

Bob Fogler & John Dorman



Bob Fogler (left) and John Dorman have shared neighboring farms for 12 years.
(Photo courtesy of NRCS, Bangor Field Office)

Location:

Penobscot County, ME

NRCS District

Conservationist:

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Acres farmed:

1,450 (1,200 tillable)

Crops:

corn
barley
potatoes
pasture/hay

Other enterprises:

Dairy

Making the transition:

Objectives:

Soil quality, improvement
Nutrient conservation

Transition sequence:

Gradual sharing
of resources

Social issues:

Need for common
Long-term goals

Economic issues:

Shared labor, land, and
equipment
Nutrient resources

Ecological issues:

Pathogens and pests
Nutrient cycling
Soil quality

Site description

For the past 12 years, Bob Fogler and John Dorman have shared activities on their neighboring farms in Central Maine. Bob is a dairy farmer, while John grows potatoes in rotation with corn and barley. They share land, equipment, labor, and manure.

The climate in this part of Maine is cold, humid continental. Winter temperatures below 0 °F are frequently recorded. Average annual snowfall is more than 80 inches. Average annual precipitation is 35 to 40 inches. Summers are mild and pleasant with temperatures rarely reaching 90 °F. The growing season in the area is about 110 days, making timing a critical factor for producing crops.

Soils in the area are primarily derived from glacial till that includes slate, shale, or calcareous materials. They have a broad range of depth, drainage, surface stoniness, and gravel throughout the profile.

The three predominant soil series in the area are Dixmont, Bangor, and Thorndike. The Dixmont soil is somewhat poorly drained to moderately well drained. Bangor is well drained. Thorndike is somewhat excessively drained. Dixmont and Bangor are more than 60 inches to bedrock. Thorndike is generally 10 to 28 inches to bedrock, although there may be areas ranging from surface outcrops to 4- or 5-foot-deep pockets. All three soils have surface stone cover of 0 to 10 percent and a significant gravel content throughout the profile. Thorndike tends to be much more droughty than Dixmont or Bangor. For the best crop growth, all three soils require added nutrients, especially nitrogen and in most cases lime.

Objectives

Bob and John originally decided to farm together because both needed more land on which to expand their operations, Bob for forage production, and John for potatoes. They both wanted to reduce their costs, and John was hoping to improve the soil quality of his potato ground by applying animal manure and lengthening his potato rotation. During the past 12 years both have exceeded their expectations.



John Dorman hoped to improve the soil quality of his potato ground by applying manure and lengthening his potato rotation. (Photo courtesy of NRCS, Bangor Field Office)

Transition sequence

Bob and John started slowly. The first year of their experiment, they spread manure from Bob's farm on 30 to 40 acres of John's land. Gradually they expanded. They now share all the land on both farms, but they had to learn some things about manure and crop fertility. Together they worked with the local extension agent, setting up 4 or 5 separate on-farm fertility trials to determine the most appropriate amount and timing of manure application for the different crops.

Gradually, as they became proficient in fertility management, other aspects of their operations began to improve. Pest problems have been reduced, soil quality has improved, milk quality on Bob's farm has improved, and potato yields on John's farm have increased.

The second year after they began sharing land, Bob and John decided to lease a tractor together. This decision proved to be extremely cost effective and efficient. When it is practical, these neighbors now share most equipment and hired help.

Social issues

While the experiment of sharing land has been successful for both John and Bob, they point out that it would not have worked if they did not share

common long-term visions and goals, or if either of them had been overly concerned with the short-term benefits. One week one of them might appear to be getting a better deal, while the next week it might be the other way around. "If you look at the management from a day-to-day perspective it can drive you crazy," says Bob. "You have to manage

with long-term goals in mind. Look 10 to 15 years down the road, not from week to week or even year to year."

Economic issues

The system of sharing land, labor, equipment, and manure has been an economic windfall for both Bob and John. Bob's dairy herd has grown from 150 to 450 cows over the past 12 years. John's potato production has also increased. Since they began sharing, Bob estimates he and John have saved \$100,000 in equipment investment by not having to duplicate equipment and by sharing the rental of the tractor. Because they now have a greater land area to work, they can more efficiently use the manure produced on Bob's farm.

Bob estimates the annual value of the manure is about \$140,000. Of that, he and John are capturing nearly \$120,000. Before they began working together, he estimates he was using less than 30 percent of the manure's value.

Last year John experimented with using spring-applied manure as the sole source of nutrients on the potatoes. With the help of the University of Maine he established a field trial on 24 acres, consisting of three treatments and three replications. This year, based on the trial results, he has planted 250 acres of potatoes using manure as the sole nutrient source except 50 pounds of liquid N applied at planting. The fertilizer applied this year cost \$14 per acre as compared with the usual cost of \$110 per acre.

The partnership with John has been so successful that Bob is currently negotiating with another potato farmer in the area to form a similar partnership, so the dairy herd can be further expanded.

Ecological issues

The ecological benefits of farming together have been greater than either Bob or John had imagined. Sharing their acreage has allowed these farmers to develop a more suitable rotation. Potatoes can be grown on a 3-year rather than a 2-year rotation, reducing potential pathogen and pest problems on all crops, improving forage quality, and enhancing yields. In this case, a 3-year rotation consists of barley, corn, and potatoes. Since they began rotating Bob's forage



Bob Fogler interseeds harvested silage corn with ryegrass for erosion control. (Photo courtesy of NRCS Bangor Field Office)

crops with John's potatoes and applying manure to the land, Bob and John have observed a dramatic improvement in soil tilth. Soil organic matter has increased, earthworms are now common, and crusting has been all but eliminated.

Both Bob and John benefit from the longer rotation. Corn and potatoes, especially, are less susceptible to insects and diseases in the 3-year rotation than in the traditional 2-year rotation. Insecticide, fungicide, and herbicide-use are generally reduced also. If the land base were available, John would like to add a grass crop to the rotation, lengthening it further.

Potato farmers have generally been hesitant to use manure on their crop because of a perception that it would promote scab infestations (e.g., Gottlieb and Hazelrigg 1992). John has not had scab problems. He thinks this may be because the bedding Bob uses with his manure is made with sand rather than the traditional sawdust, or because newer potato varieties are more resistant to scab, or perhaps both.

Efficient nutrient cycling is probably the greatest ecological benefit of this partnership. Over time, Bob and John have learned to cycle nutrients in the manure efficiently and effectively, dramatically reducing added fertilizer requirements. It took time and some trial and error to work out minor problems in their fertility program, and they are still learning. They test both soil and manure regularly. John also

performs petiole tests on the potatoes to monitor nutrient status in the plants. Manure is applied both in the fall and the spring. However, it is easier to calculate the amount of manure needed for spring application than for fall, since unpredictable nitrogen losses can occur during the winter. They now apply manure in the spring to corn and potatoes, both nitrogen-demanding crops, and in the fall to barley, which has a lower nitrogen requirement. On pastureland, manure is applied once every 4 years to maintain the phosphorus and potassium balance. In other years only nitrogen is applied.

With their nutrient management program already in place, Bob and John are ahead of the curve. If future regulation should require nutrient management plans or restrict applications on agricultural lands, they should have no problems.

Dosi and Norma Alvarez grow cotton, alfalfa, herbs, cows, and quarter horses on approximately 850 acres of land in the Mesilla Valley, Dona Ana County, New Mexico. Their farm has been completely organic since 1993. Concerned for the health of their family, Dosi and Norma decided to eliminate chemical use on their farm. They worked through a local cooperative to find a buyer who would work with them through the transition process. They started with 25 acres. Weeds were the biggest concern. Through trial and error, they were able to successfully modify their weed cultivator to control even the most persistent weeds. The boll weevil has recently invaded the Mesilla Valley, and an area wide eradication program has been established. To retain their organic status, Dosi and Norma agreed to avoid growing cotton for 1 year on any fields in which two or more boll weevils have been found rather than participating in the spraying program. Dosi is pleased with his organic operation. It makes him more observant of nature's ways. As he says, "Man tries to dominate his world, and in farming it is through chemical use, but God created nature with a natural balance, and our efforts to control it are often unnecessary."



Case Study No. 2-5: Bob Fogler and John Dorman

Bob Fogler, a dairy farmer, and John Dorman, a potato grower, own and operate separate farms in central Maine, but share resources to form a diversified crop/livestock operation. They began integrating their operations 12 years ago by sharing some land and manure. Gradually they began sharing equipment and labor. By combining and sharing resources they have been able to expand the dairy herd, improve potato yields and quality, and dramatically reduce operating costs. They have gradually become more efficient in their management of nutrients and pests, and their system continues to evolve. Future plans include adding a grass to their rotation and forming similar alliances with other local farmers.



Case Study No. 2-6: Tar Box Hollow Buffalo Ranch

The Masons raise Great Plains bison on a 480-acre farm in northeastern Nebraska called Tar Box Hollow Buffalo Ranch. They began their transition when their traditional corn and soybean land was placed in the Conservation Reserve Program (CRP) for 10 years. When the land was released, the Masons decided to make a major change from traditional row crops to rotational grazing. The transition process was gradual and is still evolving. The bison herd has grown, and the farm enterprises now include a tourist component.

