

GRASS FINISHING BISON

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Introduction

Feeding practices are among the many management decisions that need to be made when operating a bison farm. There are a number of different options that should be looked at closely before choosing a particular feeding practice. One major farm management decision is the proportion of grass vs. grain when it comes to finishing rations. Understanding all the background information before deciding where you fit on the spectrum will allow you to proactively set up or change your operation to fit the management style in which you will likely be successful.

Fundamentals of Grass Finishing: Aligning Values with Management Decisions

The main concept behind grass finishing is raising animals naturally and producing lean meat. This affects both management practices and marketing strategies, so it is important to ensure your value system and skills are aligned with both the management practices and marketing strategies that go along with grass finishing.

Producers of grass finished meat often refer to themselves as "grass farmers." That is because grass finishing relies on capturing energy from the sun, converting it into grass, which then produces meat for human consumption. When

properly managed, this system maintains itself and can naturally dispose of all by products, minimizing negative environmental impact. Energy input for production is primarily natural, rather than relying on machines and fossil fuels that damage the environment. This is referred to as sustainable agriculture which can be practiced for eternity, in theory, because finite fossil fuels are not required for the system to function. This system aligns with current trends which are focusing on environmentally friendly, sustainable agriculture.

Grass finishing can be marketed as a less intrusive form of agriculture that keeps the animals within their natural diets and rates of weight gain. This pre-

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serves the relatively self-sustaining nature and lean carcass qualities of the traditional bison. Many grass finishers are low input managers; they believe that the less you interfere with the animals, the better.

Grass finishing is less labour intensive at the operational level than grain finishing, but may involve more work on the marketing end. Many producers who are successful grass finishers have found success because they feel good about the whole process of how they raise their animals. In turn, their customers value those qualities. In addition, the concept of the local family farm is making a comeback as more media attention focuses on the shortfalls of factory farming. Some consumers place great value in the trust built between producer and consumer when visiting a local farm and seeing both the producer and animals on the farm.

Which route you choose is personal and specific to you, but making an educated and conscious decision to choose

one route or the other is important. It is not a fast or easy process to switch between grass and grain finishing.

Nutritional Factors Specific to Grass Finishing

Beyond the basic nutritional requirements of bison outlined in previous chapters, there are some factors that are specific to grass finishing. These basic principles are very important to the health and reproduction of your entire herd.

First, ensure that your bison have access to the right amounts of high quality forage. In the summer, the animals should be on a rotational grazing system (which is explained in the next section) to make sure that the grass is grazed when it is at the peak nutritional value.

There are a few ways you can determine how many head of bison can be pastured in each area. One is to find out the carrying capacity for beef for your area through government agricultural extension services, then experiment and

ask for advice from established bison producers in your area. Another way is to use a calculation of the forage available specifically in your pastures and how many head that will feed. One resource for this is a document called *Improving Grazing Efficiency with Management* by Dr. Eric M. Mousel. This approach measures the carrying capacity specifically for your pastures, then the stocking rate is determined, as well as your rotation plan. This document is available through your national association.

In the winter, high quality hay will allow animals to maintain adequate weight through the cold season. Do not overfeed pregnant cows through the winter, as the unborn calves will gain too much weight, resulting in calving problems. As discussed in Chapter 5, pregnant bison cows will lose weight in the winter as they incubate a healthy calf. A rate of 10 percent weight loss through the winter is normal and healthy to prepare for calving.

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Adequate mineral supplementation is the next consideration. Grains contain vitamins and minerals that can supplement the grass finished diet that lacks these grains. Many bison producers feed a broad spectrum mineral supplement or a mineral supplement that is specific to their region's soil and feed quality. Loose mineral that can be fed in a bin with low levels of sodium is optimal. If a mineral supplement is not offered, the result could be low conception rates and/or weak calves that cannot survive.

Soil and feed testing should be done annually or at least every few years. These tests reveal the nutritional quality of the grass, density and diversity, which are region specific. These tests are a minimal cost when considering the health of your entire herd. Conception rates are closely related to nutrition, so this can have a large impact on your bottom line. Soil and feed testing could be your way of improving conception to close to 100 percent.

Talking to experienced bison producers in your area or accessing government agricultural extension services for existing knowledge and resources are very good ways to get region-specific nutritional advice. Knowing the capabilities of your pasture and the protein content of the grasses will help you determine the herd size. Still remember to be flexible based on what you find the ranch capability. Choosing an average growth spot in your pasture will give you a good reference point for these tests.

Rotational Grazing

The most important thing when managing a grass finishing operation is to monitor your pastures and animals to maximize the benefits of the land/ animal relationship. Although bison are considered to be a more self-maintaining livestock than some others, careful consideration is still required when growing animals for meat. Survival is different than growth, and survival alone will not allow you to compete in the meat market.

Stay in tune with quality, trends and forage reserves to find the optimal animal density in your pastures. Walk through your pastures, take pictures and make notes for future reference. Understanding the relationship between your pasture conditions and resulting animal body conditions (which can only be done by monitoring both closely) will allow you to fine tune your operation for maximum profitability.

There are many pasture rotation options, ranging from daily rotation to every few months. For the more frequent rotation methods, smaller pastures are used and the animals are trained to move often. This method requires a routine where the bison are moving to a pasture with more grass and adequate mineral supplementation and water. This increases their desire to move.

During the calving season, you will want to take special care to make sure newborn calves are not left behind if rotating frequently. Opening the gate

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between pastures and giving the bison a few days to move reduces stress and gives new calves and their mothers time to move when they are ready. Conduct a sweep of the pasture before closing the gate to make sure the entire herd has moved. For rotation methods as frequent as daily rotation, cost of fencing may be a barrier for some producers. This works best with a small, quiet herd.

The benefit to rotating pastures quite frequently is that it most closely aligns with how the animals live in the wild. Free roaming bison graze grasses quickly and thoroughly, just once in between being left to replenish. The pasture is trampled by the animals enough for aeration but not enough to severely compact the soil beyond optimal growth conditions. Fecal matter is spread out and left to dry between rotations, which greatly reduces parasite infestation. Leaving pastures void for 4-6 weeks gives the manure time to thoroughly dry out and kill off the parasites. Performing fecal tests can also show you

if your pasture rotation method is avoiding this danger. In addition, the proper rotation allows dung beetles to perform their valuable role of recycling nutrients into the soil. You may choose to manually control weeds so that the grasses can take over.

You want to rotate your animals faster when the grass grows faster. One method is to rest the pasture for twice the time it was grazed. Rotating your animals often also preserves the grasses in preparation for the following season. Different grasses grow in different parts of the season; cool season grasses grow in the early spring and warm season grasses grow in the early summer (exact times are seasonally dependent). You want to make sure not to graze either of these seasonal grasses too hard. Leave ~40 percent of the cool season grasses in early spring to give enough feed through the late summer and fall. Continuing to rotate quickly through the summer when warm grasses emerge leaves enough feed to last

through the winter. Each season of growth is managed in preparation for the next; make sure to pay careful attention to this.

Some bison producers let the animals do the management themselves. Rather than dictating pasture rotation times, the gates between 3-4 pastures are opened up and the animals are left to rotate themselves and use their own instincts. This management technique requires keeping records of where the animals have been. Keep track of the grasses, the herd and the fences. Hay is put out in the early spring until the animals stop eating it. In the fall, hay is put out early and the animals will begin eating it when the like. This lets the instincts of the animals dictate what they need.

Many bison producers finish their bison on premium pasture for the last 60-90 days prior to slaughter. This increases carcass weight and profitability for the finished animals going to slaughter.



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When planning for winter grazing, you want to make sure the grass is left as tall as possible, but is still in the vegetative stage, when it goes into dormancy.

The main objective when choosing a pasture rotation method is to keep the animals on fresh, nutrient dense pasture and optimize the land/ animal interaction.

Seasonal Variations and Grass/ Forage Alternatives

The economics of grass finishing are

closely linked with climate and the amount and quality of forage naturally produced on the pastures. Some adjustments in certain regions will compensate for shortcomings in the pasture quality during parts of the season. Feeding length in the winter varies depending on the climate that particular year. Some climates allow for year-

round grazing. This makes preparation for winter a lot less cumbersome as long as moisture levels are adequate. Some planning can be done to have adequate forage under the snow for winter grazing. In regions where a longer winter season persists, forage must be fed through the coldest months of the winter.

When planning for winter grazing, you want to make sure the grass is left as tall as possible, but is still in the vegetative stage, when it goes into dormancy. The vegetative stage is when the leaves and stalks are still growing but the grass has not yet gone to seed. Managing your pasture rotations through the summer is an important factor in preparing for winter grazing. Continual and consistent rotations will keep the grass in vegetative stage into the late fall for optimal winter grazing conditions. The animals should be rotated less frequently in the winter, to allow them to thoroughly graze the forage under the snow.

When feeding winter forage, rolling hay bales out over the snow offers the benefits of naturally re-seeding the area, which stimulates healthy pastures in preparation for the next growing season. Roll the bales out in different areas in the pasture to spread out manure to fertilize the grass that will come in the spring. This also reduces pushing and shoving, allowing all animals in the herd access to the feed. Some producers feed a forage supplement during the winter to maintain adequate body weight on the animals.

Planning and Making Timely Management Decisions

Some factors specific to a grass finished bison operation may present challenges. Be aware of these challenges and plan your strategy to overcome them. Do this before making the decision to grass finish your animals. You must make a conscious decision whether you plan to grass finish or grain finish and not attempt to switch between the two practices. It takes two years between starting as a grass finisher and seeing

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5 NOVEMBER, 2009	CATTLE SALE	8:30 AM
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20 NOVEMBER, 2009	EVENING HORSE SALE	6:00 PM
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10 DECEMBER, 2009	REGULAR CATTLE SALE	8:30 AM
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your initial profit from the new operational practice. It takes longer to change from a grain finishing operation to a grass finishing operation than the opposite. Thus, this transition must be thoroughly planned and research must be done prior to making a long-term change such as this one to your operation.

The initial challenge when running a grass finishing operation is the requirement of a large land base. Existing producers sometimes lack access to this and new producers may not be able to afford this investment.

Another challenge is that growing season length varies in each region and also varies from season to season. Your herd size will need to be tailored to your land availability and climate track record. Then you will need to continually adjust the stocking rate based on seasonal growing conditions. You must cull animals early when hard times come. This is the key to maintaining the condition of animals you have chosen to keep in your herd.

Region/ feed quality relationship is more important for grass finishing than grain because you are depending on local weather and environment conditions. Grains are more easily and routinely transported to the animals than forages. In times of drought or exceptionally long cold winters, it is also more difficult to meet caloric requirements with forage than grain, so you need to consider this.

Grass fed animals take longer to finish and it is more difficult to control the timing of the finish. The overall cost of producing animals of comparable weight is higher when compared to grain finished bison. This factor requires that you be able to attain a premium price when marketing the meat. Grain finished animals often go to slaughter at 18 months, while grass finished animals are ready closer to 26 months. This may require you to winter them for an extra season.

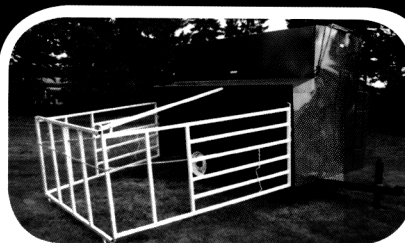
Resulting fall weights of animals can be inconsistent in comparison to grain finished animals. This is because there are more uncontrollable factors when grass finishing due to climate effects on pastures.

Good genetics are critical for a successful grass finishing program. Because there is less manipulation of weight in short periods of time, you cannot quickly change undesirable carcass features.

A specific marketing plan must be decided on early. There are specific characteristics of grass finished bison that draw a premium, but the meat must be marketed properly to the right group of people that see value in those charac-

teristics (a niche market). Because many marketers who sell grain finished animals require consistency in product, you will not be compensated at a premium from these marketers and will need to have your own marketing plan in place. The difference between success and failure in your operation could be whether or not you set up a marketing plan and establish a customer base early, long before the animals reach prime age for meat or breeding stock. 

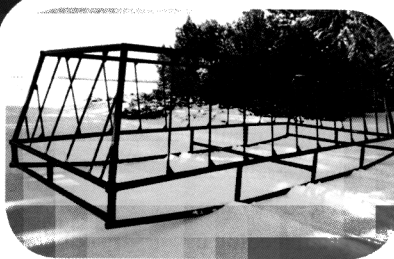
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