A Matter of Scale: Small Farms in the North Central Region

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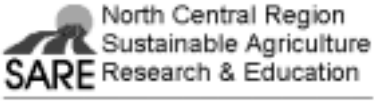

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Introduction

The size of the average farm in the Midwest grew steadily in the second half of the 20th century, and as farm sizes went up, the number of farms has gone down (Table 1, page 2). These linked trends have given rise to both celebration and concern. On one hand government officials, agricultural input suppliers, and the media have trumpeted the efficiency and productivity of large, mechanized farms and the fact that less than two percent of our population now works on farms. On the other hand, there is a growing sense that these trends have gone too far. The shrinking number of farms in America no longer represents people liberated from the drudgery of agricultural toil. Instead it brings to mind families forced to leave the land and work they love by falling agricultural prices and rising costs of production.

As a result, some people have begun to work for the preservation of small farms. However, there is a great deal of uncertainty about this goal. The questions range from the philosophical *If large farms are efficiently supplying our needs, is it right to worry about small ones?* to the basic *What is a small farm?* and the practical *What can be done to help small farms?*

Growing Harmony

Growing Harmony farm is a small CSA* (Community Supported Agriculture farm) in central Iowa. Gary Guthrie grows vegetables for 44 families, supplies carrots and garlic to a local food coop, and runs a small u-pick strawberry operation. The whole garden occupies only 2 1/2 acres, but Gary has no interest in bringing more land into production. He explains that the current scale keeps him more than busy during the growing season and brings in enough income, while allowing him to spend time with his family during most of the school year. Keeping the farm small also lets him pay close attention to the farm's sustainability, from the quality of the soil to the personal relationships with his shareholders, as well as his work in the local community and with like-minded farmers. That is what he means by "growing harmony."

Photo credit: Kirsten Corselius

*CSA customers commit at the beginning of the growing season to buy a weekly share of produce from that farm. For more information on CSA, see http://www.nal.usda.gov/afsic/csa

This publication begins to answer some of these questions. Although the answers are neither simple nor definitive, the discussion here is intended to help agricultural professionals, farmers, and the public better understand and act on these challenging issues.

Table 1. Farm size and number of farms for North Central States

	1997	1978	1964
Illinois - average farm size in acres	372	282	226
- number of farms	73,051	104,690	132,822
Indiana - average size	261	204	166
- number	57,916	82,483	108,082
Iowa - average size	343	274	219
- number	90,792	121,339	154,162
Kansas - average size	748	640	544
- number	61,593	74,171	94,440
Michigan - average size	215	183	145
- number	46,027	60,426	93,504
Minnesota - average size	354	288	235
- number	73,367	98,671	131,163
Missouri - average size	292	262	222
- number	98,860	114,963	147,315
Nebraska - average size	885	723	596
- number	51,454	63,768	80,163
N. Dakota - avg. size	1,290	1,033	875
- number	30,504	40,357	48,836
Ohio - average size	206	177	146
- number	68,591	86,934	120,381
S. Dakota - average size	1,418	1,147	917
- number	31,284	38,741	49,703
Wisconsin - average size	227	206	172
- number	65,602	86,505	118,816
US - average size	487	440	352
- number	1,911,859	2,240,976	3,157,857

USDA National Agricultural Statistics Service (NASS), *1997 Census of Agriculture Volume 1: National, State, and County Tables*, Historical Highlights: 1997 and Earlier Census Years, http://www.nass.usda.gov/census/census97/volume1/vol1pubs.htm

The importance of small farms

Let us begin with the philosophical question: if large farms are supplying our needs, why should we be concerned about the fate of small farms? Even as the number of farms has dropped, Americans have seen no food shortages, and food prices in the US remain low. Mechanization, pesticides and synthetic fertilizers, and the availability of cheap migrant labor have allowed fewer farmers to manage ever larger operations. However, the picture is more complex than it appears at first glance.

First, according to USDA statistics, nearly 40% of the value of farm products in the US is still generated by small farms.[1] The share may be declining, but we still depend upon small farms for a significant portion of our food.

Second, the loss of farms—and farm families—has had an impact on the fabric of rural and small-town life throughout the region. School populations have declined, forcing many rural communities to close or consolidate their schools, resulting in long and costly bus rides for the remaining students. Businesses in small towns suffer many pressures, but declining agricultural populations have accelerated their decline, and today many rural towns have more boarded-up windows than functioning stores. According to sociologist Dean MacCannell, "Everyone who has done careful research on farm size, residency of agricultural landowners and social conditions in the rural community finds the same relationship: as farm size and absentee ownership increase, social conditions in the local community deteriorate."[2]

Third, our agricultural system is producing enough food for now, but at what cost? Current production relies heavily on unsustainable consumption of fossil fuels and water from aquifers built up over thousands of years. Pesticides and nutrients wind up in drinking water supplies and contribute to ecological and economic problems close to home and thousands of miles away. Small and moderate-sized farms tend to be more diversified than large farms, and in particular, they are more likely to integrate crop and livestock production, allowing for better nutrient cycling than highly specialized farms. They are better able to rely on ecological management rather than primarily on chemical inputs to manage fertility, pests, and disease. They are less likely to engage in exploitative labor practices than large farms. And they tend to be innovators in sustainable food and fiber production.

Not all small farms are diverse, sustainable, innovative, and good employers. And some large farms are all of those things. But it is often easier and more likely for small farms to have those attributes. In part it is a question of time. On small farms there is more likely to be enough time to visit and observe each field. In part it is a question of complexity. The challenge of managing many fields and employees and a lot of area leaves less time and energy for the challenge of managing many different crops and experimenting with new techniques. In part it is also a question of capital. When you have invested in the specialized equipment needed to work a large farm it is financially inefficient to let it stand idle.

Poet and essayist Wendell Berry sums it up this way: "If the land is to be used well, the people who use it must know it well, … must have time to use it well, and must be able to afford to use

it well." He goes on to write "farmers must tend farms that they know and love, farms small enough to know and love, using tools and methods they know and love, in the company of neighbors they know and love."[3]

Striving for Sustainability

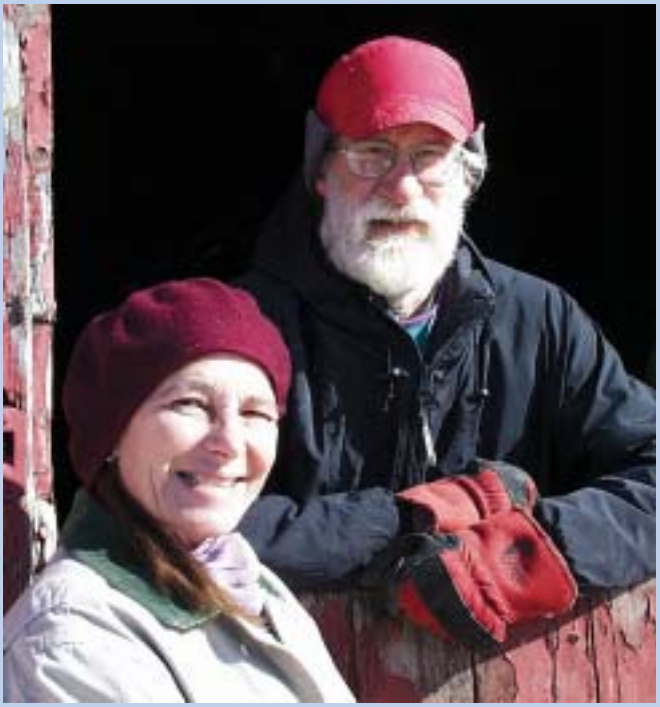

Photo credit: Jerry DeWitt

Don Adams and Nan Bonfils raise black Angus cattle and Clun Forest sheep on 300 acres in central Iowa. The way they raise and market their farm products reflects their commitment to environmental stewardship, community, and quality of life.

Half the farm is in permanent pasture or timber. The rest of their land rotates between open-pollinated corn, a corn-sorghum interplanting, and mixed grass and alfalfa hay. They are in the process of getting the farm certified organic, and raise and use all their own feed. Nan and Don also compost food waste from a nearby camp, and for the past several years they have hosted interns who come to learn the hands-on tasks and management involved in running a small, sustainable, mixed crop and livestock farm. Don's 92-year old father Harold lives on the farm with them and helps with chores occasionally.

Nan sells eggs from her free-range chickens to friends and neighbors, and markets the steers and lambs to customers who want meat from animals raised on pasture without growth hormones or antibiotics. In addition, they sell organic produce at a farm stand shared with three other small-scale producers. Recently they began selling both the beef and seasonal vegetables through a natural foods cooperative.

Don does some custom haying to supplement the income from their meat and produce sales, and Nan works part-time off the farm to get health insurance, but for both of them, Full Circle Farm is their primary job and livelihood.

While both large and small farms are typically owned and managed by older white men, small farms are more diverse. Men and women, young and old, rich and poor, European-Americans, African-Americans, Native Americans, Asian Americans, and Latino Americans all have small farms and all bring different approaches, skills, and crops to American agriculture.

Throughout American history, small and moderate-sized family farms have been seen as integral to a strong democracy. When many families can own and farm their own land, they have more independence than if they must rent from or directly work for large landowners. This issue appears less urgent now that only a small percentage of the population is directly engaged in farming, but there are still dangers associated with having the nation's primary food production and the majority of our land controlled by an ever smaller number of people. These dangers are felt most strongly now by operators of small and moderate-sized farms, who compete with large agri-business both in the marketplace and in influencing agricultural policy. But as the popularity of farmers markets and CSAs shows, many consumers value small farms for reasons ranging from a quest for better quality food to a desire to support and connect with rural communities.

Photo credit: April Johnson

What exactly is a small farm?

A number of factors are involved in determining farm size, including land, money, labor, and management.

A small farm
- has a small or moderate physical footprint,
- has a small or moderate financial footprint,
- the farm family provides at least as much farm labor as non-family employees, and
- the farm family retains management control.[4]

As discussed below, what constitutes a small or large farm in terms of physical size, financial impact, and labor arrangements varies both by location and farm type. To complicate matters, these factors vary independently. Thus, a flower farm may have a small physical footprint, a moderately large financial footprint, and many hired workers, while a grain farm can have a large physical footprint, a small or large financial footprint, and no hired workers.

Physical footprint

Typically, the first factor that comes to mind as determining farm size is the amount of land involved. Acreage alone, though, is an unreliable way to evaluate farm size because it varies so strongly with location and type of operation. As Table 1 on page 2 shows, typical farm acreages increase from east to west across the Midwest. A small farm in North Dakota would likely

Photo credit: Ruth McNair

Comparing Cows to Cows

Even within a state and type of farm, one has to use some caution using acreage to compare farm size. For example, Roth Farm, a dairy farm in Wisconsin, includes 240 acres of cropland and 100 acres of woodland, while Lake Breeze Dairy, also in Wisconsin, only occupies 117 acres. However, Roth Farm raises more than 90% of the feed for their 95 cows on the farm. In contrast, Lake Breeze Dairy buys all of its feed from neighboring farms and milks 1,500 cows. In terms of production, gross income, and number of animals, Lake Breeze Dairy is the larger farm.

occupy more acres than a large farm in Indiana. And a small cash grain farm is likely to crop more land than a large organic vegetable operation.

Though acreage alone can be misleading in assessing farm size, it remains an important factor to consider. Unlike factors such as capital investment and gross income, the amount of land in a farm is highly visible and tends to be public knowledge. Also, land is a fixed resource. There are only a given number of acres in one county. If all the farms occupy more acres, there is simply room for fewer farmers, and rural communities and beginning farmers tend to suffer accordingly.

The physical footprint of a farm should take the impact of livestock as well as the land occupied into account. Livestock impact can be converted to approximate acreage terms by calculating how much land would be required to produce the feed for the animals and properly dispose of their manure. Both livestock numbers and acreage need to be assessed in the context of the particular farm's location and type.

Financial footprint

In 1998, the National Commission on Small Farms issued a report, *A Time to Act*, which used a gross annual income of $250,000 as the cut-off between small and large farms. Since then, that figure has been used consistently by USDA and others as the dividing line between small and large farms. Judging farm size by gross income avoids the

Photo credit: Cynthia Vagnetti

Small or Large?

Francis and Susan Thicke operate a 236-acre organic dairy farm in southeastern Iowa. The cows graze rotationally in spring, summer, and fall, and eat hay from the farm in winter. At milking, the cows get a supplemental grain ration that is not grown on the farm. The Thickes milk about 65 Jersey cows and process the milk on the farm. In addition to bottling their milk and cream, they produce yogurt, ice-cream mix, and cheese, all for sale within their county.

In terms of the land involved and the number of cows being milked, the Thickes' farm is on the small side. Radiance Dairy, processing milk from a mere 65 cows, is tiny by dairy standards. But because it is a processing facility, selling a premium product, it grosses well over $250,000.00 per year, so Radiance Dairy would be counted as a large farm in USDA statistics.

regional comparison problems of using acreage. However, there are other problems with relying only on annual income to classify farm size.

One issue is that gross income can fluctuate considerably as markets go up and down. For example, in 1996, when the price of corn was $2.71/bushel and the price of soybeans was $7.35/bushel, an 800-acre cash grain farm in Illinois with average yields would have had a gross income of more than $260,000.00. Three years later, when the price of corn was $1.82/bushel and soybeans were $4.63/bushel, the same farm with the exact same yields would have a gross income of only around $170,000.00, or nearly a third less. The farm would not have changed, but in 1996 it would have been classified as a large farm, and three years later it would be considered a small farm.

Another problem with relying on gross receipts to gauge farm size is that farms engaged in primary production, like grain production, tend to have lower gross incomes than those engaged in secondary production, like livestock finishing, because the latter build onto the costs of the former. Thus, a 700-acre corn-soybean farm in Illinois (well above the state average) would count as a small farm, while a dairy farm with less than half that acreage would be classified as large, especially if it does any on-farm processing.

The financial impact of a farm is complex, and financial details are usually not public knowledge. In addition to looking at gross revenue, the following questions should be considered: Does the farm dominate the accessible markets for its goods? Is the financial well-being of any sector of the local community dependent on the custom and success of this particular farm?[5]

Labor

The role of hired labor is clearly an important factor distinguishing small from large farms. Still, many small farms use hired labor, even if it is only paying a neighbor to tend to livestock for a day or two when the farm family is away or someone is sick. So how much hired labor

Photo credit: Dan Anderson

Organic vegetables take a lot of work

Angelic Organics occupies 100 acres in northern Illinois. In any given year, 25 of those acres are planted in mixed vegetables and 25 acres are left fallow. However, this modest acreage provides vegetables to 1,000 member households, and employment to 18 people, making Angelic Organics one of the biggest CSAs in the country.[6]

is too much for a farm to be considered small? In many areas, farmers are making more and more use of custom services. This approach can be particularly attractive to small farms, allowing them to avoid the capital costs of buying specialized machinery. Is hiring custom services somehow different from hiring a person, and if so how and why? Labor needs are also very different, depending on the type of farm.

Given the many differences in labor needs and arrangements, it is difficult to put a numerical limit on how much hired labor a farm can have and still count as a small or family farm. The following guidelines offer other ways to evaluate labor arrangements.

Photo credit: Randall Saner

Management programs can improve profits without reducing independence

Missouri's Show-Me Select program offers certification for replacement beef heifers. Program participants typically receive price premiums of $150 to $250 for heifers sold through the Show-Me Select program. In order to participate, farmers have to follow a variety of management guidelines, including a program of vaccinations, parasite control, and removal of horns and scurs. Participants do not have to sell their heifers through the program. Animals sold through the program have to be listed in the sale catalog, which is typically finalized two to three months before the sale. Producers sign up for the program a year at a time. The Show-Me Select program is jointly sponsored by University of Missouri Outreach and Extension, MU College of Veterinary Medicine, Commercial Agriculture Program, the Missouri Department of Agriculture and the Cattlemen's Association.

Charlie Rymer of C&M Angus has participated in the Show-Me-Select program since 2001. He runs 60 head of cows; about one third are registered in the program. He farms 240 acres, of which he owns 126 and leases 114 acres. Rymer likes the program because it allows him to cull poor reproductive heifers early before he has a lot of money tied up in them. He also sells registered Angus bulls and buys back heifers out of his bulls. This helps provide a market for his bull buyers. He markets these bought heifers through the Show-Me-Select program.[7]

- The farmer must put in at least as much work as any hired worker.
- The farm family must provide direct supervision of all non-family help.
- Over the course of a year, at least half of all the labor is provided by the farm family.

Management

The notion that the farmer should retain management independence is very attractive and fits in with the Jeffersonian notion that a small farm is a source of democracy. On the other hand, the decision to accommodate some management constraints in order to improve marketing may be an important tool for farmers seeking to "grow smart rather than grow large." How much management can be delegated, while still allowing the farm to fit the concept of a family farm?[8] Can a small farm produce any crops on contract? Would an organic farm that is required to follow certain management guidelines be excluded under this definition?

One way to distinguish is by the length and permanence of the management constraints. If the contract lasts no longer than a year and does not require major capital investment, it probably will not seriously constrain the farm's long-term independence. An example of such a contract might be a marketing contract to produce a crop for which the farmer already has the equipment. Likewise, a farmer can choose to stop farming organically at any time without losing anything beyond the organic certification. In contrast, many multi-year livestock production contracts place long-term legal as well as financial constraints on a farmer's management options.

Another component of management independence is ownership of the productive assets of the farm, generally the land, livestock, and machinery. Ownership confers control, and also often a sense of stewardship and a motive for preservation.

In the ideal image of a family farm, the family owns the land, buildings, livestock, and equipment with which they farm. In the real world, more than half of all farmland in the Midwest is rented, and the proportion of rented land is going up. Very often, agricultural land is simply not available for sale, and even when it is, the price can be prohibitive. One might think that with their greater financial muscle, large farms would be more likely to own land than small farms, but not so. According to the USDA, more of the land in large farms is rented, and most of the land in small farms is owned.[9] Still, many small and family farms include some rented land and/or buildings, especially while the farm is getting established.

If the farmer does not retain control of management, the operation is a subsidiary of whatever enterprise makes the decisions, rather than an independent farm. However, the mere existence of a management contract or rented productive assets does not necessarily mean a loss of farmer control.

Defining Small Farms—Beyond the Numbers

Defining a small farm is difficult, because it involves at least four independent variables: land, financial impact, who does the labor, and management and ownership. Moreover, within each of these variables there is a gray zone where it is not clear whether a farm is large or small. Some

farms clearly fit the definition for a small farm for all four variables and some farms are clearly large by all four measures. There will, however, always be some farms that are small by some measures but not by others, and farms that fall near the edge of whatever boundary one selects.

In some cases, using gross receipts and non-family labor as key measures of farm size can have the undesirable effect of declaring successful farms large by definition, regardless of their other attributes. Think back to the example of Angelic Organics. At 100 acres, this farm is considerably below the Illinois average in acreage. Compared to commercial vegetable producers in California and the South, 25 or 50 acres in vegetable production is likewise very modest. The farmer, John Peterson, is fully involved in every aspect of the operation. Should this farm really be considered a large farm, because it takes in more than $250,000 and employs up to 18 people? Or should it rather be seen as an extremely successful small farm, one that provides employment and food to many people?

Photo credit: Ruth McNair

Renting for Now

Jim and Julie Schweers both grew up in the Milwaukee suburbs. So when they decided to pursue their dream of having a farm, they had to start from scratch. They used their savings to buy two used tractors, a hay baler, some wagons, and four calves. And they qualified for a beginning farmer loan from the USDA Farm Service Agency. The loan allowed them to buy 66 cows, 59 heifers, and 62 acres with a house, a serviceable stanchion barn, machine shed, shop, some pasture, and 22 acres of tillable land.

The previous owner of the 62 acres also offered to rent them an additional 138 acres, with an option to buy after five years. In addition, they rent 56 acres from a neighbor and are hoping to rent more next year. Why did the Schweers not get a bigger loan and buy all the land they needed right from the start? First, it may not have been possible to get a larger loan. But even if they could have had a larger loan, they do not want to get too deeply into debt. "We believe you get by with what you have until you can pay cash for it," comments Julie.

While it would be nice to own all the land they need to grow feed for their herd, their first priority is to get the 7-year cow loan paid off and to be self-sufficient in feed. Owning all the land they farm will have to wait a while.

For the farms in the middle, it is probably more important to understand the attitude and desires of the farm family than to determine whether the farm should be classed as large or small. Does the farmer intend to move towards a large farm in terms of land and gross receipts, or does he or she want to secure a reasonable income without major capital expansion? Does the farm family identify with the farm and care about its permanence? Does the farmer care as much about retaining independence as about increasing income? The answers to these questions will reveal more about the farm than the size of its gross receipts or number of acres.

Photo credit: Lisa Solomon

Lifestyle, retirement, or farming occupation farm?

In 1992, while he was still working full time off the farm, Bob Karr started planting apple trees on part of his parents' ranch in Emporia, Kansas. Since his retirement from teaching in 1997, Karr has been running The Orchard full-time. Today he and son Jon tend an 800-tree orchard and along with Bob's parents, maintain a 60 head cow-calf operation in the Kansas Flint Hills. The Karrs put up 400 tons of brome and prairie hay a year as well.

Karr grows what he calls the "niche varieties" of apples, including Arkansas Black, Empire, Gold Rush, and York. Apples are sold through a retail store Karr has built on his land. He also processes them into cider that is also sold in the store. Leftover pulp from cider making and rejected apples are fed to the cattle. With the busy seasons of the cattle and hay operations not coinciding with those of the orchard, Karr is able to spread out his labor. Jon, who previously worked an off-farm job, now works full time with the family operation and supervises the picking, packing, and cider production during the busy fall season.[10]

Typology of small farms

There are many different types of small farms, each with its own strengths and challenges. Most obviously, farms vary by type of product raised and location. Another way to categorize small farms is by their economic structure. USDA's typology of small farms distinguishes among five types of farms with gross annual incomes of less than $250,000 according to income type and amount.

Table 2. Types of Small Farms (all farms with annual receipts < $250,000)[11]

Limited resource	Household income under $20,000, farm assets under $150,000, and gross sales under $100,000
Retirement	Operator's principal occupation is retired
Residential/Lifestyle	Operator's principal occupation is 'other'
Farming occupation/Lower sales	Operator's principal occupation is farming and farm sales are under $100,000
Farming occupation/Higher sales	Operator's principal occupation is farming and farm sales are $100,000 to $249,999

These are useful ways to distinguish among farm types, but care is needed in interpreting the significance of the categories. One unintended result of this classification is that it can help us understand how small farms have too often been dismissed, both at the policy level and at times by agricultural information providers working under severe budget and time constraints. Thus, limited resource farms are likely to be seen as unsuccessful, since in our society income and wealth are the primary measures of success. The operators of these farms may be stigmatized as "poor managers" and thus viewed as responsible for their financial constraints. Both retirement and residential/lifestyle farms are frequently dismissed as "hobby farms." Because the farm does not provide the majority of the household income, the farm is perceived as somehow not real, regardless of how much food it produces.[12]

University of Minnesota geography professor John Fraser Hart expresses bluntly the sentiments that the terminology subtly implies: "Roughly three-quarters of the operations officially classified as "farms" are undersized, part-time, hobby, and other kinds of "nonfarm" farms that do not produce enough to support a family."[13]

With their defined numerical boundaries, the farm categories in the USDA typology of small farms seem very clear cut, but it is important to remember that farms move from one category to another all the time. Many farms that start out as limited resource or lifestyle farms transition to farming occupation farms. Conversely, with poor markets or weather problems or the passage of time, farming occupation farms can become limited resource, retirement, or lifestyle farms. Indeed, what small farm does not involve a lifestyle commitment, regardless of the proportion of household income generated by the farming operation?

What can be done to support small farms?

First and foremost, it is critical to understand that preserving small farms is not a lost cause. Rather it is a question of determination and national priorities. Small farms remain an important part of the American landscape and of our food and fiber production, despite farm subsidies that favor large scale commodity production. In addition, the efficiency claims made for large farms are often overstated.[14] Indeed, as average farm size rises and the total number of farms declines, the smallest farms are holding their ground as well as or better than the mid-size farms.[15]

The National Commission on Small Farms identified eight policy goals in its 1998 report *A Time to Act*. Because the commission was appointed by USDA, its specific recommendations target USDA programs, but state, local, and non-profit organizations can apply many of the concepts to their programs.

1. Recognize the importance and cultivate the strengths of small farms.
2. Create a framework of support and responsibility for small farms.
3. Promote, develop, and enforce fair, competitive, and open markets for small farms.
4. Conduct appropriate outreach through partnerships to serve small farm and ranch operators.
5. Establish future generations of farmers.

Farmers Supporting Farmers – with a little organizational support

Minnesota's Farm Beginnings Program puts into practice many of the Small Farm Commission's recommendations. This partnership between the non-profit Land Stewardship Project and the University of Minnesota's Extension Service offers classes and guides participants to resources.

Photo credit: Cynthia Vagnetti

Paul Wymar and Amy Bacigalupo are establishing a diversified farm in south central Minnesota. They signed up for the Farm Beginnings Program to help them on their way. Last year they participated in the Farrowshare program. They cared for six sows for established hog farmer Jim VanDerPol. Both sides benefited from this mentoring program. Paul and Amy learned about raising pigs without antibiotics, in deep straw bedding. Jim provided them advice and support, and they got to keep two of the 50 piglets the sows farrowed. Jim was able to farrow more sows without having to build new facilities. He also says that working with other young farmers "teaches me how I should be in dealing with my own son, who I'm farming with."[16]

6. Emphasize sustainable agriculture as a profitable, ecological, and socially sound strategy for small farms.
7. Dedicate budget resources to strengthen the competitive position of small farms in American agriculture.
8. Provide just and humane working conditions for all people engaged in agriculture.

The states in the North Central region are working towards these goals in a number of ways. State and federal agencies, Extension, and farmer organizations are cooperating on programs to serve beginning farmers, minority farmers, immigrant farmers, and other groups that do not have easy access to agricultural resources. The Sustainable Small Farm Information Network (SSFIN) provides information on these and other programs, as well as publications and other resources to help small farms.[17]

The survival of small farms, despite sixty years of policies favoring large farms, demonstrates the resilience of this institution. The small and mid-size family farms of America's countryside do much more than the obvious service of providing fresh, wholesome food. They shape our landscape. They teach us about the relationship between our actions and the environment with an immediacy no books can convey. And they refresh our spirits.

Endnotes

[1] USDA ERS. September 2000. *ERS Farm Typology for a Diverse Agricultural Sector.* Agriculture Information Bulletin Number 759. In addition, this statistic may undercount the food and fiber contributions of small farms, since it only looks at sales and does not count farm products consumed by the family or bartered to neighbors, both of which are part of the economy of many small diversified farms.

[2] Marty Strange. 1988. *Family Farming: A New Economic Vision.* Lincoln: University of Nebraska Press, p. 87. MacCannell, located at the University of California-Davis, led a nationwide effort to examine the relationship between agricultural structure and social conditions. See also Jon M. Bailey and Kim Preston, 2003, *Swept Away: Chronic Hardship and Fresh Promise on the Rural Great Plains*, Walthill, NE: Center for Rural Affairs. http://www.cfra.org/resources/Publications/swept_away_summary.htm

[3] Wendell Berry. 1990. "Nature as Measure" in *What Are People For?* San Francisco: North Point Press, pp. 206-207.

[4] In its 1998 report *A Time to Act* the USDA National Commission on Small Farms described small farms as "farms with less than $250,000 gross receipts annually on which day-to-day labor and management are provided by the farmer and/or the farm family that owns the production or owns, or leases, the productive assets." (USDA MP-1545, p.28) This description addresses many of the key characteristics of small farms, but fails to consider the physical size of the farm and overemphasizes gross income. The definition used in this publication builds on the ideas in the Commission's report.

[5] The essence of a large financial footprint is captured in the saying 'If the farmer has trouble repaying the bank $1,000, the farmer has a problem, but if the farmer can't repay a multi-million dollar loan, then the **bank** has the problem.' (paraphrased from Michael Duffy, Iowa State University Department of Economics). If the local parts store stays open late to accommodate a farm because it is such an important customer, or if a farm gets a better price for its product because it delivers in such quantity, then it probably has a large financial footprint.

[6] Dan Anderson. 2003. *A Different Field: Innovative Entrepreneurs in Illinois Farming.* http://www.aces.uiuc.edu/~asap/resources/diffield.htm

[7] Randall D. Saner, University of Missouri Outreach and Extension. 2003. Personal communication. Also Missouri Show-Me-Select Replacement Heifer Program web site http://agebb.missouri.edu/select/index.htm

[8] The concept of management independence for small farms goes beyond issues of size and brings in the concept of the family farm. What is and is not a family farm is a highly politicized concept, and outside the scope of this publication. However, though there may be large family farms and small farms that are not independent, the focus of this publication is on small, independent family farms.

[9] USDA, National Agricultural Statistics Service (NASS), *1997 Agricultural Census*, Table 46 "Summary by Tenure of Operator." 60% of US farms are fully owned by the operator; 30% are partly owned, and 10% of US farms are wholly rented by the operator. The average size of wholly owned farms is 276 acres, partly owned farms 885 acres, and tenant farms 565 acres. About two thirds of wholly owned farms gross less than $10,000 in annual sales, while only one third of partly owned and tenant farms gross less than $10,000. U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census, *Who Owns America's Farmland?* 1993. Statistical Brief SB/93-10, http://www.census.gov/apsd/www/statbrief/sb93_10.pdf

[10] Jana Beckman, Kansas State University Research and Extension. 2003. Personal communication.

[11] USDA ERS. September 2000. *ERS Farm Typology for a Diverse Agricultural Sector.* Agriculture Information Bulletin Number 759.

[12] Even on retirement and lifestyle farms, the income from the farm may be of critical importance to the family. Moreover, the charge of "lifestyle" farming is not applied even-handedly. When the farm operator is a married woman whose spouse has an off-farm job, the farm is often perceived as a lifestyle farm and therefore not "real," even if the farming operation is her only income. Typically, the reverse is not true, unless the farm fails to conform to the prevailing norm in other ways, such as producing unusual crops or using unconventional farming methods. Thus, sustainable farms are sometimes dismissed as lifestyle farms, even when they provide the sole source of income for the farm family.

[13] John Fraser Hart. 1991. *The Land That Feeds Us.* New York: W.W. Norton & Company, p. 374.

[14] In fact, in terms of costs and resources (including land), large farms are not necessarily more efficient than small or medium sized farms; all size classes include both efficient and inefficient farms. See Marty Strange, 1988, *Family Farming: A New Economic Vision*, ch. 5 and USDA *A Time to Act*, pp. 19-20. Not surprisingly, different studies come up with different conclusions on the issue of efficiency, depending on what measures are used and what types of farms are examined. For example, a recent study examining costs on highly mechanized corn-soybean farms in Illinois found that per acre costs for farm sizes in categories less than 800 to 1,200 acres are higher than for larger farm size categories (*Farm Business Management*, May 31, 2003, University of Illinois Extension, http://www.farmdoc.uiuc.edu/manage/newsletters/fefo03_10/fefo03_10.html). Studies in Iowa and elsewhere have indicated that there are some cost inefficiencies in typical grain farms of less than 400 or 500 acres but that economic efficiency is pretty level in farms over that size. These data on size efficiency of grain farms are driven in large part by the capacity of specialized farm machinery, as well as the structure of government payments. For information on the impact of subsidies see the data published by the Environmental Working Group on the internet at http://www.ewg.org/farm/findings.php and the *Report of the Commission on the Application of Payment Limitations for Agriculture, Submitted in Response to Section 1605, Farm Security and Rural Investment Act of 2002*, which notes that "In recent years, government payments have accounted for about 20 percent of gross cash income and about 100 percent of net cash income for the crops now eligible for direct and counter-cyclical payments and marketing assistance loans. The farms receiving government payments tend to have higher farm incomes and higher net worth than farms not receiving government payments." (http://www.usda.gov/oce/oce/payments/preface_and_report_summary.htm).

[15] From 1992 to 1997 the number of farms with less than $2,500 in sales increased by 17%, while the number of farms with sales between $50,000 and $100,000 decreased by 15.8%. The number of farms with sales over $100,000 increased by 3.6%. USDA NASS, 1997 Census of Agriculture http://www.nass.usda.gov/census/census97/highlights/usasum/us.txt

[16] Laura Borgendale. 2003. "Generations Working Together," *Generational Glue,* Vol. 1, Issue 3, Land Stewardship Project.

[17] The Sustainable Small Farm Information Network website is http://ssfin.missouri.edu/.