

OPTIONS FOR MIDWEST EWE FLOCK EXPANSION

**Kelley O'Neill
Sheep Improvement Company
Rushford, Minnesota**

The Midwestern United States are blessed with a convergence of soil types, precipitation, and growing season (latitude/elevation) which allow us to waste more feed than some regions produce. We can capitalize on the production capacity of this “gift of good land” with more operations running more ruminant livestock. Sheep Improvement Company is all about exploring ways in which sheep can regain a more significant role in the toolbox of enterprise options available to land managers in the 21st century.

We run more than 1500 mature ewes, excluding first-lamb yearlings, and about 200 mother cows in southeastern MN, about 30 miles from WI and 30 miles from IA. Our intent is to maximize long term net revenue [(production x price) – costs], while enhancing renewable resource health. Some of this driftless region, karst geography country is rough enough for Jesse James to have effectively hidden horses here. Many people consider recreation (deer/turkey/grouse hunting and trout fishing) the highest and best use of this part of the world, and that livestock should always be excluded from wooded areas. We believe there is enough sunlight and moisture to go around, and that we can more effectively, and sustainably, manage these non-tillable areas by controlled grazing with sheep and cattle. We use high stocking rates and short duration grazing to achieve ecologically desirable, financially necessary pasture/landscape improvements: less wasted sunlight (less bare ground), and less wasted water (more percolation, less runoff).

We are constantly reminded, however, that livestock producers comprise a minority, and that the majority of “people from pavement” vote, too, and that their perception becomes their reality. We all need to be aware of the impressions that passersby take away from our operations, and continually strive to clean up our acts: to walk our talk as resource stewards. It is humbling to remember that landscape appearance, air and water quality for which we are deemed responsible, are more relevant to most people (voters/consumers) than are what we might consider our primary products. When producers realize this, it is easier for them to shift gears, or attitudes, and perceive of their ewes/cows not only as self-replacing factories, but also as land management tools to achieve landscape objectives than non-producers find desirable, too.

One of the hurdles, which we need to overcome as an industry, is the reputation sheep have earned in this country as being labor intensive. I was helping a trucker tarp a semi flatbed load of wool bags and bales earlier this year. He had raised sheep previously, and was still running cattle. He allowed as to how he couldn't afford a good horse and was getting too old to bounce when thrown by a rank one. He had visibly paid his dues. He related an inquiry he had received from a neighbor who wanted to know how much more per ton he would charge to tarp a load of hay prior to hauling it. He had replied that he flat would not tarp it, for any premium, period, and he was not amused about having to tarp a load of wool: “you know, if it has anything to do with sheep, it's a lot of work.” We need to much more strenuously select for adaptability and increased fitness/self-sufficiency, such that the number of man hours per ewe per year can be reduced and the number of ewes per person can thereby be increased.

One way in which labor requirements (and feed costs) can be reduced is to minimize mechanically harvested (hauled out/hauled in) substitute feed, and maximize use of stock-harvested (grazed) feed. This may require an adjustment in lambing date to match high nutritional requirements of late gestation, early

lactation ewes with peak forage quality and availability at this latitude. The next step is to allow ewes to lamb outdoors, directly on that high quality feed. This may require a couple of adjustments in producer attitude: (1) to focus on net revenue/acre rather than gross/ewe, and (2) to focus on maternal competence. Pasture lambing will brutally manifest variation in maternal competence, which can be masked by good shepherding in confinement. Some of this variation is genetic, and we need to select for maternal excellence and the devil take the hindmost.

More intelligent people believe that the usually extensive winter feeding which our climate imposes on us amounts to an insurmountable economic disadvantage, and that we cannot competitively overwinter mature females (lamb and calf factories) at this latitude. One reason we persist in running ewes and cows (as opposed to switching to seasonal stockers, and de-stocking when forage availability declines each year) is that we can use these later lambing/calving, dry females as “cowdozers” for the heavy-lifting work of pasture improvement.

We put up as much hay as possible, and then feed as little as we can get away with. Most forage is conserved on neighboring places, where landlords prohibit grazing, but we also lock up flatter paddocks and hay them once, in order to better manage feed quality over the balance of the farm (to be in the right place at the right time.) We usually graze this hayable/navigable/easier ground previously with lambing ewes. We try to quickly glean most of these hayed pastures, immediately after removing bales, before there is much regrowth, to clean up along fence lines, etc. We defer grazing some hayed paddocks such that we have some “clean” or lower internal-parasite risk feed available for weaned lambs. We wean lambs when feed availability declines and limits intake during our “summer slump,” such that lambs begin to compete with their mothers. We try to expose these lambs to hay and grain feeding briefly, prior to weaning, because their mothers can educate them much more effectively than we can. We also leave some older, belled lead ewes with these lambs post weaning to make them more manageable.

Where feed does “get away from us,” in rougher terrain, we use mineral or salt supplementation to concentrate herd effect and jump start nutrient recycling, to trample and convert rank, lignified residual back into soil organic matter, nitrogen, etc. We are game to forfeit some annual production (individual performance) for the sake of long term, cumulative gains in production capacity (increased subsequent forage production) from hoof and tooth cultivation and four-legged herbicide.

Agro forestry

Despite conventional wisdom that livestock and wooded areas do not mix, there is tremendous opportunity to integrate ruminants and agro-forestry. One way in which we try to manage around our late summer forage slump is cutting box elder and other less desirable timber species, while sheep and cattle are in the same pasture. This accomplishes timber stand improvement objectives, makes more sunlight and moisture available, and also makes a tremendous amount of feed available (within reach.) At higher stocking rates, with educated/adapted livestock, you need to have several easy trees down in a hurry, because as soon as you start your chain saw you’re going to be up to your posterior in ewes or cows. A forage test will corroborate what the stock are trying to tell you: even yellowing, frozen box elder leaves have a higher RFV than most grass/legume hay. We do not treat these stumps with herbicide, as we want to leave the root system alive to produce suckers for subsequent forage (drought insurance). If grazed/browsed right, you can keep up with these suckers and prevent them getting away and regrowing into out of reach trees. Grass and trees growing together will result in less runoff and more efficient carbon sequestration than trees alone with no sunlight and bare ground beneath them.

Winter

We have to try to manage around our annual drought, called winter. New Zealanders refer to their wintering as “controlled starvation,” and ours would be similar, only more expensive. We can let body condition slip some in later lambing ewes/calving cows, and put it back on with extremely high quality, early, green stock-harvested feed prior to parturition. Carol Dodge scans for fetal number, and ewes carrying singles get shorter shrift in winter feed, (and subsequently lamb unattended on rougher ground). We try to distribute hay feeding areas as widely as possible, when the ground is frozen, such that most of the farm is covered over the course of the winter. It requires a lot of feeding time, but eliminates manure handling time and minimizes nutrient transfer, and environmental liability from concentrating nitrogen and phosphorous. We chain up a front wheel assist tractor on all fours, if necessary, and use a bale processor to allow enough elbowroom for large numbers of stock to be limit fed forage. We will feed cornstalks and better-than-snow banks quality rubbish during the coldest weather (which coincides with early-mid gestation). Sheep don't enjoy bedding on a feed ground in snow until it's black. Sometimes a bit of uneaten residue can have an insulation value worth quite a lot of feed equivalent in subzero weather. Meeting nutrient requirements with hauled out feed can be much more difficult in a muddy early spring than when the ground is frozen and navigable. This interval at the end of winter, when conserved feed reserves are low, but before standing forage is available, is the most stressful period of the year for stock and people. We try to postpone prelamb shearing until the very end of April, to leave ewes under their own roofs until reliably warmer weather, and to try to minimize the increased feed requirement effects of shearing, which have been documented as +10 to 30% for 2-4 weeks in New Zealand.

Selection

We believe we are able to make appreciable, long-term gains in adaptation through selection for increased fitness: the ability to survive and thrive in our environmental crucible, with significant competition for feed at high stocking rates. Tom Lasater said the breeding of beef cattle is a relatively simple endeavor: “the hard part is keeping it simple.” We try to apply the same philosophy to sheep breeding. Our improvement objectives in the Converters (maternal composites) are geared toward capitalizing on natural selection to increase fitness, adaptability and self-sufficiency. We use primarily multiple-sire breeding groups, with the hope and expectation that the “best” (e.g. fittest) ram/bull will contribute the most progeny. We will keep (temporarily) most structurally sound replacement females which conceive as we don't believe we're smart enough to identify the “best,” but we are able to identify the worst: those which are incapable of living up to the requirements of their job description. In addition to identifying reproductive failures (opens/drys), we give a bad (ear)mark to any ewe/cow, which we have to touch or treat individually for any reason (other than scheduled whole-herd health work.) This mark precludes them from producing replacements for the rest of their life. We lose some good ones, but we get all the lemons. We try to use rams and bulls out of really old, high maternal-competence dams, which have never been open, dry, or required any assistance, and are still rearing above average progeny. These nucleus flock ewes would be identified with ear tag and paint brand and their progeny tagged at lambing. We would paint brand both sides of these ram lambs at docking and record long distance notes about them until weaning. They would need to make to weaning as a still-intact multiple birth family in order to remain a ram. This is a significant accomplishment in our environment, where their older mothers are not given preferential treatment, and are used as land/forage management tools even while lactating.

Our environment is not an easy one. Livestock, which never have a roof over their head, are subject to temperatures from heat indices over 100 to wind chills of 100 below zero. They need to cope with deep snow, mud, internal and external parasites and predation.

For ewes or cows to make it to ten years of age, under our conditions, without ever having failed a reproductive hurdle or needing intervention means, in our book, that they have the right stuff. We realize we are forfeiting some rate of genetic progress, by working with older dams and longer generation intervals, but fitness and adaptation are complicated, cumbersome, expensive traits to try to improve. But improve them we must if we are going to run more sheep with more joy and less time.

The selection objectives in the Siremax terminal sire composites are more straight forward, as their job description is more streamlined. Generation interval is minimized to maximize rate of improvement, by using the best ram lambs, where best is quantified by an Australian LambPlan index, comprised of 60% post weaning growth rate, 20% loin eye muscle depth, and 20% backfat (negative).

Fencing and Stock Dogs

There are only three ways to increase profit: increase volume or number of units; increase gross margin per unit; and decrease overhead. Running more animal units per person requires more and better control capability. Profit is a function of gross margin. Gross margin is a function of reproduction. Reproduction is a function of nutrition. And cost-effective nutrition is a function of grazing management. Adequate grazing management requires fencing which can effectively control animals and enforce sufficient forage rest periods without illicit overgrazing of desirable regrowth ahead of schedule. There is a competition factor which amplifies the herd effect at high stocking rates, and puts many versions of “stock-proof” to the test.

We have been working on two old, but still essential, technologies for a long time: herding dogs and guard dogs. We believe we have some extra-ordinary, worthwhile working dog genetics. We are interested in collaborating with like-minded sheep and cattle producers to preserve and expand these herding and guard dog gene pools. If you have a time-tested, highly competent herding or guard dog (of either sex), whose genetics would benefit the industry, we would like to explore with you a cooperative breeding endeavor. Our guard dogs are two, three and five breed composites. Our herding dogs are border collies, but we would be game to consider outstanding huntaway or kelpie genetics. We are less concerned about breed or registration certificates than we are about reliable, multi-generational, real-world proficiency in exceeding high expectations of tough job descriptions. We would like all candidates to be gray in the muzzle, and able to shift gears between being civilized around little children and standing up to predators, recently calved cows, bulls, rams, etc.

Handling

Livestock handling or stockmanship can make or break an operation. Husbandry operations should be worked into planned grazing such that stock can largely gather themselves, by opening a succession of gates over a number of days, each rotation getting closer to the handling facilities, working along a gradient of “fresh” feed, such that stock are on deck just prior to scheduled herd health or handling procedures. Whenever possible, lead stock rather than push them. Leaders can be trained to come when they’re called which vastly simplifies herd/flock handling. Every day you haul out feed in the winter, every time you put out mineral, every time you open a gate to better feed represents a teachable moment.

Labor and Time

Gregg Simonds said, “the long term outcome of one’s management is determined by their attention and skill in enhancing the capability of land and labor.” Although there are virtually limitless opportunities to capitalize on forage in this part of the world, our land resources are, ultimately, finite. But when these resources are multiplied by infinite human resources (e.g. creativity) the resulting product can also be infinite. Life is not a dress rehearsal. Time is our most limited and most precious resource. Learn to use it well.