

MISSOURI ENVIROTHON



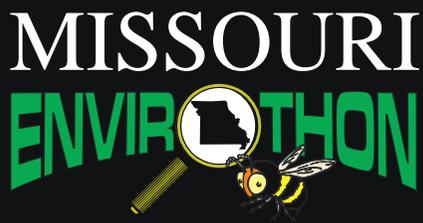
2016

In this issue

How to Support Envirothon.....Page 4

Ag Soil and Water Conservation
Stewardship is Topic for 2017.....Page 6

Smithfield Partners with Envirothon Page 16



Missouri Envirothon

A Brief History

Missouri held its first Envirothon competition in 1998, with the Soil and Water Conservation Districts taking the role as sponsors. Ten teams competed in the pilot event, which was quite successful and drew the attention of educators and conservation agencies.

Participation has grown significantly over the past 18 years. The state event now hosts an average of 21 teams each spring for the annual competition. Students come from all corners of the state, having earned the right to compete based on their scores at regional competitions. Missouri sends one team to the NCF-Envirothon (the North American level of competition) where 50 to 60 United States and Canadian teams compete. Since 1998, a Missouri team has placed within the top five during seven of those years.

Year	Missouri's Placement	Host State/Province	Current Issue Theme
2007	Fourth	New York	Alternative Renewable Energy
2008	Second	Arizona	Recreational Impacts on Natural Resources
2009	Fifth	North Carolina	Biodiversity in a Changing World
2012	First	Pennsylvania	Non-point Source Pollution/ Low Impact Development
2013	Third	Montana	Sustainable Rangeland Management
2014	First	Illinois	Sustainable Agriculture
2015	First	Missouri	Urban/Community Forestry

What is the Envirothon?

Envirothon is a problem solving, natural resource education program for high school students. Teams of students are challenged to hone critical thinking skills as they answer questions and conduct hands-on investigations of environmental issues in five categories - Soils/Land Use, Aquatic Ecology, Forestry, Wildlife and Current Environmental Issues. In addition to a written test, teams also prepare an oral presentation solving a specific natural resource problem.

Envirothon began in Pennsylvania in 1979 as an outgrowth of a vocational agriculture land judging contest. The first national event was held in 1988 with five states participating. In 2015, there were 52 state or provincial teams on the roster.

MoDNR photo

It is through the support of the generous people and organizations listed here that the Envirothon is available to students in Missouri.

Thank You

for your support!

Missouri Envirothon Donors

Naturalist (A minimum gift of \$1,000)

Soil and Water Conservation Society
MO Show-Me Chapter

Steward of the Land (A minimum gift of \$250)

Missouri Association of Environmental Education
Missouri State Charitable Campaign donors
Bates County SWCD
Grundy County SWCD
Platte County SWCD
St. Louis County SWCD

Friend of the Envirothon (A minimum gift of \$25)

Paul Allgood
Allgood's Nursery
Judy Stinson
Andrew County SWCD
Audrain County SWCD
Barry County SWCD
Barton County SWCD
Benton County SWCD
Boone County SWCD
Butler County SWCD
Caldwell County SWCD
Camden County SWCD
Cape Girardeau County SWCD

Carroll County SWCD
Cedar County SWCD
Christian County SWCD
Clark County SWCD
Clay County SWCD
Clinton County SWCD
Cole County SWCD
Cooper County SWCD
Dallas County SWCD
Davie County SWCD
DeKalb County SWCD
Dunklin County SWCD
Franklin County SWCD
Gasconade County SWCD
Harrison County SWCD
Hickory County SWCD
Holt County SWCD
Knox County SWCD
Lawrence County SWCD
Lewis County SWCD
Lincoln County SWCD
Macon County SWCD
Marion County SWCD
McDonald County SWCD
Mercer County SWCD
Mississippi County SWCD
Morgan County SWCD
Newton County SWCD
Osage County SWCD
Pemiscot County SWCD
Perry County SWCD
Pettis County SWCD
Pike County SWCD
Polk County SWCD
Putnam County SWCD
Ralls County SWCD
Randolph County SWCD
Ray County SWCD
Reynolds County SWCD
Ripley County SWCD
Scotland County SWCD
Shelby County SWCD
St. Clair County SWCD
St. Francois County SWCD
Ste. Genevieve County SWCD
Stoddard County SWCD
Stone County SWCD
Sullivan County SWCD
Texas County SWCD
Vernon County SWCD
Wright County SWCD



MoDNR photo by Van Beydler

Campaign for the Continuing Support of Envirothon in Missouri

The regional and state Envirothon programs require approximately \$15,000 to \$20,000 annually. These dollars fund trainings, competition t-shirts, lunches, site fees, materials, water, and other necessities for over 300 students, 125 teachers and numerous volunteers across the state.

Missouri Envirothon recently embarked on a campaign for financial support to ensure the continued success of this important program. Donors are invited to give any amount, and will be listed annually in this magazine.

How to Donate to the Missouri Envirothon

For more information about how to donate to the Missouri Envirothon, a non-profit educational high school competition, contact Audrey Rayl at the Lewis County Soil and Water Conservation District at 573-767-5276, ext. 3, or audrey.rayl@swcd.mo.gov. Your donation will help the Missouri Envirothon committee fund seven regional competitions and the state event every year. These funds will also provide a cash financial award for the winning Missouri team to attend the NCF-Envirothon held annually in one of the participating states or Canadian provinces.

The categories of giving for the campaign to support the Missouri Envirothon are:

Conservationist (A minimum gift of \$10,000)

Ecologist (A minimum gift of \$5,000)

Naturalist (A minimum gift of \$1,000)

Steward of the Land (A minimum gift of \$250)

Friend of the Envirothon (A minimum gift of \$25)

You can make a difference with any pledged amount. Help us keep this program in Missouri!

Please choose the sponsorship level of your choice and mail a check payable to Missouri Envirothon to:

**Missouri Envirothon
Audrey Rayl at Lewis County SWCD
504 South Washington Street
Monticello, MO 63457
or audrey.rayl@swcd.mo.gov**

Jonathon Blickhan Receives Mary Burt Memorial Scholarship

The Mary S. Burt Memorial Envirothon Scholarship committee was pleased to award the \$250 scholarship to Jonathon Blickhan during the awards ceremony at the 2016 Missouri State Envirothon competition April 28. Jonathon was in attendance, competing with his team from North Shelby High School, and was surprised to learn that he was the recipient. He is the son of Kent and Lisa Blickhan of Shelbyville and has competed in the Northeast Regional Envirothon.

“My experience with the Envirothon competition has been very beneficial to me in developing communication skills and learning to work within a team,” he said in his letter to the scholarship



Theresa Dunlap presents the scholarship award to Jonathon Blickhan at the 2016 Missouri Envirothon. MoDNR photo by Van Beydler

committee, “but most importantly, I was introduced to the educational concept of environmental integrity of resources.”

Jonathon said he is already using Envirothon knowledge and skills in the work he has done on his grandfather’s farm. “The knowledge I’ve gained in seeds and grasses is amazing. I’ve been able to apply that knowledge as I helped my grandfather prepare a conservation wetland reserve program.” His special interest may lie in agriculture and soils, as he noted he enjoyed working with food plots, seeing different soil berms, and discovering what soils were best suited for certain areas and purposes.

Jonathon plans to study mechanical engineering with an emphasis in agriculture.

With high academic marks, a host of club and honor society affiliations, good citizen awards, FFA awards, and consistent part-time employment throughout his high school career, it is easy to see why Jonathon was a perfect fit for the scholarship.

Mary Burt Scholarship

The Mary S. Burt Memorial Envirothon Scholarship was established in 2010 to honor the memory of Mary Burt, former manager of the St. Charles County Soil and Water Conservation District and a founding member of Envirothon in Missouri. Mary was involved at all levels of the competition and spent countless hours working with students, especially in the resource area of soils and land use. Mary didn’t have children of her own, but would often refer to the Missouri Envirothon students as “our kids”. It was important to her to encourage the students to not only pursue knowledge of natural resource conservation, but also to apply what they’d learned in their communities. If you would like to donate to the scholarship fund, please contact Theresa Dunlap at 636-922-2833.

Agricultural Soil and Water Conservation Stewardship is the Topic for 2017 Contest

By DeDe Vest, Urban Resource Conservationist - USDA/NRCS

The Missouri Envirothon Committee asked NRCS's Area Resource Conservationist DeDe Vest to address the 2017 Current Issue topic

Successful agriculture depends on healthy soil and water. Fertile soil and clean water are both renewable resources in natural systems and, when managed properly, can also be renewable resources in the context of agricultural production.

Soil and water are required resources for life on Earth. Most terrestrial life needs a continual source of water for sustenance and soil is an essential medium for plant growth in most terrestrial ecosystems; providing nutrients, water, physical support, and biological interactions with roots.

Soil and water are closely linked in nature, impacting each other through the hydrologic, geo-chemical and energy cycles. In most cases, an impact on the soil system has a direct impact on water resources.

The word "stewardship" refers to responsible use and protection of the natural environment through conservation and sustainable practices.

Aldo Leopold (1887–1949) championed environmental stewardship based on a land ethic "dealing with man's relation to land and to the animals and plants which grow upon it."

Conservation and proper management of our soil and water resources are

critically important for the long-term economic sustainability of Missouri.

Soil erosion by wind and water adversely impact the productivity of our cropland soils, by removing the fertile topsoil.

The subsoil left behind is less fertile, with less desirable physical characteristics for crop production. The sediment eroded from croplands is detrimental to offsite environmental quality.

Sediments carried by water contribute to reduced water quality in lakes and streams by reducing its clarity. These sediments also slowly fill our reservoirs which limit their use for drinking water storage, flood control, and recreation.



MoDNR photo

In Missouri, the conservation effort involves a large array of partners, including federal agencies, state and local governments, and private organizations, among others, who provide funds, expertise, and other forms of assistance to the agricultural conservation effort.



USDA photo

These programs protect soil, water, wildlife, and other natural resources on privately owned agricultural lands to limit environmental impacts of production activities both on and off the farm, while maintaining or improving production of food and fiber. Some of these programs center on improving or restoring resources that have been degraded, while others create conditions to limit degradation in the future.

Probably no partnership in the United States has done as much to reduce soil erosion and protect water quality as the partnership between Missouri NRCS and the state's soil and water conservation districts. In 1984 Missouri voters approved a one-tenth-cent Parks, Soils and Water Sales Tax to provide funds for soil and water conservation.

Since then, Missouri's soil erosion rate has dropped more than any other state. In 2002 it was estimated at 5.3 tons per acre, which represents a more than 50 percent reduction in the last 20 years.

The Missouri Department of Agriculture recently announced a new program called Agriculture

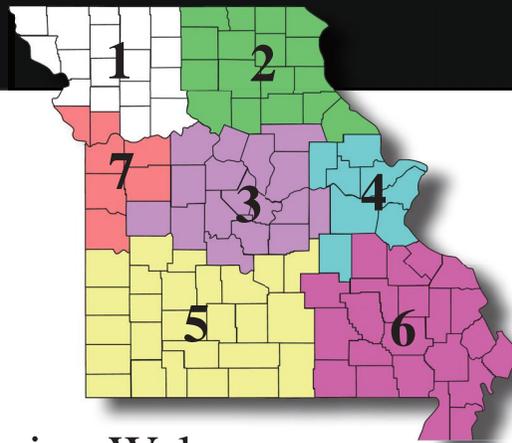
Stewardship Assurance Program. The program, also known as ASAP, recognizes Missouri farmers and ranchers who strive to be responsible stewards of the land. There is a growing trend worldwide that favors sustainable and responsible food production, processing, and transportation methods.

According to a Nielson survey, 42 percent of North Americans say "they are willing to pay more for products and services provided by companies that are committed to positive social and environmental impact".

Farmers and ranchers who become ASAP-certified will receive official verification of their farm's sustainability, including displayable proof such as farm signage, official ASAP stamp for marketing materials and social media, recognition on ASAP's website, and early access to educational programs.

Such benefits are vital in ensuring Missouri farmers a competitive place in not just the domestic marketplace, but the international marketplace as well.

Envirothon Regions



1

Northwest Region Welcomes New Schools *Heather Keith* 660-359-2006, ext. 101 swcd.mo.gov/grundy/Envirothon.htm

The Northwest hosts a fall competition in early November; the most recent at Squaw Creek National Wildlife Refuge. This region is comprised of 17 counties including: Atchison, Holt, Nodaway, Andrew, Buchanan, Worth, Gentry, DeKalb, Clinton, Harrison, Daviess, Caldwell, Ray, Mercer, Grundy, Livingston and Carroll.

Schools representing 10 competing teams were Maysville, Missouri Academy, Plattsburg, Norborne, South Nodaway, and North Mercer. We welcomed two new schools to the competition, and most of the returning schools had teams with new students to the

Envirothon experience. The Northwest Region Committee strives to educate and promote the Envirothon within rural communities.

The committee has planned a yearly rotation that will allow



Photo by Heather Keith



Photo by Heather Keith

students and coaches the opportunity to experience our beautiful State Parks, Conservation Areas and Wildlife Refuges. We are lucky to have such a broad spectrum of volunteers that dedicate their time to the planning, test writing and hosting of the Envirothon in our region.

A special thank you to our volunteers: Missouri Department of Conservation, Soil and Water Conservation District Staff, Soil and Water Conservation District Board Members, Smithfield - Milan Plant, Smithfield Hog Production, Natural Resources Conservation Service and Missouri Master Naturalists.

2

Northeast Hosts Fall Competition *Andrea McKeown* 660-263-5702, ext. 3



Photo by Andrea McKeown

The Northeast Region covers 17 counties including Putnam, Schuyler, Scotland, Clark, Sullivan, Adair, Knox, Lewis, Linn, Macon, Shelby, Marion, Chariton, Randolph, Monroe, Ralls, and Pike.

The Northeast Region hosts an October competition. The region rotates its competition throughout the area trying to pick an area that relates to the current issue topic for that year.

In the past the competition has been held at Mark Twain Lake, Long Branch Lake, Hannibal, Novelty, and Atlanta. In 2015, six teams competed from four area high schools.

We hold a teacher/team training four to six weeks before the regional event. This allows new teams and team members to gain some knowledge of how the competition works and allows them hands-on training. Call for more information about the Envirothon or our regional competition.



Photo by Andrea McKeown

3

Central Region Envirothon Hosts 17 Teams in 2016 *Tina Dulaban* 660-547-2351, ext. 3

The Central Region hosted 17 teams for the 2016 Envirothon. This year three teams from the Central Region placed at the Missouri Envirothon; Camdenton, Smith Cotton and Sacred Heart Schools.

The Central Region relies on strong partnerships to consistently host up to 24 teams each year. The Runge Nature Center has been the testing location for several years. Runge has excellent trails that lend themselves well for Envirothon use. There are indoor facilities that may be used in case of inclement weather.



Photo by Jennifer Nixon

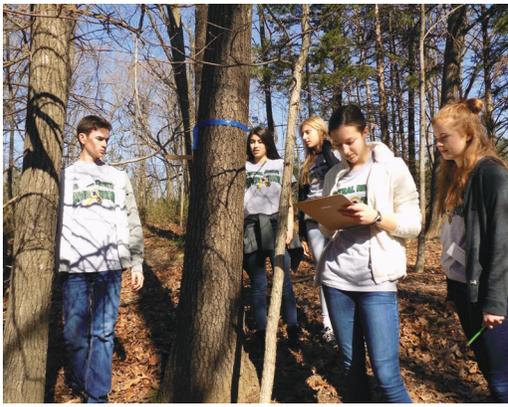


Photo by Jennifer Nixon

The Envirothon Committee consists of Soil and Water District Employees, test writers from Missouri Department of Conservation and the Natural Resources Conservation Service.



Photo by Jennifer Nixon

The local Soil and Water Conservation Districts provide support for the teams when requested, sponsor teams and set up training opportunities for the teams. It takes 45 to 50 volunteers to make the event go smoothly each year.



Photo by Jennifer Nixon

The Runge staff is always ready to assist, along with other volunteers including the Natural Resources Conservation Service, Missouri Department of Conservation, the Department of Natural Resources, Soil and Water Conservation District Employees and sometimes even Soil and Water Conservation District board members.



Photo by Jennifer Nixon

The Central Region hosts a field trip the day of the Envirothon for the teachers and bus drivers. This year the Missouri Department of Conservation provided two boats and treated them to a ride on the Missouri River.

Past excursions have included a tour of the former Missouri State Penitentiary, Burger's Smokehouse and the Prairie Forks Conservation Area. After the tour the teachers are given lunch and chaperoned through the testing stations.

The Envirothon Committee meets four to five times throughout the year to plan and organize the competition to consistently provide a well-organized Envirothon to students.



Photo by Jennifer Nixon

4

Teams Compete at County Park in the St. Louis Region

Theresa Dunlap 636-922-2833, ext. 3

The St. Louis Regional Envirothon was held at Broemmelsiek County Park in St. Charles County on April 7, 2016, with eight teams traveling through stations located around the lake and visitor's center.

New to the competition stations this year were a full-size mounted feral hog and an armadillo, brought by Wildlife Damage Control Biologist Tom Meister, to use as a reference for some of the wildlife questions. Students encountered hands-on and site-specific questions at each station, including having to identify some invasive plant species.

Three teams advanced to the state event where teams competed to determine which one would represent Missouri at the national event in Canada in July.

At state, Parkway North High School Team A earned 6th place, McKinley Classical and Leadership Academy took 7th place, and Parkway North High School Team B placed 12th out of 18 teams.

The St. Louis Region holds two trainings each year, and has many talented professionals who lend their knowledge and expertise.

Soils trainers are Dave Skaer (NRCS), Jerry Weinrich (SWCD), Charlie Perkins (SWCD), and Ross Braun (retired NRCS). Current Issue trainer is Perry Eckhardt (MDC), and forestry trainer is Mark Grueber (MDC). Wildlife was taught by Tom Meister (MDC), while aquatic training was provided by Denise Otto (MDC).



St. Louis region winners Lily Jensen, Steven Gibbs, Emma Simpson, Abby Foehrkolb, and Anna Dotson.

Photo by Theresa Dunlap

5

Southwest Teams Place in Top 10 in the State

Stephanie Auffert 417-276-3388, ext. 3

The 2016 Southwest Region Contest was held Nov. 4 at the MDC Nature Center in Springfield. Fifteen teams representing eight schools competed while their advisors received training with Jay Barber with the Missouri Department of Conservation. He gave an invasive species tour at the Conservation Area.

Prior to the state competition, the Southwest Region Envirothon Committee held a "Mini-Envirothon" to help prepare the students for the state contest.

All three teams from the Southwest Region, Licking, Houston and Stockton High Schools placed in the top ten at state with Licking receiving 2nd place, Houston receiving 5th place, and Stockton receiving 10th place. Great job Southwest Region!



Photo submitted



Photo submitted

12

6

Southeast *Rachel Griffin* 573-996-3619, ext. 3 *Wilma Carlyon* 573-751-1783

Due to the small number of teams showing interest in the Southeast Regional Envirothon the planning committee decided not to hold an event this year.

The state committee also made the decision not to hold a regional competition for 2017 in the area either.

We are offering an alternative for those of you that would like to have the opportunity to still be a part of a regional Envirothon event and hopefully advance on to the state competition.

The Missouri Envirothon committee would like to invite your school to participate in one of the other two regional competitions closest to you.

Those events are held in the St. Louis region and Central region of the state. Both of those competitions are held in the spring.

The region chairs for each of those areas and contact information are as follows:

St. Louis - Theresa Dunlap - regional chair. Theresa.dunlap@swcd.mo.gov or 636-922-2833 ext. 3. They have training in October and January - dates TBD (Grey Summit area in October and Busch Conservation Area in St. Charles County in January). The event is the first week of April. Event location and date will be decided, but it will be in the greater St. Louis area. The registration fee is \$75.

Central - Tina Dulaban - regional chair. Tina.dulaban@swcd.mo.gov or 660-547-2353, ext. 3. Their event is held April 12, 2017 at the Runge Nature Center in Jefferson City. This region would offer any team to participate at their event if space allows. They have a deadline for the central teams to register by Jan. 31, and if not to their capacity of 24 teams, they would open this event up to southeast schools from Feb. 1 through 3. The registration fee is \$50.

State Coordinators



Peggy Lemons
573-893-5188,
ext. 3



Judy Stinson
573-751-1783

13

Kansas City Region Has Another Great Year

Dave Fry 816-699-4528

wmdafry@gmail.com

The Kansas City Region continues to strive for conservation excellence, increased public awareness, promotion of the Envirothon ideals of developing teamwork, cooperation and problem-solving skills, plus enjoyable times of learning, great comradery and shared individual goals.

The KC Region is made up of seven mid-western counties. In the past five years, the KC Region has been very successful in state and national competitions.

Sangster and David Doyle (Forestry), Kim Worth and Larry Gray (Soil), Larry Rizzo (Current Issue) and Judy Stinson (Oral Presentation) did a wonderful job of conveying information and facts within their subject areas.

On April 5, the teams returned to BOW for the 2016 KC Envirothon Competition. Six schools participated in testing, having a total of ten teams involved. Participating schools were:



Photo by Tami Baxter

This year began with the spring training session, held at Burr Oak Woods (BOW) Conservation Area, located on the northwest edge of Blue Springs, Mo. Seven schools and eleven teams participated on March 3, in a full day of environmental education and hands-on activities. Envirothon instructors: Lisa LaCombe (Aquatics), Joe Debold (Wildlife), Wendy

Fort Osage, Knob Noster, Lafayette County, Oak Grove, Pembroke Hill, and Smithville. At the conclusion of the day, the top three teams in points scored were: 1st place Pembroke Hill (518.2), 2nd place Smithville (463) and 3rd place Lafayette County (436.2). These three teams won the right to compete in the Missouri State Envirothon on April 28, 2016,

hosted by Lincoln University's Carver Farm in Jefferson City. The weatherman ordered up a perfect day of bright sunshine and warm temperatures for the state competition.

As the 18 teams arrived and checked in, the excitement and volume of chatter steadily increased. Finally the big moment was upon them and the competition began. At the end of the day, Pembroke

Hill High School finished with a score of 529.7, earning them first place. Smithville High School scored 381.3 points for ninth place and Lafayette County High School had earned 368 points for 11th place. The KC Region is proud of these three fine teams and all their hard work and hours upon hours of study and investigation.

In July, Pembroke Hill High School advanced to the NCF-Envirothon (National Conservation Foundation) at Trent University in Ontario, Canada. The NCF-Envirothon is North America's largest high school natural resource competition with more than 50 states and seven Canadian



Photo by Tami Baxter

provinces competing at the national level. The Pembroke Hill team is comprised of five outstanding freshman students: Coleman Gliddon, Mulan Jiang, Maya Chan, Pallavi Jonnalagadda and Emily Dickey. Kathy Ketchum serves as their team sponsor and advisor.

The Kansas City Region Envirothon would like to thank the members of the steering committee, Lisa LaCombe and Rebecca Miller at the Burr Oak Woods staff and their volunteers, team guides, and station monitors, and Troy Reese of Smithfield Foods, for helping to make 2016 such a successful and outstanding year.

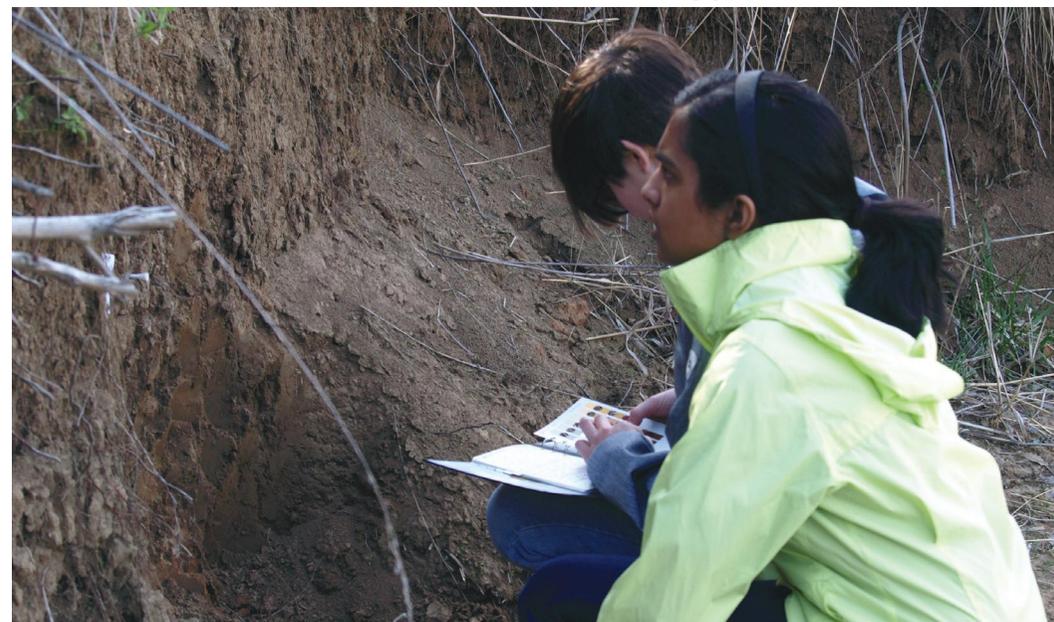


Photo by Tami Baxter

Smithfield Partners with Missouri on Regional and State Levels

To feed an expected population of 9.1 billion people in 2050, global food production will need to increase by 70 percent. More than doubling protein production alone is necessary to ensure nutritional security. Significant increases in agricultural production - whether protein, dairy, grain or other crops - stretches natural resources and causes concern about agriculture's environmental impact.

As a global food company that is also the world's largest hog producer and pork processor, Smithfield Foods understands the importance of environmental stewardship in meeting the growing demand for food. Supporting NCF-Envirothon is one of the many ways that Smithfield works to address both nutrition and environmental concerns.

"The Envirothon program prepares and helps equip tomorrow's leaders with environmental problem-solving skills," said Bill Gill, assistant vice president of environmental affairs for Smithfield Foods. "I have no doubt that many of the program's participants will play a meaningful role in finding a solution to feeding the world's growing population."

Smithfield Foods values Envirothon's role in helping to meet the global food demand by delivering environmental education to high school students throughout North America. The program helps our country's youth develop a deep understanding of ecology and natural resource management skills. Beyond providing funds for the program, employees who



Smithfield volunteers Deryl Niffen, Chris Gibson, Sydney Lawrence and Rhonda Campbell.

MoDNR photo by Van Beydler

live near Jefferson City are actively involved with the local Envirothon competition through volunteer opportunities created by the company's sustainability program.

"Envirothon's mission aligns with Smithfield's commitment to environmental stewardship and supporting communities," said Stewart Leeth, vice president of regulatory affairs and chief sustainability officer for Smithfield Foods. "These commitments are part of a larger sustainability program that is ingrained throughout our operations and creates value for the company and its stakeholders."



Smithfield volunteers Todd Steele, Mike Keith, James Williams, James Garr, Larry Potter, Brad Allen and Randy Smith.

Photo by Heather Keith

Our environmental goals include reducing our natural resource demand. This includes reducing water and energy use, decreasing greenhouse gas (GHG) emissions and cutting the amount of solid waste sent to landfills. Recently, Smithfield surpassed its greenhouse gas (GHG) emission reduction target and nearly met its energy use reduction target four years ahead of schedule.

Smithfield's environmental targets also include creating a more sustainable supply chain. Recently, the company began to source grain from farms that have adopted fertilizer optimization and soil health practices. This is part of the company's collaboration with the Environmental Defense Fund (EDF) to advance on-farm conservation practices that will reduce excess nitrogen fertilizer on more than 450,000 acres and reduce greenhouse gas (GHG) emissions by more than 60,000 tons while improving water and soil quality and boosting crops grown for hog feed.



Smithfield's Troy Reese helps at the Kansas City regional Envirothon.

Photo by Tami Baxter

Envirothon and EDF are two of several collaborations that advance the company's environmental stewardship. Smithfield recently joined the U.S. Environmental Protection Agency's (EPA) Nutrient Recycling Challenge, which is a multi-year competition to develop affordable technologies that recycle nutrients from livestock manure. The competition will conclude early next year with solutions to the industry's solid waste issue and excess greenhouse gas (GHG) emissions.

In addition to these partnerships, Smithfield supports biodiversity and wildlife conservation efforts near the areas it operates. The company also provides funds to a number of academic research institutions to fuel projects that analyze the benefits of proactive environmental programs. These programs and recent achievements are detailed in the Environment section of Smithfield's 2015 Sustainability and Financial Report.

The annual report highlights Smithfield's financial progress and sustainability initiatives. These efforts focus on ensuring safe, rewarding jobs for employees; the humane treatment of animals; and delivering safe, high-quality food. These programs are detailed in the company's annual sustainability and financial report. This report includes key metrics and details about industry-leading programs the company has developed and implemented for a more sustainable future. The 2015 Sustainability and Financial Report explains the company's expansive programs and is now available at smithfieldfoods.com/2015report.

Smithfield Foods is a \$14 billion global food company and the world's largest pork processor and hog producer. In the United States, the company is also the leader in numerous packaged meats categories with popular brands including Smithfield®, Eckrich®, Nathan's Famous®, Farmland®, Armour®, Cook's®, John Morrell®, Gwaltney®, Kretschmar®, Margherita®, Curly's®, Carando® and Healthy Ones®. Smithfield Foods is committed to providing good food in a responsible way and maintains robust animal care, community involvement, employee safety, environmental and food safety, and quality programs. For more information, visit smithfieldfoods.com.

DeDe Vest, Test Writer Coordinator Recognized for Exceptional Work

Writing Envirothon tests is no small task. Each resource area test has aspects of all the other resource areas incorporated, because natural systems involve all resources – soil, water, air, flora, fauna – it’s all connected.

A soil test is not complete without attention to water, air, plants, animals, etc., and an aquatics test is likewise not complete without investigations into the ecosystem’s soil, air, plants, animals, etc.

An Envirothon test also does not have a true/false or multiple choice format. Questions must be designed to prompt students to think deeper, identify problems, and come up with solutions.

When DeDe Vest agreed to be the Test Writing Coordinator for the Missouri State Envirothon, the committee breathed a sigh of relief.

They knew Vest would approach the job with the same integrity and commitment she has displayed in her career as an Urban Conservationist with the Natural Resources Conservation Service (NRCS), and that her understanding and support of natural resource outreach activities would make her a perfect fit for the task.

Trying to explain how important DeDe has been to the Envirothon program is like describing the Grand Canyon to someone who has never seen it before.

Vest has been involved with the Missouri Envirothon since 2004, and has been the state test writer



DeDe Vest
MoDNR photo by Van Beydler

coordinator since 2006. As the test writer coordinator for the state competition she has been responsible for working with all the test writers of each eco-station to create tests that challenge all participants.

Each year 21 teams of high school students (5 to a team-105 students) advance from their regional event to the state event.

Many months before those students come to the competition, DeDe schedules a time to meet with the test writers at the location chosen for the state event to walk through the woods and determine which sites would be best for their part of the test.

After that she continues to work with them answering their questions, gathering all the tests, reviewing them and re-writing questions for clarity if needed.

At the competition she oversees all matters in the test scoring room including double checking all the test writer’s scores and making sure the tests are ready to move on to the next group to enter into the computer.

In addition to what she does at the state competition each year, DeDe provides training to any new test writers when requested. In 2005 Missouri hosted the national Envirothon event and she led the efforts that year to coordinate the test writers and tests for the competition of approximately 300 students. In 2015, she once again coordinated the tests for another Missouri-hosted national event.



Photo by Theresa Dunlap



Photo by Theresa Dunlap

She has been an invaluable asset serving on the state committee. She is tough and firm, yet fair and practical. She is kind and generous, but doesn’t tolerate apathy or foolishness. She has little patience for whiners and people who seem too self-interested; yet at the same time she has a huge heart and exhibits deep caring.

The tough exterior and no-nonsense approach to her job duties just barely cover the adventure-seeking, life-loving, generous spirit within her. All these qualities make her a great test writer coordinator. She works very hard to provide leadership to the test writers and helps them develop a test that will challenge the students as well

as one that will allow them to learn. Her enthusiasm and motivation, and the passion that she has for natural resources conservation is displayed in her work with the test writers and students.

Vest, who works out of the NRCS Office in

Springfield, has worked with NRCS since beginning as a volunteer in the mid-1980’s. In her various roles throughout the years she has served to protect and enhance the soil, water, air, plant, and animal resources in Missouri both in urban and rural settings.



Photo submitted

NRCS Partners with Envirothon to Expand Reach and Depth of Conservation

By Emily Murray, USDA/NRCS Public Affairs Specialist

Congress created the USDA's Natural Resources Conservation Service (NRCS) in 1935 on the ideals of one man, Hugh Hammond Bennet. Recognized as the "father of Soil Conservation" and named the first Chief of the agency, Bennet awakened public concern for the problem of soil erosion. More than 80 years later, NRCS still champions soil health, water quality, air quality, plants and animals through a variety of voluntary Farm Bill programs, soil health workshops, field days, classroom education, and events including the annual Envirothon.

Soil health, the keystone of NRCS, is of utmost importance as the agency works toward improving and saving resources for future generations. In 1935, in the midst of the Great Depression, persistent drought conditions on the Great Plains caused widespread crop failures and exposed the region's soil to blowing wind. Dust storms blew fine soil particles to Washington D.C. and three hundred miles out into the Atlantic Ocean, darkening the sky as Congress commenced hearings on a proposed soil conservation law. NRCS employees hit the ground running, utilizing technical experts to advance scientific understanding of the erosion process and developing effective conservation practices.

NRCS employees still rely on their technical know-how to provide professional technical assistance to

**"NRCS employees serve as valuable resources for information on topics such as soils, water, forestry and wildlife, and it's something that we enjoy being involved in."
- J.R. Flores, NRCS**

farmers. Touting the benefits of no-till and cover crops, NRCS works with landowners to implement soil saving techniques. With a national staff of nearly 12,000 employees, the agency employs soil conservationists, engineers, soil scientists, foresters, wildlife biologists, plant specialists, geologists, water resources technicians, and a myriad of other experts committed to helping farmers and ranchers enhance and preserve natural resources.

With global population growing at a rapid pace and acres of farm land declining, it remains a top priority of USDA to find a way to conserve the nation's resources necessary to produce the food and fiber that people need. NRCS has more than 300 employees in Missouri.



NRCS Photo



NRCS Photo

They work in offices located in each of the state's 114 counties. NRCS field offices are co-located with USDA Farm Service Agency, Rural Development and local Soil and Water Conservation District staffs.

In addition to these offices, NRCS has several technical offices throughout the state, which support efforts related to soil surveys, watershed projects, water quality, and plant research. NRCS is truly committed to "helping people, help the land."

NRCS succeeds in part through its partnerships, working closely with individual farmers and ranchers, landowners, local conservation districts, government agencies, tribes, Earth Team volunteers and many other people and groups that care about the quality of America's natural resources. Partnerships allow the agency to expand the reach and depth of conservation.

NRCS employees are actively engaged in their communities. Whether teaching high school students from the depths of a soil pit, writing tests for regional, state and national level Envirothon competitions, or judging speeches on current issues, agency staff is committed to supporting Envirothon efforts.

"NRCS is a proud supporter of the Envirothon," Missouri State Conservationist J.R. Flores said. "Several of our employees work alongside talented students and teachers from across the state to help

them prepare for all levels of competition. NRCS employees serve as valuable resources for information on topics such as soils, water, forestry and wildlife, and it's something that we enjoy being involved in."

For more than 20 years, NRCS staff has lent a helping hand at the Envirothon, preparing students for competition, guiding them through stations, coaching them on speeches and serving in administrative roles. Numerous NRCS Missouri employees have assisted in some aspect of the 2016 Envirothon efforts. Earlier this year, nearly 200 students converged in St. Louis while soil scientists from NRCS taught on topics including soil fertility, water drainage and soil properties.

"Soil is sometimes an unappreciated science," Soil Scientist Ralph Tucker said. "People don't often realize just how valuable soil is. We see how it stands as a foundation for our houses and it is the place where we grow our fruits and vegetables. But really, soil is so much more. Soil is a vital component of our environment. To be able to teach students about the importance of this resource is really a privilege that all of us enjoy." NRCS remains committed to helping the Envirothon, and the students involved in competition, succeed annually. In doing so, the agency hopes that a new generation of conservation-minded farmers, land managers and citizens will utilize some of the skills learned and help conserve the world's resources for future generations.

Pembroke Hill High School Sweeps 2016 Missouri Envirothon

An all-freshman team from Pembroke Hill High School swept the 2016 Missouri Envirothon Thursday, April 28 in Jefferson City, taking the top spot in the 18-team competition. Team members were: Pallavi Jonnalagadda, Coleman Gliddon, Maya Chan, Mulan Jiang, and Emily Dickey. Their advisor was Kathy Ketchum.

Students from around the state gathered at the Lincoln University Carver Farm for a day of testing that combined the proven concepts of applied education with the excitement of a good competition and the fun of spending a day in the outdoors.

They competed at five outdoor testing stations that included aquatic ecology, forestry, soils and land use, wildlife, and the 2016 current conservation topic of invasive species. Test stations required the teams to answer a variety of both hands-on and written natural resource questions. Each team also had to give an oral presentation to a panel of three judges.

“Every year, our competition grows stronger and more challenging, and this year’s competitors were definitely ready for that challenge,” said Judy Stinson, co-chair of the state event. “I applaud the Pembroke Hill team of all freshmen for their competitive spirit, the dedication in which they prepared for this competition and their strong commitment to the environment. They are an extraordinary group of young people.”

The winning team will advance on to the National Conservation Federation (NCF) Envirothon that will be held on the Trent University campus in Ontario,

Canada July 25 through July 29. The NCF-Envirothon is North America’s largest high school natural resource competition with more than 50 states and seven Canadian provinces competing at the national level.

The state event features the top three teams from each of Missouri’s seven regional competitions held throughout the year. Contact your local soil and water conservation district office for information and dates about the regional events. More information about the Missouri Envirothon can be found at moenvirothon.org.

Sponsors for this year’s event included the Missouri Department of Natural Resources, Missouri Association of Soil and Water Conservation Districts, local soil and water conservation districts, Missouri Department of Conservation, Missouri Soil and Water Conservation Districts Employees Association, USDA Department of Agriculture Natural Resources Conservation Service, Show-Me Chapter of the Soil and Water Conservation Society, Missouri Association of Environmental Education, and Smithfield Foods. Additional information is available at moenvirothon.org.

2016 TOP 10

- 1st - Pembroke Hill
- 2nd - Licking
- 3rd - Sacred Heart
- 4th - Smith-Cotton
- 5th - Houston
- 6th - Parkway North A
- 7th - McKinley
- 8th - North Shelby Gold
- 9th - Smithville
- 10th - Stockton

Michael Thornton uses Envirothon skills every day as a Soil and Water Conservation District Technician. “Whether I am working with a farmer to solve erosion problems on their farm, answering questions from the public in our office, or teaching a group of second graders about how soil is important to them, the knowledge and skills I learned from Envirothon give me the background and confidence to explain how important it is to be a good manager of natural resources.”



Photo submitted

Michael was an Envirothon competitor at Doniphan High School from 2004 through 2007. Perhaps foreshadowing his future career as a soil conservationist, he assumed the role of “soil specialist” for his team, which competed at the state level all four years. During trainings and competitions, Michael was able to look much deeper into the topic of soils (a subject that is not the favorite of most students) and discover the complex beauty of one of the Earth’s most vital resources. He credits his Envirothon coaches with encouraging his interest in the topic, and is pleased to be able to work with them now. “My coaches were Pat Rawlings, who is the vice-chair of the Ripley

Soil and Water Conservation District where I now work, and Rachel Griffin, who is the district manager.”

“Many Envirothon lessons have benefitted my career”, he explained. “I learned how to read maps, determine soil types, and understand natural systems. And it wasn’t just soils. One of the best things about the program was being able to visit a diverse sampling of contest locations and different natural communities. I feel that I received a well-rounded experience in multiple subject areas because each team member had to have an understanding of all the topic areas (soil, aquatic, wildlife, forestry), and work together to answer questions.” Michael said that teamwork wasn’t a skill that was stressed in the high school setting. “Learning to work with other students to solve real world problems wasn’t something I remember getting to do very often in school. I greatly value that aspect of the Envirothon.”

“I absolutely cherish so many of the skills and memories I have gained through participating in Envirothon. I am especially glad that I am able to share many of those memories with my wife, who was a fellow student at the time, and with my coworkers, who were my mentors.”



Photo submitted

It's All Good: SueAnn Wright Retires After Successful Coaching Career

Submitted by members of the 2012 Missouri Envirothon winning team

“Mrs. Wright would always say ‘It’s all good,’ and that phrase sticks with me to this day,” says Jeffrey Rubel, a member of the Pembroke Hill High School Envirothon team from 2010 to 2013. “She strongly believed that you could will this to be true. Maybe your oral presentation went poorly or the soils exam was really hard, but she would always tell us to hold our chins high. ‘It’s all good,’ she would say, inspiring us to keep a positive outlook.”

In 2008, SueAnn Wright, who then coached middle school Science Olympiad at Pembroke Hill, formed the school’s first Envirothon team with a group of five high school students that included both of her sons. Their first year competing, she coached this team to a win at the Kansas City regional event and a second place finish at the state competition. Through Envirothon, Wright was able to provide more opportunities for students to learn outside the classroom. For the next seven years, Pembroke Hill won all their regional and state events. The team won the North American competition twice; first in Pennsylvania in 2012, and then again in Missouri in 2015. Wright retired from her Envirothon coaching career after the 2015 season having inspired a generation of students.

“She reminded us that we could do this,” Rubel said on Wright’s ability to bring the team together before competitions. “She worked really hard to make every topic, even the boring



SueAnn Wright

ones, something that we could care about because she cared about them. I think this sense of caring became contagious, and it created a positive work environment for us. I don’t think I can overstate how much energy she put into the program. Because she put so much into it, we felt as students that we should do the same. She led by example, and it worked.”

“We attribute our ability to win to all the time she put into the program.” Rubel said. “We would meet Sunday afternoons for three hours or more at her house. She outfitted her entire basement for Envirothon study with notebooks and other materials. She called it ‘The Science Basement,’ and it became a second home for us. We stocked lots of food down there, had a pet turtle, and would gather around a long table every Sunday to talk

Envirothon. It was wonderful.” “Sometimes we also met on Wednesdays during the school day. During these meetings, Mrs. Wright would present PowerPoints that covered key concepts we should know. Our Science Basement sessions typically involved some presentations, lots of quizzing, and something more hands-on: looking at specimens or such,” added Wanda Czerwinski, another member from the winning 2012 team. “When the weather was nice, many of our Sunday sessions were spent at Burr Oak Woods (BOW). It became our second hub. We would meet at Mrs. Wright’s house and drive out to BOW together where she would then give us tree identification tours, talk about water quality issues, and discuss forest management and successional stages, as well as many other things. Burr Oak Woods was our outdoor classroom, and we made many trips there. The trips were as much about learning as they were about team building. Mrs. Wright really valued creating a cohesive unit, and all the time we spent together made this happen.”

Team member Hosain Ghassemi remembers how at the North American

competitions, the team would arrive a few days early and go on local field trips. “Mrs. Wright always found local experts for us to meet up with and learn from to start to understand where we were. Some of our best memories are those pre-competition trips as a team, where we would finally put all the things we had learned over the summer into action and gain an understanding of the world around us. We went stomping through mudflats in New Brunswick, wildlife watching in Yellowstone, and bird banding in Pennsylvania.”

“Envirothon is a program that is driven by the idea of applying knowledge,” adds Ryan Hrinya, also from the 2012 Pembroke Hill team. “We’re not learning for the sake of learning; we’re learning for the sake of making a difference somehow in the world. Mrs. Wright really understood this about the program. She always talked about the “big picture,” a phrase she would use to invoke the importance of what we were studying in the wider world of environmental science and preservation. Her desire to create connections showed and made the material we were learning quite exciting.”



Photo courtesy of SueAnn Wright



Photo by Theresa Dunlap

“It’s hard to quantify how Envirothon has shaped the person I am today, but it really did,” says team member Vincent Czerwinski. “I learned how to be a part of a team. I learned how to sacrifice for others and create that dynamic that is so integral for a team to succeed. And, as a team of five leaders, we learned how to balance our strong personalities and really come together because of lots of continuous advice from our coach.” He continues, “I learned from Mrs. Wright how to make studying and learning fun. This sounds incredibly clichéd, I know; people say this about every good teacher, but I think it’s especially true for her. No matter what she was teaching, she was giving it her all. She tried to create an environment that we all wanted to be in. From ready-to-make notecard sets to lots of PowerPoints, she made studying both enjoyable and fun. She had a way of imbuing the material with a sense of excitement that it may not otherwise have.”

“She was the matriarch of our team, and this brought us together,” describes team captain Riley Sloan.

“As the matriarch, she made sure we - the ‘siblings’ - got along, worked together, and loved each other. And we did feel that way at the end. She made us really get close together and become one unit. It’s hard to explain exactly how she did this, but she managed to somehow.” He adds, “For many of us she was our second mother and we appreciate all that she sacrificed for us as a team.”

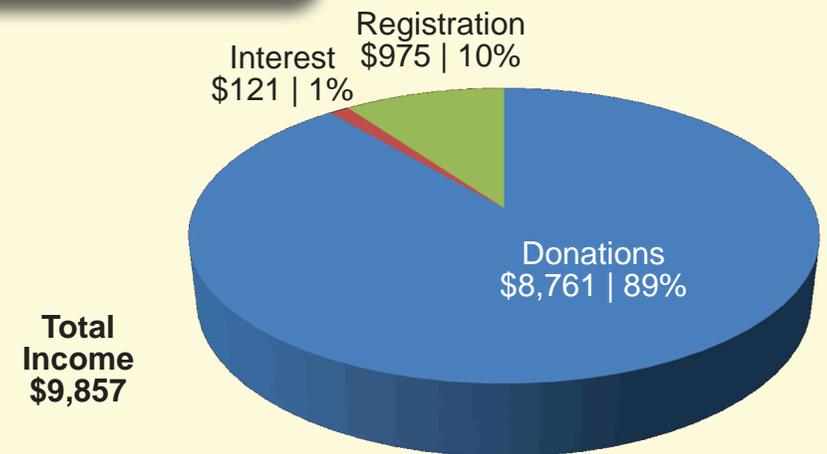
SueAnn Wright’s success as an Envirothon coach stems not only from her own personal passion for the natural world, but also from her solid confidence in the abilities of her team. She was able to identify her students’ strongest traits and help them discover ways to apply these strengths cohesively as a team. Her ceaseless inquisitiveness created a desire to understand the intricate interconnections of the natural world and, combined with her love for teaching, allowed her to inspire passion in the lives of students she encountered. Mrs. Wright is evidence that natural curiosity, hard work, and a passion for knowledge is a definite formula for success - not just in Envirothon, but in life.

MISSOURI ENVIROTHON

2015 Missouri Envirothon Budget

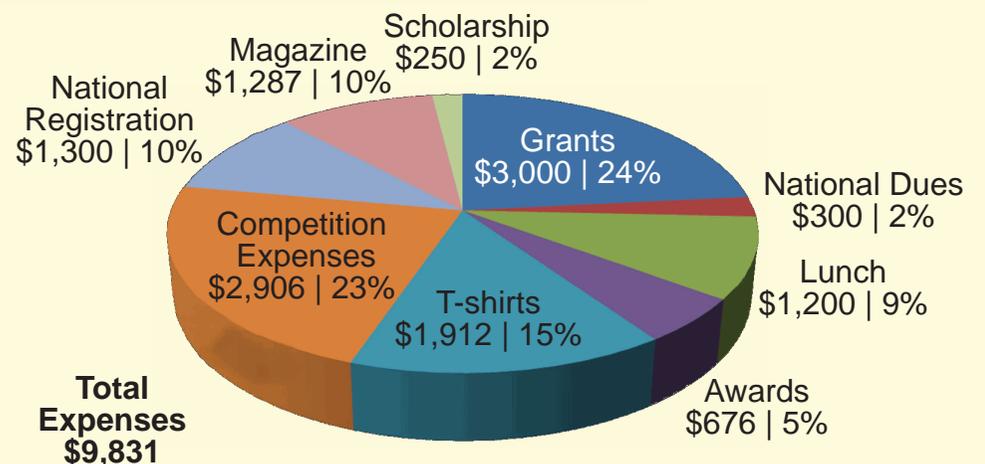
Income

Donations	\$ 8,761.00
Interest	\$ 121.00
Registration	\$ 975.00
Total	\$ 9,857.00



Expenses

Grants	\$ 3,000.00
National Dues	\$ 300.00
Lunch	\$ 1,200.00
Awards	\$ 676.00
T-shirts	\$ 1,912.00
Competition Expenses	\$ 2,906.00
National Registration	\$ 1,300.00
First Place Travel Stipend	\$ 1,287.00
Scholarship	\$ 250.00
Total	\$ 9,831.00



There's No Place Like Home - Missouri Wins 2015 NCF-Envirothon

by Judy Stinson - Originally published in the Winter 2016 issue of *Missouri Resources Magazine*

With the theme for the national Envirothon competition being Welcome to the Ozarks – a spin-off of the Wizard of Oz, the five member Envirothon team from Missouri quickly realized there's no place like home. Missouri hosted the 2015 National Conservation Foundation Envirothon, North America's largest high school environmental competition, and Missouri's team took first place at home. They also received the top resource awards in the following categories: current issue, aquatics, and oral presentation. Each student received a \$3,000 scholarship provided by Smithfield Foods. Two hundred sixty students from 44 states, seven Canadian provinces, and one Canadian territory made their way to the campus of Missouri State University in Springfield for the week-long event. Pembroke Hill High School from Jackson County represented Missouri at the 2015 NCF-Envirothon. They competed against 16 teams to win the state Envirothon competition in early May 2015. Team members were Eric Koch, Domenico DiMare, Saurabh Goel, Francesco DiMare and Devon Dietrich. Their advisors were SueAnn and Rick Wright.

After students unloaded, unpacked, registered and got their team pictures taken, a trading session followed later that evening, giving students a chance to interact with each other. Students rushed from one table to another, trading T-shirts, hats and a variety

of other items that proudly displayed their state or province's name. The opening ceremony was held the next morning and Jan Fisk, a Springfield city councilwoman, delivered a proclamation from the mayor that declared July 27-31 as Envirothon Week in the city. Following the opening ceremony, students participated in an intense week of training and testing about natural resources. Training sites at Bois D'Arc Conservation Area, The Watershed Center and Fassnight Park provided excellent opportunities to learn more about environmental resources of the Ozarks. The students spent several hours at resource stations learning about aquatic ecology, forestry, soils and land use, wildlife and urban forestry. The competitors saw karst topography, including a spring and a sinkhole, while they learned about watersheds. They knelt in soil pits, walked in the woods and carefully examined different methods of protecting trees during construction. Notes about the social and economic benefits of trees, conservation, preservation and many more environmental topics were included in the students' notebooks.

After a full day of intense training on Missouri's resources, the students ventured out for a full day of testing at Nathanael Greene/Close Memorial Park and the Darr Agricultural Center. During testing they examined wildlife pelts, fish, streams and trees. Competitors were clearly up for the challenge, in fact, most started studying resource materials long before they arrived in Springfield.

“As the test writer coordinator for this event, I realize that one of the most important features of the Envirothon competition is the emphasis placed on hands-on, problem-solving activities that the students use at all the testing stations, said DeDe Vest, urban conservationist for the Natural Resources Conservation Services. “This program encourages students in the United States and Canada to become better environmental stewards of our land,” Vest added. “The test uses the ecosystem approach and allows students to understand how everything works together.” More challenges awaited the students. They still had to prepare an oral presentation but that would have to wait for later. After a long day of testing, they relaxed at a dance provided by the Envirothon committee.

The next day everyone went to Silver Dollar City for a day of fun and adventure. This allowed all the participants an opportunity to see a little bit of southwest Missouri. On Friday, students spent the afternoon preparing their oral presentations after gathering information from three speakers who presented training that morning. On Saturday, between games of table football, cards and much-needed naps, teams practiced their speeches and waited anxiously for their turn to present.

After preliminary presentations, the top four teams were announced: Massachusetts, Texas, Pennsylvania and Missouri. Each team then gave a final presentation to a panel of seven judges, including Missouri Department of Natural Resources Director Sara Parker Pauley. Other judges included Mike Squires from the Natural Resources Conservation Service; Tim Ripperger from the Missouri Department of Conservation; Sue Cummings from the U.S. Forest Service; Rob Keen, a registered

professional forester from Ontario, Canada; Richard Fordyce, director of the Missouri Department of Agriculture; and Nedra Turney from the National Conservation Foundation. More than 150 volunteers helped with the weeklong event, including representatives from the Missouri Department of Natural Resources, Missouri soil and water conservation districts, Missouri Association of Soil and Water Conservation Districts, Missouri Association of Soil and Water Conservation Districts Employee's Association, Missouri Department of Conservation, Natural Resources Conservation Service, University of Missouri Extension, and the Springfield community, as well as others.

At the closing ceremony Colleen Meredith, the Department of Natural Resources' Soil and Water Conservation program director, accepted an award recognizing the department for its continued support of the Envirothon.

Like Dorothy in the Wizard of Oz, all 260 students that participated in this national Envirothon event took a journey that provided them with numerous life lessons along the way. They learned the value of friendship they found with students from other states, provinces and territories. All Envirothon competitors found themselves challenged mentally and physically, and learned to trust their teammates, realizing that the end score they received required their ability to work together.

After the grueling but rewarding weeklong event, the five Missouri students, their advisors, and all the Missourians involved in the competition agreed – there really is no place like home! More information about the Missouri Envirothon is available at moenvirothon.org.

2017 NCF- Envirothon to be held in Emmitsburg, Maryland at Mount St. Mary's University College

Go to
envirothon.org

for more information.

Visit the NCF-Envirothon

Flickr page to see photos

from the 2016 event.

Missouri State Sponsor Agencies

Missouri Association of Soil and Water
Conservation Districts

114 Local Soil and Water Conservation
Districts (SWCD)

Missouri SWCD Employees Association

Missouri Department of Natural Resources

Missouri Department of Conservation

Natural Resources Conservation Service

University of Missouri Extension

Show-Me Chapter of the Soil and

Water Society

These agencies also provide
volunteers and resource
professionals who instruct
the students during training
sessions, write and grade
the tests, and monitor the
test stations.

**In one year, more than 280 people volunteer
at an Envirothon event in Missouri.**

Thank You

to our Envirothon sponsors

**Missouri Association of
Soil and Water
Conservation Districts**



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES



Smithfield®

Good food. Responsibly.®



**SOIL
AND WATER
CONSERVATION
SOCIETY**

MISSOURI ENVIROTHON

1209 Biscayne Drive
Jefferson City, MO 65109
573-893-5188, ext. 3
moenvirothon.org

An Environmental Education Program
and Competition for High School Students

Mission

The mission of the Missouri Envirothon is to develop knowledgeable, skilled, and dedicated citizens who have an understanding of natural resources and are willing and prepared to work toward achieving and maintaining a balance between the quality of life and the quality of the environment.

The Envirothon mission is accomplished by developing in young people an understanding of the principles and practices of natural resource management and ecology and through practice dealing with complex resource management decisions.



