



National Bison Association

8690 Wolff Court, Suite 200 Westminster, CO 80031-3646
www.BisonCentral.com Phone: 303-292-2833 Fax: 303-845-9081



Research Priorities for Bison and Bison Producers

National Bison Association Priority Issues Briefing Paper

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Background:

Bison restoration began as the animals teetered on the brink of extinction in the late 1800s, and bison business has emerged as a viable part of the agricultural economy and rural landscape over the past two decades.

Growth in commercial bison production has been driven primarily by growing demand from consumers who are embracing the great taste, nutritional attributes, and environmental benefits of sustainably and ethically raised bison. But herds are growing on tribal and public lands as well, as Native Americans establish new cultural and commercial herds, and as public lands managers provide greater opportunities for the public to enjoy bison in parks and preserves.

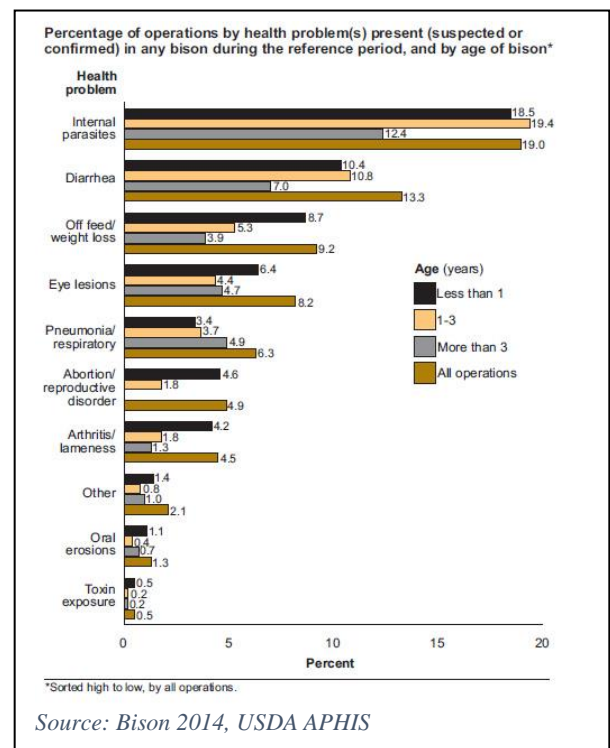
The continued growth and stability of bison producers, and bison herds, will require increased attention to a variety of research priorities.

Bison: Similar but Different from domestic Livestock

Bison are ruminant animals, physiologically like domestic cattle. However, bison retain many unique biological and sociological characteristics of wild ruminants. They exhibit excessive stress when confined, are seasonal breeders, and follow seasonal cycles for growth and metabolism. There are no NRC guidelines to help the industry as we steward the numbers of bison raised for production and conservation.

There is a great demand for information from all levels within the industry, including: producers, processors, and retailers, new and mature alike. A few research projects have provided some information on health issues, production practices, and behavioral patterns of bison herds but there is a dramatic need for additional scientific research on bison. Some of this information is published in the *Bison Producers Handbook*, 2nd Revised Edition, published by the National Bison Association (2016).

The final report of *Bison 2014*, the epidemiological survey of bison conducted by USDA's Animal and Plant Health Inspection Service (APHIS) identified some of the key areas of concern for commercial bison



producers. We have augmented and contributed to those concerns. Recently, members of the National Bison Association's Science & Research Committee met with agricultural science researchers and staff at South Dakota State University to identify specific research priorities in bison herd health.

Specific priority areas for bison include:

Herd Health

- Need for NRC Guidelines for Bison
- Malignant Catarrhal Fever vaccine development
- Continued research in *Mycoplasma bovis* in bison
- 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

Human Health Research

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

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