



The *New* American Farmer

Dorman and Fogler families, Double D Farm

Exeter, Maine

Summary of Operation

- *About 1,500 acres of cropland, managed together*
(Dorman owns 480 acres; Fogler owns 600 acres; plus 400 rented together)
- *400 acres potatoes, 450 acres barley chopped for silage, 560 acres silage corn, 40 acres winter rye for cover crop seed*

Problems Addressed

Nutrient management. Market forces have long driven specialization in agriculture, separating crop from livestock production and consolidating farms. As a result, nutrients tend to concentrate on livestock farms, while soils on crop farms become starved of manure's organic matter, nutrients and biological activity.

Worn-out soils. Maine's potato industry has struggled with soils left tired and sterile from short rotations and heavy chemical use. To improve his soil, John Dorman wanted to add different crops to lengthen rotations. To do so, he needed to expand his farm's land base. He saw potential in working with his dairy farm neighbors to obtain a natural source of fertilizer rich in organic matter and cut fertilizer and pesticide costs.

Background

Milk and potatoes are long-time staples of the Maine agricultural economy, but producers of both commodities have struggled in recent years. Dairy farmers have had to expand herds and gain efficiency to compete with lower-cost milk from the West. Potato growers have lost markets to competing regions in the U.S. and Canada, and struggle with exhausted soils and heavy dependence on expensive chemicals. Farmers of the two commodities have not traditionally cooperated or communicated, even when they farm side by side.

The Dormans had rented some of their land to the neighboring Foglers, and the two families were friendly. As a more formalized working relationship began to develop beginning in 1990, Tim Griffin, former extension agronomist with the University of Maine, saw the two farms as a natural team for his innovative USDA Sustainable Agriculture Research and Education (SARE) grant projects. John Dorman and dairy producer Bob Fogler agreed to be part of the SARE-supported initiative to build partnerships between potato and cattle farmers in Maine. These two family farms, located in Penobscot County in central Maine farm country, are now managing their farms together as one system.

Despite warnings from older-generation potato farmers that manure would cause disease, John Dorman was willing to take a chance that has paid off. The combination of longer, more diverse rotations, manure and sounder use and management of nutrients has boosted potato yields and quality.

Focal Point of Operation — Crop and livestock integration

Tim Griffin's SARE project focused on dairy nutrient management and fostering cooperation between pairs of dairy and potato farmers in central and northern Maine to make better use of dairy manure,

improve exhausted potato ground and, above all, improve profits.

In a gradual process spanning 10 years, John Dorman and Bob Fogler began to cooperate more and more. Today, the farmers jointly manage 1,500 acres of crops. Dorman applies cow manure on potato ground, and has lengthened rotations by growing forage crops for the 450 milking cows at Foglers' Stonyvale Farm.

Uncertain of its effects on potatoes, Dorman started slowly with manure. "The old-timers always said manure caused more scab on potatoes," Dorman says. "But we've seen less scab since we've used manure."

Griffin's research on using manure to grow potatoes made a big contribution. Successful on-farm trials and demonstrations won over potato industry doubters who would not even consider it before. Maine potato growers are now standing in line to get dairy manure, Dorman says.

The Foglers have gained greater variety and better quality of feed for their herd and are especially enthusiastic about barley chopped for silage. Dorman and Fogler seed oats after taking off the barley crop around July 4. Planting potatoes on the Foglers' land was the final step in totally integrating their cropping systems.

Improved soil health and quality, which results in greater moisture retention and drought resistance, has improved Dorman's potato yields. Healthier soils also have improved potato quality because potato hills don't crack and expose the tubers to sun scald. Quality is important to Dorman's markets — Frito-Lay chips and McCain's French Fries.

Dorman finds it difficult to gauge the precise fertility value of manure on potatoes because



The Dorman family raises potatoes on 1,500 acres that they jointly manage with their neighbors, the Foglers.

of spring temperature variations. "With some early warmth," he reports, "potatoes take off, the same as with commercial fertilizer."

But cooler weather seems to slow benefits from the manure, and crop maturity at harvest is critical to meeting the exacting standards of his markets. Dorman is working with the University of Maine, which is researching this relationship between temperature and fertility.

Improved financial performance has helped Dorman invest in two center-pivot irrigators that use 20 percent less water than the old gun system. Potato quality is better, too. Now he and Fogler are considering applying manure with the center-pivots, which would allow more efficient application of nutrients when needed by the crop.

Besides the benefits in nutrient management, soil improvement, and expanded feed supply, the Foglers also report improved forage quality. "It's hard to put a value on it," Bob Fogler says, "but forage

quality means more milk." The herd's rolling average runs around 25,000 pounds. "Compared to Northeast averages our forage costs are cheap," he adds.

It's the people who make this system work, both farmers agree.

"The people involved have to have a common, long-term vision that is best for all," dairyman Bob Fogler says. "If you worry day to day who's getting the best deal, it won't work."

Both farms — including numerous family members — are committed to working together. The arrangement is both complicated and flexible. No money changes hands for use of each other's land, so while the Foglers pay Dorman for the barley he raises, they don't pay for the forage they grow on his land with their labor and equipment. Conversely, Dorman does not pay rent when he raises a crop of potatoes on the Foglers' fields. The two farms now swap equipment, lease a tractor together and sometimes share labor.

Economics and Profitability

“I don’t know if we would still be operating if we hadn’t done this,” Dorman says. He calculates the manure and lengthened rotations have netted input savings of \$100 to \$125 per acre on potatoes alone.

Limited land availability in the northeastern U.S. hampers crop farmers’ access to enough space to lengthen rotations. Working with dairy farmers to grow forage crops expands the crop farmers’ land base and assures a market for those forages.

Thanks to rotations, Dorman has cut insecticide use drastically. Most potato growers in the area apply expensive new systemic insecticides, widely adopted for their effect on the pervasive Colorado potato beetle. Those growers treat all their potato fields at a cost of \$60 per acre. Dorman, on the other hand, uses the systemic insecticide on no more than one-third of his potato acres, just in fields adjacent to where potatoes were grown the previous year.

“Of the two-thirds of our potato acres without systemic insecticide, we found we only had to treat 10 percent later with insecticide, based on integrated pest management scouting,” he says.

Environmental Benefits

“Soil health has really changed on our operation,” Dorman says. “It’s changed more in a few years than I’d have thought possible.” Before adding manure and forage crops to their potato program, he adds, soils were crusted and compacted “harder than a bullet, with no water-holding capacity.”

“I dug some soil samples the other day, and with every dig I found an earthworm,” Dorman reports. “Ten years ago, I never saw worms in our land.” Longer rotations have reduced pesticide use and disease problems, too.

Sharing labor has helped them reduce soil erosion, too. Since they have a little flexibility in their schedule during the Dormans’ most hectic harvest time, the Foglers get the rye cover crop on right behind the harvester.

Most of all, Dorman sees the real ecological value multiplying across the landscape as more farmers seek ways to work together in their cropping systems. “Our initial beginning has demonstrated real value that other people have seen and realized,” Dorman says.

Community and Quality of Life Benefits

Both farms have benefited from integrating their cropping systems. Most important to both families, this new strategy has helped them create opportunity for the next generation on both farms. Collaborating with the Dormans on cropping systems has allowed the Foglers to double their herd size in recent years, and positions them for future growth. That’s important for this multi-family operation with an eager younger generation. Fogler’s nephew, Aaron, and son, Travis, have both joined the farm. Dorman also has a son and nephew working with him.

Barley is a new crop for Maine farmers, promoted by the dairy-potato partnership initiative. In the 1990s Maine’s barley acreage zoomed from zero to more than 40,000 acres. Livestock producers welcome a new grain source in this corner of the country where it remains expensive to buy grain, but farmers also have found a ready market for their barley in Canada.

More farmers are seeking ways to work together after seeing the results of the Dorman-Fogler collaboration. Meetings and demonstrations held by University of Maine Extension at their farms draw both dairy and potato farmers. More than two dozen pairs of farms are now collaborating to various degrees, making a real impact on Maine agriculture and rural communities.

Tim Griffin estimates this cooperation, taking many different forms, involves at least 7,000 to 9,000 acres. He suggests this system could work for farmers wherever some agricultural diversity exists.

Transition Advice

Dorman encourages other farmers to try this kind of collaboration, but counsels of a need for patience and trust. “Most of agriculture these days wants to see results from an investment or a change today,” he stresses. “This takes time. We could see the results in our soils in about four years.”

Trust and communication between partners is important. “You’ve got to believe in the person you’re working with, and he’s got to believe in you,” Dorman advises. “Sometimes I think Bob has invested more, and sometimes I think I have. But we really don’t look at those things a lot. We just see the results, and know that it really is working for the best for both of us.”

Communication is a big part of building that trust, he adds.

The Future

Dorman’s son Kenneth, 27, and nephew Ian, 23, are farming with him. Like the Foglers, the Dormans will need to expand their operation to create opportunity for the younger generation.

“Twenty years down the road, you’re in business because you worked together,” Dorman says of partnering with his neighbors. “That’s the way I feel about it.”

■ *Lorraine Merrill*

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