



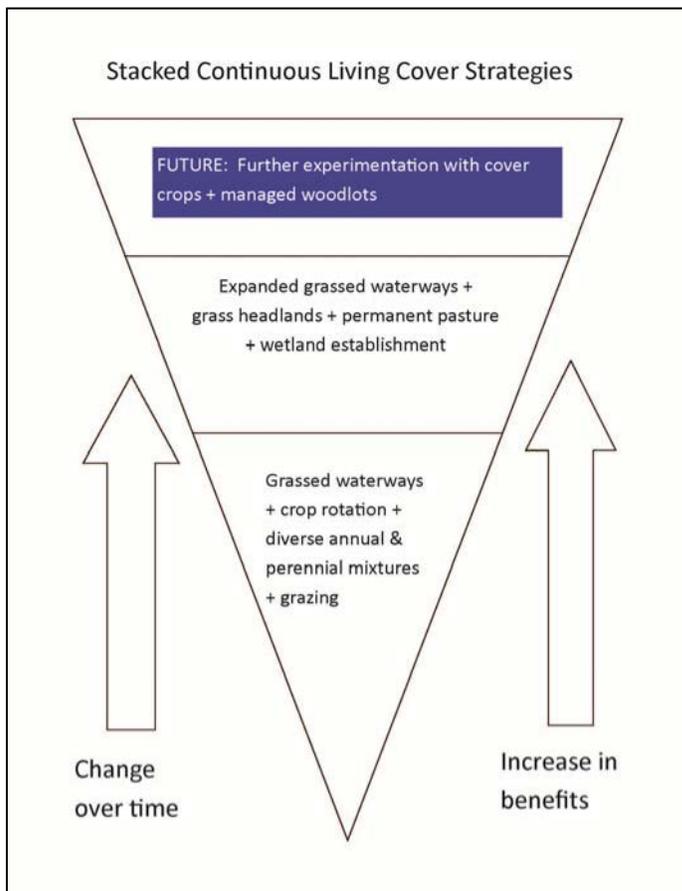
John & Beverly Gilbert Farm



photo: Brown Swiss heifers on the Gilbert farm; John Gilbert

John and Beverly Gilbert Farm
 Buckeye, Iowa
 July 2014

There are a lot of things that the Gilberts just never stopped doing – like crop rotations, grassed waterways, small grains, and forage mixtures, both annual and perennial.



There are three features of the farm which are key to land use choices: the family structure involved; the reliance on farmer-owned livestock; and Southfork, a tributary of the Iowa River which the farm straddles.

Matching Cropping System to the Land

It's worth noting that the majority of the Gilbert's land is classified as NHEL (non-highly erodible land). Even so, they are taking great care to match cropping systems to the topography and soil conditions:

- Steep slopes near the farmstead – seeded for long term hay and mostly grazed by sows and dry cows
- Steep slopes farther away –

- long term hay, or occasional two years into row crops and then back to hay
- Wet ground – seeded as hay and mostly grazed by dry cows and heifers
 - 50 acres of mixed topography and mild slopes; 7-year rotation: oats – hay-hay-corn-beans-corn-beans
 - Other mixed topography with some steeper slopes – 4 years in hay, 10 to 12 years in corn-soybean, then oats and back to hay

“Mixing things together – that’s what you’re supposed to do. We never quit seeding a whole mixture along with alfalfa. ... Just corn by itself isn’t silage. “

John uses a corn/forage sorghum/group 5 soybean blend for silage. The soybean stays green late into the season, allowing them to take the corn to greater maturity and still have enough moisture in the mix to ensile.

After the floods of 2008, John seeded a mix of leftover corn, bean, sudangrass, other odds and ends, and rape in early August after ponds finally dried enough. Although everything else was frosted the rape was still green in early November, so they chopped and ensiled the mix. The cows ate it!

“Seed’s pretty cheap – we have no problem throwing things together.”

Our farm is run by family members doing our best to work together (along with some hired help). But what really defines the family aspect is the realization that we have the opportunity to farm because of decisions and efforts of our ancestors (dating back to great-great grandfather Gilbert here in Hardin County.) We feel an obligation to make choices our great grandchildren can live with.

- Headlands are in permanent grass where feasible
- Extensive grassed waterway and terrace systems.

The farm in total is about 770 deeded acres, with 640 tillable (originally four separate tracts). The operation is two corporations: one with John, Beverly, their eldest son John and his wife Sarah; the other is primarily brother Greg and his wife Barb. , as well as minor interests with John Sr. and Greg’s four other brothers. The first corporation raises the livestock and farms most of the south two tracts (on either side of Southfork). The second farms the home farm (where the dairy is located) as well as a shared 160 immediately to the east. Although harvests, costs and marketing are separate, farming is essentially done as one operation. An estimated 100 acres are either wooded, wetland, grass

waterway or the Southfork riparian area, of which some is grazed.

All of the crops grown are non-GMO. Most are fed to the dairy herd and pigs. The farm farrows and finishes about 250 to 300 head of hogs per year, most of which are sold to Niman Ranch. Extra corn, about 5,000 bushels per year, is sold. John is not getting a non-GMO premium on corn, primarily because of high prices in recent years and a strong local basis. He sells soybeans for a non-GMO premium; which generates the dollars to buy back soybean meal for their rations. He estimates one acre of beans should buy a ton of soy meal. Feed is ground on the farm.

The dry dairy cows and heifers are grazed year-round. The cattle are rotated among pastures, based on growth available. In the fall after crops are harvested, cattle can range over the south two farms. Wooded areas provide winter shelter.

Cover Crops

John has been trying some cover crops and has research plots in cooperation with Practical Farmers of Iowa (see attached description). He is hesitant about cover crops in corn and soybean production, for both himself and other farmers, for several reasons:

- There's a skill to their use that needs to be learned.
- There's too much emphasis on paying people to use them, and that's not the best mechanism for long-term adoption.
- Rye is heavily promoted, but it has explosive spring growth that can tie-up nitrogen ahead of corn, plus the problem of allelopathy if tilled. He's concerned that disappointment over rye will turn people away from cover crops in general.

John's tillage system:

"We're using a hybrid of ridges, strip-till, and no-till; and violating the rules of all three."

"Dick Thompson had a system down. Three six-inch rows of rye on top of the ridge, terminated by the sweep on his planter leaving a natural herbicidal band. That first cover crop trial was in 1982. The new generation of farmers coming up doesn't know about some of these practices."

-- John Gilbert

[Note: Dick Thompson was one of the founder of Practical Farmers of Iowa, and very dedicated to both sustainable agriculture and on-farm research. He died in August of 2013.

More about his farm and philosophy:

<http://www.sare.org/Learning-Center/Books/The-New-American-Farmer-2nd-Edition/Text-Version/North-Central-Region/Dick-and-Sharon-Thompson-Boone-IA>

- Herbicide carryover may kill cover crops.
- There are some unreasonable expectations: people expect to see a lot of top growth from their cover crop, and really it's about the roots.
- There can be trouble with terminating the cover crop, especially when wet spring weather creates large amounts of biomass before termination, interfering with planting; or using too much moisture in a dry year.

7-year Crop Rotation: oats – hay – hay – corn – soybean – corn – soybean

Corn following hay receives no fertilizer other than manure plowed down with the alfalfa. He uses N fertilizer (knifed-in MAP, plus 32% UAN spring and side dress) on all other corn. The first soybean crop the second year after alfalfa provides the opportunity to work with specialty varieties (like the low trypsin-inhibitor variety for direct feeding he's trying this year) because alfalfa helps break disease cycle. The seven year ground also offers the potential of identity-preserved specialty crops, as well as soil building.

Permanent Pasture

A lowland area was formerly pasture until John's father installed tile and tried growing crops, despite frequently getting equipment stuck and periodic flooding. It's adjacent to a wooded area along the river so raccoons and deer would invade the crop. The farm got EQIP money for fencing and returned the area to perennial forage, which is used for summer grazing of dry cows, bred heifers, and larger calves. It is wet, cold ground and doesn't hold clover well. John is still trying to raise corn and soybeans on some adjacent acres but is considering using those for raising winter wheat or triticale for cover crop seed.

The dairy has about 26 of the 152 tillable acres seeded to a pasture mix and intensively grazed with a paddock system.

Wetland and Woods

The Gilberts have established a shallow water wetland area near the Southfork, close to the low-ground pastures. That was part of their Conservation Stewardship Program (CSP) contract enhancement.

John would like to see more value coming out of the woodlands. The cows use it for shelter and neighbors hunt deer, but he doesn't have the time or the knowledge to manage it as productive woodland. He is open to an interested party to enter a cooperative arrangement to sustainably manage the tree resources and add value to what is harvested.

Grass Headlands & Waterways, and Terraces

When John was ridge-tilling, he was planting from one end of the field to the other. He saw a lot of water moving down the rows used for permanent traffic, particularly on long slopes. The change to grass headlands for equipment turning and to break up the slope led to better access for more complex rotations (like the seven-year) and to grassed waterways for haying.

The cropping patterns and farming practices evolve as problems are identified and low cost solutions sought. One example is a hillside planted across the slope so the rows parallel the grass waterway, which also helps slow down water. That waterway is part of the break between upland and lowland. The lowland soil south of the creek is highly productive, but prone to flooding and washout. It is tiled, and John has established a sculpted grassed areas around one tile intake to direct water into the grassed drainage ways.

Some of the grassed waterways have been around for as long as he can remember. The system was improved in 2008, and again in 2011 to better handle water and soil movement from a neighbor's field. The newer grassed waterways are 50' to 60' wide and built to NRCS specifications. Older waterways are 30' to 35' wide. There is also a grass buffer along the Southfork that is not in a program. It is variable widths to make the corn rows come out even, and is used for haying, grazing and to provide year-round access to the creek.

There are 13 terraces that were established in 1980 and replaced 3 to 4 acres of grassed waterways. John prefers the terraces to the waterways because they are easier to maintain and control water movement better. John estimates the waterways and grassed headlands at 10-12 acres and terraces at less than one acre total. Grassed waterways are hayed twice per year to supply winter feed for the dry cows.

Cover Crop Trials with Practical Farmers of Iowa

Cover crops need to become a seamless part of many farms if they are to make the significant difference envisioned in Iowa's voluntary nutrient reduction plan. We're barely in cover crop kindergarten in the knowledge and skills needed. Working with Stefan Gailans of Practical Farmers of Iowa, a shotgun approach was developed to determine if cover crop seeding could be timed with other possible field trips.

Four cover crop scenarios were identified: fall green manure in both corn and beans; forage production in corn for fall and spring grazing; nitrogen production in beans; and over-wintering options for spring growth in both. Mixes for each were designed to look at the potential of several crops. The idea is to spread seed in small replicated plots (15 by 15

feet) at two week intervals, starting with the last normal field trip (which for us is usually ridging). Originally it was hoped to get a late June/early July for the first seeding to correspond with ridging in corn, but the late June rains in 2014 delayed the first planting in corn until mid-July and in beans until late July. Last seeding will be early September, which is fairly late but prior research has been done with even later planting dates.

Each plot is replicated twice with about 15 feet between plots in the row, hopefully forming a checkerboard pattern. Evaluation will be made at harvest with stand evaluation on both number of plants and amount of growth (hopefully pre-frost). Seed is being spread on the soil surface using a hand crank seeder. Issues to consider include difference in seed viability when exposed to the elements, and seed predation. No attempt to measure crop yield is possible because of plot size and the scope of this project.

Cover crop mixes for the plots:

- Fall green manure; a commercially available mix of annual ryegrass, crimson clover and radishes
- Planted in corn for forage are oats, rye rape and mammoth red clover (winter wheat was preferred but unavailable when seed was purchased)
- Spring cover in corn going into soybeans includes rye, hairy vetch and alsike clover
- Spring cover in soybeans going into corn includes oats, hairy vetch and alsike cover (oats will replace the rye in beans going to corn, reflecting our concern about grass cover crops before corn creating N tie-up)
- Nitrogen production crops seeded in soybeans going to corn are mammoth red clover, hairy vetch, alsike clover and a few oats.

Problematic practices on neighboring properties are a frustration.

- Baling and selling of cornstalks leads to too little residue on a field and huge gullies.
- Gullies on a neighbor's soybean ground are getting worse; there isn't enough cover left on the ground to prevent gully formation.
- Grassed waterways on adjacent property are too narrow and silt is washing into John's waterway.

A frequently heard question from visitors is "Why don't your neighbors do what you do?"

That is the question.