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USING NATURE'S EFFICIENCY IN GRAZING ANIMALS FOR 21ST CENTURY PRODUCTION

Bob, Susan and Scott Jackson of Tall Grass Bison (TGB) near Promise City, Iowa, manage more than 400 grassfed bison on 1,000 acres. As author Bob Jackson explains, the herds are managed in accordance with natural family order, a truly unique approach which he believes can be applied to all herding animals.

Abraham Lincoln once famously said that “Every blade of grass is a study, and to produce two, where there once was but one, is both a profit and a pleasure.”

And so it is at Tall Grass Bison. We manage our bison in socially structured extended family groups which are so important to bison health and well-being. Our farm is a study in progress: we never stress the herd by breaking up families, nor ship them to a sale barn or packing plant. We never treat the animals with hormones or antibiotics, nor feed grain. We believe this approach—the harmony of nature’s animals and land—is not seen anywhere outside of Yellowstone National Park.

Natural Order

Starting with three bison calves in 1976, we now maintain four to five extended families on converted crop ground and native oak savanna prairie. By managing herds for social order, we can obtain the unparalleled efficiency of nature and highest ethical animal care standards—all while maintaining a high level of ecological sustainability. And we believe it is possible to apply the principles of extended families and social order management to any domesticated grazing herd or flock animal.

Our beginnings at TGB started with growing up on a diversified Iowa farm, fortified with fish and wildlife biology degrees from Iowa State and Cornell University. College drilled into us that nature is most efficient. Yet modern agricultural practices said this wasn't



Bob Jackson

Up close and personal: Within this family group are three mature bulls (with larger heads and thicker horns). This doesn't happen with dysfunctional herd animals.

so. Where was the compatibility? It took a career as a seasonal back country ranger in Yellowstone, for my part, to find solutions. For 30 years, I patrolled 1,200 square miles on horse, sometimes staying in for five months a year. While searching for poachers, this gave me the best possible opportunity to study wild bison and elk. It didn't take long to see that these herds had a complex social infrastructure (families) only recognized before with elephants.

Observing Nature

Combining these observations with an interest in indigenous people, I soon realized that the organization of hunter-gatherer tribes and herd animals and flocks were the same. How to manage and harvest herding animals became a lot easier to understand. At TGB we see our animals as owning the corporation, not us. It is the extended family that

produces the product in the form of spin-off “satellite families” which we then harvest as an entire unit. Our job is to make sure we don't screw up and make the core families dysfunctional. Thus, our bison do not have the chronic stress and anxiety associated with intensively managed herd animals.

So what do social order herds look like? Nature's buffalo or cattle herds would consist of matriarchal core families of 60-70 animals (25-35 on arid lands) with great-great-grandmothers down to dependent offspring. Spin-off satellite herds start with 20-25 animals. Bull groups consist of teenage (3-5 year olds) animals, active breeder age (6-8 year olds) of up to 15-20 animals and, finally, mentor grandfathers in smaller groups of 3-5 in number. Thus, nature's herds consist of maybe two-thirds matriarchal and one-third males—like ours.

Around 300 animals seems to be the magical number for interactive recognition and association. It is the same for elephants, primates and elk. Beyond this number, the herd will split into territories, each protecting their turf from other herds. Although recognition and support continues between distantly related groups, the relationship becomes more about common cause, trust and familiarity rather than emotional attachment.

The Advantages?

In modern husbandry a dry cow is considered a burden to the rancher's bottom line and is slaughtered after pregnancy checking. In social structured herds, however, a dry cow becomes the babysitter for other calves, so mother can forage better. She gathers up all the stragglers when the main herd goes to pastures across the road. There is no panic when

mothers see their calves are not with the herd. They can watch over older dependents while the babysitter (who may be the grandma) does a quick survey to see who is missing, walks back, and returns later with the missing youngsters.

As for the males, we used to park our John Deere 3020 in front of the field gates when it was moving time to keep the crunch of the herd from breaking through. After 10-12 years, the older bulls have assumed herd discipline. Now, one or two walk to the front, turn sideways, and the rest of the herd stays back. Even after the gates are opened there is no movement until those bulls turn parallel to the lane. Then everyone rushes past them to get to new grass on the other side of the road. These non-breeding bulls and old cows are therefore worth a lot in terms of overall herd performance.

Grazing

Susan and I are part of Utah State University's Behavioral Education for Human, Animal, Vegetation, & Ecosystem Management (BEHAVE) initiative. Members discuss such topics as "eating the best and leaving the rest," riparian overgrazing problems, and fencing needs for rotational grazing. But with social order herds, solutions happen naturally.

Because grazing families stay close together, we end up with multiple families practicing management intensive grazing (MIG) without fences at different locations in the same pasture. With families there are two types of grazing: *en masse* movement and static. With *en masse* grazing, yearlings and two-year-old dependents lead the herd, staying just in front of their older relatives. This means they eat the most succulent forage (eliminating conventional creep feeding) and keep the entire herd moving forward for more uniform grazing across the landscape. Add in nature's usual male component within the herd and you now have a group which utilizes coarse vegetation, resulting in new growth for females and dependents without the cost of brushing pastures.

During times of static grazing the young learn what to eat from their elders. With most native forbs (and weeds) that means not eating from the top down, but rather selecting out high nutrition parts of the plant at appropriate times of the year. Without this training, herbivores are relegated to a nutrient-deficient "grassivore" existence.

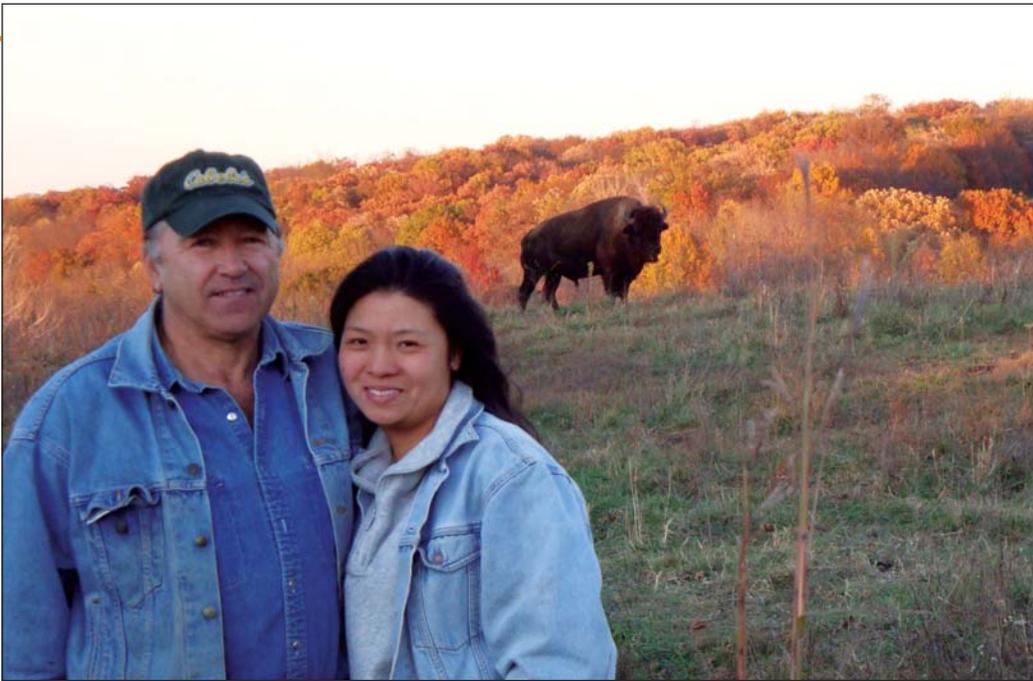
Herd Development

It takes 12-15 years to establish a basic functional social order herd in



Bob Jackson

Natural order: Two related but separate family groups at water; the first main group to the right and a smaller group to the left (on the hill).



Bob and Susan of Tall Grass Bison.

cattle or buffalo (less time with pigs, goats and sheep). This may seem like a long time but it is no different than the time required for a purebred beef producer to establish his or her own line or distinctive herd identity.

In social order herds, the cows of each functional family pick the males to mate with. Thus, grandma, mother and daughter can have offspring from the same male without inbreeding. The younger, unrelated bull who always follows this older male mentor around will breed with the younger females after the old guy is exhausted from mating with the older cows. With separate family identity, herds with multiple families can therefore offer a closed, disease-free option for producers. Finally, only in extended families does one have a situation where every animal in this family can pass on genes without necessarily having offspring. I suspect farmers reading this article can figure this one out better than most of the animal scientists we present this concept to!

The Final Product

We field slaughter all members of a family, leaving other families structurally intact. This means

harvesting every animal in a matriarchal family—from calves to 25 year old bulls and cows—and can include up to 150 individuals per harvest. The male components are also harvested as entire bull groups. And there are always individuals to harvest who are shunned by their families. If this seems counterproductive, think about having three towns; is it better to disrupt the infrastructure of all three or to eliminate one and leave the other two to absorb the resources of the third?

We match the meat from every age of animal with the ages and activity levels of our customers, on the basis that softer muscle of very young and elderly animals is easier to digest for preschoolers and seniors. Active-aged humans need the superior nutrition offered by the meat of mature animals (remember that an animal cannot concentrate nutrients until growth stops). It is a myth to think that the meat from mature animals is tougher. Without the chronic stress associated with dysfunctional, weaned animals, muscles don't get tight and acids don't build up. In the last year we sold \$160,000 worth of half quarters, quarters and hanging halves to private customers across the U.S.

Animal Welfare

It is impossible to raise herd animals in families without acknowledging that we are their brother's keepers. One learns, therefore, to be sensitive not only to each individual but also to the whole family. This includes putting hay out in the winter in different locations for each family. And you soon learn that you cannot shoot or field slaughter individual animals in the herd and still expect to get fresh, clean tasting, tender meat.

There are many other topics that we don't have space here to cover, such as the importance of families in predator defense, the cascade effect on other species, and the fact that, in terms of ecological sustainability, nothing in modern management even comes close. But that is for another time.

—Author Bob Jackson farms bison as naturally as possible near Promise City, Iowa. Visit www.tallgrassbison.com.

In the next issue look for AWA bison farmer, Hugh Fitzsimmons of Thunder Heart Bison, Texas, and his range of bison-related products.