Environmental Savvy at Armstrong Farms

Grasslands in Pennsylvania maintain natural resources in harmony with beef production.

Story and photos by ***Janet Mayer***

►**"This area is the last slice of the pie around Pittsburgh that is still agricultural, and we are definitely feeling the pressure of urbanization," says John Allen Sr. (right). "We have had to make changes to survive." Allen is shown with his wife, Kathy (center), and son John, who represents the sixth generation on the farm with his brother Andrew (not pictured).**

For more than a century, farming has been the tradition for the Allen family, owners of Armstrong Farms near Saxonburg, Pa. In trying to preserve their heritage and way of life, and stave off encroaching urban development, the family has implemented some radical changes over the last several decades that have not only kept them operating in the black, but have also brought them national recognition.

Armstrong Farms was named the winner of the 2002 National Cattlemen's Beef Association (NCBA) Region I Environmental Stewardship Award and the 2001 Pennsylvania Environmental Steward Award. The Allens attribute their success to using environmentally sound practices to maintain management of natural resources in all of their farm projects.

Passed down through six generations, the family operation has been designated a Century Farm by the commonwealth of Pennsylvania. This was not an easy task since the farm is located just an hour north of Pittsburgh.

"This area is the last slice of the pie around Pittsburgh that is still agricultural, and we are definitely feeling the pressure of urbanization," says John Allen Sr. "We have had to make changes to survive. Our farm dates back to 1816 and has evolved through my side of the family to my immediate family that includes my wife, Kathy, and sons John and Andrew. My sons are the sixth generation on the farm, and I hope their children, if they continue the tradition, will make the seventh."

Allen began the cow-calf operation in 1966 with a herd of Shorthorn cattle on 83 acres. After his marriage to Kathy, they added acreage and cattle, expanding to 350 owned acres and another 500 acres of leased land devoted to row crops of corn, winter wheat, oats and barley.

"It didn't take us too long to figure out that planting row crops wasn't a profitable enterprise," Kathy says. "Paying the same for fertilizer, seed and equipment as a farmer in the

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►**Above:** **Winners of the 2002 NCBA Region I Environmental Stewardship Award, the Allen family developed a system to produce quality grass and legumes on the 1,000 acres of owned land and on an additional 300 leased acres.**

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Midwest, but getting only half the yield just didn't add up. We realized that our fields were more conducive to raising grasses and made the decision to quit growing row crops."

Using the KISS theory (keep it simple, stupid) as their philosophy, the Allens began making changes to their cow-calf operation back in the late 1970s. They sold all of their planting equipment, including a seven-bottom plow and grain drill.

"When our neighbors saw us putting up fences for paddocks where crops had grown before, they figured that we had completely lost our minds," John says with a laugh.

Introduction of grasslands

Work was begun on the development of several springs with the local Natural Resource Conservation District (NRCD), known at that time as Soil and Water Conservation, and through the next decades, the Allens steadily increased cattle numbers. This was done by keeping replacement heifers, as well as by purchasing females.

In an effort to diversify the operation, a small herd of Angus was started in the early 1990s. With the new rotational grazing system well in place, the Allens found they could develop a more comprehensive herd health program for all of the cattle by utilizing time that had once been devoted to planting and harvesting grain.

By adding acreage when neighboring farms were sold, the Allens laid out 40 paddocks planned for easy movement of the cattle. The areas became known as Main Farm, Westminster Preserve, the Love Farm, the Old Theater Farm, BOTE and Greenspace. Six separate water systems, fed by either springs or wells, were established through the paddocks to provide water in 23 concrete stock tanks for the cattle.

"We feel good about what we have done here," Kathy says. "I think the biggest thing is we have tried to make the system as simple as possible. We try to do everything quickly and efficiently, keeping our animals as healthy as possible with quality water systems and grasses."

Other improvements to the farms included fencing streams to limit cattle access, and the development of five ponds and two wetlands. A system producing quality grass and legumes was developed on the 1,000 acres of owned land and on an additional 300 leased acres. The goal was to improve hay fields and pastures with alfalfa, timothy, reed canary grass, bird's-foot trefoil, orchard grass and some warm-season native grasses added to augment the slow-growth period of summer.

Since temporary fencing proved to be too labor intensive, high-quality fencing was installed both around the perimeters and between paddocks to allow more ease in moving the cattle.

"It is simple yet it is efficient, allowing just one person to handle the operation," John says. "Our rotational grazing system supports purebred herds of 250 Angus and 250 Shorthorn cattle, and with this system we feel like we are working with the environment and not against it. Back in the '80s, when we decided we would either make it with hay and cattle or we wouldn't make it all, [that] was probably the best decision we ever made."

Since western Pennsylvania usually has abundant rainfall each year, the Allens begin to pasture by mid-April and end the system by mid-November. By stockpiling fescue at one of the farms, the season has been expanded for the last three years by allowing another three to four weeks of grazing. This year, however, they don't anticipate

►**Above:** This feeding structure has made manure management relatively simple.

►**Right:** The Armstrong Farms Angus herd has expanded rapidly in the last several years.

this will happen because of drought conditions in the Northeast.

"Our farm policy for changing pasture means moving the cattle before the grass becomes the height of an ordinary baseball," Kathy says. "Since cows and calves remain outside all year long, spreading their own waste has drastically cut down on the use of commercial fertilizer. Every two years, a soil profile is completed on each paddock, allowing the paddocks to be maintained by liming and fertilizing only when needed."

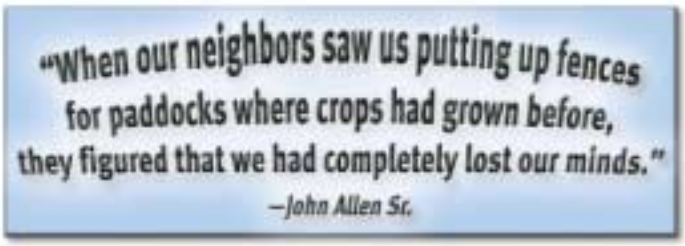
Cows and nature

With the assistance of NRCD, and the Pennsylvania Act 6 Program, the operation has developed and implemented a farm nutrient management plan with animal waste being the key part. A feeding structure on concrete for 100 cows utilizing a grass filter manure handling system has made manure management relatively simple.

In the area of the farm known as Greenspace, the Allens worked with Bethlehem Mines and the Pennsylvania Department of Environmental Protection, as well as the NRCD, to reclaim a repository for residue from a deep-mine coal extraction process.

"This is a fragile area of 60 acres with minimal topsoil that needs careful management, especially in late summer when there is little rainfall," John explains. "We reestablished grass by using what we call the 'poop and stomp' process. Cattle are allowed to aggressively feed on specially fenced, concentrated areas of round bales, but then are entirely removed while the grass from bale residue, nourished by the intensive manure deposited at the site, gets established."

Solar panels are used to generate power for the fencing and water system at Greenspace. Using a grant from Project Grass to install a solar pump at an existing groundwater monitoring well, water is collected in a cistern and gravity-fed to watering troughs for the grazing paddocks.



►The Allens worked with Bethlehem Mines, the Pennsylvania Department of Environmental Protection and the Natural Resource Conservation District to reclaim a repository for residue from a deep-mine coal extraction process.

Downstream, all water that percolates through the abandoned refuse site passes through an artificial swamp filtering area, including acidic water from an abandoned deep mine and a strip mine. This filtering system then extends into a pond site and eventually into the Allegheny River basin. Wildlife drink at the filtering ponds, and fishing is now allowed at the Greenspace pond. The Allens say this project has become an excellent example of how large industry and an agricultural area can work together in a cooperative way to provide a safer environment for everyone.

"At the Westminster area, we have created and fenced off a wetland area for waterfowl nesting and migration," Kathy says. "Duck boxes have been erected and plant species have been planted for food and cover. We work with Ducks Unlimited, a conservation group that has been granted an easement guaranteeing long-term existence of this site. Nature trails have also been created so that school children or conservation groups can study the ecosystem firsthand."

The farm also employs selective harvesting of red oak, cherry and maple trees, and grapevine control to enhance the woodlots interspersed between the paddocks. Last year, 350 seedlings of conifer and deciduous species were planted around the new duck pond.

Perhaps one of the most satisfying and least expected aspects of the Allens' integrated management style has been the enhancement of the wildlife population on the farms. Deer graze behind the cows, flocks of wild turkeys are routinely seen, and the introduction of warm-season grasses has created a habitat for grouse and pheasant.

"As we all know, the agricultural industry is a most difficult business, especially if you are a small family farm," Kathy says. "And the reality of the world is diversification, which is something we all have to think about if we want to continue our cow-calf operation. Realizing this, we knew we could also utilize our environment for additional income, but we wanted something that would blend. Being close to an urban area, but still being rural, gave us the advantage to open a bed and breakfast, about 3½ years ago, that has turned out to be really successful."

The farm offers a hunt-and-fish club, where turkey and white-tailed deer can be harvested by archery or small-gauge muzzle loaders. They also board horses on a limited basis and host weddings at two of the farm sites. According to Kathy, all these endeavors help pay the taxes.

Monitoring wind velocity on several farms is another recent research effort for the Allens. Depending upon results from the data collected, a possibility exists for the building of windmills to collect, store and generate electricity that could be used to pump water to underground storage facilities during drier conditions. Overall, the Allens have found their commitment to dedicating their farm operation to innovative, environmentally sound practices to be personally rewarding.

"Our goal is to make the total ecosystem better than it was when we started," John says. "We don't just own the land, rather both are entrusted to us to manage and improve for those who follow. This is stated in our farm mission statement and is not just a business plan, but a way of life managed for success in all aspects of Armstrong Farms."

Nearly 350 acres of Armstrong Farms has been transferred to the Pennsylvania farm preservation easement program, which will ensure the property will remain an operating agricultural space in perpetuity. AJ

Editor's Note: *Sponsored by Dow AgroSciences, the Environmental Stewardship Award Program (ESAP) recognizes cattle producers whose stewardship practices are inventive, cost-effective and contribute to environmental conservation. Recipients are selected by a committee of representatives from university faculty, federal and state government agencies and conservation and environmental organizations. For more information, visit* http://hill.beef.org/esap.