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Characteristics of U.S. Ranched-Bison Operations

The USDA National Animal Health Monitoring System (NAHMS) conducted its first national study of the U.S. ranched-bison industry in late 2014 and early 2015. One objective of the NAHMS Bison 2014 study was to provide a baseline description of the U.S. ranched-bison industry. This info sheet summarizes results on basic operation characteristics, including bison inventory, reasons for having bison, herd additions and removals, marketing, and plans for the herd.

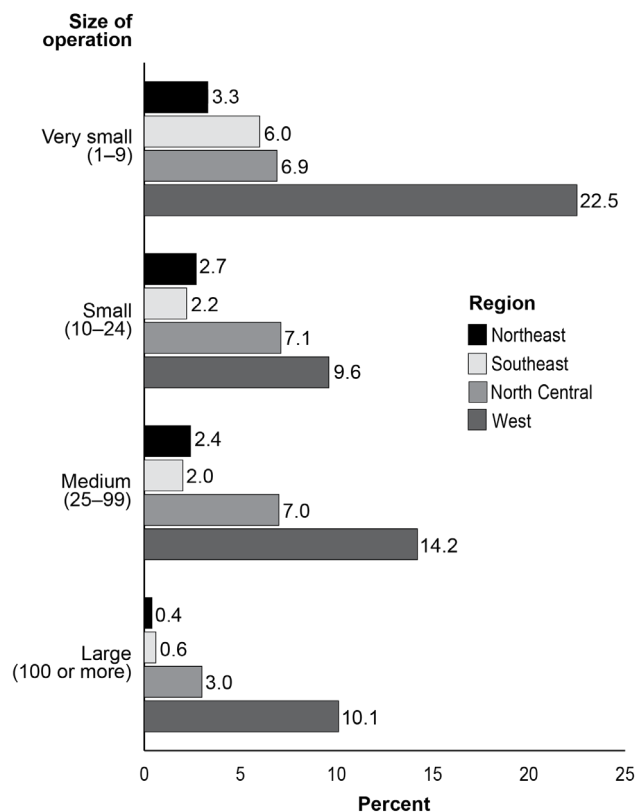
All producers who reported having bison during the National Agricultural Statistics Service (NASS) 2012 Census of Agriculture were eligible to participate in the mail-only study. In September 2014, NASS mailed the questionnaire to 2,886 operations across all 50 States, and a second survey was mailed to nonrespondents about 3 weeks later. A total of 632 recipients returned completed questionnaires and 222 recipients reported that they had no bison (29.6 percent response rate). In general, the questionnaire covered the period from July 1, 2013, through June 30, 2014.

Bison inventory

The average number of bison (as of July 1, 2014) on all responding operations was 145 bison. This number ranged from an operation average of 23 bison in the Southeast region¹ to 226 bison in the West region.

Overall, the highest percentage of operations (38.7 percent) had 1 to 9 bison, and the lowest percentage of operations (14.1 percent) had 100 or more bison. In the Northeast and North Central regions, the percentage of operations with 100 or more bison was lower than that for operations in the other size categories (figure 1). In the Southeast and West regions, the percentage of operations with 1 to 9 bison was higher than the percentages of operations in the other size categories.

Figure 1. Percentage of operations by region and by size (total number of bison on July 1, 2014)



More than 9 percent (9.3 percent) of operations had bison at more than one location from July 1, 2013, through June 30, 2014. A higher percentage of operations with 100 or more bison (33.1 percent) had bison at more than 1 location than operations with fewer than 100 bison.

Two-thirds of bison in the July 1, 2014, inventory were female (66.6 percent) and one-third were male (33.4 percent) [figure 2]. The largest single component of total inventory was females more than 3 years old (32.8 percent) and the smallest component was males more than 3 years old (3.7 percent)—both breeding-age groups. Calves under 1 year old were about one-fourth of total inventory (25.6 percent), and the male:female ratio of calves was approximately 50:50. Bison aged 1 to 3 years old were 37.9 percent of inventory.

¹ Regions:

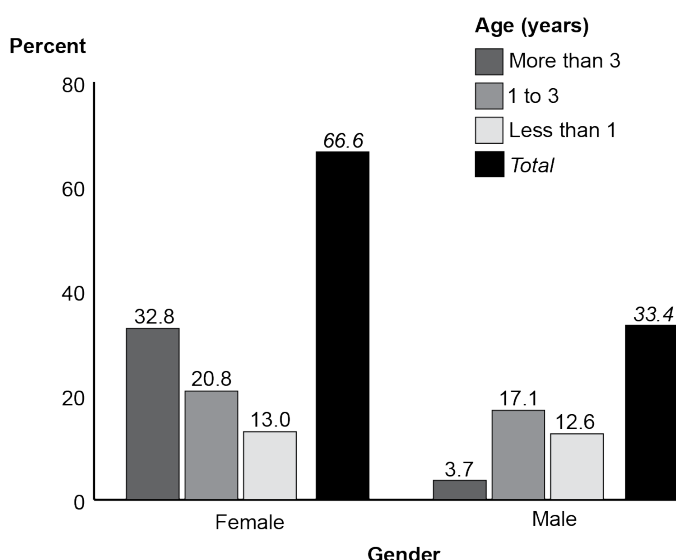
Northeast: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, West Virginia

Southeast: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia

North Central: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Wisconsin

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming

Figure 2. Percentage of July 1, 2014, bison inventory, by gender and by age of bison



Reasons for having bison

The ranched-bison industry is a multifaceted business, and many operations participate in multiple aspects of the industry. Nearly 70 percent of operations were involved in bison cow-calf production (offspring intended for meat production) and approximately one-third listed seedstock production (offspring intended for breeding purposes) or hobby/pasture pet as reasons for having bison (table 1). The next highest percentages were feedlot (15.8 percent), agritourism/ecotourism (15.7 percent), and conservation (14.4 percent).

Regionally, a higher percentage of operations in the West region (15.5 percent) kept bison on the operation for background/stocking compared with operations in the Southeast region (3.9 percent). Also, a higher percentage of operations in the North Central (23.6 percent) and West (14.5 percent) regions kept bison for feedlot than operations in the Southeast region (3.9 percent).

Table 1. Percentage of operations by all reasons bison were kept on the operation from July 1, 2013, through June 30, 2014:

| Reason | Percent |
|--|---------|
| Cow-calf production | 69.3 |
| Seedstock production | 37.2 |
| Hobby/pasture pet | 34.4 |
| Feedlot | 15.8 |
| Agritourism/ecotourism | 15.7 |
| Conservation | 14.4 |
| Preparation/sale of byproducts | 12.8 |
| Backgrounding/stocking | 12.2 |
| Game ranching/hunting on the operation | 8.9 |
| Other ² | 7.1 |

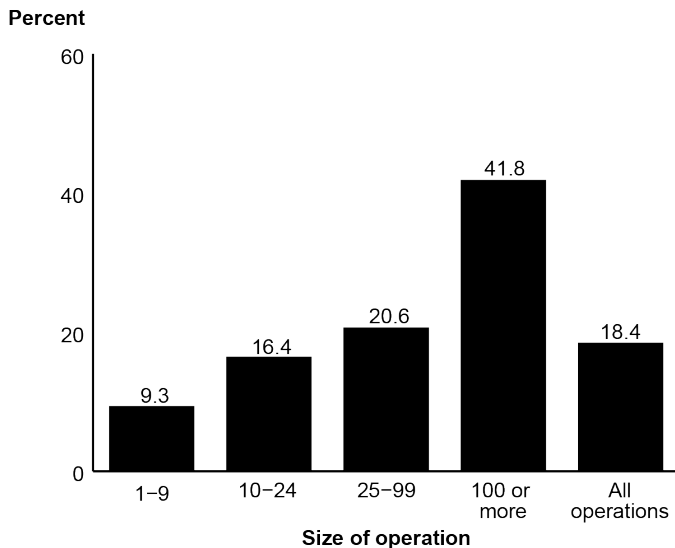
Operations also indicated the *primary* reason for having bison; 54.0 percent of operations had bison primarily for cow-calf production. Nearly one-fifth (18.6 percent) kept bison primarily as hobby/pasture pet, and 7 percent kept bison primarily for seedstock production. Between 1 and 5 percent kept bison primarily for feedlot, agritourism/ecotourism, conservation, backgrounding/stocking, game ranching/hunting on the operation, or other.

Herd additions

From July 1, 2013, through June 30, 2014, 18.4 percent of all operations added any bison to the operation's herd (figure 3). A higher percentage of operations with 100 or more bison (41.8 percent) added any bison during the year than operations in the 3 smaller size categories, and a higher percentage of operations with 25 to 99 bison (20.6 percent) added any bison than operations with 1 to 9 bison (9.3 percent). For operations that added bison to the herd during the 1-year timeframe, operations added a number of animals approximately equal to one-third (34.1 percent) of their July 1, 2014, inventory.

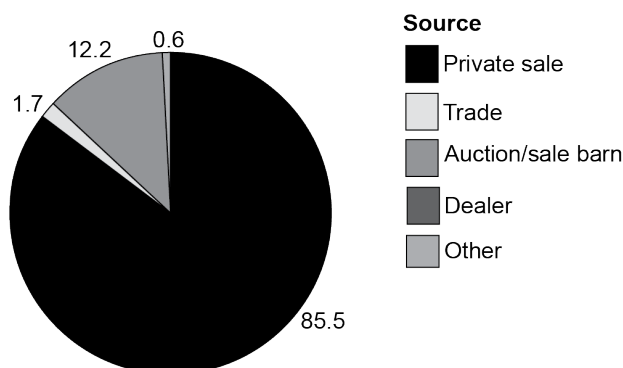
² Sixty percent of operations that selected "Other" indicated that bison were used for cutting horse training.

Figure 3. Percentage of operations that added any bison to the operation's herd from July 1, 2013, through June 30, 2014, by size of operation



For the 18.4 percent of operations that added any bison during the 1-year reference period, 69.9 percent obtained bison through private sale, 29.3 percent from auctions/sale barns, 11.4 percent through trade, 0.9 percent from dealers, and 6.5 percent from "other" sources. For all bison added to operations from July 1, 2013, through June 30, 2014, 85.5 percent were obtained through private sale and 12.2 percent came from an auction/sale barn (figure 4). More than 94 percent of bison added were 1 to 3 years old (51.1 percent) or less than 1 year old (43.2 percent). Only 5.7 percent of bison added were more than 3 years old.

Figure 4. For operations that added any bison, percentage of bison added, by source

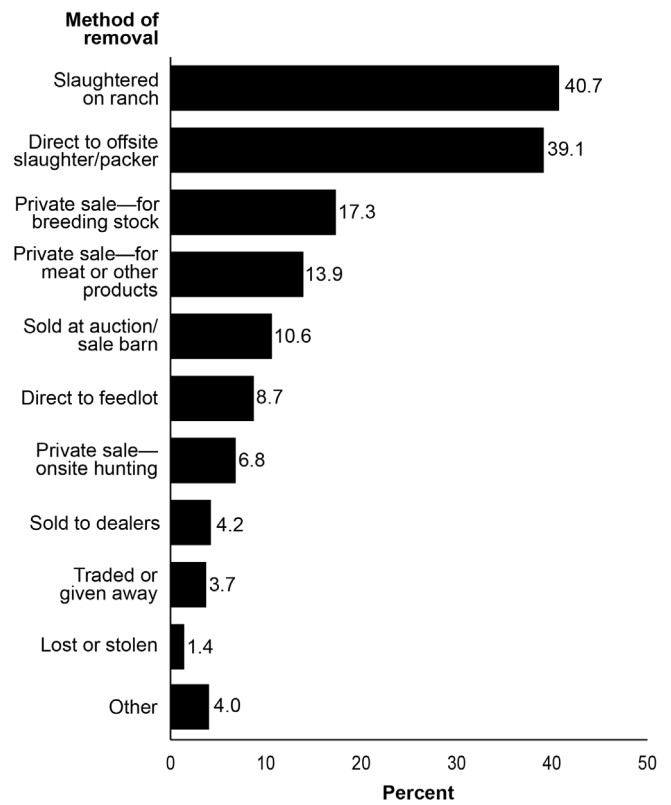


Herd removals

Bison typically leave an operation's herd by either permanent removal (generally as live bison for some type of use) or by death due to natural causes.

More than 60 percent (60.4 percent) of operations had any live bison permanently leave the operation from July 1, 2013, through June 30, 2014. The percentage of operations that had any live bison permanently leave the operation's herd generally increased as the size of the operation increased. For operations that had bison leave, approximately 40 percent had bison leave by being slaughtered on the ranch (40.7 percent) or being sent directly to offsite slaughter/packer (39.1 percent) (figure 5). More than 10 percent of operations had bison leave through private sale for breeding stock (17.3 percent of operations), private sale for meat or other products (13.9 percent), or sale at auction/sale barn (10.6 percent).

Figure 5. For the 60.4 percent of operations that had any live bison permanently leave the operation's herd (including bison slaughtered on ranch), percentage of operations by method of bison removal

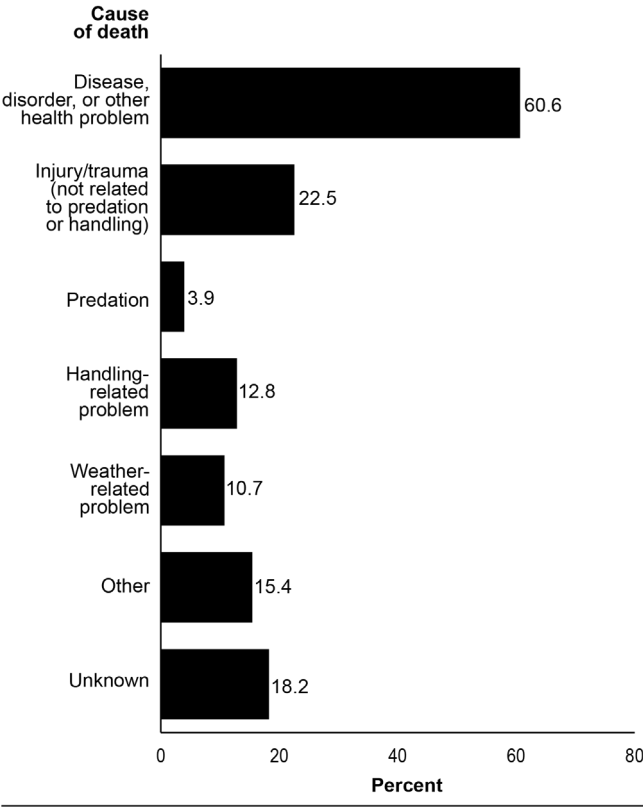


More than 40 percent (41.3 percent) of operations had any bison die (or be euthanized) because of natural causes, such as disease, injury, or weather-related problems, from July 1, 2013, through June 30, 2014. For these operations, the animals that died or were

euthanized represented 2.3 percent of the July 1, 2014, inventory.

For the 41.3 percent of operations that had any bison die or be euthanized, 60.6 percent of operations had bison deaths attributed to disease, disorder, or other health problem. About one-fifth of operations had bison die because of injury/trauma not related to predation or handling (22.5 percent) or unknown causes (18.2 percent) (figure 6).

Figure 6. For operations on which any bison died or were euthanized due to natural causes, percentage of operations by cause of death of bison

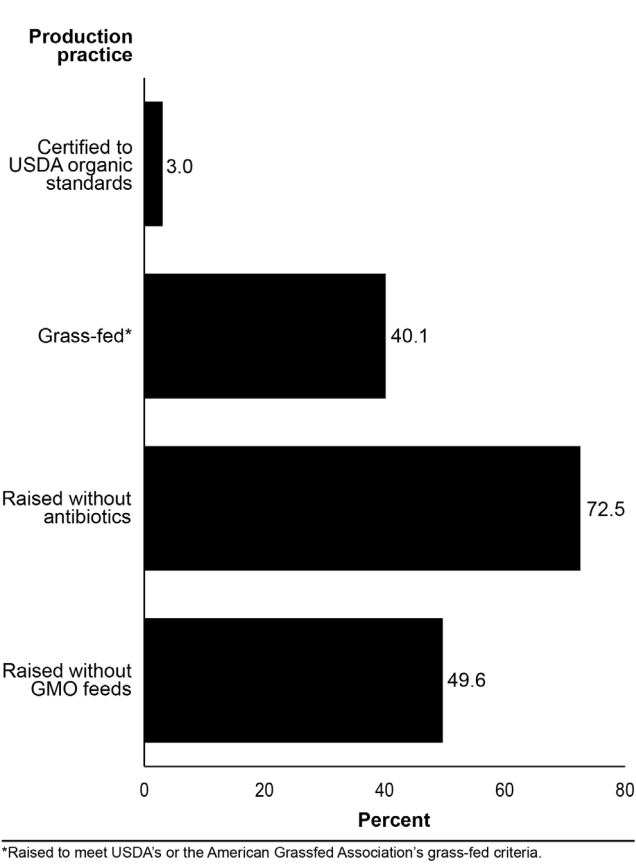


Marketing

Many consumers are becoming more interested in food-animal production practices, including what the animals eat and products used on the animals to prevent or treat disease. Some of these practices may be important aspects in marketing and labelling of bison products.

Overall, 72.5 percent of operations raised bison without the use of antibiotics (figure 7). Approximately one-half of all operations (49.6 percent) raised animals without genetically modified organism (GMO) feeds. About two-fifths of operations (40.1 percent) raised bison to meet USDA or American Grassfed Association grass-fed criteria. Only 3.0 percent of all respondents said that their bison are certified to USDA organic standards.

Figure 7. Percentage of operations by production practice

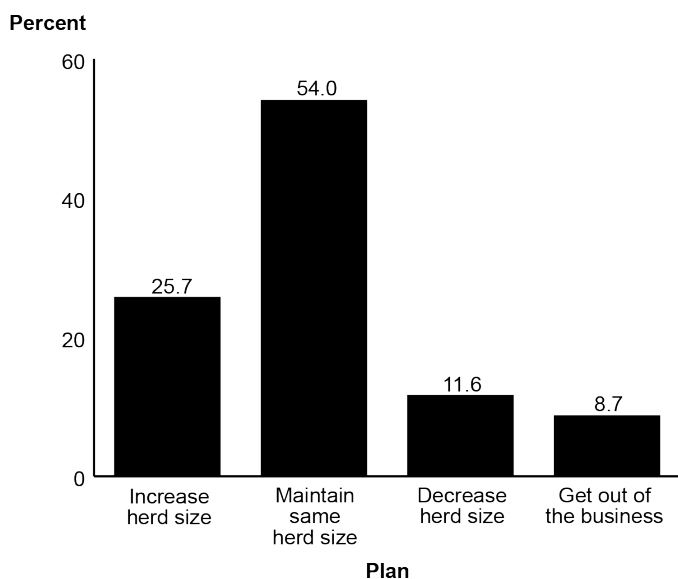


*Raised to meet USDA's or the American Grassfed Association's grass-fed criteria.

Plans for herd

Figure 8 shows producers' plans for the bison herd over the following year. More than one-half (54.0 percent) planned to maintain herd size, and 25.7 percent planned to increase herd size. In addition, 11.6 percent of operations and 8.7 percent of operations planned to decrease herd size or exit the business, respectively.

Figure 8. Percentage of operations by plan for the bison herd in the next year



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Visit the NAHMS Web site at <http://www.aphis.usda.gov/nahms> for a complete copy of Bison 2014: Health and Management Practices on U.S. Ranches-Bison Operations, 2014.

References

The Bison Producers' Handbook: a complete guide to production and marketing. National Bison Association. 2nd Ed. 2015.