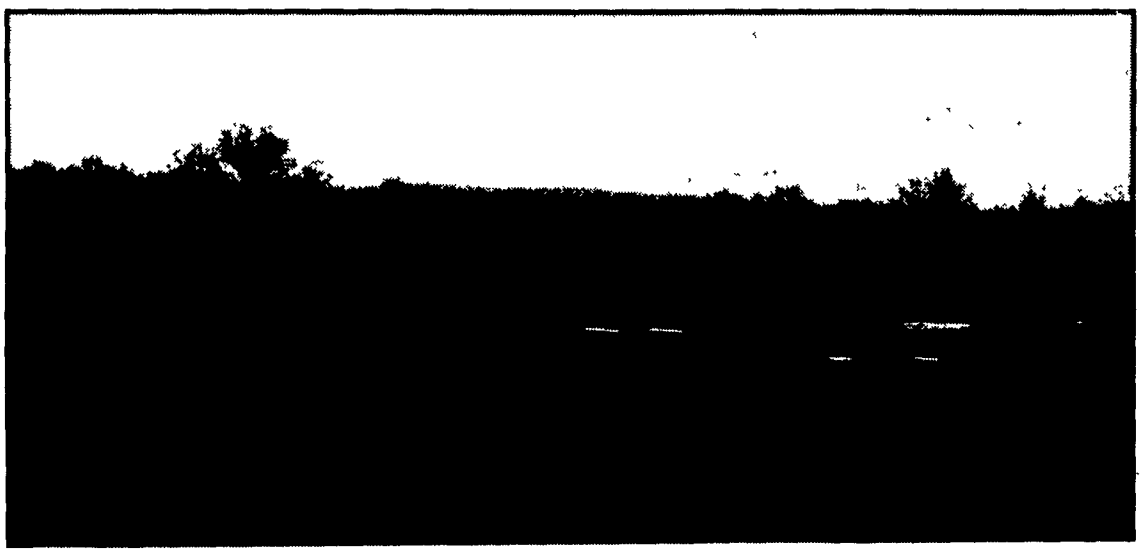
Gettysburg FFA Will Use Grant To Build Environmental Center



Part of the proposed sight for Gettysburg Area School's environmental/earth center, these grounds include wetlands, wooded area, and potential turfgrass areas for use in environmental education.

JAYNE SEBRIGHT
Lancaster Farming Staff

GETTYSBURG (Adams Co.) — Ron Sollenberger, Gettysburg Battlefield FFA Adviser and teacher at the Gettysburg Area High School, has wanted to develop an environmental center ever since he started teaching 26 years ago.

Now, thanks to Pennsylvania's Agricultural and Rural Youth Grant Program, Sollenberger will have that opportunity.

Gettysburg Battlefield FFA was one of four youth programs to receive the highest dollar value of matching grants — about $10,000 dollars — approved by the grant program. 31 youth organizations received a total of $100,000 in matching and direct grants as part of this year's grant program, which was administered by the Pennsylvania Department of Agriculture.

Gettysburg Area High School has more than 300 students enrolled in agriculture classes, while 40 students are members of the Gettysburg Battlefield FFA. But Sollenberger hopes that the environmental center developed with the help of the matching grant will benefit many more students than just those involved in agriculture.

"My intentions are to develop an environmental center that will include as many different programs in the school as possible," said Sollenberger. "The center will be oriented primarily to high school and elementary students."

A move to a new high school located on a 125-acre property opens up the opportunity to build the environmental center.

"Our old location was only 52 acres with three buildings located on it," said Sollenberger. "This one is 125 acres with one building."

The property includes a wooded lot, wetland area, a stream, and plenty of grass. Sollenberger plans to develop turf grass plots, plant ID plots, water quality testing stations, streambase management stations, wildlife habitat areas, and forestry management stations.

"The matching grant will be used primarily to purchase the equipment needed for the environmental center," said Sollenberger. "Students will be building the center during classes, after school, and as FFA projects."

The first thing Sollenberger plans to do once he has the check from the matching grant program is to send out a wish list to elementary and high school teachers.

"I am asking them what they would want to include in the school's environmental center," said Sollenberger. "I already know that two of the elementary teachers are avid bird watchers and integrate that interest into their curriculums. Perhaps the center will have a bird watching station."

The environmental center will be designed to work with both classroom and extracurricular activities. "We plan to develop trails for the cross country runners, and we hope to establish turfgrass plots that can be used as golfing greens."

According to Sollenberger, the Gettysburg Area School District has been integrating environmental education into its curriculum for the past ten years, but teachers never had a convenient location to give students hands-on experience.

"Lots of schools have environmental centers, but the teachers often don't know about them because they're not integrated into the curriculum," said Sollenberger. "We want to develop as many different ways for teachers and students to use the center as possible. Basically, it will include anything that has to do with the environment."

Sollenberger and his students will be working with area organizations to develop the center.

"We've already talked with the soil conservation district, and we're talking to a local forester on Friday," said Sollenberger. "We're doing some soil profiles, and we plan to involve the game commission and the state land management person in the project."

With 125 acres, the organizations are eager to help. "The game commission was appalled at the amount of grass we are mowing here," said Sollenberger. "They see a lot of potential for wildlife habitats in that grass."

In addition to the school property, a four-acre plot at the county's new Ag Resource Center has been designated for use by county school agriculture programs.

"Since we're the closest school to the center, we'll probably have the most opportunities to use the plots," said Sollenberger. "I'm hoping to have our turfgrass plots there because the school may not let us plow up any ground."

Sollenberger expects the environmental center to be an ongoing project. "The matching grant will be used to get the ball rolling," said Sollenberger. "I don't expect to ever really complete the project because working with the center and adding new things is the way we can teach students about the environment."

For Sollenberger, writing the grant was an extensive project. "I spent quite a bit of time on it," he said. "The hardest thing was digging up the itemized cost figures and being able to justify them."

Once he completed the proposal, Sollenberger showed it to both the students and school board for their approval and sent it to Pennsylvania Department of Ag last December.

Representatives from the Pennsylvania Departments of Agriculture and Education, the state 4-H and FFA associations, the Pennsylvania Vocational Agriculture Teachers Association, the Penn State Cooperative Extension, the Pennsylvania State Grange, the Pennsylvania Council of Cooperatives, and the Pennsylvania General Assembly judged the applications.

"I was really surprised when I was notified in February that our proposal was approved," said Sollenberger. "It is one of those things where you are either approved or not. They won't give you half of the money you asked for — it's all or nothing."

The center will be the largest project that Sollenberger has ever undertaken in his years of teaching.

"I have a lot of dreams about how this center will be," he said. "We might not get permission to do everything I want to do. But there are so many different aspects of environmental education we can incorporate. If one thing won't work, we can come up with something else to replace it. It is going to be as extensive of an environmental center as any school has."

Don't Disrespect The Soil That Feeds You

COLUMBUS, Ohio — The quantity and quality of the world's soil will not meet future food demands if the population continues to grow at its current rate and efforts are not taken to improve soil conditions, said an Ohio State University soil scientist.

"I tell my students that 'In soil, we trust," said Rattan Lal, a professor of soil science in Ohio State University's School of Natural Resources. "It's time that we as a community give proper respect to what we call dirt."

A specialist in soil degradation and carbon sequestration (keeping carbon in place in the soil), Lal argues that two key 21st century concerns — global food security caused by a rapid increase in world population and increases in atmospheric greenhouse gases — are linked to soil quality, especially in relation to soil carbon.

The increase of atmospheric carbon dioxide is occurring at the rate of 3.3 billion metric tons per year. In addition to fossil fuel combustion, the increase is caused by soil cultivation, biomass burning and deforestation. Even more gaseous emissions — including methane and nitrous oxide — are caused by further declines in soil quality from erosion and nutrient imbalance, Lal said.

Before the 1970s, more carbon was emitted into the atmosphere from soil and agricultural activity than from fossil fuel combustion. Now, agricultural activities are responsible for about 25 percent of global emissions.

Lal has worked with colleagues around the world to assess the potential for agricultural practices that would improve soil quality and, at the same time, reduce emissions of carbon dioxide into the air.

He recommends a variety of agricultural practices, including conservation tillage, precision farming and growing cover crops, to keep carbon in the soil, thus improving soil productivity and reducing the release of carbon into the air. He estimates judicious land use and soil management techniques could resequester 60 percent to 70 percent of the historic carbon loss of 80 billion to 100 billion metric tons of carbon.

In the United States alone, carbon sequestration could affect 212 million metric tons of carbon per year, or about 12 percent of the total carbon emissions. Through a global program of soil management, "the potential of soil restoration is enough to nullify the annual increase in atmospheric concentration of carbon dioxide," Lal said.

Increasing soil carbon also has other societal benefits: resisting erosion, reducing the transport of pollution-laden sediment into water, decreasing downstream flooding and lowering the release of particulate matter into the atmosphere — thus, decreasing the risks of global warming.

"It's truly a win-win strategy," Lal said.

However, the use of cropland to reduce atmospheric carbon levels is not a permanent solution to the problem. Soil can only hold so much carbon, and with appropriate agricultural practices it will be filled within 25 to 50 years, Lal said. Soil carbon also can be easily lost back into the atmosphere. One mistake, such as plowing once after years of no-till can destroy 20 years of work.

"This isn't a substitute to finding alternatives to fossil fuel usage," he said. "What it does is provide us an opportunity to sequester carbon in agricultural soils for the next 25 to 50 years while we find viable alternatives to fossil fuels. This is not 'the' answer, but it is an important temporary solution."

Though the water and air quality concerns are high priorities, Lal emphasized that world hunger — already a problem for 790 million people globally — will intensify if agricultural productivity is not improved.

"There are not many troubles in the world more alarming than those caused by an empty stomach," Lal said.

The combination of the best soils with the best management practices will produce optimum yields and spare marginal land for nature conservancy, he said.

Concerns about food availability are particularly high in developing countries, where almost 97.5 percent of the estimated annual population increase of 73 million people is expected to occur, Lal said. Malnourishment in these areas is intensified in cases where crops and animals are raised on degraded soils missing many nutrients — among them, zinc, copper and iron.

Lal's collaboration with other scientists in a national, multi-institutional research effort to quantify the potential of soil carbon sequestration has led to the publication of 12 books.

To learn more about carbon's impact on soil quality and the use of cropland to reduce the threat of global warming, interested people should call Lal at (614) 292-9096, e-mail him (Lal.1@osu.edu), or check their local libraries for a book Lal and several other authors have written on the subject titled, "The Potential of U.S. Cropland to Sequester Carbon and Mitigate the Greenhouse Effect." The U.S. Department of Agriculture commissioned the study.

Glickman Fills Vacancy On National Dairy Board

WASHINGTON, D.C. — Agriculture Secretary Dan Glickman recently announced the appointment of Neil Hoff of Windhorst, Texas, to fill a vacancy in region 4 on the National Dairy Promotion and Research Board.

Region 4 includes Arkansas, Kansas, New Mexico, Oklahoma, and Texas. Hoff will serve the remainder of a 3-year term ending Oct. 31, 2002. The vacancy was created by the resignation of John B. Stacks of Damascus, Ark.

The National Dairy Promotion and Research Board is composed of 36 dairy farmers representing 13 regions of the contiguous U.S. and administers a coordinated program of promotion, research, and nutrition education.

The board was established by the Dairy Production Stabilization Act of 1983. It is authorized to design programs to strengthen the dairy industry's position in domestic and foreign markets. The national program is financed by a mandatory 15-cent per hundredweight assessment on milk produced in the contiguous 48 states and is marketed commercially by dairy farmers.