



National Bison Association

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Bison Issues Overview, September 2019

Healthy Herds: The First Step in Continued Bison Restoration

Background:

The growth in North America's bison herds is a remarkable story of species restoration since less than 1,000 bison teetered on the brink of extinction in the late 1800's. Reckless slaughter was a major cause, but, so too, was the devastation caused by pathogens brought to the New World by European domesticated livestock.

For most of the past 130 years, individual bison producers and a handful of veterinary professionals have attempted to "figure out" the herd health protocols and nutritional requirements needed to support the expansion of our herds.

This has been difficult because bison are similar, but different from domestic livestock. As ruminant animals, they are similar to domesticated cattle. But bison are undomesticated, and retain many unique biological and sociological characteristics of wild ruminants. They exhibit stress when confined, are seasonal breeders, and follow seasonal cycles for growth and metabolism. They are also more resistant to harsh weather, require much less human intervention, and are well adapted to thrive in the grassland ecosystem in which they evolved.

The bison producers and veterinary professionals working to unravel the herd health challenges have also striven to address those issues without transforming bison into another domesticated livestock species. After all, these animals evolved over thousands of years to thrive in the North American ecosystem without human management.

Four years ago, the National Bison Association established a Science & Research Committee. That committee has collaborated with the National Buffalo Foundation, a 501(c)(3) educational and charitable organization, to foster new technology, research and information to expand healthy private, tribal and public herds across North America. The shared goal is to restore one million bison to North America.

Demonstrable Results

This collaboration has already established several demonstrable results, including:

- The Science & Research Committee and National Buffalo Foundation, have worked with South Dakota State University to initiate a Center of Excellence in Bison Studies. SDSU will be the lead institution of this center, but will work with other land grant and tribal universities, including Sinte Gleska tribal university, which already cooperates with SDSU on bison research.
- The National Bison Association, with support from the foundation, conducted an extensive

review of professional and scientific literature on bison health and management. The association now houses the world's most extensive library of bison information, which is available through the NBA website, www.bisoncentral.com.

- The NBA is continuing to work with the National Academies to establish the process for developing NRC nutritional requirements for bison.
- The NBA's Science & Research Committee has developed the *Bison Diseases Field Guide*; and the *Bison Field Necropsy Guide* as valuable tools to help producers address herd health issues on-site.
- Through the assistance of USDA's Risk Management Agency, the NBA has developed a Bison Producer's App that allows ranchers to capture and collect on-site information that will help them keep their herds healthy.

Our Research Priorities

Priorities for the bison research include:

Herd Health

- Continued research in *Mycoplasma bovis* in bison
- Malignant Catarrhal Fever vaccine development
- Management of internal and external parasites in bison
- Nutritional research, including:
 - rumen function/profile-microbial, enzyme efficiency;
 - vitamins, minerals, protein, energy;
 - suitability of forages i.e. summer/winter;
 - reproduction, maintenance and growth;
 - concentrate/energy types and impact on health, gain, quality, cost, and finishing by gender, age, and season via a long-term grazing study
- Development of NRC nutritional requirements for bison

Human Health Research

- Nutritional attributes of bison meat, both grain and grass-finished
- Bison meat and links/impacts for cardiovascular health
- Potential for non-allergenic attributes of bison meat

Bison Production

- Ecologically sustainable management of bison
- Beginning/limited resource farmer support
- Business/financial management
- Bison production under different finishing protocols
- Managing for and producing high-quality meat
- Bison local, regional, national, and international marketing

Bison and Ecological Health

- In North America, bison are *Nature's Original Plant-Based Protein*®. We need research documenting the role bison play in regenerating healthy ecosystems.

