

Keen on Grass and Dollars

by Ann Adams

It's hard to find anyone more enthusiastic about grazing than Neil Dennis. This is a man who has grasped the importance of high stock density to such a degree that he has created the necessary infrastructure and support systems to keep his herd density high and his time managing the cattle minimal. Where he once labored ten to twelve hours a day with little time for management, he now spends more time managing than he spends laboring. That change leaves more time for coming up with new inventions, taking pictures of his land, enjoying his increased profit, and talking about Holistic Management with others.

Neil and Barbara Dennis ranch on 1,200 acres (480 ha) near Wawota, Saskatchewan, Canada. In 2005 Neil put 650 head of cattle on 2.5 acres (1 ha) of land every six hours achieving 80 ADA and allowing a minimum of a 60-day recovery (with as much as 100 or more in some cases). He hits any given area no more than twice a year. This is more than double his initial stocking rate of 30 ADA (the conventional stocking rate is 20 ADA). With 13 inches (325 mm) of rainfall coming mostly in the rainy season between May and July, this land tends toward the less brittle, but Neil's management is still necessary to move his land toward greater biological health. The change toward planned grazing has resulted in more biodiversity in his paddocks with as many as 25 species of native grasses represented in one paddock, including purple prairie clover and little blue stem.

This shift in land health was so evident that

Ed Kennett, a past president of the Saskatchewan Wildlife Federation noted, "After seeing first hand the return of native grasses under planned grazing, I see it as a tool to bring back some of our natural lands."

And with the increased land health and improved grazing management has come improved animal health. "I spend more money on my dog food bill than I do my vet bill now," says Neil.

In 1983 Neil had begun rotational grazing. He would graze the plants to about 3-4 inches high and move the animals back on after a 14-21 day recovery. He found over time this method was slowly depleting the soils and reducing his grasses. Back then he got himself into some financial problems following the conventional wisdom of the times (including his involvement in the purebred cattle business). "The harder I worked, the deeper the hole," says Neil. "That's why I finally went to my first Holistic Management training in 1998 with Len Piggott. I had received the first notice for the training, and I threw it away. My wife pulled it out of the trash and said we were going.

"At first I didn't think much of what Len taught that training, but a few things stuck. He suggested we go home and really look at the land, see what it was telling us. He also suggested we take pictures. I decided to go home and prove that he was wrong. When I got home I noticed how the AI paddock looked better than those around it because this was a paddock I used for a limited time in the spring and only in the spring which meant it had a long recovery time. When I started taking pictures, I realized there was something to this Holistic Management."

In 2004 Neil took another Holistic Management training with Don Campbell. This time, Neil was able to absorb more about the people and financial part of the training. He also joined the SE Saskatchewan Holistic Management Group. This club has six families

continued on page 4

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See page 20 for more information

all within a 60-mile (96-km) radius. They have monthly meetings that often include field trips, pasture tours and social time. The fact that the class participants and subsequent group members had to wait over a year to take the Holistic Management class due to a Campbell family situation, created a much more dedicated group before they started. Combine a dedication to a wide age range (young family to grandparents, just getting started to established farmers/ranchers) and a mutual desire to learn a more sustainable way of life and livelihood and the end result is a very cohesive group working together and forming a management club that is continuing to build and become greater than its individuals could be alone.

More ADA = More \$

As Neil's land has improved productivity and he has continued to explore how he can increase stock density and improve land health, he has *quadrupled* his profit per acre.

He is increasing his ADA by skim grazing a paddock, taking 40 percent of the plant, then coming back for a final graze after the plant has recovered, taking as much as Neil feels is healthy for the land, leaving as much behind as possible for litter. With this technique he has achieved up to almost 120 ADA.

YEAR	ADA	INCOME/ANIMAL	TOTAL
2000	28 ADA	\$1.75/day gain + \$.40	\$19.60/acre
2004	107 ADA	\$1.75/day gain + \$.40	\$75.18/acre

Snow Fences

Neil also uses plants to his advantage to trap snow on these windy plains. He has broadcast, crosswise to the prevailing winds, yellow clover in established pastures, in strips 100-200 feet apart. On the first graze the clover is small and the cattle have little effect on it; after the paddock has a 60 + day recovery period, the clover is three to four feet tall and has set seed. Then, with high stock density, on the next graze the cattle like the lush growth in the bottom and will also strip some but not all of the clover. The clover stems act as a snow fence, trapping the snow on the high ground, and also keeping it out of the sloughs. The wind will broadcast the clover seed over the snow and thereby reseed it for the next spring.

When there is limited snow cover, the frost line is deeper, resulting in slow green up in the spring. On Neil's land, he had an average of 20 inches of snow in 2004-05 across his land which acted as insulation during the spring warm up. He has been able to increase the precipitation

his land receives by retaining snow equal to 6.5 inches (163 mm) of rainfall, whereas the neighbor's land was bare or only slightly covered. Consequently when the snow did melt, he had more water infiltration and less evaporation loss resulting in three to four inches of green grass while his neighbor's grass was still dormant.

Carbon Sequestration & Soil

Recently, Dr. Alan Moulin, a soil scientist from Brandon Research Centre of Agriculture and Agri-Food Canada performed an initial analysis to determine organic carbon levels in Neil's soil. According to Neil, Moulin found that the Dennis Farm had 1.4 more metric tons of



Aerated dung

organic carbon than his neighbor's land, which was grazed conventionally, and six tons more than the Ducks Unlimited land that had been idle for nine years.

With increased stock density has come improved soil health and microfauna activity. The dung beetles are very active as you can see from this aerated dung pile. The dung beetles will bury the pie two feet (60 cm) down. They get some help from the cows who trample in the cow pies at this stock density. The end result is less flies on Neil's land while the neighbors are plastered with them.

Strip Grazing

Currently, Neil custom grazes 650 yearlings as well as running his own herd of 100 cow/calf pairs and yearlings. He continues to push for higher stock density, moving the cattle as much as every 2-3 hours. He watches for when they begin to lay down and a strong smell of ammonia as clues that it is time to move (a smell that attracts dung beetles to the pasture).

The temporary electric fencing is held in place by pigtail step in posts set as much as 40-50 feet (13-15 meters) apart.

In 2005 Neil used 1.8 acres/head. In 2006 he needed only 1.35 acres/head compared to the neighbor's 3.2 acres/head with conventional grazing—a 250% gain in forage utilization. Likewise, in 2006 Neil produced 152 pounds of



Neil Dennis

beef per acre running 801 head. A conventional grazing neighbor produced 68 pounds of beef per acre running 200 head. That difference of 84 pounds per acre was in a year in which four out of five months had less than average rainfall and July was the second hottest July on record (usually it rain every 7 to 14 days). Neil has calculated that it takes him 3.5 hours more work to move the cattle six times a day, but he is getting paid \$80/hr because of the higher ADA and, therefore, pounds per acre he achieves with that stock density.

Working Smarter

Neil is a strong believer in working smarter not harder. He has outfitted his ATV to carry his fencing supplies and move his stock tanks easily to the water sources he has developed on his land. His fencewinder, a battery powered electric drill, can reel in 1/4 mile of fence in three



Fencewinder



Portable stock tank



Fence lifter means no gates.

minutes. He is careful to keep a constant supply of water in his stock tanks; he has noticed the cattle panic if it gets half empty. Each water riser he has developed can serve four ten-acre paddocks as he shifts his stock tank from one water source to the next.

To move his cattle from one paddock to the next, he just lifts the fence wire and the cattle walk underneath. He trains his animals at the beginning of the season with the help of two resident donkeys and slipping a bungee wire behind them to crowd them forward toward the fresh grass on the other side of the lifted wire.

Meanwhile, Neil has outfitted his ATV with a bar that sticks out from the ATV that catches the fence wire and brings it down under the wheels (due to the metal frame he has attached to the undercarriage) so he and any equipment he tows can easily “ride over” his temporary electric fencing.

Bale Grazing

Neil used to feed bales five months of the year starting a front end loader tractor every day. Now Neil only lays out his hay bales once a year, in the fall and with planned grazing, and stockpiled grass has reduced the amount of time he winter feeds because the cattle graze for a longer time in the fall and start earlier in the spring. It takes one hour of tractor time in the fall to feed 80 head of cows for one month, instead of one hour a day in the winter time feeding conventionally. Neil gives

his herd enough bales for two days feed by using temporary electric fence that is easily moved and rebuilt as needed. So in the winter, every two days he takes 15 minutes to move the wire allowing the cattle access to more feed. He uses the other bales outside the paddock to hold the fence using a 5/8” sucker rod or a fiberglass rod into the bale. The response from the land to this bale grazing has been amazing. Before, he had no native species, just crested wheat, quack grass, and Kentucky blue grass. Now he has all kinds of vetches and legumes. Neil feed tests the winter supply of bales and dependent upon the result has offered protein pellet or grain to top off nutrition.



Summer growth covers Barbara's head in an area where the cows bale grazed in the winter

continued on page 16



July 2000



Two days later

Canada Thistle

In July 2000, Neil put 330 yearlings in a 10-15 acre paddock with a slough of almost solid Canada thistle. (See photo at left.) Two days later you can see how the cattle had consistently grazed the area. One year later he came back to graze the already stressed thistles. A year after that he took the bottom picture during the summer growth. You can see the treeline is lifted as well as more grass up under the trees because the deadfall has been trampled and there is more fertilizer for the grass. Because of increased grasses, as well as vetches, and other legumes under the trees during the winter the deer have come in to this improved habitat area. And the thistle? Only 10 percent remain.

Life after his Holistic Management training is very different for Neil Dennis. Before his training he worked long hours, was in financial difficulties, and his land was deteriorating. Now he has time for many other activities because he works a lot smarter and his hours are not as long. His profit per acre has quadrupled and his land health and productivity has improved exponentially. With the ongoing support of his Holistic Management Group, Neil feels he's on the right track. "The coffee-shop was always so negative," says Neil. "With our management club, the people are glad to be farming. They are never negative. It's a whole different attitude. I saw that from the beginning, and I realized there is hope out there after all." 🌱

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Dead tree trampled by cattle.



2002—little Canada Thistle remain.