

Whole Farm Planning at Work

Success Stories of Ten Farms

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We hope to reach the widest possible audience with this collection of stories; please copy or otherwise distribute it, in whole or in part, with a printed acknowledgement of the source of the material.

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Jill MacKenzie & Loni Kemp

Introduction

More and more farmers in the Great Lakes Basin are using a “whole farm” approach to planning. Whole farm planning means finding ways to manage land, money, crops, livestock, personnel, and marketing to achieve diverse goals for the farm. A good whole farm plan seeks win/win solutions so that the environment is protected; management of nutrients, pests and pesticides is improved; the farmer makes a profit; those who live and work on the farm have satisfying work; and production and quality goals are reached.

There are many ways of planning farm operations. Some of the farmers profiled here used formal processes such as Holistic Management and the Skaneateles Lake Watershed Agricultural Project approach. Others set goals and found ways to achieve them through informal discussion, experimentation, and working with advisors. In every case, the whole farm plan brings the different facets of the farm business together, so that crop rotations, pest management, livestock breeding and feeding schedules, financial plans, time and labor management, and protection of natural resources are integrated into a single farming system.

Rather than formulating separate plans for finances, conservation, crops, nutrient management and livestock production, farmers who plan for their entire farms at once look for connections between various parts of their operations. New opportunities are often revealed, and these farmers can integrate information about animal nutrition with ideas

about crop production, or plans for profit with environmental stewardship, to find solutions that work best on their specific farms. Many farm families include in their long-range plans personal goals and values, such as ideas about how time is spent, or about how each family member is involved in the farm operation, often leading to improved quality of farm life and greater job satisfaction.

As the farmers profiled in these case-studies know, the best start for any whole farm plan is naming a definite set of goals for the farm. Once these are established, farmers can begin making changes that will bring them closer to reaching their own personal goals.

These stories showcase some of the many successes of whole farm planning in and around the Great Lakes Basin, showing the diversity of forms whole farm planning can take, and the different results that can come out of it. All of these farmers have used whole farm planning to reach their own goals for environmental enhancement, profitability, and quality of life.

We hope these stories inspire more farmers and their advisors to seek out whole farm planning tools, so they can achieve success in meeting their goals.

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Landlord & Tenant Plan Together for Sustainability

Landlord Bob Clutts and tenant Asa Chester, along with Bob's son, Perry, a farm employee, work as a team to achieve their goals for stewardship, production and profit. They innovate and make technology work for them, while keeping a sharp eye on marketing and financial management, and improving their natural resource base.

The Clutts family has owned Pleasantview Farm in Ohio since 1899. Bob Clutts now co-manages the farm with a tenant, and he has maintained his commitment to the land. It was fortunate for him and for Asa Chester that he was looking for a new operator just when Asa was looking for land to rent, because their ideas about farming complement one another's.

Bob and his wife, Sue, live in North Carolina. They had not been very involved in management of the farm until 1989, when Bob decided he wanted the farm to switch from growing feed for animals to growing food for people. He wanted to move towards more sustainable practices, and to improve the soil on the farm.

Asa was looking for an opportunity to do those things as well. He grew up on a cash-grain/livestock farm in Ohio, and while managing a cow-calf and feeder beef operation, received his degree in agricul-



Perry, Asa, Bob, and Sue.

tural economics, doing coursework in agricultural engineering and agronomy. He went on to manage a large cash-grain operation, learning about both conventional and unusual practices, and also performing construction and mechanical work. For the past ten years at Pleasantview Farm, Asa and Bob have been developing farming practices that benefit the land, produce high-value crops, and make a profit for both of them.

The farm is 545 acres of gravelly land in south-central Ohio. Most of it is gently rolling, with some along a creek bank. It had been in corn and soybeans for many years, cropped for maximum production during the "Idiot 80s," as Bob puts it.

When Asa came to Pleasantview Farm in 1989, he found erosion, very low soil organic matter (many acres at or below 1%), compacted soil, and perennial weed

infestations. With input and encouragement from Bob, Asa began to turn the farm around.

Whole Farm Planning

The two men decided to grow higher-value crops: seed wheat and food-grade soybeans and corn, with a long-range plan of all crops in certified organic production. They began planning for a switch to organic farming, knowing it would be many years before they could bring it about. The first transition would be to food-grade crops, with “culture specific” production practices that met consumer demand, such as low-spray, no-spray, specialty varieties, and high-quality grain.

Both Bob and Asa knew it would be a long haul towards their goals. They knew they would have to come up with innovative practices specific to the land, the crops, and the marketplace. With Asa’s comprehensive

background in farming, and Bob’s willingness to involve himself and to consider profitability over the long term, not just year-to-year, they felt they could achieve their goals.

Bob’s son, Perry, explains their philosophy: “We feel the best way to preserve farmland is to make the agricultural value of the land equal to or greater than the non-ag value. This will require three components: low-cost production methods, value-added production, and integrated management techniques to combine these two. We have become dedicated to learning and trying out new methods to help small farmers (including us) stay in business.”

Progress Towards Goals

Asa has never used insecticides at Pleasantview Farm, instead relying on natural predators and the selection of varieties able

Asa’s, Bob’s and Perry’s Goals for Pleasantview Farm

Conservation and Stewardship:

Raise soil organic matter levels, encourage wildlife, demonstrate sustainable agricultural practices, improve the environment, reduce use of chemicals.

Production:

Produce healthy food or seed, rather than animal feed, according to organic or other verifiable guidelines.

Profit:

Maintain and improve the value of the land, reduce input costs, market crops at premium prices.

to withstand insect feeding. Herbicides are still used in corn and soybean production, when necessary, but not in wheat. In 1990, Asa stopped using anhydrous ammonia, and now uses only liquid 28% nitrogen during cultivation.

The shift away from chemical sprays and toward decreasing synthetic fertilizer was made quickly, if not completely. The greater challenge of soil management still awaited. Asa began trying to build organic matter in the soil. Organic certification requires a transition period during which no chemicals can be used, but just as importantly, organic production is most successful when the soil contains at least 4% organic matter, which facilitates exchange of nitrogen.

Raising the level of organic matter in the gravelly soil has been quite a challenge. Asa has been persistent and has tried many different approaches. He plants cover crops and keeps the wheat straw on the fields. He

has switched to ridge-till, designated mid-field haul lanes to prevent compaction of end rows and interior rows, and begun cultivating between rows in a way that minimizes oxidation of organic matter. Asa is always looking for new ways to improve soil health and fertility. Currently, soil organic matter is above 2%, after ten years of his stewardship.

Asa is particularly good at adapting machinery to suit his needs. He has welded on guides and tubes, changed sprayer nozzles, switched tires, put worn-out blades to work, and generally used implements for what he calls “off-the-wall” purposes. For Asa, precision ag doesn’t have to be expensive or high-tech. Banding fertilizer rather than broadcasting, applying herbicide directly to weeds on either side of row centers, and interplanting soybeans into wheat, are three things he has accomplished with his unconventional use of machinery. He points out that precision ag practices save money, minimize pollution potential, protect wildlife, and are compatible with sustainable agriculture.

Although they have not yet reached their goal of producing certified organic food (they hope to be certified in 2005), Asa, Bob and Perry are pleased to be growing food-grade corn, wheat and soybeans. By planting varieties such as tofu soybeans, blue corn, and spelt (a primitive wheat), and cleaning the grain on the farm, they are able to command a premium price for their crops. Asa



Some of Asa's educational signs displayed near the pine plantation.

and Bob share 50/50, so they are both rewarded for the extra risk and effort of growing these foods sustainably.

The land along the creek and some highly erodible areas, about 125 acres, are now enrolled in the Conservation Reserve Program. Most is planted to grass and legumes, and some to fast-maturing hybrid pines. For now, the tree-farm area provides wildlife cover, and prevents erosion on land that was often flooded in the past. In twenty years, the pines will be ready to harvest for lumber or paper.

Asa has made signs that identify production practices they use, to educate other farmers and the general public. *No Chemical Insecticide Used Here, No Chemical NH3 Used Here and Culture Specific Corn Production* are just a few of their many “advertisements.”

Persistence is paying off, as yields have increased and profitability has risen. They are starting a new project, using composted poultry manure as a source of organic matter and fertility, to see if they can’t bring about a faster increase in soil organic matter, while reducing the amount of nitrogen fertilizer they must purchase.

This project will be monitored and documented with assistance from government, university, and non-profit organizations. Perry hopes that their research will find yields as good as they might get from using synthetic fertilizer, and that conventional row-crop farmers may be attracted to more sustainable, value-added practices. He also hopes that the U.S. Department of Agriculture and its Federal Crop Insurance Corporation will acknowledge the feasibility of their sustainable practices, so that farmers using these practices will be able to secure loans, just as farmers using conventional practices can.

Asa says that one aspect essential to farmers adopting more sustainable practices, as he and Bob have done, is the setting of long-range goals. Once farmers determine what their goals are, and make changes in order to achieve them, they’ll be moving towards sustainability. One way of thinking about it, he says, is, “Are you going to do what improves the value of your farm down the road, or are you going to take the top dollar today and run?”

With half of U.S. farmland rented out, it is vital for landowners and renters to work together to make the best plan for each farm, as Asa, Bob, and Perry have. ◇

Rotational Grazing Transforms a Whole Farm System

Dave Forgey retained his pursuit of efficiency, but turned his focus from getting the best use from machinery to getting the best use from his land.

Forgey's Riverview Farm is 330 acres of sandy, rolling, highly erodible land in north central Indiana. Dave Forgey and his family have farmed this land for 55 years, growing feed and hay for their dairy herd, and pasturing heifers during the spring.

Dave's focus has always been a pursuit of efficiency and innovation, and he has long been a specialist in forage production and improvement. About his farming system before the early 90s, he says, "The way we thought about farming was that we concentrated on putting machinery to as efficient uses as we could, and growing things better on our acreage. We had a good forage program, and good soil conservation programs."

But after the drought of 1988, he began to question his farming system. He hadn't been able to grow enough feed and hay for the cattle, and ended up buying feed. Dave remembers with feelings of chagrin, "If we could have managed things better, we probably could have avoided running out of feed." About a year later, he heard a pres-



entation on rotational grazing and was inspired. He liked the idea of the cattle harvesting their own feed and spreading their own manure. Now his entire farm is laid out for rotational grazing, he milks seasonally, and he has seen great improvements in both his natural resources and his finances.

Whole Farm Planning

In making a transition to rotational grazing, Dave continued his pursuit of efficiency, but now he focused on considerations of animal and plant physiology, climate, and soil conditions. In 1991, another dry year in Indiana, he used a 25-acre portion of the farm as a grazing trial, rotating 25 bred heifers through seven paddocks. The land supported the animals until the end of July, whereas when he had pastured heifers there during the drought in 1988 without

managing their rotation, the grass only lasted until the beginning of June. It was clear to Dave that this system was going to work, so he spent the winter laying out the entire farm, converting cropland to pasture for rotational grazing.

Dave realized that he would have to work with the whole farm at once, considering finances, labor, equipment, animal health, forage improvement, soil fertility, the water cycle, manure management, and milk production in every decision he made. To simplify a complex plan, he decided to convert the entire farm all at the same time, so he wouldn't be trying to manage two different systems at once. He says he had to completely change his mindset to begin managing every inch of his farm, to set up a plan that would address the needs of the land, the animals, and the people.

Progress Towards Goals

Dave began implementing his plan in 1992. He first laid out three miles of water lines and fifteen miles of fence line, and designed lanes for the cows to travel between grazing paddocks and the milking parlor. Next he began seeding grass and legume mixes in former crop fields, and he drilled seed into the fields that had been pasture or hay all

along to improve the forage mix.

Within three years, the entire farm had been converted to high quality pasture. Dave's chores changed, too. He had spent his time planting, tending and harvesting crops, then feeding them to cattle in his free-stall barn. Now his work consists of moving electric fence wires as he guides the cows, followed by the heifers, through each paddock, cutting hay in spring to feed during winter, and escorting his herd from pasture to milking parlor and back. He also sometimes mows the pasture to keep the forage plants from flowering, if they are growing more quickly than the cows can eat them.

In 1995, Riverview Farm became a seasonal dairy, milking from spring until the beginning of winter. When Dave realized milking in winter just wasn't profitable, he decided to dry the cows up when they begin eating hay, usually in December, but sometimes as early as mid-November. This decision, based on finances, has resulted in a "vacation" period the Forgey's never experienced when they milked year-round. In winter, either Dave or an employee spends a couple of hours each day moving the cows from place to place in their winter paddock, and feeding them more hay.

Each year, as Dave begins to plan his

Dave's Goals for Forgey's Riverview Farm

Manage herd and land for mutual benefit.

Concentrate on profit, not income.

Take management cues from the land.

upcoming grazing rotation, he bases his decisions on soil fertility. He selects the areas on the farm with the least fertile soil as the next winter's paddocks so the soil can benefit from the extra manure. Hay bales are stored in these paddocks and then fed there during the winter months. The bales are unrolled daily across the paddock, and each day the cows are advanced about six feet to clean soil and fresh feed. In spring, Dave says, the cows' wintering areas are completely trampled, but extremely fertile. He drills in seed to replace dead plants and to improve the forage mix, and begins hauling hay bales to whatever area needs the next winter's manure most.

Dave is pleased that the only purchased



The farm before Dave began rotational grazing.

inputs coming onto the farm are the grain and minerals fed to the cows daily during the milking season. The cows are fed about twelve pounds each of enriched corn daily. Protein supplements are only added during the times when stored forages are fed to milking cows. Dave also points out with satisfaction that the cows spread their own manure over every acre of the farm, eliminating the chore of spreading manure, the need for manure-spreading machinery, and the potential for runoff and contamination of surface water.

Other achievements Dave points out that have resulted from his determination to manage every inch of his land, and from his successful transition to rotational grazing, include soil organic matter increasing from 1.7% to 4% since 1992, and more soil life such as earthworms. He is glad to have a smaller machinery inventory, and to spend less time repairing



The farm as it is now: permanently in pasture.

machinery and more time monitoring the plants and animals on his farm. Much improved animal health and significantly lower veterinary bills have also resulted from the new system. Dave believes there is no soil erosion at all on his farm, now that all his land is in pasture. Water quality tests on samples from a ditch near one pasture actually had lower coliform bacteria counts than samples from the ditch upstream, near a neighbor's cornfield. And he also mentions that "this system has allowed me to



keep a lot more in my pocket!"

Dave often gives talks on grazing livestock, including a presentation to the Indiana whole farm planning working group. "I really get excited," he says, "when I talk to a young person who wants to get started grazing dairy cows." But he understands that this kind of management intensive operation isn't for everyone. Many farmers would be uncomfortable not following the "recipe" provided by experts such as their vet, Extension agent, equipment salesperson, and nutritionist.

Dave also thinks intensive management is best suited to small- or medium-sized farms. He says, "I've got my plan in mind all the time, thinking about what's going to happen, how I'm going to respond. I don't know if a person could think 'big' enough to manage a thousand acres." But for an enterprising and innovative farmer with a medium-sized herd, Dave would definitely recommend a whole farm transition to rotational grazing. ♦

Seeing the Big Picture on a Small Farm

Ray Johnson's ancestors have farmed in northeast Minnesota for a hundred years, but that doesn't mean answers to today's farming questions are easy. Ray and his wife, Sharon, use Holistic Management to develop goals and discuss decisions about changes on their small dairy farm.

Ray and Sharon Johnson's farm is in an area of thin topsoil, rock, peatlands, and woods. The land is suitable for dairy, but not for conventional row crops. Ray has been milking cows there since he was sixteen. Today his 520-acre farm supports about 50 milk cows and about 40 head of replacement stock. About a third of the land is tillable, used for raising barley, oats, and alfalfa for feed. The rest is pasture, woods, and swamp.

Two big changes in the past decade triggered the need for new ideas about the farm. First, Ray married Sharon in 1987 and they now have four small children. Ray hurt his back in a car accident in 1993, ending his ability to earn off-farm income as a mechanic and portable sawmill operator. They needed to earn all their income from the farm, despite the fact that few farms in



Ray and Sharon outside their newly-remodeled guest cottage.

the area fully support a family. Continuing declines in milk prices added to the challenge.

While Ray had always pastured his cows outside to some extent, he wanted to let them be outside year-round. Plus, he needed a new milking parlor to make milking easier on his back. Both these changes required construction of new buildings and additional financial investment.

Whole Farm Planning

While Ray and Sharon were weighing whether to take the construction plunge, or to give up farming altogether, their Extension agent suggested a class in Holistic Management. Together, Ray and Sharon took an introductory course, followed by a longer course spread out over most of a

year, and then later another class.

The Johnsons feel that this training gave them the tools to discuss big decisions in terms of their many goals. It also taught them to define the differences in their individual priorities and make informed joint decisions. The classes were taught by certified instructors who brought the farmers through the process of refining their personal goals.

After nearly four years of working with a plan, Ray and Sharon don't consciously use Holistic Management on a daily basis, but they find that they talk to each other more and share in decision-making. Part of their plan is written, but discussion is the primary means of making decisions. They continue to revisit the long-term goals they have set, and they implement them gradually. For a while, they attended monthly meetings of a Holistic Management alumni group, where they asked questions, talked about new ideas, and socialized with other farmers.

Progress Towards Goals

The Johnsons did opt to build an eight-stall milking parlor and two cow sheds. The animals now stay outside all year, but they have shelter in winter in an opening on the south side of the building. Ray no longer has to bend when he is milking cows, a necessary improvement for his health. He can now milk 45 cows in less than an hour, and for a while he increased the herd to 60 milk cows.

At the same time, manure management has improved with the new set-up. Milk-house washwater is now pumped to the manure lagoon for application to the fields. Manure collected during the winter is stockpiled and composted, providing fertilizer for fields and pastures.

Other changes included a shift to management intensive grazing, which eliminated the need to store hay in the barn's hayloft. That saved stress on Ray's back and opened up an all-weather play area for the kids. Later, they replaced the floor in the hayloft and installed basketball hoops and new lighting. Now neighbors of all ages come over for "barnball" on Wednesday

Ray's and Sharon's Goals for Their Farm

Have a pleasant living and working atmosphere.

Stay on the farm.

Have more time together.

Take a vacation.

Make a living with dairy.

Increase profits.

Manage the land holistically for future generations.



The new milking parlor. When Ray is milking, the cows' udders are at shoulder height, so he doesn't have to bend.

evenings and Sunday afternoons.

Holistic Management also led the Johnsons to think more about the environment, especially water quality. Pesticides have been eliminated, except for fly spray, and fertilizers are not stored or handled on the farm. Although their drinking water well is 150 feet from the barn and has consistently passed the test required for dairies, Ray is thinking about changing his fuel storage from an underground tank to an above-ground tank, to reduce the risk of a leak.

Pasture regeneration is now under consideration. So is seasonal milking, which

would be an important step to allow the family to take a vacation. To move in that direction, Ray is trying to adjust the herd's breeding cycle, and is considering increasing the herd size. Record-keeping is being improved, although it is always difficult to stay up-to-date.

Ray and Sharon recently remodeled a cottage on their property, and rent it out year-round. The cottage is close to the west branch of the Kettle River, and they advertise it as a "quiet country retreat." It's a source of income, and also makes it easy for them to have company. Since they can't get away from the farm, they welcome fam-



The Johnsons' son Lars in the hayloft.

ily and friends who come to see them.

One thing the Johnsons wish they could include in their planning process is a group of other farmers who would discuss plans together. Sharon feels that farmers tend to become too isolated and to fear that their difficulties are due to doing something wrong. Meeting with other farmers usually

reveals that others are in the same boat, and the exchange of new ideas often helps. Sharon is working with the local Sustainable Farming Association chapter (on whose board she has served) to start up a similar group of farmers to continue the camaraderie and information exchange, and to work more on whole farm planning.



Ray and Sharon believe Holistic Management is worthwhile for them. It helps keep their communication open, and it's a useful decision-making technique. They feel good about farming and want to stay with it, despite the challenges and hard work ahead. They're on the right track, it seems, and they look forward to reaching their goals. ◇

From Feeding Chickens to Grazing Beef

Robert Souder has converted his farm operation from 10,000 chickens, vegetables, pick-your-own berries, and a few steers to intensive rotational grazing of 150 head of cattle and raising the feed to finish them. He made the changes after working with state and federal agencies in the Pennsylvania One-Plan farm planning program, a cooperative effort of state and federal agencies.

Robert Souder's 160-acre farm was diversified, with egg production as the main enterprise, and beef, fruits and vegetables on the side. Robert was considering getting out of egg production and increasing the number of cattle on the farm. Outlets for his eggs were disappearing, as the really big producers were taking some of his business.

But he was primarily looking for assistance in controlling erosion in one of his fields when he became involved in the Pennsylvania One-Plan program. One-Plan was launched to enable conservationists, Extension agents, foresters and private consultants to work simultaneously with farmers, coordinating their advice and tailoring it to each particular farm. First, the agency people helped Robert engineer a system of terraces to prevent erosion on his sloping land. Then, as he worked with the team of advisors, Robert also considered

making major changes on his farm.

Whole Farm Planning

In addition to his concerns about having egg production as his main source of income, there was also the issue of manure management. The manure the chickens produced was all surplus: he didn't really need it for his cropland, since he had adequate cattle manure. He could sell the manure to other farmers, but he wanted to streamline his farm business.

He had some ideas about concentrating on beef. His cow/calf operation was not as profitable as he would have liked, though. His pasture wasn't supporting the animals, so he was feeding them hay during the growing season. The conservationist on his One-Plan team suggested that Robert attend a grazing seminar to learn more about raising beef on pasture through rotational grazing.

The conservationist remembers the excitement of working with Robert and other farmers in the program. "We spent a lot of time talking before Bob began making these important decisions," he says. "He's a really good manager in terms of attention to detail," so it was just a matter of helping him find ways to improve efficiency and use of his land.

Progress Towards Goals

After the grazing course, Robert began the transition to grazing. Previously, he had pastured 20 head on ten acres. Forage quality was poor, so he fed the cattle plenty of hay and grain. Many of his crop fields had strips of hay alternating with strips of crops, and Robert started the transition by allowing the cattle to graze the strips and the harvested fields, cleaning up after sweet corn harvest. He then began planting some of the cropped strips to forages.

As he increased the number of cattle and began managing their grazing, he also experimented with forage mixes. He has settled on alfalfa, without any grasses or other legumes, and has found a variety that can take the heavy traffic of 100 head moving across in just a few hours. Although he sees that the animals gain weight and are generally healthy grazing the alfalfa, he has had to customize a grazing system to make it work.

In the morning, the animals idle in the barnyard, and he feeds them a small amount of grain. If they go out on the alfalfa too early in the morning, while it's wet with dew, they bloat, and could die. Robert has found that it's important for rain or dew to

have a chance to dry, and for the cattle to have some food in their stomachs before they begin to graze.

The pasture is divided into nine strips. On each one, Robert can choose to graze the herd or to plant small grains. Last year, he used six as pasture and three for grain. The cattle spend a week on each pasture strip, with the electric wire that controls their grazing moved down the strip twice a day. When they enter a paddock, the alfalfa is knee-high. When they leave, it's only a few inches tall. Young calves can duck under the wire to reach the choicest forage in the paddock ahead. Robert figures he's grazing about five times as many animals as before, without increasing his pasture acreage; instead, he uses intensive management to get the most out of his pasture.

Robert grows nearly all the grain his cattle eat, raising corn, barley and oats. He feeds the grain in the last six months before slaughter. The cows also receive grain every fourth day, primarily to get them to eat a mineral supplement that helps prevent bloating.

Although the cattle spread their own manure as they move through the pasture,

Robert's Goals for Rock Hill Farm

Refine and improve grazing system.

Reduce purchased inputs.

**Make a profit on grass-fed beef
and other enterprises.**

Protect and enhance natural resources on the farm.

Robert has to store, haul and spread manure from the barnyard. He uses it on his cropland, as well as on some hayland belonging to neighbors who have no use for their hay and allow him to cut it for free. In early June, he also cuts hay on the pasture strips, to keep the alfalfa growing, rather than flowering, because the herd can't keep up with the growth of the alfalfa early in the year.

The cattle spend the winter on a strip of pasture with poorer soil, eating hay and fertilizing the area with their manure. They also have access to the barn, and are fed grain every other day. One of the improvements made through the One-Plan program was to add a solid manure storage area in the barnyard, along with a grass filter strip to prevent runoff.

Robert bases his decisions on the needs of the animals, and the needs of his pasture—plants and soil. With the help of his agronomist, he closely monitors his soil's fertility needs, and applies the stored manure to get the best nutrient value while protecting water quality. The agronomist also works with Robert to scout for weeds and insect pests, which allows for minimal pesticide use. They find that some use of pesticides can be environmentally and economically sound. Robert believes that if every farmer were to use integrated pest management and reduce chemical inputs without giving up chemicals completely, the

net effect on the environment would be better than if just a few farmed organically.

Robert continues to improve the condition of his land. Right now, he's concentrating on about four acres of abandoned iron mine pits. The mines have been filled, but the soil is very poor. Robert gets topsoil from construction projects in the area, and incorporates manure before seeding. He considers that the owner-operator of a farm has the greatest commitment to the land, and that he's just doing his job in trying to restore this land to health.

By changing from confinement-raised chickens to free-range beef as his primary enterprise, Robert has been able to use his rolling land better. He's also reduced his purchased inputs, since almost everything the animals eat is raised on the farm. He's confident that improved profits will follow, although beef prices are low right now. A small flock of laying hens and a few acres of vegetables supplement his income

Robert is also confident he has made good decisions for the future of his land. He keeps records of all farm practices, yields, feed values, manure applications, and costs. With this kind of data available, and the help of a team of advisors, he's been able to make informed choices that benefit his farm's bottom line and its natural resources. ◇

A Plan for Full-Time Farming

In 1993, Bruce and Lisa Rickard moved from a 77-acre farm where they had been part-time farmers keeping a small flock of sheep, to Foxhollow Farm, where they began managing 280 acres of woods and pasture. Through Holistic Management they have been able to refine and achieve their goals. A number of farm enterprises, including sheep, beef cattle, and contract grazing, are now their sole sources of income.



Bruce and Lisa adjusting the marking harnesses on rams in with the ewe flock. The markings let them know when each ewe has been bred.

Lisa Rickard admits, “We’re planners—almost to a fault.” When she and her husband, Bruce, decided to become farmers, they developed a long-range plan: they would move from New Jersey to Ohio, where Bruce could continue to work at his systems-design desk job. They would buy a small farm and begin raising sheep and a family. Bruce would eventually quit his job and work with Lisa full-time on the farm, working towards the goals they had set for their lifestyle and income. In ten years, they have made this dream a reality.

They now have 400 ewes and 20 beef cattle. The sheep and cattle rotationally graze 180 acres. The rest of the farm is in woods and waterways. The Rickards also

seasonally graze about 40 dairy heifers on contract with another farmer. The ewes lamb in May outdoors, making for a very busy spring. Farm income has continued to rise, and the Rickards look forward to improving the management of their land and animals, while making more money.

Whole Farm Planning

Some of their success is due to their use of Holistic Management, a planning process that helped them focus on finding ways to use their land, their skills, and their energy to bring them closer to reaching their goals. Bruce had read Alan Savory’s book, *Holistic Resource Management*, while he was still working off the farm, and later he and Lisa

each took a course in the process.

The first step in Holistic Management is defining a “whole” to be managed; in this case, the farm land, buildings and animals, the family, and the money the Rickards had saved. Then they set goals for the family’s quality of life, and they began exploring means of production that would enable them to reach their goals.

Holistic Management requires testing many different solutions. The Rickards went ahead and, as Lisa says, “spent a whole summer planning the option of a dairy and a very small flock of sheep.” Even though that would have been a major change in the way they had been running the farm, they considered the possibility very seriously. On paper, Lisa remembers, “the income looked good, and we were already familiar with rotational grazing. We could have done it successfully.”

But in the end, they rejected the dairy idea because it would not have led to the life they wanted (they wanted more flexibility than twice-daily milking allows) and would have required a considerable initial investment to set up a milking parlor that would have been difficult to liquidate if anything went wrong. They also kept in mind that they had gotten into farming for the independence it offered, and they didn’t want to be subject to all the regulations on the dairy industry.

They also considered raising chickens and beef, marketing products such as firewood and honey, and even running an educational camp for children or college students. Once they had decided, through the Holistic Management testing guidelines, that sticking with sheep as their main enterprise was the thing to do, they considered different management systems for the

***Bruce’s and Lisa’s Goals
for Foxhollow Farm***

Quality of Life

**meaningful family work, time and energy left over,
low consumerism and outside inputs,
control of our own time and tasks**

Forms of Production

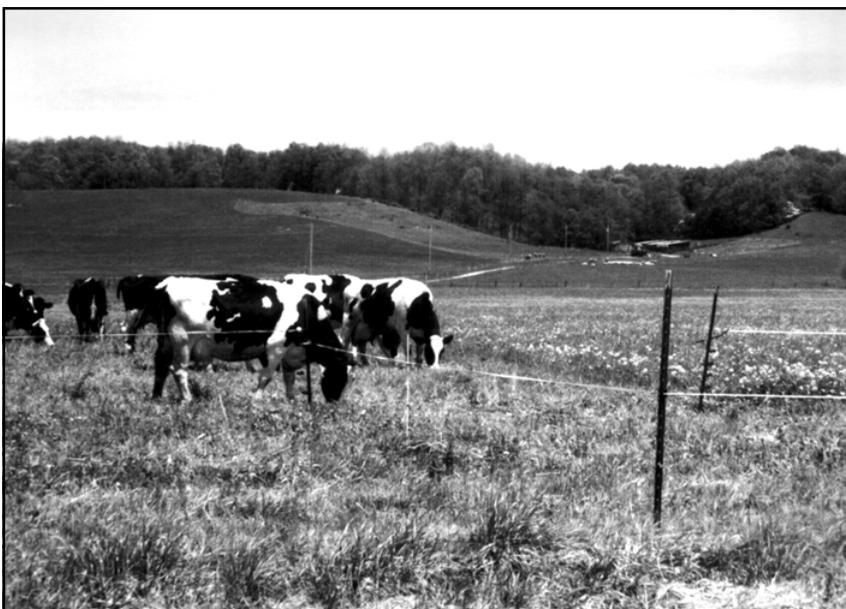
**sustainable practices yielding livestock
products from grass, forest products**

Future Landscape Description

**healthy mineral balance, water cycle, sod, stream;
diversity of plants and animals, including wildlife
and native plants; use of woods, pasture, streams**

sheep, and settled on May lambing.

Now they continue to use Holistic Management informally, as they analyze the profitability of each of their enterprises and make short-term plans. Lisa mentions that Holistic Management helped them look at “aspects of evaluation and goal-setting we hadn’t considered, like including the landscape in our goal-setting.”



The Rickards contract-graze cows for a neighbor.

Progress Towards Goals

One of the first things Bruce and Lisa did was to fence the pastures off from their woods. The previous owner of the farm had allowed beef cattle to graze in the woods. Lisa remembers that there were no tree

seedlings, no shrubs, no herbaceous plants in the woods—no undergrowth at all. The trees had no branches lower than five feet. Since they have excluded animals and allowed the woods to regenerate, many plant species have appeared that were not present before.



Jesse and Hannah Rickard help out with farm chores.

They also excluded livestock from the streambanks, which had been wide and muddy. Now the stream is deeper and shaded by the abundant vegetation growing on the banks. Lots of birds use the stream habitat.

As important as the environmental improvements have been, the improvement in the Rickards’ quality of life is just as important. Through their thorough planning and

hard work, they now have become full-time farmers. They started out thinking of farming as a lifestyle they wanted, but knew they would have to approach it in a businesslike manner if they were to succeed at it. Lisa says they really enjoy their work on the farm, even the dirty jobs like trimming the sheep's feet. "We get such a sense of satisfaction and accomplishment from finishing hard jobs like that," Lisa says.

One on-going hard job is improving the farm's profitability. Although the Rickards are making money, it is not as much as they had hoped, so they are still working at lowering their costs per animal. Holistic Management gives them a framework for working with their ideas and keeping their eyes on their goals, while they evaluate options for reaching them. ◇



Orphaned lambs are fed milk replacer inside an enclosure.

Extensive Record-Keeping Is Key to Planning Process

Richard DeWilde and Linda Halley have found that organically producing more than 50 different vegetable crops, working with a crew of fifteen, and marketing through wholesale, retail, and CSA outlets requires them to keep detailed records. It also requires lots of planning. Together with their employees, they base each year's plan on the previous year's records. They spend the winter making decisions, so they can spend the growing season producing food and making money.

At Harmony Valley Farm in southwestern Wisconsin, Richard and Linda cultivate about fifty acres, producing vegetables and small fruits for sale to restaurants, produce brokers, farmers' market customers, and community supported agriculture (CSA) members. As certified organic farmers, they work together towards their goals of soil and crop improvement, improved management of pests, ongoing learning, and continuing outreach and education for their customers and for other farmers.

Whole Farm Planning

Richard says he's always working to improve the planning process they use, but he's pleased with the way they plan right now. The basis of the farm plan is a meticulous record-keeping system. "Our original goal was to have everything that happened on this farm down on paper," he says. Although they haven't reached that



goal, they've made progress towards it.

The plan itself uses a set of notebooks. Richard and Linda write down what they intend to do, and then keep track of what actually happens during the growing season. They are moving towards having all their records computerized, because, as Richard says, "Computers do great math calculations instantly." They've found that first they have to have a manual system of data collection in which all employees are involved.

Employees keep track of each bunch or case of produce they harvest or ship. The data is then entered into a spreadsheet for presentation and analysis. "All production and financial records are computerized, but we still maintain a written record," Richard notes.

Three notebooks contain production plans for various crops. One has the schedules for transplanted crops from seeding in the greenhouse, to planting out, to harvest. A second contains production plans for salad greens, herbs, and other direct-seeded crops with small seeds. The third has the plans for large-seeded crops such as corn and beans. Financial and yield records are included in each book.

The fourth notebook contains field maps, soil test results, tillage records, cover crop rotations, and data on inputs of minerals, compost, manure and other soil amendments. A fifth binder is the operations manual. It describes procedures for packing produce, training tomatoes, pruning, and other cultural practices.

Each winter, Richard, Linda, and a core team of their employees go through the previous year's plans and records. "A detailed plan provides a useful picture of the farm," Richard says, "I know which cover crop is in which field, even when they're covered in snow." As they look at scheduling of greenhouse and field space, marketing, production practices, profitability, and labor constraints, they ask, "What

changes do we want to make this year?" Without having to search for receipts or statements, they can relate costs, yields, income, and labor for every crop they grow.

Progress Towards Goals

Richard gives one example of the interaction of good records and the planning process. This winter, he, Linda, and some employees considered their production of burdock root, a specialty crop sold at natural foods stores. They grow an improved Japanese variety, and burdock has been a profitable crop for the farm, with demand exceeding supply. During the planning process, it was agreed that producing more burdock was a good idea.

"We always look at limitations," Richard says. The crew cannot harvest more burdock than they are currently growing with the harvest implements they have. To grow more would require a new digger. So Richard began research to find out if such an implement existed or could be fabricated locally, and if it made financial sense to acquire the new digger.

In this case, they decided to go ahead and have a local machine shop construct a

***Richard's and Linda's Goals
for Harmony Valley Farm***
Learn and teach about organic production.
Put more land into production.
Improve soil tilth, fertility, and organic matter level.
Retain skilled employees.

new digger. They feel good about increasing their burdock crop this year. Since they make a habit of considering barriers to their actions, and considering the costs and benefits, Richard, Linda, and their staff proceed with confidence once a decision has been made.

Involving employees and other advisors is important to the planning process at Harmony Valley. Richard and Linda talk about ideas together as a family, and they also talk with a crop consultant, their machinist, other farmers, and their CSA members as they plan.

Bringing other people into planning for the farm comes naturally to Richard. He says he has always considered working with people and developing relationships very important. He works to make and improve relationships with customers, wholesalers, other farmers, his many advisors, and his employees. He says it's also important to "pick the right time" to call on their expertise or ask for their input.



Bringing staff into the planning process is also part of the commitment the farm has to its employees. Vegetable production can require a lot of hand labor, and organic production requires even more. Although Richard and Linda have two sons who help out with some of the farm work, Harmony Valley still has a seasonal crew of ten to fifteen workers. But because they are unable to keep the whole crew employed after the growing season ends, they can't count on having the same crew back each spring.

They are now considering a plan to employ the crew year-round, through greenhouse production, washing and marketing of stored produce, and possibly processing of farm produce, so they can market value-added products such as egg-rolls. Another possibility is cooperating with other businesses that need help during the winter, so that the workers stay employed at one place or another throughout the year. It's important to Richard, Linda, and many of their CSA members that they pay a living wage and offer good benefits to their employees, and they continue to work towards those goals.

Another aspect of their planning methods that Richard mentions is his and Linda's willingness to try things out and see what happens. "We see ourselves as experimenters. We have to do the research for ourselves," he says, because university researchers don't necessarily do work relevant to Harmony Valley. He tries to access knowledge from other farmers' experi-

ences; not just neighbors or Midwestern farmers, but those in other parts of the country and on other continents, too.

One idea he and Linda had wanted to incorporate into their farm was growing vegetable transplants in a no-till system. They wanted to have green manure crops providing more organic matter and fertility to their vegetables, but tilling under the plant material exposed organic matter to air and “burned it up” too fast. The concept of transplanting tomatoes and broccoli into a mat of knocked-down cover crops seemed good, but they needed to accomplish the knock-down without the use of herbicides.

Richard persisted with his research and finally found a method on another farm that could work for them. They experimented with a small plot first, and found that if the rye and vetch cover crop was at the right stage of maturity, just physically breaking the plant stems worked, and they could successfully transplant the vegetables. This coming year, they’ll work to refine the system further, using a mower or chopper to cut down the rye and vetch. They hope to expand their no-till system to other crops in the future. This system, like the whole farm plan, is what Richard calls “a work in progress.”

Richard also believes in sharing his findings. Both he and Linda participate in the Organic Crop Improvement Association (OCIA), their certifying organization, and are farming advisors for the University of Wisconsin and the Madison Area Community

Supported Agriculture Coalition. Richard teaches a vegetable production class at Michael Fields Agricultural Institute, and they do on-farm research with plant pathologists from the University. Richard has also developed a curriculum for organic vegetable growers.

One of the advantages of having such a detailed plan is that everyone on the farm can work independently. An employee can accomplish a new task just by checking the operations manual, rather than needing direction from Richard or Linda. Each week’s tasks are posted so employees know what has to be done when. The crew is comfortable working in a planned environment, without crisis management and seat-of-the pants decisions.

Richard says that although he keeps just about every detail of the farm in his head, even he uses the plan for things such as changing plates and planting depths on the seeder for each crop. Rather than guess how to set the seeder and do a series of little experiments each year, he consults the previous year’s records, saving time and seed.

“Reality doesn’t always come out the way we planned, but it’s good to have the plan. We still make on-the-spot decisions, but they’re based on good records and documented experience,” Richard says. Their detailed plan also is a way of ensuring the farm’s future. “What if I was sick or wanted to retire? Someone else could pick up the plan and run the farm.” ◇

Evolution of a Beef and Dairy Farm

George and Sally Shetler have been dairy farmers for 25 years. The last ten years have been a time of continuing innovation and planning, as they search for ways of improving profitability, protecting natural resources, and reaching family goals. The Shetlers have used organic farm planning and Holistic Management as they've planned and implemented many changes including, most recently, an on-farm bottling operation.



Sally and George Shetler raise beef and dairy cattle in northern Michigan. As their children have grown and the dairy industry has changed, they have been trying new ways of managing their herd and their land, keeping in mind the interests and values of the family.

The Shetlers own 180 acres and rent about 170 more. In 1990 they began rotational grazing on their land, and started using the rented land for hay. Rotational grazing improved herd health and their quality of life, as well as increasing profitability. They now direct-market grass-fed beef in addition to selling their milk through conventional channels. Word-of-mouth brings in most of their new customers, and

they keep in touch with established customers through a newsletter mailed each spring. Each year, they direct-market about 20 animals.

As Sally remembers, they had always “tried to stay away from chemicals,” and they began to document their practices in an organic farm plan. In 1995 their land was certified organic. The organic farm planning and annual inspection gave them something around which to organize their ideas for forage production and animal husbandry. During the winter months, the animals are fed conventionally produced grain, so they have not been able to realize a financial gain yet from the certification of the land.

The Shetlers enjoy direct-marketing the meat. Although the cattle don’t gain as much or as quickly as they might if confined

and fed grain, the profit margin is greater. George and Sally also enjoy the work associated with rotational grazing, and the greatly reduced need to store, haul and spread manure.

Whole Farm Planning

Their experience with grazing and with direct marketing inspired them to look for new options for their dairy operation. They began talking about bottling their own milk. One of their goals for the enterprise was to be able to involve their adult children on the farm. In their dairy operation, even with low input costs and the income from selling beef, the profit was just too small to support more than one family.

Sally recalls, “We had been talking about bottling our own milk for years when I came across a Bible verse: *In all labor there is profit, but talk of the lips tendeth only to penury.* [Proverbs 14:23] I decided it was time for us to stop talking about it.” She and George began seriously studying the feasibility of their idea.

The milk would not be certified organic, they decided, because they planned only to

bottle a portion of what their cows produced. The cost of buying certified organic feed for the milking cows would be more than they could recoup, even charging the going price for organic milk (about \$4-\$5 a gallon). Instead, they would market it as antibiotic-free and hormone-free. The milk would be unhomogenized or “creamline,” and would be packed in returnable glass bottles. Their son, Jake, would do home delivery of the milk.

They mailed a survey to natural foods stores within a 60-mile radius of the farm. The response was overwhelming; it was clear they’d be able to sell the amount they were planning to bottle. The rest of their milk would be sold as always, to a local creamery. Through a grant from the Michigan Agricultural Stewardship Association, they undertook a feasibility study. They analyzed the costs of starting up the business and compared it with projected income from the enterprise. Another grant, this one from the USDA’s North Central Region Sustainable Agriculture Research and Education program, helped them continue to develop their idea and work out the

George’s and Sally’s Goals for Shetler’s Amazing Graze Farm

Increase farm profitability through reduced inputs, direct marketing, and adding value to farm products.

Protect the health of the land.

Make room for their children’s families to join the farm business

Pay off debts within five years.

details.

During their planning for the new bottling enterprise, the Shetlers participated in a Holistic Management training. Holistic Management helped them put their goals down on paper and bring their kids into the goal-setting discussion. George and Sally also used the financial analysis methods they learned from the training. The weak link in their economic picture, Sally says, was the price they received for their cows' milk.

Progress Towards Goals

After all the planning and testing of their ideas, last year they were ready to begin construction of the new facility with Jake's help. He had worked construction in the

past, so played an important part, along with friends, neighbors and other family members, at their barn raising in May of 1998. It has taken a while to locate the old and old-fashioned equipment used to process creamline milk, but they began bottling in April of 1999.

Now that they've achieved this goal, the Shetlers have set themselves a new one: to have the debt for the new facility paid off in five years. They also hope to bottle a larger portion of their milk as time goes by, eventually processing it all on the farm. At that point, they'll be able to bring in some of their kids. Organic certification of the milk will make more sense then, too, because the cost of certification will be offset by the volume they'll be bottling.

For George and Sally, organic farm planning helped them organize their production practices into a coherent whole. Holistic Management has been useful for goal-setting and enterprise development. The Shetlers have been able to pick and choose from these two ways of planning, and integrate ideas with their own style of discussion and management, to develop a continually changing whole farm plan. ♦



The new bottling facility under construction.

Enhancing Nature Enhances Farm Operation

Gil Henderson and his farm manager work to improve both the herd and the natural resource base at Onandaga Farms, through long-term goal-setting, partnerships, and ingenuity.

At Onandaga Farms in Ontario, Gil Henderson and farm manager John Hill set out 35 years ago to build an internationally recognized registered polled Hereford operation. Gil currently ships breeding stock and embryos worldwide, with markets across North America, Japan, South America, Australia, New Zealand, the United Kingdom and Scandinavia. The goal of herd improvement has been realized, and environmental achievements have gone hand in hand with these business achievements.

Gil and John believe in “appreciating what you have, and working with it for the best use of the land.” They operate on 750 acres with up to 400 head of stock. As the operation has progressed, they have set a goal of working with nature and the environment to produce a superior product, while maintaining and restoring many of the natural features on the property. “We work with the wildlife here,” says Gil. “We don’t see any big conflict. Over the years we’ve had to adjust our farming practices slightly to accommodate wildlife, but it’s not a problem.” With water quality and quantity one of



the biggest issues in the area, the two men have chosen to accommodate the water on the land, to contribute to the quality of surface water and groundwater.

Whole Farm Planning

The Ontario Environmental Farm Plan has been a focus of their planning, helping them integrate many different practices and goals. They work to devise cost-effective and environmentally-sound ways of improving the watercycle, replanting native vege-

tation, protecting wildlife, and providing the best possible forage, water, and surroundings for the herd.

Progress Towards Goals

Gil's land is rolling to steep with wetlands, woodlands and fields. The farm is not well-suited for cropping, and some of the roughest areas were retired 25 years ago. Much of the farm has been maintained in permanent pasture and forage crops. Grazing and corn had been rotated, but in 1997, all cropping was ceased.

A rotational grazing system has been implemented, and further pasture maintenance includes fertilizing and clipping. John views this as "investing in what you have," and it has resulted in excellent hay and pasture crops, while minimizing soil erosion and the runoff of nutrients into water courses. Rotational grazing has the added benefit of providing undisturbed grasslands for ground-nesting birds and other wildlife.

Mowing of hay is usually delayed until ground-nesting birds have taken their

broods off their nests. Since this isn't always possible, John and Gil worked with Ducks Unlimited to develop a tractor-mounted flushing bar that extends in front of the haying equipment. The flushing bar scares hens from the nests so they are not killed. It also flushes fawns, wild turkeys and many other species. Easy to build and install, the flushing bar is something Gil feels any farmer could make and use.

Wetlands

Many wetlands on the farm had been worked to the edge, and several others had been drained by previous owners or were seasonally wet, resulting in unproductive land. Gil felt that wetlands were the best use for these areas and that more water on the land would benefit the herd, the wildlife and the environment. There are currently 41 wetlands on the farms, 35 of which Gil has restored. He notes that little land was removed from production in their restoration, since the land was wet and unproductive anyway.

Gil's Goals for Onandaga Farms

**To work with nature and the environment
to produce a superior product.**

To maintain and restore natural features on the farm.

**To work with water on the land to contribute to the
amount and quality of surface and ground water.**

**To implement cost-effective changes
on the farm, working in partnership with other
organizations whenever possible.**

Most of the wetlands have a fenced natural buffer strip surrounding them to further enhance water quality and benefit wildlife by providing riparian habitat. Some acreage has been retired to support the buffers around the wetlands, but the buffers complement Gil's "best use of the land" philosophy.

Livestock have been excluded from the wetlands by electric fencing. Limited access to water on a few ponds is also controlled by electric fencing. Two water fountains are available as alternative sources of drinking water for the cattle.

An additional benefit of the fencing system is that it has allowed native tree species to be planted adjacent to fence posts. The trees are protected from livestock, but shade is still available to the cattle.

Onandaga Farms is one of twelve cooperators in efforts to re-establish the trum-

peter swan in Ontario. Gil and John fenced a wetland and buffer area to keep out predators, and installed an aeration system to maintain open water all winter. They also supply feed for the resident breeding pair. Once signets are raised, they're removed to other locations. Onandaga Farms has contributed to the province total of 80 known nesting pairs in the wild, and 123 free-flying birds.

The wetlands not only host a variety of waterfowl, reptiles, amphibians, and mammals, they also replenish local groundwater supplies and provide a reliable source of clean water for the livestock. Through the use of buffer strips and limited livestock access, soil is kept on the land and nutrient loads are kept from the water courses.

Manure Management

The Ontario Environmental Farm Plan helped Gil identify manure management as

a target area for attention.

Manure is now stockpiled until spring and then spread only on thawed ground. Stockpiles are located to prevent runoff on frozen ground.

Gil is also working with Eastern Habitat Joint Venture program and Ducks Unlimited to manage barnyard runoff by constructing an eavestrough and water control structure system. Working with groups such as these has helped him achieve farm goals cost-



The custom-made flushing bar protects ground-nesting birds.

effectively.

Woodlots

Fifty acres of rough land was planted in conifers by the Ministry of Natural Resources about 25 years ago. The plantations were established under the Woodlands Improvement Agreement Program, and are still managed as forest cover. Native woodlands on the property also benefit from a similar management system. An ongoing program of planting cedar and sugar maple has been undertaken. Through these projects, Gil is insuring long-term sustainability of high quality hardwood and fuelwood production, providing cover and food for wildlife, and shade for the cattle, while protecting water resources.

The internationally renowned herd has benefited from access to plenty of clean water, shade and excellent forage. The farm is home and work to several people who benefit from the prosperity of the herd, achieved through “working with what nature provided.” Gil and John have become willing ambassadors for the cattle industry and for

conservation efforts, hosting tour groups on the farm.

Building upon decades of conservation practices, Onandaga Farms has incorporated the Ontario Environmental Farm Plan to address remaining environmental concerns. The farm system now works to benefit nature and Gil’s bottom line. The “best use of the land” has been kept as the ultimate goal, and the two men continue to adapt their practices to match what the land can support, rather than changing the land to suit the operation. ◇



Expansion, Liquidation, Survival

Sometimes, good planning can save you from financial disaster. Larry Moyer and his wife, Linda, inherited her father's farm and began trying to increase the efficiency and profitability of the hog operation. Larry pursued excellence, gleaning everything he could from other producers, and choosing alternatives that would work best on their farm, including expansion of hog production. Because he was taking a long view and monitoring the success of his plan, Larry was able to foresee trouble and get out of the hog business before prices bottomed out. Today, the Moyers still own the family farm, and have options for the future.

Looking back on his experiences as a hog producer, Larry says, "We wanted to make the farm work because it was Linda's father's. We knew we weren't going to get rich." They were committed to the land, and were willing to subsidize the farm business with their off-farm earnings.

The Moyers inherited 263 acres of excellent cropland in 1992, and Larry began a long-term program of improving efficiency in field operations, facilities, and feed conversion. He understood that maximizing production wouldn't neces-



Larry and Linda near the newly-poured concrete floors of their new facilities.

sarily maximize profit. He concentrated on raising high-quality pork, breeding and feeding to decrease back-fat in order to earn a premium on each hog.

Before taking over the farm, Larry had built his own insurance business, and felt he had a good knowledge of financial management. Larry's grandfathers had been a butcher and a blacksmith, but Larry had never lived or worked on a farm. He worked on gaining knowledge of crop and pork production, finding out about various practices and considering them for his farm. Fortunately, the farm manager who had worked for his in-laws stayed with the farm and provided continuity.

Whole Farm Planning

Larry attended pork producers conferences and made the most of his acquaintance with other producers. "I tried to get as much knowledge as I could from others and use it to my advantage," he remembers. It was clear to him that as larger hog facilities became standard across the country, and as prices got lower, to make a profit he would have to be efficient in feeding and marketing his animals. He would also have to raise more hogs than his father-in-law had.

Larry's plan centered around increasing production and production efficiency through technological improvements and managing timing of breeding, weaning, feeding and marketing. He decided to construct new facilities and grow more feed, in order for his new system to work.

About 200 acres were in corn, and Larry was able to increase corn production through the use of soil tests, manure applications, and applying liquid nitrogen during cultivation. With the help of his fertilizer supplier, Larry modified a used cultivator to sidedress and cultivate at one pass. This allowed him to use safer, cheaper liquid nitrogen.

Progress Towards Goals

The results were encouraging: Larry often won awards for high yields from the Pennsylvania Five Acre Corn Club. He points out that the farm is on some of the best, most productive land in his part of the state, so he just had to use the land to its potential.

In order to have better control over marketing of surplus corn, and to increase the efficiency of feeding the hogs, he invested in new corn bins, a new soybean meal bin, and a new roller mill for producing feed from corn, soybean meal and nutrients. The roller mill saved on feed costs because it produced a more digestible feed, so the hogs got more of the nutrient value of the corn. The feed was also less dusty than what Larry had been producing using a hammer mill, so it made for better working conditions and better living conditions for pigs.

Meanwhile, improvements in the herd were underway. Larry bought new boars and began the process of changing the breeding and weaning schedules so he'd be delivering hogs to market approximately weekly, whenever they had reached the optimum weight of 240

Larry's Goals for Brookvue Farms

Retain control of family farm.

Improve hog production system.

Increase crop production.

Get a reasonable return on investment.

pounds. New buildings to house the hogs were built, using a technology for a curtain wall that automatically vented itself to keep the pigs cool or warm. Even during severe winter weather, Larry says, he almost never had to heat the barns.

By 1998, the Moyers had 120 sows, and 1,200 hogs total, about double what they'd started with in 1992. Corn production was up, and although Larry had trouble finding reliable help since the original



farm manager had retired, his plan was on track. He was still working improve his system, his skills, and his bottom line.

But then came an unexpected jolt. Hog prices were lower than they'd ever been since the Moyers had gotten into the business—something Larry couldn't have predicted. Since he began farming, he had worked with a number of informal advisors, and in early 1998 he began discussing the farm's financial situation with one of his suppliers. As they analyzed trends in hog production and prices, it became clear to

both men that disaster was looming.

When they looked hard at what was happening, Larry remembers, "It was a no-brainer. Staying in hogs would have been financial suicide." Problems on the farm—mostly time and labor issues—combined with the low prices at market made it a long shot at best that he and Linda would be able to keep their farm if they didn't liquidate the hog enterprise.

He sold most of the animals by the end of October. The combine, tractor, cultivator and manure spreader were all sold, too. He and Linda still have the farm, and fortunately still have off-farm income. Now Larry is planning for the future of the farm, but not for his future as a hog farmer. "I have renewed enthusiasm," he says, "for my career in financial services."

Right now the cropland is rented to a neighbor. Larry grazes a Polled Hereford herd, one bull and ten cows, as his father-in-law did. He hopes that the market will turn around in the next few years, and that he will be able to lease his excellent hog facilities to someone else. In the meantime, he and Linda have sold their land's development rights to the county, so that it will stay farmland no matter what.

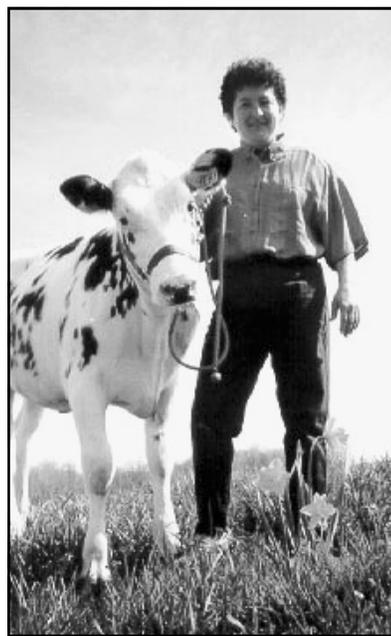
No farm plan can predict or prevent all problems. For Larry and Linda Moyer, though, their long range plan helped to minimize harm, allowing them meet their primary goal of keeping the family farm.◇

A Plan for Farmers Also Helps City Dwellers

In the hilly land near Syracuse, New York, Rick and Chris Fesko are the third generations of Feskos to manage their land. They're cooperating with the city to preserve agriculture in the city's drinking water watershed and protect the quality of the water, while making changes that benefit their dairy herd and their bottom line.

Chris Fesko and her husband, Rick, own and operate a 260-cow, 1,300-acre dairy farm in the Skaneateles (*skinny-at'-uh -luss*) Lake watershed, near Syracuse, New York. In an effort to protect its drinking water supply, which comes from the lake, the city has begun a program involving the fifty-four farms in the watershed to develop and implement whole farm plans. The goal of the project was to prevent sediments, nutrients, and pathogens from entering the lake. Through their participation in the Skaneateles Lake Watershed Agricultural Program, the Feskos have made a number of changes on the farm.

Cows and replacement stock on the farm graze about 100 acres of pasture. The rest of the land is in corn and alfalfa hay, primarily for their own animals. Surpluses are sold, along with wheat and oats, for cash. The land is hilly, and each year, Chris says, they had been losing an enormous



Chris and a heifer calf.

amount of topsoil from the cropland to erosion.

They were also dissatisfied with the way they were feeding the animals. Often rain-water would run through the area where they fed the cows from an "ag-bag," a large plastic tube of feed. The runoff would carry nutrients out of the feed, so the cows weren't getting the full food value of their ration. Calf and heifer housing were two other things they were planning to improve in the future.

Whole Farm Planning

Rick and Chris decided to participate in the

city-sponsored whole farm planning program. They knew that the non-farming population is often not aware of the work farmers do to protect the environment, and they hoped to show their willingness to do their part, even if it might not do any good for their farm business.

The first step in the planning process was a questionnaire that identified farms with the potential to affect the quality of the lakewater. Since they till the soil and keep animals within the watershed, the Feskos continued on to the next step, in which they identified practices that might need to be changed. Finally, they worked with a team of technical advisors from extension and the soil and water conservation district to find solutions that would work on their farm.

For the most part, the Feskos were happy with the way they were farming. They didn't want to make drastic changes, such as getting out of dairy, or switching to intensive grazing. They decided to concentrate on reducing runoff from cropland, reducing the potential runoff of pathogens, and managing manure.

They expected no benefits, financial or other, from participating, but felt they should

do their part to protect the environment. There were city funds available to cover some of the expenses associated with participating, so they wouldn't have to bear all the burden of making changes on their farm.

Progress Towards Goals

They decided to plant and maintain grass filter strips along the roads that cross their land. Chris explains that the turf catches runoff and allows it to filter into and through the soil before reaching the lake. Before, water would run from the land onto the road, and then it was a straight shot into the lake. As long as the water is caught and has time to percolate through the soil, nutrients and pathogens are removed.

Removing five acres of cropland from production was not something Chris or Rick would have chosen to do on their own. They've had to purchase equipment to mow the filter strips, and Chris has a new chore to do: mowing five acres of grass. But through the program, they receive easement payments on the land from the city, so they haven't lost money on the project, and they can see much less water

Rick's and Chris's Goals for Fesko Farms

Increase efficiency and farm profitability.

Improve herd health and comfort.

Evaluate new tillage practices that reduce erosion.

Help keep Skaneateles Lake clean and drinkable.

streaming off their land now.

Another water-management project involved the cows' feeding area. Chris and Rick constructed an elevated surface on which to place the ag-bags, and water is routed away from the area by diversion ditches and standpipes. The cows get better nutrition, and rainwater reaching the lake is much purer than before.

The Feskos also changed the way they handle manure. Although they had only rarely spread manure on frozen ground, they now drew up a formal plan that designated some cropland as off-limits for winter spreading. They also calibrated their manure spreader, so they know exactly how much they're applying to their land. One further refinement of their system has been to always test the soil before side-dressing



Skaneateles Lake is long, narrow, and directly downhill from the Feskos' farm.

corn with fertilizer, to take advantage of the full nutrient value of the manure while assuring adequate fertility for the crop.

Other changes that contribute to the water quality of the lake include restricting cattle access to creeks running through their pastures, and changing the housing for some of the animals. The heifers have a new building, and plans are being made to begin rotational grazing for them. Calves are now housed in elevated hutches in an area where runoff has been reduced, to lessen the chances of *Cryptosporidium* and other pathogens finding their way to the lake. Young calves do not have fully developed immune systems, so their manure is particularly likely to contain pathogens, some of which affect humans.

These animal housing projects have been planned to keep the cows, heifers, and calves separate, to minimize the spread of bacteria. The health and comfort of their cattle are important to the Feskos, and they have been able to improve living conditions for the animals while making changes that protect water quality.

Chris says this has been a worthwhile project for their farm. Some of the changes they made were things they had planned to do in the future, and were able to accomplish much sooner through the program. They probably wouldn't have put in the filter strips and some of the water diversion structures if they hadn't participated in the program, and now they're pleased they did.

Chris can see changes in the way water moves over their farm, and she knows less topsoil is washing away. Cow nutrition has improved, and that helps Fesko Farms' bottom line.

The program has also worked well for the city of Syracuse. The city's drinking water recently won second place in the U.S. Conference of Mayors "USA City Taste Test." Only water from Anchorage, Alaska tastes better, and the water from Skaneateles Lake was the only unfiltered

water to reach the final round of taste tests.

Even though the city financed many of the changes called for in the whole farm plans, ensuring the safety of the city's water through working with farmers has saved Syracuse millions of dollars that would otherwise have been spent on a costly water filtration plant. The project has worked both for farmers and for their neighbors in the city. ◇

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The Great Lakes Basin Farm Planning Network was begun in 1995 to encourage the use of whole farm planning in seven Great Lakes states—Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin—and the province of Ontario. Working groups in each state and province bring together farmers, farm service providers, sustainable agriculture groups, and farm organizations to develop and disseminate information about farm planning. Funding for the Network is provided in part by the Joyce Foundation, the C.S. Mott Foundation, and the Great Lakes Protection Fund.

The Minnesota Project, coordinating organization of the Great Lakes Basin Farm Planning Network, is a nonprofit organization working since 1979 to strengthen rural communities and protect natural resources.

Whole farm planning titles from The Minnesota Project

Whole Farm Planning at Work: Success Stories of Ten Farms (\$8)

How to Set Goals: A Group Project for Farmers and Their Families (\$3)

Successful Whole Farm Planning: Essential Elements Recommended by the Great Lakes Basin Farm Planning Network (\$6)

These publications and more information about whole farm planning can be found online at **The Minnesota Project's website: www.misa.umn.edu/~mnproj/wfp**. To order these publications, or to receive our free newsletter, *The Whole Farm Planner*, contact:



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