

Using nature's efficiency in grazing animals for 21st century production By Bob Jackson 9-1-10

Abraham Lincoln, probably America's most notable president in agricultural initiatives (he pioneered our land grant colleges and the Dept of Agriculture), told a crowd at the Wisconsin State Fair in 1859, "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 it is not grass alone; but soils, seeds, and seasons-hedges, ditches, and fences, draining, droughts, and irrigation-hogs, horses, and cattle; sheep, goats, and poultry; trees shrubs, fruits, and flowers-the thousand things of which these are specimens-each is a world of study within itself."

Thus it is at Tall Grass Bison, with our social order, extended families of bison. Ours is a study in progress and the "findings" are applied on the ground. It is a joy to watch. It started with 3 bison calves in 1976 on our northern Iowa family diversified farm to now having 4-5 well structured, extended families, totaling 400-500 bison on 1000 acres of converted crop ground and Iowa native oak savanna prairie.

We raise bison, but we believe the principles of extended family, social order management can be utilized for any grazing "herd" or "flock" animal. We also believe all domesticated herds can be raised with nature's evolutionary need for social structure in species. The ability to form up the support systems and roles for every family member are still there just below the surface. And by managing for social order herds we can obtain the production, unparalleled efficiency of nature and highest ethical animal care standards....all while maintaining a higher level of ecological sustainability.

Our beginnings at TGB were fortified with Fish & Wildlife Biology degrees from two of Abe's land grant colleges (Iowa State University and Cornell) and a family that was always nature enthralled. At Iowa State it was drilled into me that nature is most efficient. But our "modern" agriculture life upbringings said that wasn't so. Where was the compatibility?

It took a seasonal career as a back country ranger in Yellowstone, for my part, at a location in that park furthest from a road in the USA, to find solutions. Patrolling an area 30-40 miles in area, sometimes staying "in" for five months a year, I (and my family part time) patrolled via horse for 30 years. It allowed for the best study possible of undisturbed "big game" animals. Instead of a herd consisting of multiples of individuals, as we were taught at Iowa State, it didn't take long, while glassing for poachers, to see those herds, not leaving the park, having an infrastructure only talked of before with elephants.

Combining this interest with a study of indigenous peoples (still very visible signs of past camp and hunting life in these high mountains) and it was soon a realization that hunter-gatherer tribal structure was the same as all "herd" animals and flocks.

This made ways of management and harvesting a lot easier to understand. At TGB we stay one step removed and think in terms of the animals having the corporation, not us. It is the extended family(s) that produces the product in the form of harvested spin off satellite families. Our job is to make sure we don't screw up and make core families dysfunctional.

Harvesting bison becomes the same process as most hunter – gatherer and Whiteman buffalo "stand" hunters employed in their buffalo jumps and surrounds....taking out all of one family and leaving the other families structurally intact. In our fertile lands operation this means anywhere from 25-50, up to 150 matriarchal

family individuals per harvest. The male components are also harvested as entire bull groups. Plus, there are always individuals to harvest who are shunned by the families to the outside of the herd.

So what do social order herds look like? In nature's buffalo or cattle herds it would be matriarchal core families of 60-70 animals (25-35 on arid lands) consisting of great, great grandmothers down to dependent offspring. Spin off herds start with 20-25 animals. Bull groups consist of teenage 3-5 year olds, active breeder age 6-8 year olds of 15-20 animals and finally mentor grandfathers in smaller 3-5 in number groups. Thus a normal nature's herds consists of maybe 2/3rds matriarchal and 1/3rd males...and thus so does ours.

In all 300 animals seems to be the magical number for interactive recognition and association. It is the same for elephants, primates, elk and partridges in a pear tree. And this cohesiveness is independent of "intelligence" levels. After this number herds split into territories protecting their turf from other herds. There will be continued recognition and support between related groups, but the relationship becomes one more of common cause, trust and familiarity rather than emotional attachment.

The advantages??

The herds cull, we don't. For example, in "modern" husbandry a dry cow is a burden to rancher's bottom line. These barren cows go to the slaughter house immediately after preg checking. In social structured herds these cows take on other essential roles. A dry cow becomes the baby sitter for other mother's calves so mamma can forage better. She gathers up all the stragglers when the main herd goes to pastures across the road. There is no panic now when mothers see their little calves are not with the herd. They can stay with other older dependents while "grandma", after a quick survey to see who is missing, walks back across the road, then comes back to the gate with maybe 3-7 calves and yearlings 1-2 hours later.

As for the males we use to have to put our 3020 JD 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 took over herd order. 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 till those bulls turn parallel to the lane. Then everything rushes past them to get to new grass on the other side of the road.

Thus, to us a non breeding bull and "old" cow now is worth a LOT for total herd performance.

Grazing:

Susan and I are part of Utah State's four university Range Science, BEHAVE initiative. Members discuss such things as how to get grazers to "not eat the best and leave the rest", riparian overgrazing problems and fencing needs for rotational grazing.

With social order herds this is taken care of in house. The grazing family stays CLOSE together because they like being next to brothers, sisters, cousins and aunts. Therefore TGB ends up with closely grouped family units, separate from each other, all doing MIG without fences.... at different locations in the same pasture. Within each family there are two types of grazing, static and en mass movement. In flow grazing yrlds and two year old dependents "lead" the herd.... maintaining maybe an animals' length in front of their older relatives. This means they eat the most succulent morsels and thus solve the need for creep feeding as practiced with conventional dysfunctional

herds. It also means they keep the entire herd moving forward en masse for more uniform grazing across the landscape. As for static grazing this is the time where the young learn what to eat from their elders.

Having families mean “homes”. To teach and provide for the needs of a family means no home or range is “built” in heavy use areas. Thus, even if the grass is more succulent, any area near a watering hole, stream or mineral lick is a place to “shop” and then leave....for the same reasons why humans don't establish homes where there is not privacy or control of their family... such as high use down town areas.

Further, without ancestral training (weaning) herbivores are relegated to a deficient nutrient Grassivore existence. Just as humans and bears, as omnivores, are limited to carnivore status without learning from others what vegetation is edible, so to are grazers without training. With most native forbs (and weeds) it is not eating from the top down, but rather selecting out high nutrition parts during appropriate times of the year that ancestral learning provides.

This ancestral learning is exponential in nature. We tell customers our “herd” has thirty years of very contagious learning. We say we can sell a live animal(s) or meat product closest to what Native Americans ate or lived with, but it still doesn't compare to this country's original grazers who had 10,000 years of training.

Add in a larger male component than “conventional” herds and one also obtains a grazer component which utilizes coarse vegetation. Thus one then gets new growth for the females and dependents without the cost of mowing pastures.

Herd development

It takes 12-15 years to establish a basic functional social order herd in beef or buffalo (with pigs, goats and sheep it is less) where all the roles needed for that family become formed up. This may seem like a long time but it is no different than the time it takes for a purebred beef producer to establish his own “line” or distinctive herd identity. With social order herds ranchers can also have that coveted line breeding without inbreeding problems. The cows of each functional family pick the males to mate with and thus grandma, mother and maybe daughter can have offspring from the same male without inbreeding. The younger unrelated bull that always follows this older male mentor around then breeds the younger females after the “old guy” is exhausted with the older cows who come into heat first. And with separate family identity, the same reason teenagers think girls or guys of the opposite sex look more appealing from the neighboring school applies to social order herds. Therefore herds with multiple families can 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 they, themselves, ever having offspring. I have a feeling those reading this article can figure this one out better than most of the animal science PHD'S we present this concept to.

The final product

In the end, at TGB we field slaughter every animal in a spin off satellite family. This means calves and 25 year old bulls and cows. (If this seems counterproductive, think about having three towns. Is it better to disrupt the infrastructure of all three or eliminate one and have the other two absorb the resources of the third?). This means of harvesting means we throw out the book on animal packing plant production. To us all meat from every animal of every age is equal in use as long as that animal is healthy. For a substitute to USDA grading guidelines we research why indigenous peoples preferred various aged animals. The answers to food nutrition come from reading

historical accounts, such as Colonel Dodge of the Kansas territory, who wrote how Plains Indians had over 500 ways of preparing buffalo. I guarantee it wasn't recipes for French type culinary purposes, but rather from all the different preparations needed for all the specific needs of every age, sex and activity levels of humans needing all the different aged and sexed animals.

For example; very young and very old humans have more need for digestibility than maximum nutrition. This they get from the very soft muscle present in young and old animals. Active age humans needed the most nutrition and this they obtained from mature animals. Why mature animals? Because a body can not concentrate nutrients while growing. At TGB we sold \$160,000 worth of half quarters, quarters and hanging halves last year to private customers all over the country. Every person or family was matched to their activity level and individual needs. Sometimes this meant a family buying a quarter of veal and also a half or full quarter from a mature animal. We even selected for athletes performance needs and construction dry wallers who have a hard time keeping up as they age). One heavy weight black belt MMA competitor went from 12 to 19 chin ups in two months. It wouldn't have happened with meat from a young animal. These quarters come from robust mature males. The Indians said bison gave them more power than any other animal.... but that power came from just one segment of a herd.

And it is a myth to think mature animals are going to be tough. Without the chronic stress associated with dysfunctional animals (every animal weaned) muscles don't get tight and acids don't build up.

Animal welfare

It is impossible to raise herd animals in families without considering them as our "brothers" or us as their "Brother's Keepers". Therefore one, without conscious thought, learns to be sensitive not only to each individual but also to the whole family(s). This means putting hay out in the winter in different locations for each family. And when one realizes abuse in human families has similar consequences for herd animal families...and that it takes 3-4 generations to restore fully functioning families after abuse is recognized.... then one soon learns not to shoot or field slaughter animals in the herd if one is to expect fresh, clean tasting tender meat.

Ecological sustainability

Nothing in modern management comes close to it but this is another article in itself.

Yes, Abe Lincoln knew every animal was a study in itself. It is good advice and a chance to "discover" something every indigenous hunter-gatherer took for granted...that humans, herds and flocks have the same social order infrastructure and that an individual is only a part of the whole.