

Less Stress, More Grass by Managing Holistically

A dairy case study

By Phyllis Van Amburgh and Sheila Cooke



Before holistic management, May 2009.



After holistic management, May 2017.

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Summary

Organic dairy farm, Dharma Lea, experienced economic, social and ecological benefits when making the switch from rotational grazing to Holistic Planned Grazing. Improvements over three years included:

- A 120% increase in the number of grazing days per year, from 76 days to 167 days per year, which translates into an annual savings of \$27,300.
- A drop in feed cost from 60% to 48% of the total cost of production.
- Improved profitability with a gross margin of 41%.
- Increased carrying capacity of the land, with a 68% increase in grass harvested by cattle on pasture.
- A significant improvement in livestock health, with a key indicator – mastitis – dropping from 73% to 3% within the herd.
- Improved milk quality, with a 10% increase in total milk solids.
- Improved quality of life for the entire family, including more time to spend together, more wildlife to enjoy, a sense of community, and a lot less stress.
- Improved financial position, enabling the family to purchase an additional farm that would triple the size of their land, provide a new family home, and allow expansion of the herd and milking parlor.

Background

Dharma Lea is a diversified, 230 acre (93 ha) farm that is managed holistically, and is certified organic with 100% grassfed dairy cattle at its base. About 150 acres (61 ha) are dedicated to grazing, and 80 acres (32 ha) are dedicated to small grains and corn combined with cover crops used in the rotation to improve soil quality for forage production such as hay and haylage.

Located in upstate New York, USA, Paul and Phyllis Van Amburgh and family have lived there since 2007. Their statement of purpose is, “To create a healthy pasture-based ecosystem that produces food that allows for optimal human health.”

The Van Amburgh “family” includes two parents, five children, 75 head of mixed-breed dairy cattle including Devon milk crosses, 2 horses, and 150 laying hens.

The Challenge

To pinpoint the crux of the challenge, the Van Amburgh’s used the “Chain of Production” (see Image 1) to isolate the weakest link in their dairy enterprise.

Initially, the weakest link in their chain of production was Product Conversion, in other words, the ability and efficiency of their cows to turn forage into milk was compromised, mostly due to poor health resulting from management by the previous owner.

The Van Amburgh's had purchased Dharma Lea and its dairy cattle in 2007. They began with rotational grazing, without the use of inorganic fertilizers, and supplemented with corn and grain until 2008, when they made the decision to go 100% grassfed.

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Image 1: Chain of Production

The challenges of switching from corn- and grain-supplemented grazing, to 100% grassfed dairy production included:

- Meeting high nutritional needs of dairy cows with a forage-only diet.
- Creating high energy forages.
- Achieving high mineralization in forages and cows.
- Promoting biodiversity in forages.
- Obtaining cows that thrive in, and contribute positively to pasture health.
- Managing the variability inherent in the grassfed model.
- About 18 to 24 months after eliminating grain from their diet, if not given quality pasture cattle can experience problems, such as:
 - Low fertility/conception rates
 - Illness
 - Metabolic disorders
 - Production loss
 - Decline in pasture productivity

Unfortunately, in the transition to grassfed, the cattle experienced metabolic disorders, and there was a significant decline in pasture productivity. In order to address cow health issues, and provide adequate nutrition to the herd, between 2007 and 2012 the Van Amburgh's purchased minerals, kelp, and a huge amount of hay and baleage to supplement the pasture, which was extremely costly and time-consuming.

Once the cows' health began to improve, Resource Conversion became the weakest link in the chain of production. Essentially, they were not producing enough high quality forage from available sunlight, air, and water. Pasture productivity was declining, it was difficult to buy high quality forages (which were costly), and it was time-consuming to grow, harvest and store their own forage.

In 2013, after attending a Holistic Management workshop, they decided to switch from rotational grazing to Holistic Management, and began Holistic Planned Grazing in 2015. The three main reasons for making the change included:

1. *Improve Livestock Health.* They had inherited severely degraded farmland, and sick cows from the previous owner, all related to poor management. The cattle had unusually high mastitis levels -- 73% of the herd.

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2. *Improve Forage Nutrition.* Dairy cattle have very high nutritional needs including for energy and minerals. They need frequent access to water, and dry matter intake must exceed maintenance requirements. Rotational grazing and the conversion to grassfed did not improve the situation, so the Van Amburghs knew they needed to do something radically different.
3. *Increase Grass Productivity.* By 2012, they started seeing a decrease in forage production from pasture. The lack of quality pasture had a huge economic impact; it was very expensive to buy-in supplementary fodder.

Four Key Strategies

The problems were resolved by adopting a holistic practice that used livestock as tools on the land to regenerate soil health. Creating a holistic context for themselves, and then using the Holistic Management framework to test their decisions, the Van Amburghs decided upon four key strategies:

1. Supplementing the grass ration with nutrients.
2. Practicing Holistic Planned Grazing.
3. Acquiring and maintaining efficient grazers.
4. Harvesting “growing season quality” feed for winter.

1. Supplementing grass ration with nutrients.

Because the soil was so poor, they began by supplementing the grass ration with free-choice minerals. After only three years, free-choice supplementation tapered off, because the soil microbiome had been kick-started by the mineral-rich manure left behind by the grazers, which in turn produced nutrient-dense forage. The initial nutrient kit included:

- Macros: Ca, Mg, Ph, K, with Traces like Cu, I, and Se
- Vitamins A, D, E, especially in Winter
- Multivitamin, including B
- Kelp
- Mineral salts

The supplementation program strengthened the Product Conversion weak link by improving the health of the cattle.

2. Practicing Holistic Planned Grazing.

In making the transition from conventional to organic farming, it is not enough to stop using chemicals and fertilizers. It is important to regenerate healthy soils. Through Holistic Planned Grazing, the farmer is able to:

- Provide livestock with clean pasture to improve livestock health, which reduces or eliminates the parasite burden.
- Use livestock as tools on the land to restore soil health through dunging, urinating, trampling and grazing plants, and through herd effect, whereby animals that are bunched and moving disturb soil with their hooves and open it to allow aeration and water infiltration.
- Manage the lifecycle of plants, thereby growing more forage.

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- Improve nutrient density by increasing the diversity of plants, and by expanding the growth curve within each plant population so that there are all stages of growth represented in any given paddock. A hallmark of rotational grazing is to grow plants up to the same height and graze them down to the same height. But, when livestock are able to graze at different levels and choose different maturation levels they benefit from access to different minerals. Additionally, as pasture matures and root structure develops, secondary metabolites appear, enhancing the medicinal properties of plants.

Holistic Planned Grazing was the key to improving the Resource Conversion weak link by converting more sunlight, air and water into grass.

3. Acquiring and maintaining efficient grazers.

The Van Amburghs needed a small, highly efficient grazer, one that could convert grass to body weight well, and use its body stores to keep milk production going, even when their ration was inconsistent due to weather or other factors. They began by improving the existing herd's health, then they bred the herd to a modest-framed, fine-boned, easy fleshing milk-Devon bull. They currently use their own composite bulls with 25% Devon blood, and the remainder are Jersey/Ayrshire. Additionally, they introduced autumn vs. spring calving to provide an even plane of nutrition on mature grass during calving.

The smaller, more efficient cows improved the Product Conversion weak link by being better at converting pasture into milk.

4. Harvesting “growing season quality” feed for winter.

Because the Van Amburghs made milk year-round, they needed to maintain the properties of biodiverse, mineral-rich summer pasture through proper harvesting of winter fodder. For example, they needed to pay attention to the wilt stage before baling to prevent inferior fermentation and nutritional loss. Paying attention to the details of harvesting forage for off-season enabled them to provide a high quality, full ration year-round.

The money that was generated by spending less on winter and supplemental feed, allowed the Van Amburghs to continuously improve the quality of feed they were harvesting, which strengthened the Resource Conversion weak link, which in turn strengthened Product Conversion since the cows remained healthier and ate less when they consumed higher quality feed.

A switch to autumn calving combined with better quality winter fodder allowed them to improve the Market Conversion link, since they received a premium for winter milk.

Economic Benefits

The economic benefits of practicing Holistic Management were many for the Van Amburghs.

Better Milk Price

The Van Amburghs wanted a better milk price, and helped create Maple Hill Creamery to capture the value of 100% grassfed organic milk. The result was a 20% price premium over organic milk. Maple Hill Creamery is supplied by 140 grassfed farms, 30 of which are also organic.

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Higher Nutrient Density

Farmers get a better price based on the nutrient density of their milk, which improved under Holistic Management vs. rotational grazing (see Table 1, and Image 2).

Table 1: Improvement in Nutrient Density

	2014 Rotational Grazing	2017 Holistic Planned Grazing	% Change
Protein	3.10%	3.5%	13%
Butterfat	4.00%	4.7%	18%
Other Solids	5.65%	5.8%	3%
Total Milk Solids	12.75%	14.0%	10%



Image 2: This photo taken in October 2017 reveals the magnificent quality of the sward.

Greater Economic Resilience

Typically, there is a 25% to 38% milk yield drag in the transition from grainfed organic to 100% grassfed organic (this is still an early assessment based on the learning from Maple Hill Creamery producers).

This partly relates to the difference in cow size. Breeds that have adapted to grain are larger than grassfed breeds and produce far more milk. For example, the Van Amburgh's milkers weigh on average 1,000 lb (454 kg) and produce 7,500 to 8,000 lb (3,402 to 3,629 kg) of milk per year (8 times their body weight). By contrast, their neighbor's milkers weigh in at 1,800 lb (816 kg), and produce 33,000 lb (14,969 kg) of milk per year (18 times their body weight).

The economic advantage of grassfed dairy lies not in volume of milk produced per animal, but in lower input costs and better prices, which result in a higher gross margin¹. A Dharma Lea cow needs to produce only 5,000 lb (2,268 kg) of milk to cover the cost of production, and the remaining 3,500 lb (1,588 kg) of milk contributes to gross margin. For the grain fed animal at a neighboring farm, the first 32,000 lb (14,515 kg) of milk are required to cover production costs, and only the last 1,000 lb (454 kg) contribute to gross profit. Dharma Lea cows yield a 41% gross margin whereas the grainfed cows yield 3% (see Table 2, and Image 3).

¹ Gross margin includes all costs – labor, feed, operating costs, mortgage, taxes.

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Table 2: Comparison Between Grassfed and Grainfed Gross Margin

	Grassfed Cow	Grainfed Cow
Total milk production per cow		
• Pounds	8,500	33,000
• Kilograms	3,856	14,969
Milk required to cover costs of production		
• Pounds	5,000	32,000
• Kilograms	2,268	14,515
Milk that equates to gross margin		
• Pounds	3,500	1,000
• Kilograms	1,588	454
Gross margin	41%	3%

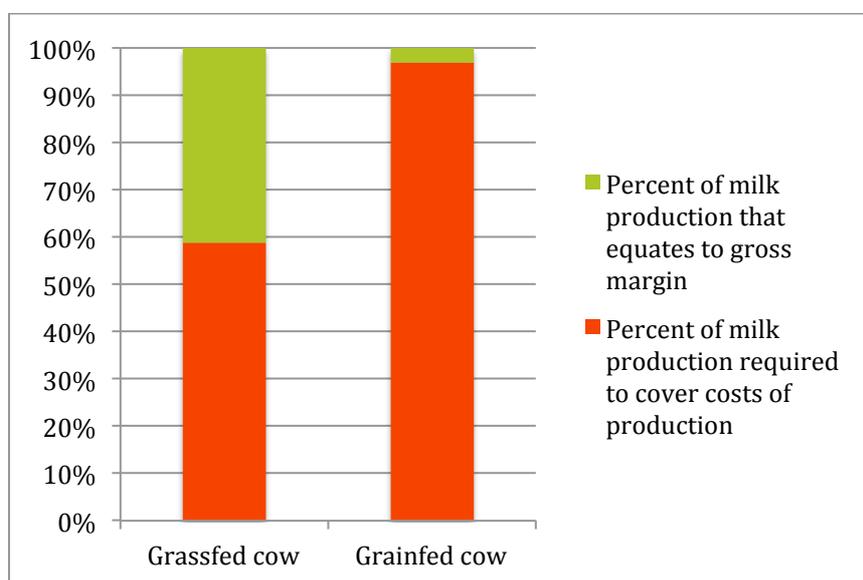


Image 3: Comparison between grassfed and grainfed contribution to production costs.

Even though grainfed dairy operations have high yields per cow, they have far less economic resilience than grassfed dairy operations due to lower milk prices, higher input costs and higher debt loads. For this reason, grainfed dairy operations quickly become unprofitable when times get tough, and are forced to find ways to gain efficiency in order to stay in business. Because grassfed operations focus resources on building healthy soil, profit is earned by working with nature to achieve ecological efficiencies.

Increased Carrying Capacity of the Land

Carrying capacity of the land increased significantly during the three years of Holistic Planned Grazing (2015 to 2017) versus rotational grazing, as evidenced by the 68% increase in grass harvested by cattle on pasture. This was extremely significant, as feed costs were up to 60% of the cost of production when the land was under rotational grazing. After three years of Holistic Planned Grazing, feed costs dropped to 48% of the cost of production.

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The image shows three hand-drawn grazing charts for the year 2016. Each chart has columns for 'ADHA Actual/Estimate', 'Number Pasture Cows', and 'Grazing Divisions'. The charts are filled with data for various pastures and sections, with some rows highlighted in red. The bottom of each chart has sections for '21. Rainfall', '22. Snow', '23. Growth Rate (F/S/D)', '24. Supplement or Feed—Type and Amount', '25. Number/Size of Herds', and '26. Grazing Divisions Available'.

Image 4: Dharma Lea's growing season grazing charts were used to provide estimates of grass harvested by cattle on pasture.

How was forage harvested by cattle on pasture calculated?

The quantity of forage harvested by cattle was derived from actual grazing figures noted on the growing season grazing charts that were prepared every year (see Image 4). In 2014, the pastures provided 11,232 standard animal unit days of grazing, whereas in 2017, the pastures provided 18,917 days of grazing, an increase of 68% between 2017 and 2014 (see Table 3).

One animal day (see Image 5) is simply the amount of forage required to feed one standard animal unit for one day. In other words, an animal day is a measure of forage, not a measure of animals or days. A standard animal unit is a means of normalizing a herd into standard units that can be used for making calculations. In Dharma Lea's case, one standard animal unit is a 1,000 lb (454 kg) lactating dairy cow.

During the growing season, when livestock were moved from paddock to paddock, the amount of forage they consumed was estimated and recorded on the grazing chart using the following formula:

$$\text{Animal Days} = \text{Actual Days of Grazing} \times \text{Standard Animal Units}$$

For those not familiar with the concept of animal days, we made a rough conversion to dry matter in Table 4. We made the conservative assumption that one standard animal unit consumes 3.5% of its body weight in dry matter per day. In other words, a standard animal unit of 1,000 lb (454 kg) consumes 35 lb (16 kg) per day. Here is the formula for conversion of animal days to dry matter:

$$\begin{aligned} \text{American Tons of Dry Matter} &= (\text{Animal Days of Grazing} \times 35 \text{ pounds}) / 2,000 \text{ pounds} \\ \text{Imperial Tonnes of Dry Matter} &= (\text{Animal Days of Grazing} \times 35 \text{ pounds}) / 2,240 \text{ pounds} \\ \text{Tonnes of Dry Matter} &= (\text{Animal Days of Grazing} \times 16 \text{ kilograms}) / 1,000 \text{ kilograms} \end{aligned}$$

If the Van Amburgh's livestock were underfed, the figures in Table 4 would be over-estimates of grass production. However, we know they were well fed because their average score was 3.5 on the UC Davis Body Score Index, which is defined as slightly overweight (see Image 6).

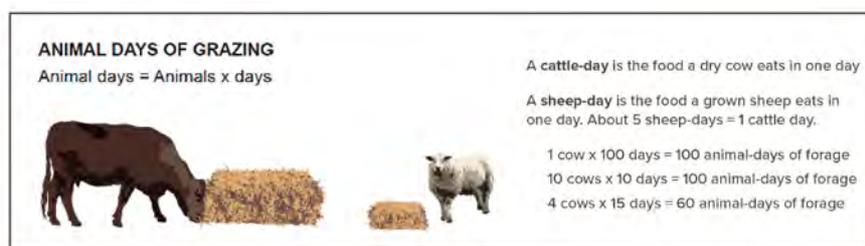
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Table 3: Total Animal Days of Grazing

	2014 Rotational Grazing	2015 Holistic Planned Grazing	2016 Holistic Planned Grazing	2017 Holistic Planned Grazing	% Change from 2014 to 2017
Total Animal Days of Grazing	11,232	17,196	18,170	18,917	68%
Hectares / Acres Grazed	51 / 127	51 / 127	51 / 127	50 / 124	-2%



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Image 5: Illustration of one animal day's worth of dry matter for a cow and for a sheep.

Table 4: Rough Conversion of Animal Days to Dry Matter

	2014	2015	2016	2017	% Change from 2014 to 2017
Total Animal Days of Grazing	11,232	17,196	18,170	18,917	68%
Dry Matter Equivalent of Animal Days	197	301	318	331	68%
• American tons	176	269	284	296	
• Imperial tonnes	180	275	291	303	
Dry Matter Consumed Per Acre/Ha	1.5	2.4	2.5	2.7	72%
• American tons per acre	1.4	2.1	2.2	2.4	
• Imperial tonnes per acre	3.5	5.4	5.7	6.0	
• Metric tonnes per hectare					

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Image 6: Here is what a score of 3.5, “slightly overweight,” looks like on the UC Davis Body Score Index.

Longer Grazing Season

By managing the life cycle of grass, the Van Amburghs increased their grazing season from 73 days in 2014, to 167 days in 2017, an increase of 120% (see Table 5). For every additional day of grazing on pasture, the Van Amburghs save \$300; which translates into an annual savings of \$27,300.

Table 5: Days on Pasture

Grazing Season	Total Number of Grazing Days
May 13 – July 27, 2014	76 days
May 7 – September 27, 2015	144 days
April 28 – October 8, 2016	164 days
April 22 – October 5, 2017	167 days

Other benefits of cattle harvesting their own feed include:

- Reduced labor, feed and fuel costs.
- Dunging and urinating directly on soil feeds microorganisms, which in turn nourish plants.
- Trampling of plant material accelerates decomposition and the mineral cycle.
- Hooves chipping and breaking up capped soil improves the water cycle.

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Why does holistic planned grazing extend your growing season?

Phyllis Van Amburgh explains:

Basing grazing on dry matter makes you fail. In rotational grazing, the focus is on maximising grass utilization. Any uneaten grass is regarded as waste. The unintended consequences of rotational grazing are less plant biodiversity, less grass production, and a shorter growing season.

In rotational grazing, when grass growth is rapid in May-June, the plate meter tells you that just a small square of grass is needed to feed one animal. So you make small paddocks and keep the animals there until they eat to the point where a golf ball can be seen poking its head above the grass. Animals move slowly around the farm even though grass is growing fast, which means that grass production gets ahead of livestock requirements, so you cut hay for winter.

Then, in July-August, when grass growth slows down, the plate meter tells you a bigger square of grass is needed to feed one animal. This is so, because you severely grazed plants last time through, and now they have not had sufficient time to recover. So you put the livestock in bigger paddocks which means the animals move around the farm quickly even though grass growth is slow, and eventually, you run out of grass, and you have to take your animals indoors to feed them hay, because you're working against the natural life cycle of grass.

In Holistic Planned Grazing it's just the opposite. Instead of focusing on grass utilization, you focus on managing plant recovery time. You move the animals quickly from paddock to paddock when grass is growing fast, and move them slowly when grass is growing slowly. In other words, you vary the grazing period not according to grass utilization, but according to plant recovery time. Your aim is to allow plants sufficient time to regrow and store surplus energy in preparation for the next grazing or cutting, when reserves will be needed to regrow leaves in order to rebuild photosynthetic capacity.

In May-June, when grass is growing fast, you don't worry about grazing all the grass before moving on. Trampling grass into the soil feeds soil life, which ultimately benefits the grass. The fast recovery time of May-June dictates short grazing periods, which enables you to get around to all your paddocks to graze off the tops before they reach senescence.

In this way, when grass growth slows down in July-August, you've got good plant recovery, and tall grass, which enables you to slow down and lengthen your grazing periods to accommodate the longer recovery time that is now required to prevent overgrazing of plants. In this way, grazing is in sync with the natural life cycle of the grass plant. So, plants grow over a longer period of time and the growing season is extended.

Complete Ration Pastures

Holistic Planned Grazing led to the creation of a complete ration in the pastures. First off, it provided a rolling succession of clean pasture availability, with a healthy population curve in the ration, meaning plants were matured to a variety of stages, from seedlings to mature in any given pasture. This gave cows the ability to self-select their diet, improved digestibility, and removed the risks of excess nitrogen or protein associated with intensive grazing systems. It also increased tonnage of forage per acre / hectare, increased mineralization and energy in forages, and boosted dry matter intake per cow. The Van Amburgh's saw a very stark difference from before, with much healthier cattle as a result of better nutrition (see Image 6).

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Image 7: Grassfed heifer, 7 months old, never had any grain.

Improved Livestock Health

Milk fever, mild ketosis, pink eye, hairy heel wart and other foot problems, and calving problems were common in the herd; but no longer. Mastitis dropped from that original 73%, to under 3%. Today, the livestock are so healthy their annual vet bill has reduced to less than \$500 per year, covering incidentals and pregnancy costs. When Phyllis recently needed information from her regular vet for an application form, the vet replied, “Am I your regular vet? I only see you about once a year.”

Phyllis says that herd health began to significantly improve only after soil health improved. “The intake of supplemental nutrients was not nearly as effective as providing a high plane of nutrition in forages from healthy soils.” She also says that, “blending-in animals from other herds does not introduce new problems into the herd, because overall health is so high.”

Social Benefits

For the Van Amburghs, the social benefits of Holistic Management related to quality of life, which meant more time together as a family, more wildlife to enjoy, a sense of community, and a lot less stress.

During the first five years of farming, Paul was in the tractor morning till night making feed and feeding the animals. Today, he’s rarely in the tractor, and has time for all kinds of things, like helping other producers. Time together as a family has increased, especially over the last 12 months.

“The joy of farming regeneratively is huge,” says Paul. “It’s rewarding to watch harrier hawks, and for our children to see wildlife in the tall grass pastures.”

The Van Amburghs built a community greater than their family, a community of like-minded people. The culture of Maple Hill Creamery is open, and its farmers are willing to share production techniques and information, and to lend a helping hand. It’s not the normal competitive culture of the dairy industry. Phyllis explains, “When you can double productivity on the same acreage, you don’t need to put your neighbor out of business anymore.”

Holistic Financial Planning took a lot of the stress out of making decisions. “The financial stress associated with dairying,” says Phyllis, “can be completely exhausting and has detrimental effects on your health. You can’t continually blame the weather for poor performance. We planned to have very little profit because we put most of our profit back into wealth-generating expenses. But we can do

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that because it is so much more predictable. It really does contribute to a lower stress level. We sleep at night. It's like night and day compared to before."

"The holistic grazing plan," says Paul, "also reduced our stress levels by taking all the vagaries out of how much food you've got. The weather and other conditions will only shift it somewhat. As cow health improves, I don't have to check every two hours on cows that are calving, they just calve. Everything just works. I operate under the assumption that everything will just work. I don't worry about it anymore."

"It's frustrating." Says Phyllis, "when people turn their ears off when they hear the word *holistic*. I make them listen. If you're not working everyday to improve your future resource base, which is the fundamental premise of Holistic Management, then you are not building wealth, you're mining and degrading, you're predatory, you need to gobble up something else to survive. But if you proliferate life, then you are building wealth, and your future resource base. In this way, everybody can be healthy. You don't die for naught. You contribute to the life cycle – that's what regenerative is."

"Most importantly," says Phyllis, "farming is enjoyable to us again, and our kids want to stay involved. To us, that is a huge sign of success."

Ecological Benefits

A masters degree student at the University at Albany did a study, "The Effect of Grazing Regime on Grassland Bird Abundance in New York State," to assess the impact of different grazing systems on ground-nesting birds. There were significantly more ground-nesting birds on Dharma Lea, the holistically-managed farm in the study, than on other farms in the study. "Holistic resource managed pastures had 1.5 and 4.5 times higher average abundances of obligate grassland birds than minimally rotated or continuously grazed pastures, respectively."

Download the research paper [here](#).

"The increase in wildlife has been huge," says Phyllis. "I had a garden spider build a big beautiful web in a pasture right in the middle of the growing season. It's cool there was time for it to do that."

The Van Amburghs made the decision to participate in a conservation easement that resulted in their fencing off approximately 10% of the farm on both sides of a set of three streams running the entire length of the farm. The purpose was to protect the watershed that goes to New York City. "We have benefitted from putting our fencing 30 feet (9 m) outside of the stream," says Phyllis. "Other farmers put the fence right up to the stream. The ecological health that a streambed adds to the overall productivity of neighboring pastures is enormous. The 68% increase in grass productivity is testimony to this. Overall, it's been a net gain."

Paul remarked, "Recently I could push posts in by hand during a drought. Before, I needed a hammer. The soil doesn't dry out like it used to. In 2015, we had a five-week dry spell (no rain at all), and in 2016 the same thing happened in May/June. It hurt a lot of farms around us that didn't have a grazing plan in place. We had a field day in July 2016, and finally got rain the day before the event, and we still had 45 days of grazing ahead of us. Ninety farmers came to that field day because they were already out of pasture and they wanted to know what was going on and how we had managed so well."

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How long does the transition take?

“Year one of Holistic Planned Grazing made a difference for us,” says Phyllis. “It started to free up the stress level, the economics, and the logistics right away. This is year three and the momentum is really tangible. We’ve already been able to realize the benefits and be much more effective and profitable.”

In 2015, after just two years of Holistic Management, Paul writes, “we are making progress and have seen amazing things happening here at the farm. For example, this year we had grass growing in a way that can only be described as ‘explosive’. The improvement in the water cycle and the nutrient cycle due to our better management caused a huge improvement in our grass, the cattle and our bottom line. We grazed deeper into the season than any year in the last six. We are very excited about the financial implications of Holistic Management. I already see how ‘flying by the seat of my pants’ was not the best way to go. We have now committed the time to measure and evaluate all the different aspects of the farm to see how we are meeting our goals and to make adjustments.”

How to make the transition easier?

“Use the help or services of a skilled practitioner or facilitator,” says Phyllis, “and have a lot of conversations about your fears so they can be addressed. Use your red flags to get to the root cause of issues. For example, you may be afraid to drop grain, because your cows might suffer and get sick. The reason you’re afraid is because you know their requirements are high and their needs are met by grain. What are you going to do to replace grain? What are the tools you’ll use, and how can you do that regeneratively? With Holistic Management you’re going to add to your knowledge, you won’t have to lose anything. Don’t lose confidence in yourself. Dairy farmers are highly adaptive and intelligent beings. Use your skepticism as a healthy tool to help you make the transition. Start asking questions and be open-minded. Start with a holistic grazing plan. That’s a really good first step.”

What’s next?

The Van Amburghs decided to purchase an additional farm that would triple the size of their land, allow them to move to a new family home, and expand the herd and milking parlor. Using the context checks to make sure their decision was aligned with their holistic context gave them the confidence to buy the additional farm, knowing that each additional cow would yield high profit.

Videos

Watch the Van Amburghs in, *The Story of Dairy*, by Savory Institute.



Image 8: The Van Amburgh’s in, *The Story of Dairy*.

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Here is an example of a pasture that is performing very well. “We began grazing on April 26, 2017, so that date is about the beginning of our growing season,” says Phyllis, “this video was taken July 20, the third pass of grazing through this paddock, following a 28-day recovery period. As you can see, growth is exceptional. There were seven grazings in this paddock before the pastures went into dormancy in November 2017. This is what can be achieved when we graze with an holistic grazing plan.”



Image 9: Watch this video on Dharma Lea filmed July 20, 2017

The insects and sward are diverse in this video filmed on Dharma Lea October 2017.



Image 10: Video of sward on Dharma Lea, October 2017

For More Information

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