have a good understanding of the specific challenges of their environment that are best addressed by experts and experienced cattle producers with local knowledge. [A](#)

Editor's note: Robert L. Larson is a professor of production medicine and executive director of Veterinary Medicine Continuing Education at Kansas State University in Manhattan, Kan.