

# GREEN HORIZONS

A quarterly newsletter from the MU Forestry Extension and The Center for Agroforestry in association with the Forest and Woodland Association of Missouri

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Summer 2012

## Prescribed Fire: To Burn, or Not to Burn?

Mike Burden, MU College of Agriculture, Food and Natural Resources

That's a question natural resource managers have asked themselves for years—often coming up with conflicting answers. Joe Marschall, research specialist at the Missouri Tree Ring Laboratory at the University of Missouri's School of Natural Resources, seeks to bring science to that debate.



*Just how badly does prescribed fire affect wood quality? Marschall's study attempted to answer that question.*

Marschall, who is also pursuing a master's degree in forestry at MU, notes that not all natural resource managers see eye to eye on prescribed burning in areas with merchantable timber. "People all across the country are talking about this; prescribed fire is more and more often used as a management tool," Marschall said.

However, its use is hotly contested. Marschall recently presented a poster summarizing his findings at a natural resources conference. The first two people who looked at it, a forester and a wildlife manager, both from Kentucky, started arguing about fire management. **(cont. on page 2)**

## Urban Forestry: Imprelis® Update

Hank Stelzer, MU Forestry Extension (adapted from Purdue University Extension)

### Background

In spring 2011, a new DuPont herbicide with the active ingredient aminocyclopyrachlor was sold with the trade name Imprelis® and used to control weeds on many turf areas (lawns, golf courses, sports fields, etc.). Following use of the herbicide in spring 2011, lawn care companies and golf courses across the United States began reporting damage as early as June 2011 to trees and ornamentals located adjacent to the treated turf areas.

Turf professionals who reported landscape damage from a 2011 application of Imprelis® were encouraged by DuPont to file a claim in 2011. Claims were filed and processed in 2011. Although some settlements have now been reached, many are still being processed and DuPont representatives are visiting selected affected properties to assess the damage and recovery of trees and shrubs.

### Did Trees Recover from Imprelis® Injury?

Some affected trees exhibit symptoms exactly like they did the previous year. They appear frozen in time, and no new growth has occurred. Some trees show signs of new growth from axillary buds but not from terminal/apical buds. In many cases, despite some recovery, trees are too damaged, so removing them is still recommended. Other trees with little injury may still recover but will likely require corrective pruning to maintain desirable form and symmetry. **(cont. on page 4)**

#### In this issue:

Prescribed Fire: To Burn, or Not to Burn?	1
Urban Forestry: Imprelis® Update	1
Yeah, there's an app for that...	3
Tree Farm Conference Draws Record Crowd	5
To EARTH and Back	6
Come Join Missouri Woodland Stewards	8
Why is the standard paper size 8 1/2" x 11"?	10

# Prescribed Fire: To Burn, or Not to Burn? (cont. from front page)

Mike Burden, MU College of Agriculture, Food and Natural Resources

Marschall has created a tool to systematically assess the value loss in lumber quality of red oak trees due to prescribed fire.

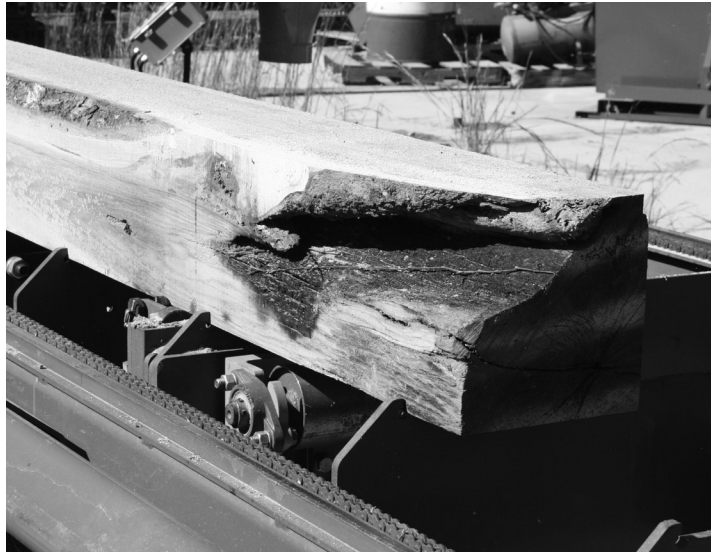
“It’s a tool that will enable a forest manager to go out in the woods and determine what value loss in timber products a particular tree has experienced to date,” he said. “It’s a snapshot and a solid model—anyone can go out and do it.” The equipment for the job: Marschall’s chart and a ruler.

The study was sparked by a request from the Missouri Department of Conservation (MDC). Researchers at the Missouri Tree Ring Laboratory did a study a few years ago looking at volume loss from fire damage, not at lumber product value loss.

MDC asked them to expand the study. In the first study, researchers measured the volume injured by fire by taking cross sections from the trees. In Marschall’s study, they actually harvested and milled the lowest log (usually the only portion of the tree impacted by fire) of fire-injured trees into dimensional lumber.

## Making the Cut

The team harvested trees from three MDC conservation areas in southern Missouri with known prescribed fire histories: Peck Ranch in Carter County, Graves Mountain in Wayne County, and Lead Mine Conservation Area in Dallas County.



*Marschall instructed the sawyer to ignore the fire damage and cut for the highest grade possible.*

About 30 trees were felled and harvested from each site. They partnered with Baker Products of Ellington, Mo., to mill the logs into lumber. Marschall instructed the sawyer to ignore the fire damage and cut for the highest grade possible. A grader trained by the National Hardwood Lumber Association evaluated and scored each of the 1,315 boards for their actual value and determined what their value would be without fire defects, if fire defects were present.

Marschall noted that the slabbing process—where the sawyer trims and squares the log on the sawmill—often removes much of the area damaged by fire, especially if the damage is less than five years old.

“What we’re after is solid information in an area where there wasn’t solid information,” Marschall said. “With this data, managers might change the way they harvest and not leave the trees with defects in the forest.”

## Rooted in Science

Marschall has worked in the Missouri Tree Ring Laboratory for the last eight years. An interest in conservation and maintaining the well-being of natural resources led him to study and work at MU. He’s been able to further his academic research while gaining hands-on experience in the lab and at field sites across the country, including Pennsylvania, Nebraska, Arkansas, Kentucky, Tennessee, California, Oklahoma and Missouri. **(cont. on page 3)**



*Baker Products of Ellington, MO provided the equipment and sawyer to process the study logs.*

## Prescribed Fire: To Burn, or Not to Burn? (cont. from page 2)

Mike Burden, MU College of Agriculture, Food and Natural Resources

He was recently appointed as the consortium coordinator for the Oak Woodlands and Forests Fire Consortium, a network encompassing nearly 1 million hectares in 11 states with a mission to “provide fire science to resource managers, landowners, and the public about the use, application, and effects of fire.”

Missouri forests cover more than 14 million acres—nearly twice that of Iowa, Illinois, Kansas and Nebraska combined. Nearly 30,000 people work in the forestry industry, which generates \$5.7 billion annually.

The effects of prescribed fire on forests will continue to be a burning topic as more research is produced and the team works to extrapolate their findings to the landscape level.

The consortium will host a workshop on prescribed fire and timber quality in Poplar Bluff, Mo., in October. To learn more about the workshop and to register go to <http://www.oakfirescience.com/workshops/>.



Joe Marshall (left) and Dr. Mike Stambaugh, MU Research Assistant Professor (right) examined each board for fire damage.

## What soil types are on my property? Yeah, there's an app for that...

The foundation of making sound decisions on how to best manage your woodland is to know what type of soil is underfoot. With the free SoilWeb app from the USDA Natural Resources Conservation Service (NRCS) on your GPS-equipped Android or Apple smartphone, you can find out in a manner of seconds.

SoilWeb was developed by NRCS soil scientist Dylan Beaudette while he was a graduate student at the University of California-Davis. The university's California Soil Resource Lab offers web-based access to NRCS Soil Survey Geographic data ([casoilresource.lawr.ucdavis.edu](http://casoilresource.lawr.ucdavis.edu)). The app, however, offers the advantage of obtaining the data in the field, based on your location.

After downloading and installing the app on a friend's Android smartphone, we visited several sites around Boone County. In each case, once the phone's GPS had acquired enough satellites, SoilWeb reported the soil type and showed a graphic depicting the soil horizons. Tapping on the graphic led me to a detailed description of its physical and chemical properties. Tapping on the soil name led me soil taxonomy, land classification, hydraulic and erosion ratings, geomorphology, plant associations, and other information.

As with many other apps, SoilWeb depends on having an Internet or cell phone connection. The app also depends on the accuracy of your phone's GPS. A slider bar labeled “Precision” at the top of the main SoilWeb screen lets you set accuracy anywhere from 1 to 1,150 meters. Most smartphone GPS receivers are not capable of 1-meter accuracy; my friend's certainly wasn't. When I set the slider at 500 meters, SoilWeb usually returned a result. At less than 100 meters, it often did not. Geographically associated soils are listed in the series descriptions; most of which have links to their descriptions. You can search for any US soil series by name.

So, the next time you are walking about in your woods and want to know something about what lies beneath your feet, the answer may be at your fingertips!

# Urban Forestry: Imprelis® Update (cont. from front page)

Hank Stelzer, MU Forestry Extension (adapted from Purdue University Extension)

## Are New Symptoms Being Discovered?

Extension specialists are receiving reports of damage to trees and shrubs that were not reported in 2011. We cannot be exactly sure whether these are new symptoms or whether they went unnoticed in 2011. However, we are certain that symptoms are still being observed in species such as cottonwood, lilac, Norway spruce, white pine, and yellow cypress, and it appears that these are new symptoms in 2012 on plants that did not show symptoms in 2011. Laboratory tests are ongoing to confirm that spring 2011 Imprelis® applications are the cause of injury to these trees and shrubs in 2012.



*Imprelis was applied to this homeowner's yard in 2011, but the damage to this baldcypress did not appear until this spring, when leaves on last year's shoot did not emerge.*

## What Should I Do if I Suspect Imprelis® Injured Trees BUT I Didn't Notice the Damage in 2011?

If you applied Imprelis® in 2011, did not file a claim in 2011 with DuPont, and now see what you suspect is Imprelis® damage, then contact your state's pesticide control board. In Missouri, contact the Department of Agriculture's Bureau of Pesticide Control at (573) 751-5504.

If you applied Imprelis® in 2011, filed a claim in 2011 with DuPont, and now see what you suspect is new damage from Imprelis® on previously undocumented trees, then contact DuPont at (866) 796-4783. Request a site visit and the forms you'll need to file an amendment to your claim.

## Can I Do Anything to Help Trees Recover?

Trees that were injured from Imprelis®, but not killed, should be managed by watering them during dry periods to reduce drought stress and provide sufficient moisture for new growth. Avoid overwatering, which can cause waterlogged soils and contribute to root decay. The effects of fertilization on trees injured by Imprelis® are not known, so experts are hesitant to recommend fertilization to promote recovery. Pruning is recommended to remove dead and

severely damaged branches — this may help reduce the possibility of infestation by secondary diseases and insects.

## How and When Should I Replace Damaged Trees?

Instructions for replanting trees (for those who file claims and for property owners who remove and replace trees on their own, outside of the claims process) are available at [www.imprelis-facts.com](http://www.imprelis-facts.com). Based on soil testing and the continued presence of Imprelis® in treated lawn soils, specialists do not recommend planting new trees in the same area where a damaged tree was removed unless the entire tree is removed (shoots, roots, bark, leaves, etc.) and several cubic feet of soil surrounding the tree are also removed. Soil removal will be necessary to protect newly planted trees from being exposed to the herbicide.

Although replanting a tree in an Imprelis®-treated area could be risky in 2012, those who filed a claim should be protected from this risk according to DuPont which states on their website ([www.imprelis-facts.com](http://www.imprelis-facts.com)):

“DuPont warrants against any damage to any tree on Owner's property (including replacement trees) caused by Imprelis® until December 31, 2013, or in the case of replacement trees, until a date two years after the date of planting.”

## What Do We Know Now that We Didn't Then?

We know much more in 2012 about Imprelis® than we did in 2011, but there is still much more that we don't know; like exactly how long this herbicide will persist in the soil and why some tree and shrub species were affected so quickly and others are just now showing symptoms. Current research at universities around the country is trying to answer the many questions people still have. We will keep you informed as we learn more.

## What Is Taking DuPont So Long?

Many people have been asking this question. Turf professionals are getting pressure from their clients and, in some cases, their insurance companies. Unfortunately, we are not sure why the claims process is taking so long for so many people other than the fact that many claims were filed, each with several trees, and large amounts of paperwork are required in this legal process. Although some settlement offers have been made, most are still waiting to hear back from DuPont. All we can do is encourage you to contact DuPont and express your concerns regarding the process.

# Annual Tree Farm Conference Draws Record Crowd

Rick Merritt, Missouri Tree Farm Committee

Beautiful weather and a great program combined to draw a record crowd to this year's annual conference, hosted by John and Stacy Heckman, north of Hermann. Over 180 landowners and natural resource professionals came together to see how John and his family have implemented various forest and wildlife management practices on their property to enhance both trees and critters that call their Bear Valley Tree Farm home.



*Standing room only at this year's Missouri Tree Farm Conference!*

After a few short welcoming formalities, everyone was eager to get into the field. First stop was a field being restored to warm season grasses and forbs. The casual observer might think it's just a field of weeds. But, to a landowner wanting to diversify his or hers' natural plant communities it was a field full of warm-season grasses like black-eyed Susan, Ox-eye daisy, and Ladies' tresses. Retired MDC Private Lands Conservationist and president of the Missouri Grouse Chapter of Quail and Upland Wildlife Federation, Tom Westhoff, explained how the judicious use of prescribed fire and herbicides can be used to establish and maintain these oases for small upland game birds. This field was abuzz (literally) with loads of honeybees and from the far end one could hear bobwhite quail whistling to their heart's content.



*A sea of warm-season grasses greeted conference attendees at the first stop.*

On up the ridge, the next stop was at a field's edge where John had converted a fescue field infested with honeylocust and cedar into an annual food plot for deer and turkey. The field is rotated between milo and winter wheat. It is occasionally left fallow. Missouri Department of Conservation, Jamie Barton, talked about the ease of planting these simple types of food plots and the benefits they provide. He covered the types of tools and implements used to install and maintain food plots and how to control invasive plant, such as honeylocust and cedar.



*MDC Private Land Conservationist, Jamie Barton (left) told the crowd how to convert abandoned fields into productive wildlife food plots.*

Up in the timber, conference attendees learned that that could have their cake and eat it, too! By removing slow-growing, poorly-formed trees and undesirable tree species from the forest (think of it as weeding your woodland garden) the remaining trees have more room to grow. And more room to grow means bigger tree crowns resulting in more acorns and hickory nuts for wildlife. **(cont. on page 8)**



*Josh Stevens told interested landowners how to improve their woodlands for both timber and wildlife.*

# To EARTH and Back: Tropical Forestry and Agroforestry Up-close and Personal!

Hank Stelzer, MU Forestry Extension

The right place at the right time. That phrase usually never applies to yours truly; except this time. Dr. Francisco Aguilar, a colleague of mine here in the Department of Forestry, invited me to be part of his team that has begun exploring opportunities to collaborate with forestry and agroforestry professionals in Costa Rica. Specific objectives of the project are to fortify the international content of MU's forestry undergraduate and graduate curriculum by incorporating complex dimensions of forest management and opportunities for entrepreneurship education; develop collaborative research relationships with scientists at the Tropical Agroforestry Center for Research and Education (CATIE for its Spanish name) and incorporate international experiences into formal Doctoral research experiences; and adopt lessons from outreach programs at EARTH University into existing MU Extension models to maximize benefits for forest-dependent communities.

## Universidad EARTH

Our first order of business was to check in with three MU undergraduate forestry students who have been at EARTH University since early May taking courses in tropical forest resources and communities, and sustainable tropical agroforestry practices. EARTH University is located about 100 km northeast of the Costa Rican capital of San Jose near the town of Guacimo, Limon Province. The University was created in 1989 with support from USAID in an effort to provide world-class education to low-income students from Latin America.

## A Unique Educational Model – the Four Pillars

Entrepreneurship, environmental and social consciousness, ethical values, and scientific and technical knowledge are the four key pillars creating the foundation of EARTH University's curriculum. Based on these principles, students are encouraged to become agents of change in their home communities. They learn-by-doing, working closely with faculty members and local farmers to implement agricultural methods that protect valuable natural resources while increasing productivity and incomes.

The four-year program is divided into three 15-week trimesters annually. Students are in school six days a week, 45 weeks of the year. Their day starts at 5:30 AM with breakfast, so they can report for work on one of the university's working farms by 6:00AM! After lunch it is time go to the classroom by 1:00PM where in-class principles are integrated into their morning work experiences. The week ends on Saturdays after a morning session from 6 to 11:00AM.

Teaching of these farming principles has led to the establishment of several systems that contribute to sustainable agriculture, such as the use of bio-digesters and the production of fermented compost or bokashi. EARTH University also uses their farms as a source of income for university programs through the sale of milk, pigs, male calves and organic fertilizers. There is a commercial banana plantation on campus. The University even has its own label that is marketed in the US through Whole Foods Market.



*Bokashi piles at EARTH University organic farm. Students conduct applied research studying the composition and impact on crop productivity of applying bokashi to selected crops.*

## Entrepreneurial Emphasis

EARTH University's curriculum is devoted to honing students' entrepreneurial skills, giving them the confidence and knowledge to develop profitable, environmentally viable and socially responsible businesses. **(cont. on next page)**



*Mauricio, a third-year student explains his business model for reproducing and selling disease-resistant cultivars of rambutan (*Nephelium lappaceum*) to local farmers.*

To foster such an industrious mindset, student teams are required to develop an agribusiness during their first year, which they run until the end of their third year. Historically, approximately 60 percent of these student-run businesses have been profitable. After closing the projects, the students keep 70 percent of the profits and 30 percent are returned to the University student loan fund.

### Experiential Learning

Third-year students have the opportunity to apply their knowledge and skills in the sustainable management of a farm/business in nearby rural communities. The curriculum also strengthens students' professional attitudes and skills to assure positive interactions with farmers and rural community members. Additionally, as an integral part of their curriculum, third-year students participate in a 15-week internship, typically in their country of origin. Students gain invaluable hands-on experience during their internships and are also required to participate in a community service project. EARTH University students have interned in more than 40 countries worldwide.

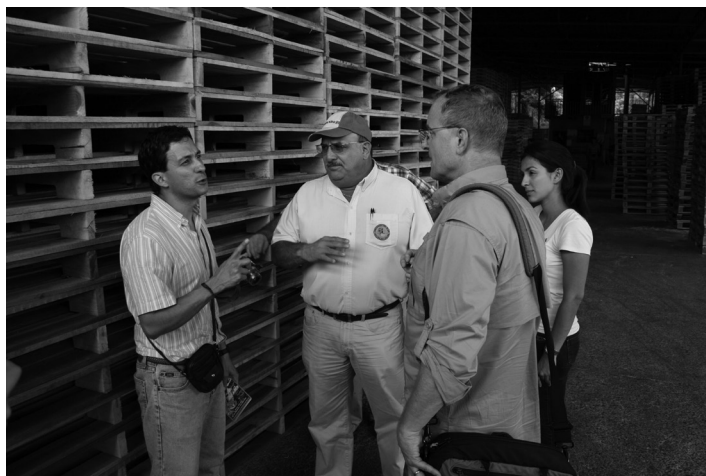
### Critical Thinking and Problem Solving

During their fourth year, students must exhibit their intellectual and professional abilities in analysis, synthesis, critical thinking and creativity by identifying and solving agricultural and environmental problems to enhance sustainable agriculture and natural resource management processes. The learning process focuses on an agricultural or agro-industrial business and local rural communities, and is structured to provide students the opportunity to demonstrate their professional abilities.

### Continuing Education Program

The EARTH University Continuing Education Program's mission is to facilitate the exchange of information between the University, institutions and individuals working toward sustainable development in the tropics while strengthening the relationships between EARTH and the scientific, academic, institutional, business and NGO communities.

The Program's interaction with neighboring communities allows the University to learn how to improve the agricultural production, administration and marketing situation of hundreds of local farmers. It also fosters the development of community-based education, research and tourism activities. In addition to communities the University keeps a close relation with local farmers and other agribusinesses. They also advise landowners on the implementation of forest plantations as a source of hardwood products and to provide valuable environmental services.



*Francisco Aguilar (University of Missouri) and Steve Jarvis (Missouri Forest Products Association) visit with Hiner Ramirez (center), founder and CEO of family-owned TARA Corporation.*



*Nadia Navarrete-Tindal (Lincoln University), Kaitlyn Bradley (MU Forestry student), Hiner, Cory Knoblauch (MU Forestry student), and Ashley Schulz (MU Forestry student).*

### CATIE

CATIE stands for the Tropical Agricultural and Higher Education Center. It is a regional center dedicated to research and graduate education in agriculture and management, conservation and sustainable use of natural resources. There are ten regional offices located in Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panamá, Colombia, Venezuela, and Bolivia. Their mission is to increase human well-being and reduce rural poverty through education, research and technical cooperation, promoting sustainable agriculture and natural resource management. Our team visited their facilities in Turrialba, where we learned of their ongoing tropical agroforestry research involving cacao and coffee. **(cont. on page 9)**

# Annual Tree Farm Conference Draws Record Crowd (cont. from page 5)

Rick Merritt, Missouri Tree Farm Committee



*Tree Farm Day participants got plenty of exercise. Fortunately, Mother Nature provided cool temperatures and a gentle breeze, so it was a comfortable trek back to the barn for lunch.*

After lunch individuals could take themselves on a self-guided tree identification trail or learn the finer points of pruning high-value trees like walnut and white oak. The afternoon concluded with professional timber harvester, Joe Glenn, talking about chain saw safety and demonstrating proper tree felling techniques. Those in attendance quickly realized that a one-hour demonstration is not sufficient training to start cutting down trees of size on their own. Fortunately, Joe offers comprehensive training through the



*After talking the crowd through the process of safely felling a tree, professional timber harvester, Joe Glenn, drops a rather difficult elm exactly where he said he would!*

Missouri Forest Products Professional Timber Harvesters program. To learn more and to register for the next course, contact the MFPA office (573) 634-3252 or online at [www.moforest.org](http://www.moforest.org).

The Heckmans are excited about the many benefits of their hard work. They anticipate having a timber sale in the near future to generate revenue and have seen increased numbers of quail turkey and other wildlife that make their farm a more enjoyable place. John and his family are not only dedicated to their farm, but would like to see others connect with the resources they need to reach forest and wildlife habitat management goals for their properties. To locate your closest professional forester, contact either the Missouri Department of Conservation (573-751-4115 or [www.mdc.mo.gov](http://www.mdc.mo.gov)) or the Missouri Consulting Foresters Association ([www.missouriforesters.org](http://www.missouriforesters.org)).

## Come Join Missouri Woodland Stewards

Hank Stelzer, MU Forestry Extension

MU Forestry Extension welcomes everyone to check out Missouri Woodland Stewards, a new social network specifically for forest landowners. This online network is your natural resource knowledge network to help you become more competent in managing your woodlands and connected to resource professionals and other woodland owners. The network is all about sharing knowledge. You will find no distracting ads!

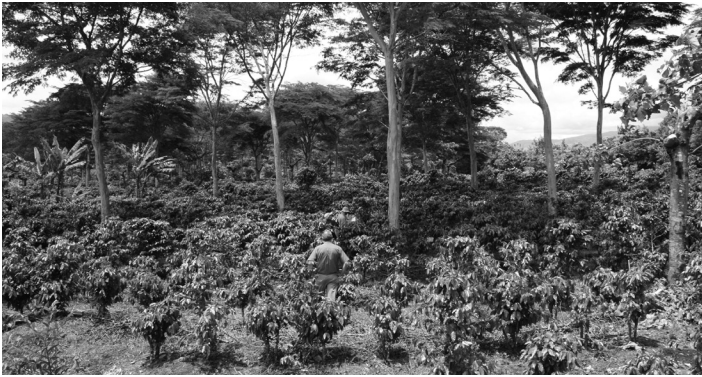
The network is yours. Don't be shy. Join and use it... you cannot break it! Check out our various **Groups** for discussions on some of the more common forest management topics. Post questions or comments in the **Blog Posts**. Post **Photos** or **Videos** of your woodland management activities. And don't forget to check out the **Events** box for upcoming webinars, workshops, and field days.

Access Missouri Woodland Stewards at <http://missouriwoodlandstewards.ning.com>. Welcome aboard!



# To EARTH and Back: Tropical Forestry and Agroforestry Up-close and Personal! (cont. from page 7)

Hank Stelzer, MU Forestry Extension



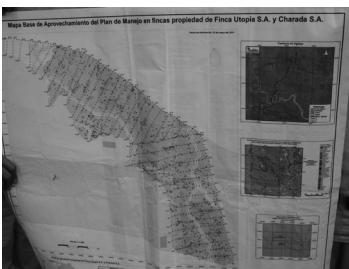
*Agroforestry systems (coffee and timber species) research plots at CATIE.*

## FUNDECOR

FUNDECOR (Foundation for the Development of the Central Volcanic Mountain Range), a non-profit foundation set up to find ways to save Costa Rica's tropical forests.

Several years ago USAID started the Foresta Project in Costa Rica for reforestation and forest management in the Central Volcanic Mountain Range. USAID opened offices in Puerto Viejo de Sarapiquí, staffed it with foresters and began developing regional forest management plans. In 1990, when the project's term expired, FUNDECOR was established to carry on the work.

FUNDECOR is working directly with the private citizens who own the rain forests, to create management programs allowing these proprietors to earn a decent income from their property by not cutting it to the ground. FUNDECOR's staff of foresters and "management engineers" devise individual plans tailored to the property. They then implement the plans, teaching the owners how to selectively harvest their forests, and acting as agents to help the landowners get the best price for the wood that is cut. Owners realize a comfortable profit, much more than they would have seen had they let a logger come in and clear the land. Their forest is left standing to continue producing and regenerating naturally.



*Inventory of privately-owned forested property with detail of individual trees (>50 cm at DBH) and information including coordinates, species, DBH, commercial height and commercial category.*

## Environmental Service Contracts

As the US and other developed countries struggle with how to develop payments for environmental services (PES), Costa Rica has (as the folks at Nike would say) just done it.

Back in 1992, when Rio hosted the original Earth summit, there was plenty of talk about environmental protection and international co-operation to make it happen. But for Costa Rica, waiting for the international community to act was not an option. The rapid deforestation that had taken place in the country in the 1980s had begun to slow, and urgent action was needed to nurture this change.

So, Costa Rica passed a law banning further deforestation and allowing forest owners to sell the environmental services which forests provide to the Central Government. In turn the Costa Rican government can sell services such as carbon sequestered in trees in international markets. The law created an institution, Fonafifo, to broker deals, and stipulated that a share of fuel tax revenues would provide the finance to kickstart the process.

Although the fuel tax provided some stability, new sources of finance were needed. Costa Rica realized it would struggle to compete with bigger countries for international finance, so the country looked at other revenue streams. The result was an increase in water taxes, with 25 percent of the revenue now reserved for paying for environmental services in key watersheds.

The idea is simple: landowners are rewarded financially for actions that maintain environmental services that benefit other people, who then pay for that gain. Lowland water users would, for example, pay highland communities that plant or protect forests and so maintain the flow of water downstream.

But as PES took off, the poorest people were often left behind, either because of legal restrictions on their land, or because of insufficient government funds.

So FUNDECOR designed a parallel payment scheme to complement the national one. Small-scale farmers who protect forests can earn carbon credits that they sell to national industries so they can offset their greenhouse gas emissions. Although the payments are at the average 20 percent lower than in the national scheme, transactions are faster, with more chance of success because of less competition.

(cont. on page 10)

# Why is the standard paper size in the U.S. 8 ½" x 11"?

Hank Stelzer, MU Forestry Extension

Back in the late 1600s, the Dutch invented the two-sheet mold. The average maximum stretch of an experienced vatman's (a vatman is a person who shakes the paper pulp onto a wire screen) arms was 44". Many molds at that time were around 17", front to back, because the laid lines (caused by the wires) and watermarks had to run from left to right. Sounds big? Well to maximize the efficiency of paper making, a sheet this big was made, and then quartered, forming four 8.5"x11" pieces.

This was well before paper machines dominated hand-made paper labor. A couple centuries later when machines dominated the trade (although many hand-made paper makers still existed), and the United States decided on a standard paper size, they stuck with the same size so as to keep the hand-made paper makers in business.

## Only in the United States

Oddly enough, within six months of each other, two different paper sizes were set as the standard; one for the government and one for the rest of us.

In 1921, the first director of the Bureau of the Budget established an interagency advisory group with the President's approval, called the Permanent Conference on Printing, which established the 8" x 10½" as the general U.S. government letterhead standard. This extended an earlier

establishment made by the former President Hoover, the Secretary of Commerce at the time, who established the 8" x 10½" as the standard letterhead size for his department.

Now, during the same year, a Committee on the Simplification of Paper Sizes (and you thought modern-day Americans had the corner on nonsensical governmental committees) consisting of printing industry representatives was appointed to work with the Bureau of Standards as part of Hoover's program for the Elimination of Waste in Industry. This group came up with basic sizes for all types of printing and writing papers. The size for "letter" was a 17" x 22" sheet while the "legal" size was 17" x 28" sheet. The later known U.S. letter format was these sizes halved (8 ½" x 11" and 8 ½" by 14").

Even in the selection of the 8 ½" x 11", no special analysis was made to prove this was the optimum size for commercial letterhead. The Committee that developed the sizes did so using one objective - "to reduce inventory requirements for paper into sizes which would cut from a minimum trimming waste."

Once these committees found out about each other a couple years later, they agreed to disagree until the early 1980's when President Reagan finally proclaimed that the 8.5" x 11" was the official standard sized paper.

## To EARTH and Back: Tropical Forestry and Agroforestry Up-close and Personal! (cont. from page 9)

Hank Stelzer, MU Forestry Extension

But, now the challenge is the rising price of land. An annual PES payment of \$25 per acre, however generous, cannot compete against the \$197 per acre per year that farmers can get by leasing their land to produce pineapples, or selling it off so developers can build tourist resorts. Small patches of forest in areas with high-value crops are almost doomed to slowly disappear.

## Just the Beginning

The grant supporting our team awarded by the National Institute for Food and Agriculture's International Science and Education Programs lasts for three years. Our team will use these funds to serve as seed money to generate opportunities for long-lasting relationships with foresters and agroforesters in Central America. Stay tuned!



2012 Costa Rica team members: Cory Knoblauch, Nadia Navarrete-Tindall, Kaitlyn Bradley, Steve Jarvis, Ashley Schulz, Hank Stelzer and Francisco Aguilar

# The Back Page

## Welcoming a new UMCA information specialist intern



With the start of a new summer season, we would like to welcome Laura Orozco (left) to the team as the new UMCA information specialist intern. Laura is a senior strategic communication student at the Missouri School of Journalism and hopes to work in advertising after her graduation in December 2012. This means we will be saying goodbye to Paige Pritchard (right), our intern of the past year. Paige just graduated with her B.J. in magazine journalism and will be working this summer as the social media coordinator for The Root Cellar in downtown Columbia. She hopes to eventually find a job in the environmental or science journalism industry. She would like to thank the Center for Agroforestry for an exhilarating and educational year, and she looks forward to keeping in touch with faculty and staff after her departure.

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## Calendar of Events

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**September 14: MU Southwest Center Field Day. Mount Vernon, MO.** Forestry presentations on selling timber and forest health. For more information, go to <http://aes.missouri.edu/swcenter/>.

**September 22: MU South Farm Showcase. Columbia, MO.** For more information, go to <http://cafmr.missouri.edu/aes/southfarm/>.

**October 5: MU Wurdack Farm Field Day. Cook Station, MO.** See a live demonstration of a Baker portable sawmill, and learn the latest hardwood and pine silvopasture research developments. For more information, go to <http://aes.missouri.edu/wurdack/>.

**October 5-6: Missouri Walnut Council Fall Meeting. Polo, MO.** A great agenda and location is being planned. Keep track of these plans by checking the Walnut Council website (<http://www.walnutcouncil.org>) and visiting the Missouri activities under the State Chapters section.

**October 9-11: 32nd Annual Central States Forest Soils Workshop. Potosi, MO.** Sponsored by the Missouri Association of Professional Soil Scientists. For more information, go to <http://www.showmemapss.org/>.

**October 16-17: Prescribed Fire and Timber Quality Workshop. Poplar Bluff, MO.** Sponsored by the Oak Woodlands & Forests Fire Consortium, this workshop will address questions such as: Can we manage large landscapes with prescribed fires and maintain high quality timber? What is the timber product economic devaluation caused by prescribed fire? Register online at [www.oakfirescience.com/workshops/](http://www.oakfirescience.com/workshops/).