



# Action in Agroforestry

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## Reducing impacts of leather manufacturing

UMCA's very own Chung-ho Lin and his group of researchers have teamed up with a Kansas City-based company to improve its novel method of reducing the leather industry's environmental impact with biochemicals from probiotics.

It is time for some earth-friendly leather. Chung-Ho Lin, a part of UMCA's Bioremediation and Phytochemistry Program, is helping a Kansas City Company, SCD Probiotics, reduce the global leather processing industry's environmental impacts.

Lin's collaboration started when SCD sponsored a Mizzou graduate student, Narin Tipsrisukond, SCD's Vice President of Technology and CAFNR graduate. Currently, Proviera Biotech, the company Lin is working with (a subsidiary of SCD), has products that use probiotic-derived biochemicals, which cuts out chemicals traditionally used to process leather. Lin and his group are working now to improve the company's formulas.

Probiotics are non-pathogenic strains of microorganisms that help the leather to bring back its flexibility and softness. Sometimes, when leather skins arrive, the hides and skins have been transformed, dyed and dried. The biochemicals that Proviera Biotech uses remove dirt and soluble proteins not used in making the leather. Using probiotic-derived biochemicals is a new and novel approach to the tanning process. As a part of the collaboration, Lin checks on quality assurance and quality control method developments in the tannery product line.

Tannery processes have stayed the same for hundreds of years and the industry has been unable to economically meet federal environmental standards. Recently, however, there have been many technological advancements. Lin has high hopes for this collaboration since it could potentially restart the American leather tanning industry.

The leather products that Proviera Biotech markets are 100 percent biodegradable. These products, which include a degreasing agent and a dispersing agent, have reduced odor levels, consume less water and can be processed more rapidly. Another key benefit is improved leather quality. In a time where leather products are



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The centuries-old process of tanning leather is changing, and may help revive the American leather industry, too.

regarded as a luxury item, an increase in quality makes for rapid-selling products. A vast majority of Proviera Biotech products are exported.

The company wants to expand within their industry. Across the globe, many finished leather pieces processed with their biochemicals have made it to finished leather goods buyers and consumer shelves. Quite the achievement for Proviera Biotech, which was only started a year ago.

*Adapted from December 30, 2013 article written by Randy Mertens - <http://cafnrnews.com/2013/12/earth-friendly-leather/>*

## LEARN MORE

# High-Value Orchard Crops Course

Interested in growing food that increases environmental health? Consider attending a series of hands-on and experiential classes that can help transform any sized landscape into an orchard of fruits, nuts, berries, perennial vegetables, medicinal herbs and mushrooms. Backyard Abundance and Red Fern Farm invite you to attend in-depth step-by-step classes on how to integrate agroforestry practices and principles.

Find out about nature's patterns which create symbiotic relationships between plants and learn more about different types of high-yielding perennials. There will also be lessons on the process that leads to plant selection and system design. Upon completion of all the classes, attendees receive a Certificate of Edible Agroforestry.

The first class will take place on March 8, 2014 and is nine hours. It costs \$35 for nonmembers and \$30 for members.

All events will take place in Iowa City and Wapello, Iowa. More information is available at <http://www.backyardabundance.org/ClassesEvents/HighValueOrchardCrops.aspx>

# Master Naturalist Spring Training

With the Boone's Lick Chapter Master Naturalist Spring Training Course, you can support conservation efforts and natural resource education in your community. The course starts March 4, 2014 and each training session will be held on Tuesday evenings from 6 - 9 p.m. at the Eagle Bluffs Conservation Headquarters. The course concludes on May 13. Over the fifty hours of instruction, attendees will learn about Missouri's natural resource ecology and management.

After graduating, participants are asked to provide 40 hours of volunteer service on conservation-related projects in the local community and participate in eight hours of advanced training opportunities.

Registration is \$95 per participant. More information and the application packet can be found at <http://extension.missouri.edu/boone/masternaturalist.aspx> or by contacting Kent Shannon at [shannond@missouri.edu](mailto:shannond@missouri.edu).

## Don't miss out on Green Horizons!

The January 2014 issue of the Center for Agroforestry's Green Horizons quarterly newsletter will be hitting mailboxes and inboxes alike next month. If you would like to subscribe, please email Michael Gold at [goldm@missouri.edu](mailto:goldm@missouri.edu).

## Upcoming Events

**February 7-8, 2014 —**  
Missouri Nut Growers  
Association Annual  
Meeting and Nut Show,  
Nevada, Mo.

<http://missourinutgrowers.org/Meetings.html>

**March 4, 2014 —**  
Boone's Lick Chapter  
Master Naturalist  
Spring Training Course  
begins.

More information can be  
found at <http://extension.missouri.edu/boone/masternaturalist.aspx>

# Special event: Permaculture Conference

Save the date for the national Permaculture Conference, from March 13-16, 2014 in Temecula, Calif. Reduced registration rates are available for members of the Assn. for Temperate Agroforestry.

Mark Shepard, author of Restoration Agriculture and owner of New Forest Farms in Viola, Wisc., is speaking on "Restoration Agriculture: Designing Your Perennial Farm." UMCA's Mike Gold will speak on chestnuts, specifically, "Building a Perennial Specialty Crop Industry from Scratch." Missouri's Greg Judy also will talk about "Multi-species Grazing on Leased Land" and "Profitable Methods Used to Heal the Land with Mob Grazing."

Find out more at  
[www.permaculturevoices.com](http://www.permaculturevoices.com)



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