

CONSERVATION CATCHALL

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BENEFICIAL MOLD PACKAGED IN BIOPLASTIC

Aflatoxins are highly toxic carcinogens produced by several species of *Aspergillus* fungi. But not all *Aspergillus* produce aflatoxin. Some, in fact, are considered beneficial. One such strain, dubbed K49, is now being recruited to battle these harmful *Aspergillus* relatives, preventing them from contaminating host crops like corn with the carcinogen.

In collaboration with University of Bologna (UB) scientists in Italy, U.S. Department of Agriculture (USDA) scientists Hamed Abbas and Bob Zablotowicz (retired) have devised a new method of applying K49 as a frontline defense against aflatoxin contamination in corn, which causes an estimated \$200 million annually in U.S. losses alone.

K49 is known as non-toxigenic (atoxigenic) because it cannot produce aflatoxin, unlike toxigenic strains of *A. flavus* and *A. parasiticus* that do. However, K49 is adept at excluding these aflatoxin-producing (toxigenic) "cousins" from ecological niches and resources that both need to survive. Exploiting this rivalry, called bio-competitive exclusion, offers an effective way to diminish aflatoxin levels in soil and in corn kernels.

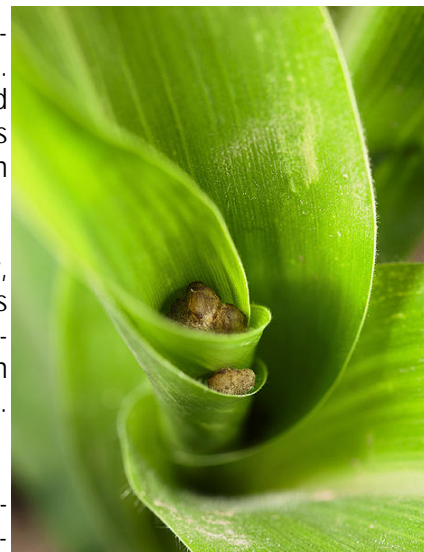
Abbas is a plant pathologist and lead scientist with the Biological Control of Pests Research Unit, operated in Stoneville, Miss., by the Agricultural Research Service (ARS), USDA's chief intramural scientific research agency. This research supports the USDA priority of ensuring food safety.

Unlike the wheat and barley grains now used as carriers to apply commercial strains of biocompetitive *Aspergillus* molds, Abbas and UB colleague Cesare Accinelli encapsulated K49 in bioplastic granules made of corn starch and other environmentally friendly ingredients.

According to Abbas, the bioplastic granules improve the beneficial mold's storage life and viability once applied. And because wheat and barley grains are not used as carriers, seed-hungry animals like rats and birds avoid eating the bioplastic granules, giving K49 a chance to release its spores for dispersal to corn plants via wind or insect activity.

In tests, applications of the bioplastic-coated K49 reduced aflatoxin levels by 65 to 97 percent. The scientists' research was published in 2011 in the journal *Crop Protection*. The technology may also prove useful in delivering other beneficial fungi used to safeguard crops from disease, adds Abbas.

ScienceDaily (Oct. 19, 2012) from materials provided by United States Department of Agriculture - Research, Education and Economics.



(Photo: Peggy Greb)
ARS scientists and their collaborators have devised a new method of fighting aflatoxin contamination in corn by preemptively applying a competing strain of *Aspergillus* fungi that does not produce aflatoxin

AISWCD Staff:

Richard Nichols,
Executive Director

Sherry Finn,
Administrative Assistant

Kelly Thompson,
Program Coordinator





PRESIDENT'S MESSAGE - LONNIE WILSON

lonnieewilson@gmail.com

The fall session is fast approaching and we are working to gain the votes needed to overturn the Governor's veto of the gaming bill. The current count in the Senate looks as if there is quite a bit of work to do. Please take the time to let your Senator and Representative know why this bill is important to your area, not just the district, but 4H, County Fairs, U of I Extension, Horse Industry and many other supporting jobs. The gaming is going to expand in our area, but the question remains whether the cash flow of the expansion stays in Illinois. Neighboring states are currently working to expand gaming to draw more dollars from Illinois. My feeling is these revenues are needed right here in our state and Illinois needs to pass this expansion sooner rather than later.

The Illinois Farm Bureau has not supported gaming expansion in the past, but it has come to our attention that the IFB will be considering resolutions to change its policies on gaming at its annual meeting on December 2nd & 3rd. One of the proposed resolutions would support slot machines at racetracks to benefit the horse racing industry and the agricultural programs the slots will fund. Gaining the endorsement of the IFB and having them behind us may be that difference maker we have been looking for. If you are an IFB member, please talk to your local leadership and let them know how important their support is.

I have seen where the US House of Representatives is making plans to take up the Farm Bill once they return after the election. I am not sure if that means once they return on November 13th – 16th, or afterward. Once the House passes their version, then both the Senate and the House bills will go to conference to be negotiated into one bill which will be voted on again in both chambers. Hopefully, this will be completed in a timely manner. NACD is working hard to keep the Farm Bill on everyone's mind in DC and their efforts are very much appreciated. Please keep them in mind as you are looking at budgets going into the new year. Anything you send them will be used to help keep in place a consistent voice for conservation districts and our mission.

In closing, I wish everyone, their family and friends a wonderful Thanksgiving! Even in times where we struggle, we, here in the great state of Illinois, and this great country have so many things to be thankful for. So, take a moment to remember those blessings we sometimes overlook.

Happy Thanksgiving!

Nonpoint Source Pollution Workshop Nutrients & the Rural Landscape

**November 13 & 14, 2012
The Chateau Hotel & Conference Center
Bloomington, Illinois**

Hosted by Illinois Environmental Protection Agency

The Workshop begins at 1 p.m. on November 13 and concludes at 4:40 p.m. on November 14. There will be an evening tour on November 13 of the Asmark Institute AgriCenter for registered participants. Transportation by charter bus is available (registration required - first come, first served).

This workshop focuses on nonpoint source pollution issues and the rural landscape, including the issue of nutrients. Rural land uses that can produce nonpoint source pollution include: agriculture, resource extraction, forestry and hydrologic modification. The workshop will begin with an overview of trends in landuse, technology, and socio-economic issues and how those trends can impact Illinois' rivers, lakes and groundwater resources. The Workshop will end with a general session that includes presentations by local, state and federal entities about the programs available to implement many of the best management practices and programs discussed throughout the workshop.

Concurrent sessions highlighting best management practices for both production agriculture and other rural landuse include: Biomass Fuels; Cover Crops; Forestry; Grazing/Feeding Operations; Groundwater and Source Water Protection; Livestock Facilities; Nutrient Management; Riparian Buffers; Resource Extraction; Streambank Stabilization – Two Stage Ditch Design; and Water Management.

Information and on-line registration may be found at www.epa.state.il.us/water/watershed/nonpoint-source-workshop.html.

On-line Registration Deadline: November 8, 2012

Registration Fee: \$75.00



EXECUTIVE DIRECTOR'S NOTES - *RICH NICHOLS*

rich.nichols@aiswcd.org

Wow, it's November! When I was much younger I was always amazed at how the older folks thought time moved too fast. It always seemed like an eternity to me to wait for Christmas, or my birthday or the last day of school for the summer or whatever noteworthy event that might be happening at some time in the future. Now that I have joined the ranks of the "older folks" I too think time moves too fast. It seems I am always scrambling to meet some deadline – the most pressing of which right now is the election and working with legislators preparing for the following veto session and a hoped for override of the SB1849 veto.

Lonnie Wilson, Mike Hoffmann, Tom Beyers and I have been meeting with legislators during the past couple of weeks in an effort to bring district directors to the table to visit with their senator or representative to encourage support for the gaming bill. It is hard to know at this point how successful these meetings have been but we feel we must put forth the effort. We understand the difficult choices legislators must make to balance the differing viewpoints of their constituents but at the same time, we need to show the legislator how important it is for districts to be able to continue to function. While none of us is a proponent of more gaming, we also understand that the gaming bill is the only vehicle available that can provide funding to the SWCDs. Nearly every legislator we spoke to asked if we had looked at alternative funding sources or perhaps considered a different model than the one the SWCDs are currently following. The response is always ... yes! In fact we have considered at least six alternative funding sources all of which rely on a new revenue stream and none of which have the slightest chance of passing the House or Senate. We have also looked at other models for the SWCDs. The bottom line is, any other model we have examined is less efficient and more expensive to implement and maintain. With nearly 3,000 conservation districts in the 50 states, the Virgin Islands, Guam, Porto Rico, Micronesia, American Samoa, Palau, and the Northern Marianas, successfully following essentially the same model, we don't believe the current model needs to be changed.

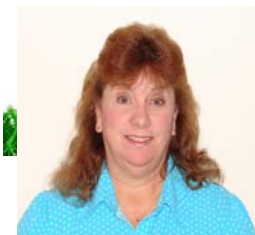
We believe that Illinois' soil and water conservation districts are the ideal entity to address emerging natural resource issues as well as those that are inexorably moving from the coasts to the Central and Midwest states.

We saw an example of the need for conservation districts this summer when drought was the overriding concern on most people's mind. Districts in some of the western states play a significant role in water conservation efforts that allow for the continued use of arid lands that would otherwise not be able to support economically productive uses. A number of water conservation practices used by the western districts would be applicable here in Illinois to ease future droughts and Illinois soil and water conservation districts are fully capable of assisting landowners with the adoption and implementation of those practices and others - notably, no-till.

We have also seen examples of what Illinois' SWCDs can do to address nutrient contaminate issues that are contributing to the Hypoxia problems in the Gulf of Mexico. The Mississippi River Basin Initiative projects are providing some excellent examples of how nutrients can be controlled and their contributions to water impairments reduced. Just as the conservation districts in the Chesapeake Bay area are becoming highly relevant in the struggle to retain agriculture operations in the watershed, Illinois SWCDs will be involved more and more as USEPA sets more stringent standards for nutrients in water and imposes regulations to meet those standards. Make no mistake, nutrient regulations will be imposed in the Mississippi drainage basin. How soon that happens will likely depend on the outcome of the 2012 presidential election.

What lies ahead for soil and water conservation districts can only be a guess. With no increases in funding the future will be somewhat bleak but if legislators approve the gaming bill or if they somehow find the will to approve a revenue stream to support soil and water conservation in the state of Illinois then we will be ready to meet whatever natural resource challenges may come.

Rich



ADMINISTRATIVE ASSISTANT'S UPDATE - *SHERRY FINN*

sherry.finn@aiswcd.org

October Activities

319 Partners for Conservation Grant:

- Set up 11 interview packets for Rich Nichols & Wade Lou- is for CREP Resource Specialist Interviews.
- Tallied interview score sheets and completed spreadsheet with top qualifiers for positions.
- Made listings for District Hosts and entered new hire selections.
- Sent e-mails to all new hires after Rich made initial contact to update them on start day.
- Contacted NRCS to get information on materials needed for new hires in District offices; received fingerprinting packets and computer security testing packets.
- Followed up with personnel from State Police to administer fingerprinting for background checks.
- Contacted Northfield Inn to set up rooms for new hires for training dates and meet and greet meal.
- Sent letters to Host District Chairmen to invite them to meet and greet dinner.
- Sent e-mails to new hires, CREP program manager, CREP trainer, and AISWCD President with invites to meal; gave copies of first 10 days of scheduling; and meal selection forms.
- Contacted BX-BS and Delta Dental Plan to obtain Insurance Coverage Packets.
- Set up File Folders for six (6) new hires.
- Set up reminders for Host Districts' funding payments.

OTHER DUTIES:

- Phone calls, mail and e-mail correspondence.
- Compiled expense reports for Credit Cards.
- Compiled Timesheets.
- Maintain Patio Paver and Rain Barrel Database.
- Updated Records Retention, Mgmt & Destruction Folder.
- Forward to Rich the monthly SWCD/LUC agenda and meeting minutes that are e-mailed to me; file these after seen by Rich.
- Proofread Conservation Catchall and Legislative Newsletter; contacted Districts for upcoming issues spotlight information.
- Completed Monthly Office Supply Inventory and placed order.
- Maintaining Earth Stewardship Bank Account.
- Maintaining IL Envirothon Bank Account.
- Contacted Districts to have them supply their Annual Meeting and/or Election Dates.
- Still compiling auditor bid requests for December QB meeting.
- Completed interview packets for five (5) part-time employee interviews; sent e-mail to new hire after Rich's initial contact to notify of start date and time; new hire

declined-contacted second selection and start date will be November 16, 2012.

- Updated AISWCD Website with Directory Map for AISWCD Board Members; updated Board member contact information.
- Posted IL Envirothon packet information to the AISWCD website.
- Contacted Fayette County and Karen Sanders about their website and software.
- Working on Conservation Tour for 2013 Annual Meeting; working with Northfield Inn for contract bid, working with Partners for sessions and finalizing updates for forms.

ACCOUNTING/OFFICE ADMIN:

- Completed Payroll and Payroll Taxes for October.
- Reconciled all bank accounts.
- Completed bookwork for All AISWCD & Insurance Accts.
- Completed Checks for Payables; Completed Deposits for Receivables; Completed Monthly Financials.
- Filed all Completed Payables & Receivables Documentation.
- Wrote checks for SWCD various insurance premiums; had Rich sign; mailed; e-mailed copies to Debbie Holsapple.
- Completed Semi-Monthly IL Lobbyist Expenditure Data for IL Secretary of State for October.
- Set up QuickBooks employee accounts for the new hires.
- Set up Class Listings in Grant and General Fund Accounts for new hires.

LOOKING AHEAD:

- Implementation of 319 Partners for Conservation Grant.
- Training new part-time employee.
- Updating Website.
- December QB Meeting/Christmas Party.

REMEMBER: You can't have a better tomorrow if you're thinking about yesterday !!

TO ACT: Waste no tears over yesterday's grief!

*****Women are Angels. And when someone breaks our wings, we simply continue to fly....usually on a broomstick. We are flexible like that.**

HAVE A SAFE HARVEST SEASON!

HAPPY HALLOWEEN—STAY SAFE!!!!

Sherry



PROGRAM COORDINATOR'S PAGE - KELLY THOMPSON

kelly.thompson@aiswcd.org

I'd like to shed light on the topic of Green Infrastructure this month. You may have heard the term Green Infrastructure or GI while talking with developers, land owners or even in local and national news articles. GI is a frequent topic in conversation but what exactly is the definition. After searching for what I thought was going to be an easy definition to find and then falling short, I have decided to create a definition that can be used by all Illinois Soil and Water Conservation Districts.

Green Infrastructure utilizes strategic natural land planning in order to conserve the natural functions of a diverse ecosystem while utilizing and mimicking natural hydrology for the betterment of humans, the community and the environment.

Let's now discuss the differences between Green verses Gray Infrastructure, as there are numerous differences.

Green vs. Gray Infrastructure	
Green Infrastructure	Gray Infrastructure
<ul style="list-style-type: none">• Natural system• Reduces community and household energy usage• Improves natural habitat to allow for native flora and fauna species to thrive• Helps to naturally remove pollutants from rainwater before entering into lakes, rivers and streams• Helps to naturally remove pollutants from the air thus leaving communities with better air quality	<ul style="list-style-type: none">• Man-made• High cost associated with construction and maintenance• Fragments natural habitat for native species and communities• Solid surfaces that work against natural hydrology and don't allow water to infiltrate• Likely to cause stormwater runoff and water quality issues• High cost associated with treatment of drinking water• Causes chemicals, debris and litter to be washed into lakes, rivers and streams
<i>Examples:</i> Green Roofs Tree Canopies Rain Gardens Native Shrubbery Natural Floodplains Wetlands	<i>Examples:</i> Sewer systems Wastewater Treatment facility Dikes and Canals Water Treatment Facility Concrete Structures Curbs

GI is often identified with urban development, and rightfully so; however GI should be highly encouraged in small rural towns where redevelopment or retrofitting is likely to occur. Implementing GI allows for positive outcomes on the surrounding landscape and its inhabitants, humans. GI helps to reintroduce many animal and plant species that have been either threatened or on the verge of extinction due to development or destruction of forested habitat for modern-day production purposes. The benefits of GI go beyond what is written below but I'll start with a few examples.

Helps to provide clean drinking water

Healthier environment for both humans, plants and animal species

Numerous learning opportunities for the community as well as students, of all ages

Preservation of essential resources

Helps communities prosper by adding livable appeal to the area or region

Increases commercial and residential property value

Increased tourism

Overall, GI will increase human connectivity to nature through activities such as camping, hiking, boating and photographing just to name a few

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ISWCDEA CORNER - KARA DOWNIN, ISWCDEA RC VICE CO-CHAIR AND REGION ONE REPRESENTATIVE

website: <http://www.il.ncdea.org>

November 19th?? What's going on then?

ISWCDEA Treasurer, Sharon Matson, emailed out the Winter Training Registration form on 9/20/12. It has been requested to return the Registration form by November 19th. Meals are graciously being provided for from IL. Dept. of Ag. and ISWCDEA. There is a \$10 registration fee per person attending.

Also, hotel reservations are due on November 19th. Northfield Inn and Suites can be reached at 217-523-7900. Let them know you are requesting a room from the block being held for the Illinois Dept. of Ag / Soil and Water Cons. Districts on Monday, Dec. 3 (if coming in night before) and/or Tues. Dec. 4, checkout Wed. Dec. 5. The rate is \$70.00 per night plus 12% tax. Make your reservations early; overflow will be assigned to the hotel across the street.

Lastly, and not due on November 19th, remember to bring with you to Winter Training:

- Donation for Toys for Tots,
- Used eyeglasses, hearing aids and cell phones for donation,
- Used phone books for IDOA,
- Door prizes,
- Cash for raffle and bake sale,
- Readiness to build better "ships" for our future



ILLINOIS CHAPTER - IAAP - DEBBIE HOLSAPPLE, PRESIDENT

website: <http://iaap-swcd.tripod.com>

Each of us probably can share some fond memories of spending the day jumping into a huge pile of leaves during the fall months. On October 17, the IL SWCD Chapter of the International Association of Administrative Professionals (IAAP) took its own jump with our first chapter webinar. I believe we learned something from this new type of communication and just like the occasional stick or rock we hit during our childhood, we encountered some challenges and changes to incorporate into our next webinar.

During the webinar, our chapter created four new committees to address some planning issues. We have one committee looking to further develop our business plan while another committee will be surveying our members for their input on chapter activities. The third committee will be handling the promotion of our membership opportunities during an open house at Winter Training. The last committee will focus on our Administrative Day Celebration and Annual Meeting.

We have completed our arrangements for winter training sessions. Our chapter will be sponsoring and funding a Power Point session on December 4th and a general session, Market Like a Pro, on December 5th. IL SWCD Chapter of IAAP will be holding our second annual Open House on Tuesday afternoon. We invite employees to stop in and find out more about our chapter. We will also be selling raffle tickets starting in November for a variety of gift cards. Just like our recent apparel fundraiser, these funds help provide educational opportunities for all employees. The tickets are \$1 apiece or you can purchase 6 tickets for \$5. Please take an opportunity to purchase these tickets from an IAAP member. Thank you.



Natural Area Guardians - Debra Carey

demydoidea@gmail.com

GREENWAYS AND TRAILS

Does your county have an approved Greenways and Trails plan?

But first, just what is a greenway? Many of us are familiar with trails since we enjoy family outings on local park hiking trails (and maybe walk off some of that Thanksgiving feast!), we snowmobile on state trails, we ride our horses on trails, and we most definitely bicycle on trails. But a greenway is a bit different. A greenway may be a connecting corridor for movement of wildlife. A greenway may be open space. A greenway, yes, may be a trail too!

The Natural Area Guardian Committee in Lee County has been blessed to receive numerous grants that have funded important projects - both acquisitions and management projects dealing with prairies, wetlands and woodlands. And one question that pops up on grant applications is: Does your county have an approved Greenways and Trails Plan? If you can answer YES, and if this plan lists and links your project area, then your chances of gaining dollars are vastly improved.

The History of Greenways & Trails Planning

Although the greenways can trace their roots to the shaded and scenic "pleasure drives" of the late 19th century, and the birth of recreational trails linking natural areas and population centers dates back to the inception of the Appalachian Trail in the 1920s, the present Greenways & Trails movement bears a striking resemblance to "Better Roads." The Better Roads movement swept Illinois with the advent of automobiles in the 1910s and 20s and precipitated the statewide network of improved highways as well as planning and improvement at the county level. It can be said that both movements arose out of the desire by the public for improved routes for the purpose of recreation and transportation.

The term "greenway" was first used by planner Benton MacKaye in his 1921 proposal for the Appalachian Trail, probably the longest and best known of its kind. In the same year, The Friends of the Native Landscape published the results of their survey of the unique ecological and geological resources of Illinois, proposing a state park system. Among the recommended sites was an extensive linear park encompassing the Rock River Valley from Dixon to the bluffs north of Oregon. In Proposed Park Areas in the State of Illinois, FONL chairman Jens Jensen of Highland Park advocated preserving land from development on several biologically significant Illinois river valleys.

After the state had acquired land for a number of the proposed parks, in 1938 the Illinois State Plan Commission published the Illinois Park, Parkway and Recreational Area Plan. The report noted that the intention of the state law in establishing the park system was to connect the state parks with one another by a system of scenic parkways. Recognizing that such an extensive parkway system throughout the state was not feasible, the report went on to name a limited number that it thought would be highly feasible.

Among them were the Illinois & Michigan Canal corridor, including the Hennepin Feeder to Rock Falls, and the Rock River. Parkway was defined as "extended strips of land, developed in a natural manner and devoted principally to recreational use. . . They may lie along a water course or canal, and may feature trails, roadways, and boating."

In 1993, with a growing number of greenways and trails in existence or in the planning stages, citizen representatives attending the first Conservation Congress in Springfield gave broad support to a resolution proposing a greenways and trails planning process to be carried out at each county or metropolitan level. The role of the Illinois Department of Natural Resources would be only to facilitate active, self-sustaining local programs. The intention was that cumulative local planning would result in a grassroots master plan for the entire state. The resolution recognized that it would never be feasible for the state to undertake acquisition and management of such an extensive network, but that local efforts could carry such plans through to fruition by organizing various partnerships between public agencies, private organizations, and landowners. Governor Edgar and IDNR launched the planning process at a Governor's Workshop on Greenways and Trails in 1995.

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PROGRAM COORDINATOR'S PAGE

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Here are several photographs from various regions in the US that are introducing GI and embracing its positive effects to the full extent possible. Also listed below are several links to websites with useful information on GI. Green Infrastructure has been around for as long as humans have been on earth; however it is only now that we are beginning to reintroduce and modify long-standing practices to benefit our nation's growing communities.



Green Infrastructure Resources & Projects

IEPA Green Infrastructure Resources: <http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm>

Center for Green Infrastructure:
<http://www.greeninfrastructuredesign.org/benefits>

GI Project – City of Aurora:
<http://www.aurora-il.org/green/infrastructure/index.php>

Minnesota Pollution Control Agency:
<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/stormwater-management/low-impact-development-and-green-infrastructure-stormwater-management.html>

The Conservation Fund – GI Article:
http://www.greeninfrastructure.net/sites/greeninfrastructure.net/files/GI_RR.pdf

IEPA Green Infrastructure Grant Opportunity:
<http://www.epa.state.il.us/water/financial-assistance/igig.html>

Water World Article:
<http://www.waterworld.com/articles/2012/09/green-infrastructure-dialogue-to-continue-at-national-leadership-conference-in-cincinnati.html>

Kelly



GREENWAYS AND TRAILS

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Visit the Illinois Department of Natural Resources webpage at DNR.illinois.gov and choose the letter G from the alphabetical listing of offerings; you'll get a page devoted to greenways and trails and a map of Illinois showing all counties that have approved plans.

And remember, greenway and trail planning is just that - wise planning for the future. Planning is not trail and greenway construction.. When Lee County first began the process of creating our County-Board approved plan, some residents thought that actual properties would be purchased and trails constructed. Our Greenways and Trails Plan is a plan to assist in zoning for future projects throughout the county - and these may be housing subdivisions, shopping malls, commercial enterprises, schools and more. Having a plan to link generators of people (masses of people in one area like a school, a park or a business) with other generators of people in another location in a safe and simple manner is good planning. And directing trails away from using prime farm land is just good sense. Providing greenways enhances our county immensely. The approved Greenways and Trails plan is actually part of the County's Comprehensive Plan for the future.

The best part is that after you have a plan, you can begin implementing ideas for trails and greenways in a sustainable and wise manner. And we have!

LUBRICANTS FROM VEGETABLE OIL

Oil-independence is the dream of many countries that lack raw materials. Nevertheless, black gold still retains its dominant role as a power source, and also serves as a basic material for the chemical industry. In order to change this, researchers started the "Integrated BioProduction" project. At the Fraunhofer Center for Chemical-Biotechnological Processes CBP in Leuna, the pilot plant-scale production of epoxides, made from domestic vegetable oils, begins in October. The intermediate chemical products support the production of lubricants, surfactants and emulsifiers.

Epoxides are highly reactive organic compounds composed of a triple ring with two carbon atoms and one oxygen atom. Among other things, the chemicals industry uses them for the production of lubricants for vehicles and engines, as well as surfactants and emulsifiers for detergents and cleansers. Until now, epoxides have been based primarily on source materials procured from petroleum. Researchers at the Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB have engineered a chemical-enzymatic process that now enables vegetable oil-based production, at lower temperatures and under more environmentally-friendly conditions.

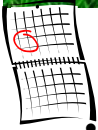
The Fraunhofer Center for Chemical-Biotechnological Processes CBP in Leuna has made this technology ready for industrial application. Starting October 2012, the findings obtained in the laboratory will be scaled up to an even larger volume. Quantities of up to 100 liters will be possible at the new center. That corresponds to a 70 kilogram-batch of epoxides. In the laboratory this reaction yielded batches only in the grams range. The 14 partners in the "Integrated BioProduction" project will be working until April 2014 on engineering a process for procuring epoxides, made from domestic vegetable oils, for industry use.

Using by-products from the food industry

The foods that are suitable for epoxides production include, for example, the oils of mustard, elder seed, crambe (Abyssinian cabbage) and dragonhead. To some extent, these oils emerge from food production as by-products, but are not themselves used as food. The epoxide is procured in Leuna from fluid oils, or fatty acids as well, with the aid of chemical-enzymatic epoxidation. In contrast to the established, pure chemical variety, the enzyme lipase here catalyzes peracid, the epoxidation medium. The main benefits are that the enzyme is easier and more efficient to handle. In comparison to many other chemical reactions, they operate at moderate temperatures, at neutral pH values and under normal pressure. At the same time, the enzymes conduct the epoxidation only on the designated sites in the molecule, and without side reactions.

"Even if the petrochemical process can never be completely replaced -- the potential for sustainable raw materials in the chemicals industry is immense. In 2009, roughly 14 million tons of vegetable oil was used for chemical-technical products, compared to about 400 million tons of mineral oil in the same year. To reduce the dependence on petroleum and carve out potential savings in CO2 equivalents, the industry needs ultramodern biorefineries. In Leuna, we are creating just the right processes for this," explains Dr. Katja Patzsch, group manager for biotechnological processes at CBP.

ScienceDaily (Oct. 23, 2012) The above story is reprinted from [materials](#) provided by Fraunhofer-Gesellschaft.



MARK YOUR CALENDAR!

- **General Election Day** - Tuesday November 6 - State Holiday, Office Closed
- **Veteran's Day** - Monday November 12 - State Holiday, Office Closed
- **Rural Landscapes Workshop** - November 13 - 14, The Chateau Hotel and Conference Center, Bloomington, IL
- **Thanksgiving** - Thursday November 22 - State Holiday Thursday and Friday November 22 - 23,, Office Closed

2012 QUARTERLY BOARD MEETING DATES

- **December 2012 Quarterly Board Meeting** - December 10th & 11th - Christmas Party, Northfield Inn - Springfield, IL

october is:

- Breast Cancer Awareness Month
- Cookie Month
- Domestic Violence Awareness Month
- National Popcorn Popping Month

october dates of note:

- National Candy Corn Day - 30th

november is:

- Aviation History Month
- Child Safety Protection Month
- National Adoption Awareness Month
- National Epilepsy Month
- National Model Railroad Month
- Native American Heritage Month
- Peanut Butter Lovers Month

november dates of note:

- All Saint's Day - 1st
- All Soul's Day - 2nd
- Guy Fawkes Day - 5th
- Cook Something Bold Day - 8th
- USMC Day - 10th
- Young Readers Day - 13th (second Tuesday of month)
- Sadie Hawkins Day - 13th
- Operating Room Nurse Day - 14th
- America Recycles Day - 15th
- Great American Smokeout - 15th (third Thursday in November)
- National Adoption Day - Saturday before Thanksgiving - 17th
- Take A Hike Day - 17th
- World Peace Day - 17th
- Universal Children's Day - 20th
- National Parfait Day - 25th
- Red Planet Day - 28th
- Square Dance Day - 29th
- Stay At Home Because You Are Well Day - 30th

AISWCD Mission: *To represent and empower Illinois' SWCDs*

4285 N. Walnut Street Rd.
Springfield, IL 62707



Phone: (217) 744-3414
Fax: (217) 744-3420
www.aiswcd.org