

Cafeteria Bites

Bison



Did You Know

- Bison are the largest land mammals in North America. Male bison (called bulls) weigh up to 2,000 pounds and stand 6 feet tall, while females (called cows) weigh up to 1,000 pounds and reach a height of 4-5 feet. Bison calves weigh 30-70 pounds at birth.
- Bison calves tend to be born from late March through May and are orange-red in color. After a few months, their hair starts to change to dark brown and their characteristic shoulder hump and horns begin to grow.
- Though large, bison can run up to 35 miles per hour. They can spin around quickly, jump high fences, and are strong swimmers. Due to their powerful head and horns, bison are incredibly dangerous to anyone they consider to be a threat.



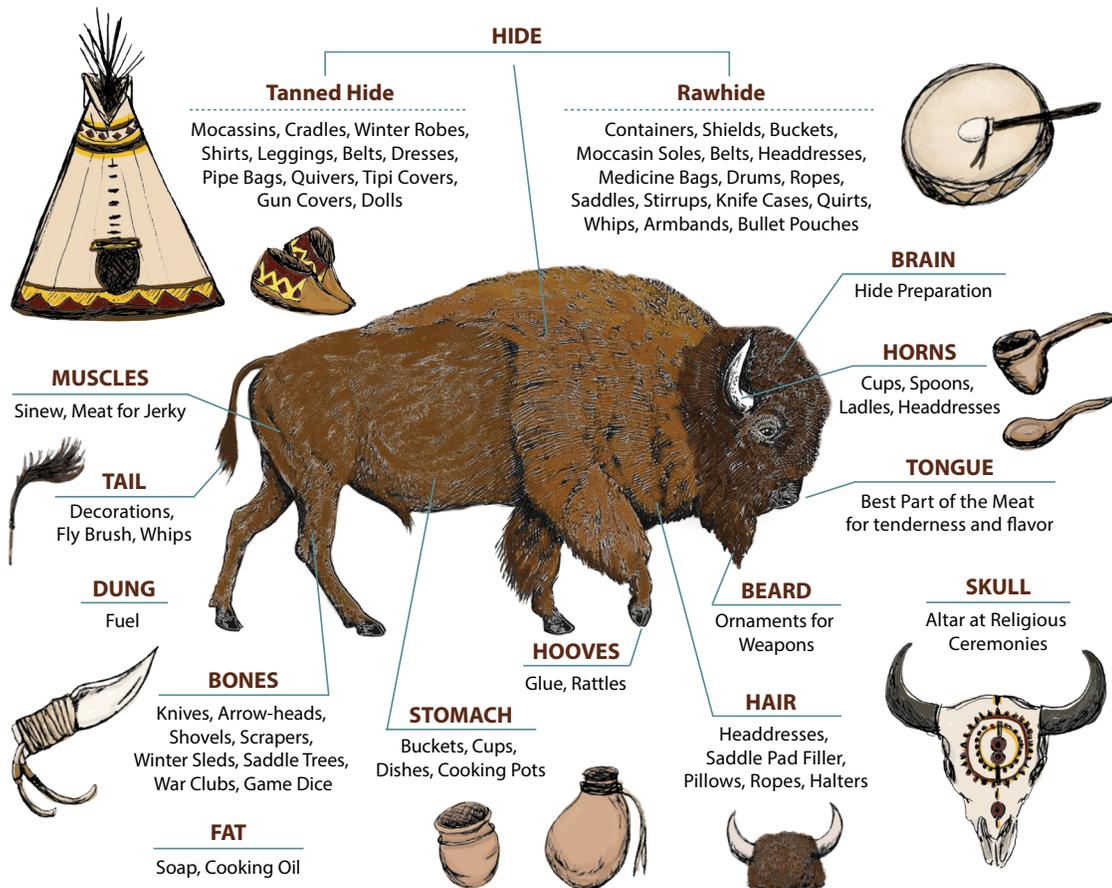
- Bison have been a critical species to tribes in Montana and the region for thousands of years, providing them with food, clothing, fuel, tools, shelter, and spiritual value. Every reservation in Montana has reestablished bison herds on tribal lands.
- Because of the way bison naturally roam on the prairies, they help aerate and fertilize the soil, spread seeds of important plants, and even help the plants germinate.
- In 2014, the Buffalo Treaty was signed between 13 different Indigenous nations in Canada and the United States. This treaty recognizes these nations as safe places for bison. As of 2021, 31 nations have signed the treaty. More information can be found at buffalotreaty.com.

What's in a name?

The American bison goes by many names, including the colloquial term buffalo. These materials use bison and buffalo interchangeably. The scientific name is *Bison bison*. Indigenous people from this area have used other names for these massive creatures long before any of these scientific terms were used:

- Blackfeet (Niitsitapi) – **innii**
- Assiniboine (Nakoda) – **tatanga**
- Sioux (Dakota) – **tatanka**
- Salish (Sélissh) – **q'weyq'way**
- Crow (Apsaalooke) – **bishée**
- Cheyenne (Tsetséheséstâhase) – **hotoa'e**
- Gros Ventre (A'aninin) – **eneečee**
- Ojibwe (Anishinabe) – **bizhiki**
- Kootenai (Ktunaxa) – **Kamququkuʔ ʔiyamu**

Watch the Montana Harvest of the Month bison video to hear pronunciations of buffalo in several of these languages.



Bison Lentil Chili

HACCP Process: _____ 1 – No Cook 2 – Cook & Same Day Serve _____ 3 – Cook, Cool, Reheat, Serve _____ 4 – SOP Controlled

Ingredients	25 Servings	50 Servings	Directions
Olive oil	2 1/2 Tbsp	1/3 cup	<ol style="list-style-type: none"> Heat oil in large pot or tilt skillet. Add onions, peppers, and garlic and sauté until soft. Add bison and cook until browned, breaking up chunks. Stir in spices and mix until bison is fully cooked and fully coated in spices. CCP: until internal temp. reaches 165°F or higher for 15 seconds. Add tomato paste, diced tomatoes, broth, beans, lentils, and lime juice. Bring to a boil, then lower heat and allow to simmer, stirring occasionally, until chili thickens, and lentils are cooked through (about 35 minutes). Add more water if too thick. Add chopped cilantro before serving. CCP: Hold hot for service at 140°F or higher.
Yellow onion	6 1/4 cups	12 1/2 cups	
Green pepper	2 1/2 cups	1 qt 1 cup	
Garlic	1/2 cup	3/4 cup	
Ground bison	3 lbs 2 oz	6 lbs 4 oz	
Lentils, <i>dried, Spanish brown lentil or similar</i>	2 1/2 cups	1 qt 1 cup	
Cumin	3 Tbsp 1/2 tsp	1/2 cup	
Chili powder	1/4 cup	2/3 cup	
Smoked paprika	2 Tbsp 2 tsp	1/4 cup 1 Tbsp	
Tomato paste, <i>low sodium</i>	1 1/4 cups	2 1/2 cups	
Diced tomatoes, <i>no salt added</i>	7 2/3 cups	1 #10 can + 3 cups	
Beef broth, <i>reduced sodium</i>	1 qt 1 cup	2 qt 2 cups	
Kidney beans, <i>low sodium, drained and rinsed</i>	1 qt 2 cups	1 #10 can + 3 cups	
Pinto beans, <i>low sodium, drained and rinsed</i>	1 qt 2 cups	1 #10 can + 3 cups	
Lime juice	1 Tbsp 1 tsp	2 Tbsp 2 tsp	
Cilantro	2/3 cup	1 1/4 cups	

Serving Size: 1 cup | **Yield:** 25 or 50 servings

Oven Temperature & Baking Time	Temperature	Minutes
Conventional		
Convection		
Pan Size		

Nutrition Analysis	
Calories (cal)	371.54
Protein (g)	23.64
Carbohydrate (g)	43.58
Total Fat (g)	11.67
Saturated Fat (g)	4.27
Calories from Total Fat (%)	104.85
Vitamin A (IU)	1017.19
Vitamin C (mg)	20.03
Iron (mg)	5.72
Calcium (mg)	99.3
Sodium (mg)	355.96
Dietary Fiber (g)	17.1
Cholesterol (mg)	39.69

Meal Component Fulfillment (Based on Serving Size)

1 Serving Provides:
 1.5 oz meat (bison), 1/2 cup legume (if choose to count legume as meat alternate = 2 oz of meat alternate), 1/3 cup red/orange vegetable, 1/3 cup other vegetable

Notes

Source: Big Sky School District

Butternut Bison Lasagna

HACCP Process: _____ 1 – No Cook 2 – Cook & Same Day Serve _____ 3 – Cook, Cool, Reheat, Serve _____ 4 – SOP Controlled

Ingredients	25 Servings	50 Servings	Directions
Ground bison	4 lbs	8 lbs 5 oz	<ol style="list-style-type: none"> Preheat oven to 400°F. Add bison to a large pan, steam jacketed pot or tilt skillet. Cook on med-high heat until browned, approximately 15-20 minutes. Add the tomato sauce, onion, garlic, basil, oregano, salt, and pepper. Turn heat down to low and let simmer for about 15 minutes. While sauce is cooking, prepare butternut squash. Sliced butternut squash can be substituted with pre-cubed squash. Squash may be pre-steamed to al dente (approx. 3-5 minutes in an industrial steamer) to expedite overall cooking time. Assemble the lasagna in a full-sized stainless-steel hotel food pan (8.3qts) (use 2 pans for 50 servings). Add oil to the bottom of the pan. Alternate layers of butternut squash slices/cubes and the meat sauce. Continue alternating the layers until all the ingredients are used, finishing with the meat sauce on top. *Optional: top with shredded mozzarella cheese. Cover lasagna with foil. Bake for approximately 50 minutes, or until squash is soft. Remove foil and cook for another 5-10 minutes until cheese is golden (if using cheese). Cut lasagna in fourths the long way and then into sixths on the short axis (cut in half, then cut each half into thirds) to achieve about 24 servings.
Tomato sauce, <i>low sodium</i>	7 3/4 cups	3 qt 3 1/2 cups	
Onion or wild onion, <i>minced</i>	10 oz	1 lb 4 oz	
Garlic powder	1 Tbsp 1 tsp	2 Tbsp 2 tsp	
Dried basil	1 Tbsp 1 tsp	2 Tbsp 2 tsp	
Dried oregano	1 Tbsp 1 tsp	2 Tbsp 2 tsp	
Salt	2 tsp	1 Tbsp 1 tsp	
Ground black pepper	2 tsp	1 Tbsp 1 tsp	
Olive oil	1 Tbsp 1 tsp	2 Tbsp 2 tsp	
Butternut squash, <i>peeled and cut into 1/2 in slices</i>	12 1/2 lbs (4 large squash)	25 lbs (8 large squash)	
Mozzarella cheese, <i>shredded (optional)</i>	3 cups	1 qt 2 cups	

Serving Size: 1 1/3 cups | **Yield:** 25 or 50 servings

Oven Temperature & Baking Time	Temperature	Minutes
Conventional	400°F	50 + 5
Convection	375°F	50 + 5
Pan Size	Full-sized hotel pan (8.3 qts)	

Nutrition Analysis	
Calories (cal)	198.09
Protein (g)	14.83
Carbohydrate (g)	6.85
Total Fat (g)	12.56
Saturated Fat (g)	5.07
Calories from Total Fat (%)	112.86
Vitamin A (IU)	1300.35
Vitamin C (mg)	8.08
Iron (mg)	3.01
Calcium (mg)	34.49
Sodium (mg)	243.66
Dietary Fiber (g)	1.75
Cholesterol (mg)	50.8

Meal Component Fulfillment *(Based on Serving Size)*
 1 Serving Provides:
 2 oz meat per serving (bison), 1 cup red/orange vegetable

Notes

Source: Adapted from IndigiKitchen (<https://www.indigikitchen.com/>)

Selection

While there are eight primal cuts of bison meat—chuck, brisket, rib, short plate, short loin, flank, sirloin, and round—bison is most commonly available in burger form due to the lower fat content than beef. While bison lacks marbling, it is possible to serve tender, juicy cuts of meat with the proper preparation.

Montana schools can purchase bison that has been slaughtered and processed in either an official Montana Department of Livestock-inspected (state-inspected) or a USDA-inspected (federally-inspected) facility. For a list of state-inspected facilities visit the Montana Department of Livestock's website (<http://liv.mt.gov/MI/state-inspected-plants.mcp.x>) and the USDA's website (www.fsis.usda.gov/wps/portal/fsis/topics/inspection/mpi-directory) for federally-inspected facilities.

Uninspected game meat is not allowed to be served in FNS Child Nutrition Programs except when facilities, including schools, and sites operated by Native American tribes and tribal organizations that primarily serve Native Americans accept donations of game meat. In this specific case, the program operator takes on a number of responsibilities to ensure that the food is stored and served safely and that its origins and the processes followed are well documented. See sources for more details.

Storage

Keep buffalo meat refrigerated below 40°F or frozen at or below 0°F. Ground bison can be refrigerated for one to two days or frozen for three to four months. Steaks and roasts can be refrigerated for three to five days or frozen for six to twelve months.

Cooking

Generally, cooking time is dependent on type of cut, size of meat, and desired doneness. For a complete guide to cooking bison, see *How to Cook with Bison* (www.bisoncentral.com/how-to-cook-bison).

Broil. Preheat oven for 10 minutes. Add seasonings, if desired. Move your broiler rack away from the heat about a notch lower than where you normally broil beef steaks. Expect a buffalo steak to cook one-third faster than a beef steak. Bison steaks are best when cooked medium rare to medium to maintain the moisture and flavor of the meat. It is not recommended to cook buffalo meat past medium.



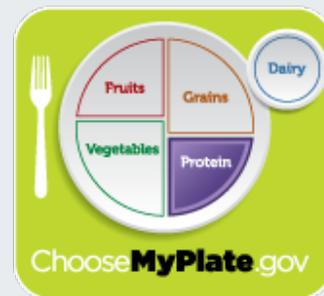
Brown. Brown and cook ground buffalo meat in a steam jacketed kettle or with a tilt skillet until internal temperature reaches 160°F. Prepare sauces, chili, and other items containing ground bison in a steam jacketed kettle.

Dry. Cut semi-frozen roast into ¼ inch strips, season, then dry at 150°F - 170°F in an oven for 3-4 hours or in a dehydrator at 145°F for 6-8 hours or until jerky is dry but flexible.

Cook Safely. Cook to an internal temperature of 145°F for steaks and roasts; 160°F for ground bison. Questions? Visit www.foodsafety.gov and click on Keep Food Safe.

Nutrition Information

According to the USDA National Nutrient Database, bison is a rich source of protein (22 g per serving), which is important for building and repairing tissues, as well as making hormones and enzymes. The meat also contains a preventative ratio of omega-6 to omega-3 fatty acids, at 4:1 (the typical western diet is around 15:1). These fatty acids are considered essential because we cannot make them naturally in our bodies. Omega-3 fatty acids are especially important for preventing heart disease and reducing inflammation. Additionally, bison is high in vitamin B12, a water-soluble vitamin that is important in building red blood cells, supporting bone health, and balancing mood. A single serving can satisfy one fifth of daily iron needs for most individuals (about 3.5mg per serving), an important mineral that promotes growth and development by way of proteins that are made by the body to deliver oxygen to our muscles.



For more information on the nutrition information of this delicious meat, visit <https://greatrangebison.com/bison-nutrition-information/>.

Dig Deeper

For sources and photo credits along with more recipes, lessons, quick activities, resources, and guides, visit: mtharvestofthemonth.org.

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The Montana Harvest of the Month program showcases Montana grown foods in Montana communities. This program is a collaboration between Montana Farm to School, Office of Public Instruction, Montana Team Nutrition Program, National Center for Appropriate Technology, Montana State University Extension, Gallatin Valley Farm to School, FoodCorps Montana, Montana Organic Association, and Montana Department of Agriculture. More information and resources are available at: <https://mtharvestofthemonth.org>.

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