

OUTDOORS

Hog manure, renewable natural gas, and an improving environment

Hog manure and an improving environment are seldom, if ever, used in the same sentence. I was honored last week to be a media guest of Roeslein Alternative Energy, LLC at their north Missouri hog farm where they are successfully producing renewable natural gas from hog manure.

In the heat of the mid 80s temperature day, I was not particularly fond of the idea of visiting a large, commercial hog operation. From my past, first hand experience of working on a hog farm during the 1960s, while in high school, my olfactory lobes recalled the horrific stench associated with hogs.

Caravanning through the rolling hills of northern Missouri, we picked up the faint smell of hogs. I prepared myself for the dreaded encounter. Figuring that the smell wafted from some distant farm, shock swept over me as the modern day hog operation came into view just over the next hill.

The unimposing hog rearing facilities and supporting RNG processing facilities sat in glowing green fields surrounded by wooded draws. The scene and largely down-scaled hog odor presented an experience far removed from hog operations of the 1960s.

Roeslein Alternative Energy (RAE) is a proud partner of Smithfield Foods. Together, they are currently creating renewable natural gas (RNG) from

swine manure. Expectations are that they will be producing RNG from reconstructed native prairie plant biomass in the near future. This innovative energy production process is creating a new economic opportunity for agriculture, while providing numerous ecological services for our environment, as well as benefits for wildlife.

Concentrated Animal Feeding Operations (CAFOs) are controversial because of the large amounts of animal waste produced and the accompanying odor. RAE's system of producing clean energy from this animal waste addresses these issues. In fact, their RNG is so clean, they recently received the lowest Carbon Intensity Score ever recorded by the California Low Carbon Fuel Standard.

A CI score results from the measurement of direct greenhouse gas emissions associated with producing, transporting, and using Roeslein's RNG, as well as significant indirect effects on greenhouse emissions, such as changes in land use for some biofuels. Their process is stopping harmful greenhouse gases from entering our atmosphere,

while almost eliminating odor from these farms.

RAE is nearing the completion of restoring an initial 1,000 acres of reconstructed native prairie on Smithfield's North Missouri farms. Native prairies sprawling across rolling hills is a sight to behold. A variety of grasses, coupled with brilliantly colored wildflowers, including coneflowers and coreopsis, resemble an artist's palette. Implemented on marginal farmlands, which formerly caused extensive erosion problems, the prairies now benefit wildlife, water quality and soil health. Soon, RAE will be using a rotational system to harvest and digest the prairie biomass, thus creating new revenues for farmers.

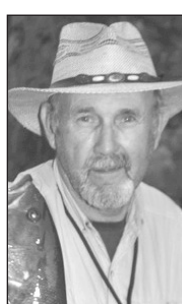
RAE is a renewable energy company specializing in three areas of focus: energy production, ecological services, and wildlife benefits. The company offers a market-based solution to improve our environment by producing a renewable natural gas (RNG) used primarily to power transportation vehicles, but also has many other applications. Through a process called aerobic digestion, RAE converts animal waste and reconstructed prairie plants into a clean energy biogas. This process produces a valuable product while preventing a highly potent greenhouse gas from entering our atmosphere and contributing to climate change.

The RAE process addi-

tionally brings numerous ecological services to our landscape that benefits mankind and wildlife. RAE has a vision of restoring 30 million acres of native prairie plants over the next 30 years. This will be accomplished by converting highly erodible lands to native prairie plantings instead of row crops, instituting cover crop programs on agricultural land, installing repairman buffers at river and stream banks, and planting contour native plant buffer strips to absorb rainfall and fertilizer runoff. All of these improvements will significantly curb soil erosion and nutrient load in our water resources.

RAE CEO and Missouri Prairie Foundation member Rudi Roeslein's vision for renewable natural gas production from the digestion of livestock waste and prairie plant biomass is enthralling. The resulting ecological services and wildlife benefits should appeal to anyone who cares about our environment and the conservation of wildlife and native lands.

A dozen or so outdoor journalists gathered around an evening bonfire atop a north Missouri hill that presented an astounding view of the surrounding countryside as the sun faded into the western horizon. Johnny Graham, of Revel, served an equally astounding meal, while The Root Diggers provided live music. Lively discussions of the day's events took place to the background sounds



Bill Cooper
Ozark Revelations



Submitted photo

Rudi Roeslein, CEO of Roeslein Alternative Energy, tours journalists through their north Missouri hog operation that produces renewable natural gas from swine manure.

of whistling quail and yodeling coyotes. Whitetail deer fed in the edges of restored prairies within view of our campfire. Life was good.

Without a doubt the cooperative between RAE and Smithville Foods to produce renewable natural gas is a huge win for the future of our environment, wildlife resources and the quality of life here on Mother Earth. And to think, it's all coming

from a pig farm in north Missouri.

Bill Cooper is an award-winning outdoor writer and host of *Outside Again adventures TV - Online*. Bill lives in rural St. James. Follow him at www.facebook.com/outsidealways and www.aoutdoorstv.com. His column will appear weekly in *The Salem News*.

Extension's Cooking Matters at The Store Tour is July 9 at Country Mart

University of Missouri Extension

University of Missouri Extension will join Country Mart to empower 16 low-income residents of Salem with the shopping skills needed to stretch their food dollars and serve healthy, affordable meals to their families. At five grocery stores this summer across the Crawford, Dent and Phelps counties local families will learn to compare unit prices, purchase fruits and vegetables on a budget, read food labels, and pick out whole grains.

Nutrition and Health Specialist Rachel Buemann MS, RD, LD will

lead tours for local adults and families.

The tour will take place 10 a.m. to noon and 1 to 3 p.m. July 9 at Country Mart, Salem.

Five grocery stores in Crawford, Dent and Phelps counties are scheduled to participate in Cooking Matters at the Store Day to teach low-income families to shop for healthy food on a tight budget this summer.

During the 1.5 hour-tour, participants are empowered with four key food skills, receive a booklet with recipes and shopping tips, a reusable grocery bag and \$10 work of healthy groceries.

A survey released by

Share Our Strength found that 85 percent of low-income families want to make healthy meals, but only about half are able to do so on a regular basis. Families cited the cost of healthy groceries as their primary obstacle. Cooking Matters at the Store tours provide shoppers with a strategic plan that enables them to stretch their food dollars in a healthy way.

The Cooking Matters Campaign is ending hunger by helping families make healthy food choices. Cooking Matters is administered in Missouri by Operation Food Search and teaches families to shop for

healthy food on a tight budget. Walmart is the national sponsor of Cooking Matters. University of Missouri Extension provides practical education you can trust, to help people businesses and communities solve problems, develop skills and build a better future.

For more information, call the Extension Center at 573-729-3196. University of Missouri Extension is an equal opportunity/access/affirmative action/pro-disabled and veteran employer. All community members are welcome to enroll by calling 573-458-6260. There is no charge for the tour.

DHSS now accepting applications for medical marijuana

DHSS

The Missouri Department of Health and Senior Services (DHSS) Section for Medical Marijuana Regulation is pleased to announce that systems are in place to begin accepting applications for patient and caregivers on June 28, six days ahead of the July 4 deadline set by Article XIV of the Constitution.

Patients and caregivers must visit medicalmarijuana.mo.gov to enter their information into the online application system. Sample application forms are online now, allowing patients and caregivers to preview the information and documents they will need when they apply as early as June 28.

At this time, DHSS will accept physician certifications as an attachment to a patient's application rather than directly from a physician. Patients should download a Physi-

cian Certification Form from medicalmarijuana.mo.gov and have their physicians fill it out. Physician certifications must be signed by the physician no earlier than 30 days before a patient applies for a patient identification card.

Patient and caregiver registration fees are \$25, and patient (in-home) cultivation registration fees are \$100. Prior to applying, patients and caregivers are encouraged to review the regulations in place specific to qualified patients and caregivers.

DHSS reminds the public that no medical marijuana facilities will be licensed until early 2020. Questions may be directed to DHSS's Section for Medical Marijuana Regulation at 866-219-0165 (8:30 a.m. - 3:30 p.m. CST, Monday - Friday) or to medicalmarijuana@health.mo.gov.

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