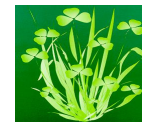


Northeast Pasture Consortium News Update August 2013

Linking Graziers, Researchers, Extension, and Technicians

<http://grazingguide.net/> James Cropper, Executive Director & Editor



2014 Northeast Pasture Consortium Annual Conference & Meeting

Our annual conference and meeting is returning to State College in 2014 at the Ramada Inn and Conference Center on February 4-5. It precedes the Pennsylvania Association of Sustainable Agriculture (PASA) Workshop & Conference on February 5-8. The Ramada Inn and Conference Center is located at 1450 South Atherton Street (Business Route 322) within 2 miles of the Penn State University Campus.



Ramada Inn & Conference Center Location on South Atherton, State College, PA

Your Executive Committee and other members are currently working on the program for the 2014 conference. The next newsletter will have the registration form and agenda. Look for it this fall. PASA Conference details provided as well.

Driving Directions:

From the East

From I-80 to Exit 161 (Bellefonte) follow PA Route 26 South. Route 26 South turns into Route 220 South. Stay on 220 South for 13 miles, take

exit 74 to the left side. You will then be on Park Avenue. Stay on Park Ave until you pass Beaver Stadium on your left. Then turn left onto University Drive. Stay on University Drive until it intersects with Atherton St. (Business Rt. 322). Turn right at the red light and the Ramada Inn is approximately 1/4 mile on the left.

From the West

I-322E/I-99 to 322 Business/Atherton Street. Hotel is 6 miles down Atherton.

From Harrisburg

- * Follow signs to Route 22/322 West, stay on 322 past Lewistown
- * Proceed to the Boalsburg exit (Business Route 322)
- * Go approximately four miles, Ramada Inn is located on the left side of the street past the University Drive intersection.

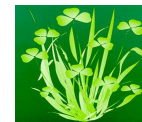
From Pittsburgh

- * Follow Route 22 to Duncansville
- * Take Route 220/I-99 North, bypassing Altoona & Tyrone
- * After Port Matilda, take Route 322 East to State College
- * Exit on Business Route 322/North Atherton Street
- * Go approximately five miles, Ramada Inn is located on the right side of the street

From University Park Airport

Courtesy Car Info: Complimentary Airport Transportation (Arrangements must be made prior to arrival.)

If driving a rental car, exit airport and take left on Fox Hollow Road. Follow Fox Hollow to Park Ave. Make right hand turn at Park Ave. and take next left onto University Drive. Follow University Drive to Atherton Street, turn right, and hotel is 1/2 block ahead on left hand side of street.



A Study of Switchgrass for Home Heating in the Northeast

Studies by an Agricultural Research Service (ARS) scientist have provided a complete cost-benefit breakdown of using switchgrass pellets, which are potentially a cheaper source of energy, instead of fuel oil to heat homes and businesses in the Northeast.

Research agronomist Paul Adler led efforts on a life cycle analysis that compared costs of energy generation from coal, natural gas, fuel oil, and switchgrass in the form of energy-dense cubes, briquettes, and pellets. Paul works at the ARS Pasture Systems and Watershed Management Research Unit in University Park, Pa.

ARS is the chief intramural scientific research agency of the U.S. Department of Agriculture (USDA), and this work supports the USDA priority of finding new sources of bioenergy.



Figure 1: Switchgrass Stand at Rock Springs, PA Research Farm - Regrowth in August after first cut hay

The researchers calculated the economic outlays associated with switchgrass production throughout the supply chain, as well as greenhouse gas emissions generated by switchgrass production, densification, and conversion to heat and power.

This included the first life cycle inventory of switchgrass seed production and greenhouse gas emissions associated with seed production.

The analysis indicated that 192 pounds of “carbon dioxide equivalent,” or CO₂e, was emitted for every ton of switchgrass dry matter that was sown, harvested, and delivered to densification plants for processing into pellets. CO₂e is a measurement used to compare the emissions from various greenhouse gases based upon their global warming potential.

The researchers calculated that using switchgrass pellets instead of petroleum fuel oil to generate one gigajoule of heat in residences would reduce greenhouse gas emissions by 146 pounds of CO₂e. Totaling all costs associated with installing an appropriate residential heating system and fuel consumption, the team concluded that each gigajoule of heat produced using switchgrass pellets would cost \$21.36. Using fuel oil to produce the same amount of heat would cost \$28.22.

Paul is now working with Plainview Growers to determine how the carbon footprint differs between heating greenhouses with biomass and heating them with fuel oil. Plainview Growers, which has its headquarters in Pompton Plains, N.J., sells more than 160 million nursery plants produced from seeds every year.

Results from this research were published in *Environmental Science & Technology*.

The March 2013 issue of Agricultural Research magazine had a more complete story.

SCIENTIFIC CONTACT: Paul Adler, ARS Pasture System and Watershed Management Research Unit, University Park, Pa.; phone (814) 865-8894, e-mail paul.adler@ars.usda.gov.



New Strategies for Safeguarding Dewormers – and the Sheep

This article serves as a teaser for one of our 2014 Northeast Pasture Consortium Annual Conference & Meeting research progress sessions.

Posted: Wednesday, July 31, 2013

By Jane Fyksen - Crops Editor, Agri-View - A Wisconsin Agricultural Newspaper

Managing internal parasites in sheep (or goats) by regular deworming of all animals is “no longer sustainable,” according to an Ohio State University team of researchers. They maintain that frequently observed worm populations resistant to all chemical classes of dewormer available to producers is warning “of the need to develop and adopt additional strategies if we intend to continue using pasture-based systems” for small ruminants.

Ohio State University veterinarian William Shulaw teamed up with Extension educators Rory Lewandowski and Jeff McCutcheon, and USDA research biochemist Joyce Foster with the Appalachian Farming Systems Research Center, Beaver, WV, to explore new strategies for coping with parasites on pasture, the bane of sheep and goat producers both in Ohio and here in Wisconsin as well (Editor's note: NE USA too).

Contrary to what many producers think, the infective larval forms of many internal parasites of sheep and goats can survive cold winters on pasture “surprisingly well,” they report. Overwintered larvae can create heavy worm loads in ewes and lambs, resulting in big problems as early as mid-June. Further, adult animals can provide a new generation of infective larvae in the spring with the eggs they deposit on pastures in their manure.

Farmers relying on permanent pasture for lactating ewes and baby lambs in the spring, managing internal parasites “presents a serious challenge,” they point out. Many still rely on routine dewormer use on all animals at strategic points in time. Veterinarians are now discouraging such an approach because it’s known to select for wormer-resistant worms, which they researchers characterize as “the most significant threat to raising sheep in pasture settings.”



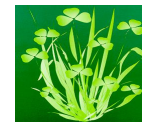
Figure 2: Dorset & Tunis Sheep on a PA Pasture

The life cycle of parasites inhabiting the stomachs and intestines of sheep is relatively straightforward. Adults lay eggs that pass out of the animal with the manure. Egg hatch into very small larvae that eventually become third-stage larvae, the only stage infective for sheep. Infective larvae move up the forage in films of moisture and are consumed by grazing animals, where they mature into adults in the abomasum and intestines, leading to poor growth and scours. For the most serious culprit, *Haemonchus contortus* or “barber pole worm,” the entire cycle only takes upwards of 25 days. Eggs deposited on pasture in cold weather usually do not hatch, and the first two non-infective larval stages are highly susceptible to drying and cold. The third-stage infective larvae are more resilient. If they are

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protected from drying by soil moisture and forage debris late fall through winter, significant numbers may survive until spring; however, because they must live on stored energy, most will be dead by July the following year.



Figure 3: Barber Pole Worm - note spiral coloring, hence the name.

Producers need to understand that a special feature of the life cycle begins late summer and fall. At that time, infective larvae consumed on pasture by sheep penetrate the wall of the abomasum but go into a “resting phase” instead of continuing to develop. This is referred to as “arrested development” or “hypobiosis.” Ohio State University studies reveal that upwards of 90 percent of *Haemonchus* worm burden in sheep is in hypobiosis by late November, waiting to resume developing come spring around lambing when milk production begins and the ewes’ immune system is vulnerable. This phenomenon is known as the “periparturient rise” in worm egg counts, which contaminate spring pasture and ensure a new load of worms for ewes and lambs to acquire. It’s noteworthy that as milk production tapers off approaching weaning, egg counts in ewes usually fall quickly to low levels, as ewes’ immune systems recover.

Thus, worm larvae can survive winter two ways – as third-stage larvae in the top inch of the soil and plant debris and as hypobiotic larvae in the gut of the sheep.

“These two survival mechanisms make spring-

time parasite management a demanding task,” say Shulaw and the fellow researchers.

Life cycle of sheep worms

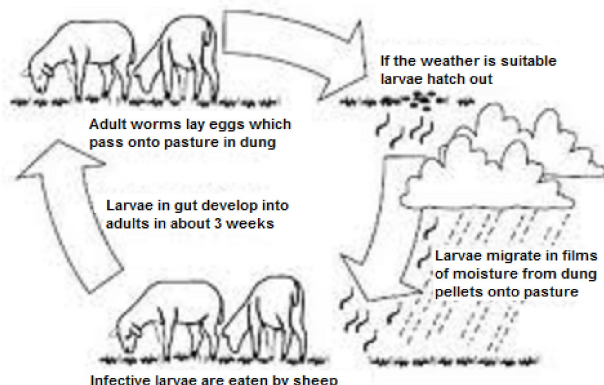


Figure 4: Generalized Life Cycle of Sheep Worms

There’s no “one size fits all” approach to parasite management on pasture, because every farm is different in its lambing time, grazing plan and marketing goal. The Ohio State University team targets the spring-lambing flock using pasture as a significant part of the diet for lactating ewes and young lambs.

As noted, in most flocks, lactating ewes suffer that periparturient rise in worm numbers, resulting in many more eggs in their manure. This can sometimes result in ewes showing weight loss and even “bottle jaw.” Pastures used by ewes at this time remain heavily contaminated for the remainder of the grazing season and are risky if used by young susceptible lambs.



Figure 5: Bottle Jaw on a Goat

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It used to be recommended all ewes be treated in lambing pens, or at turnout to pasture, to prevent contaminating pastures with a new generation of worms. It also was recommended all ewes be treated at 21-day intervals thereafter for a total of four dewormings, with the last one in June (to kill worms that developed from larvae surviving on spring pasture grazed by the ewes and before those worms have a chance to contaminate pasture with a new generation of larvae). Unfortunately, this approach, though very effective in keeping pastures and sheep free of worms for much of the summer, helped select for wormer-resistant parasites.

Targeted selective treatment applied

Not treating newly lambled ewes for the periparturient rise in egg excretion may leave ewes at risk of severe parasitism in some years and will result in contaminated pastures virtually every year. Recently, Ohio State University experts have been suggesting treating ewes with twins and triplets, and those that are thin, but leaving open ewes and those with single lambs untreated. In work with farms thus far, this approach results in treating about 75 percent of a ewe flock near lambing.

Untreated ewes are those at least risk of severe parasitism and thus will deposit smaller numbers of eggs on pastures. “Importantly,” say Shulaw and the others, these eggs are from worms that have not been selected by exposure to dewormer. Larvae from those eggs provide a “dilution effect” against those that develop from worms that have survived the deworming. Targeted selective treatment (TST) slows the rate of development of wormer resistance. The worms of untreated sheep are referred to as “refugia,” or populations of worms on a farm that escape dewormer selection pressure.

Another approach that most producers have no

doubt heard about is the FAMACHA system, where only sheep showing anemia are treated; it relies on scoring degrees of paleness of the eyelids. FAMACHA only addresses the blood-sucking *Haemonchus*.

This OSU team suggests a single TST (as described above) at spring turnout with an effective wormer; however, if the flock is grazing pasture grazed the previous fall or late summer, it’s likely that the sheep will still consume overwintered worm larvae. It’s not unusual to see the impact of worm burden by late May/early June if pastures had significant overwintering larvae. For this reason, it’s important to watch ewes for signs of weight loss and possibly implement FAMACHA to identify any that need deworming prior to weaning. This should be done at weaning as well. Continued monitoring with FAMACHA during lactation, at least every two weeks, heading into summer is advised.



Figure 6: FAMACHA chart being used to determine worm level in a goat

Some flocks have other options. If hayfields can be grazed in the spring, i.e., effectively harvesting “first cutting” with the sheep, they usually provide a larvae-free place to put animals. Rotational grazing and “back fencing,” i.e., not allowing sheep to roam where they have just been when fresh grass is offered, is even more useful for worm control, not to mention, more efficient pasture usage.



It takes at least three to four days under the best weather conditions for a worm egg to hatch and reach the infective stage. If fences are moved across a “clean” hayfield at three- to four-day intervals, the back fence prevents sheep from grazing where eggs may have been deposited. Both ewes and their lambs will not acquire new infection as long as larvae-free pasture is available. If these pastures are not grazed again this season, they should be larvae-free next spring, as infective larvae will use up their stored energy during summer, and hay-making will expose them to drying out). On some farms, annual forages like cereal rye or even wheat can be similarly used in the spring.

Another option for farmers with cattle or horses in addition to sheep is to take advantage of the fact that sheep worms generally do not infect cattle or horses and vice versa. This means pastures used by those other species the prior fall will not be infective from sheep grazing there come spring. A TST of ewes followed by strip grazing of these pastures could provide some worm-free grazing. Some farmers may be able to first graze pasture with one species and then harvest the regrowth with another in a rotation that can be repeated as long as there is favorable forage growth. This approach provides relatively worm-free pastures for both species and both benefit by getting access to more pasture land.

Finally, these Ohio State University researchers note that it's been demonstrated that providing supplemental protein and energy to lactating ewes on pasture in the spring can improve their ability to withstand a parasite load. Anecdotally, it looks like half-a-pound to one pound of corn/soybean meal per ewe per day for the first four weeks of lactation can limit weight loss and reduce the impact of parasitism in ewes. Soy hulls and dried distillers grains with solubles (DDGS) are other alternatives.

Food Safety Rules: What Farmers – and their Advocates – Need to Know Now.

Reprint from the Northeast Sustainable Agriculture Working Group Potluck News. Features PASA Executive Director, Bryan Snyder's views on the new Food Safety regulations that are out for public comment until November 17.



Figure 7: Bryan Snyder, Executive Director, PA Association of Sustainable Agriculture

NESAWG is part of a broader team that helps to educate and advocate about sustainable farm and food issues at the national level. To that end, we bring our northeast regional perspective to the national table.

In the area of food safety, new rules governing food safety need to account for differences among types of farms to be meaningful and effective across the board. In the Northeast, we have a high concentration of IPM and organic farms, and farms serving direct markets like CSAs and farmers markets. Read below regarding the upcoming rules and what farmers (and consumers) need to know.

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August is crunch time for farmers in the Northeast. Everything needs weeding, harvesting, reseeding and cover-cropping—and all at once. Who has time to read 1,200+ pages of food safety rules and regulations? Brian Snyder, Executive Director of the Pennsylvania Association for Sustainable Agriculture, for one. And it's a good thing he does.

The time for deciphering and commenting on the Food Safety Modernization Act's proposed rules is now, especially since the courts are unlikely to allow any further extensions of the November 17 deadline. Snyder is doing all he can to inform farmers and their advocates of the issues and urge them to take action. The stakes couldn't be higher.

75 Years in the Making

"This is the first major rewrite of food safety legislation in 75 years," says Snyder. "Farmers can count on the fact that these will be the rules that they have to abide by for the rest of their lives, and probably even the next generation or two."

Read the action steps that Snyder suggests all farmers take now! (Editor's note: On next page)

Of course, agriculture has changed drastically in the last seven decades. Our safety standards need to adapt to the complexities of our current global food system. According to the Centers for Disease Control and Prevention, about 48 million people get sick from food-borne diseases each year. In this summer's latest outbreak, at least 418 people in 16 states were sickened by contaminated salad mix. Our food system is so vast and complicated, Snyder says, "They couldn't even tell us which country the produce was from until weeks after the outbreak."

Updating decades-old legislation may help enhance tracking and minimize outbreaks. The risk is that the rules as proposed would have unintended effects on farms that are not typically found to be the source of this type of widespread contamination—those using sustainable or organic growing methods and distributing via small and direct markets.

All Farms Great and Small

The tendency in Washington has always been to create rules that are adapted, in one way or another, for large industry—in this case, massive, conventional farms. Those rules, when applied to sustainable or organic operations, pose serious threats.

"These regulations will be prohibitive in terms of expense and can put a number of farms and facilities that we work with out of business," says Snyder.

For example, one rule would require that some farmers conduct weekly tests of each and every well used for irrigating crops. Another mandates that fields fertilized with manure be left fallow for at least nine months. In places that have cold winters, like the northeast, Snyder notes that a nine-month hiatus is equivalent to taking a field out of production for a full year. Rules such as these exceed even the organic standards, which have served as many farmers' benchmark for decades. "How many farmers, organic or otherwise, have any idea that this going to be the rule if we don't get it changed?"

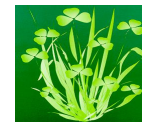
An Exemption for Every Rule?

There is an exception to every rule, and much has been made about the exemptions written into the proposed FSMA regulations. Many northeast farmers are being lulled into believing that exceptions for smaller farms apply to them. In

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reality, cautions Snyder, “Those exemptions have limits that are more variable than they think.”

For example, the FDA’s proposed produce rule exempts any farmer selling less than \$25,000 worth of product from compliance with some of the procedures. A dairy farmer who plants an acre of vegetables to sell at a local market—hoping to clear enough to fix the milking machine—may assume she’s exempt. However, the FDA doesn’t just count sales of produce toward that \$25,000 limit, but everything sold on the farm for either human or animal consumption, including the milk sales that constitute her main income. For most farms in this situation, Snyder observes, “They are going to be well over \$25,000 before they plant their first zucchini.”

Another much-touted exemption is similarly limited: a farm with annual sales under \$500,000 is exempt, but only if it earns at least 50% of its income through direct sales in the same state or within 275 miles of that farm. Misleading information about these exemptions abound. Snyder believes that the lobbyists who stand to gain if these rules are approved unimpeded are circulating much of it. “That is the reason why every farmer really needs to pay attention,” he says, “There are trap doors in these exemptions that may not be immediately clear.”

Farmers: Act Now!

August 5, 2013

The time for deciphering and commenting on the [Food Safety Modernization Act’s proposed rules](#) is now. With exemptions offering false hope and the comment deadline looming, what can farmers do? Here are actions recommended by Brian Snyder, Executive Director of the Pennsylvania Association for Sustainable Agriculture:

Read Your Rules! If you are a dairy farmer,

read the sections of the Produce Rule on water, manure and compost carefully. If you are a processor, read the Preventative Controls Rule. Don’t let rumors of a 4-inch thick rulebook dissuade you. “The actual rules are much shorter than that, and there’s a lot of white space!” says Snyder. NSAC’s special food safety website has succinct overviews of many rules:

www.sustainableagriculture.net/fsma, and links to the FDA’s full rules.

Investigate the Issues. Rules regarding the use of manure and water testing would impact sustainable growers especially. Snyder has several posts on his blog www.writetofarm.com that summarize what’s at stake. **Call into the free webinar on August 13, 12:00 PM - 1:30 PM EST, sponsored by the New England Food System Policy Project: [Why and What You Need to Know About the Food Safety Modernization Act.](#) >**

Comment Now! It’s easier to file a comment with the FDA than you may think—just complete a simple on-line form and click “submit.” Your personal story matters; you do not need to be an “expert.” NSAC has point-by-point instructions and a link to the FDA’s comments area available here: <http://sustainableagriculture.net/fsma/speak-out-today/>.

The deadline may be in November, but farmers and their advocates should act now to ensure they are heard above the fray of lobbyists in Washington.

“This is the last chance to really have an big effect on the way food safety is regulated in this country for a couple of generations,” says Snyder. Let’s not waste it.

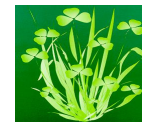
Community Meat Locker Pilot Project

The next news article features a pilot project on

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getting more homegrown meat sold by providing community locker space for those who do not have a home freezer. At one time in White Plains, NY, there was a privately-owned meat locker that provided a similar service.

CONTACT: Matt LeRoux at (607) 272-2292 x159 or mnl28@cornell.edu

USDA Funds Meat Locker Pilot at Cooperative Extension

Consumers soon will be able to buy and store bulk quantities of local meats without having a home freezer - thanks to a new Meat Locker Pilot Project, funded in part by a grant from the USDA to Cornell Cooperative Extension of Tompkins County (CCE-Tompkins). The project, which is expected to kick off in August 2013, will set up two walk-in freezers at downtown sites in Ithaca and Corning (NY) that consumers can rent to store their bulk meat purchases. Units will be large enough to hold an average quarter of beef, and will rent for \$3 to \$5 per month. Each site will be able to accommodate 50 consumers.

The new lockers will remove several barriers to consumer bulk meat purchases and could significantly increase livestock production and “freezer trade” meat sales throughout our region, according to Matt LeRoux, Agriculture Marketing Specialist at CCE-Tompkins, who developed the project. In his research on livestock marketing channels, LeRoux has found “freezer trade” (the direct sale of animals to the consumer by the whole, half, or quarter) to be the most profitable way for farmers to sell meat locally. Direct sales also offer consumers the greatest savings in price-per-pound, however a survey of 200 Central New York residents identified lack of freezer space as one of their top reasons for not buying meat in bulk. This barrier is especially acute for families with limited incomes, apartment dwellers, and students who make up a large percentage

the population in Ithaca, one of the project’s two test sites.

With the launch of the Meat Locker Pilot Project, consumers will be able to purchase bulk meat directly from producers who will have it cut, wrapped, frozen and delivered to the consumer’s locker for storage. Units will have a number and key lock, and will be open during certain hours each week (much like a CSA pick-up) with access to the units provided by a Meat Locker Manager during pick-up hours. Locker locations will be accessible to consumers on foot, by bicycle, bus and car, making this a realistic option for people of varied income levels.

The Meat Locker Pilot Project complements an existing meat marketing website,

www.meatsuite.com,

developed at CCE-Tompkins in 2012. This searchable directory of Central New York farms enables consumers to identify farms that sell meats in bulk. The two resources are designed to work together to help consumers “find their farmer” and then “fill their freezer”.

CCE-Tompkins received a USDA Farmers' Market Promotion Program (FMPP) grant to test this marketing model, however the award covers only 80% of the proposed budget. An on-line fund raising campaign is underway at meatlocker.peaksoverpoverty.org to raise the remaining \$20,000 needed to implement the project. For more information, visit <http://ccetompkins.org/meatlocker> or Facebook <https://www.facebook.com/MeatLockerPilotProject>. Please direct questions to Matt LeRoux, Agriculture Marketing Specialist, at (607) 272-2292 ext. 195 or email mnl28@cornell.edu.

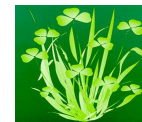
OnPasture.com

On March 21, a new publication came on-line to serve graziers. *On Pasture* is brought to you by

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many of the same people whose articles you've read before, or who you've seen at grazing conferences. The focus of *On Pasture* is translating research and experience into grazing practices you can use now.

"Those of us on the grazing conference speaking circuit started talking about a year ago about the difficulties farmers and ranchers face in trying to sort through all the available information to figure out what practices will help them be more successful," says Kathy Voth, *On Pasture* co-editor. "With *On Pasture*, we've decided to change that. We're taking on the job of sifting through the piles of research and grazing practices, translating them into ideas that can work, and then putting together the simple steps for getting started."

In the inaugural issue, available free on-line at <http://onpasture.com>, readers learned how a \$4 grazing chart gets farmers and ranchers through drought successfully, and they could choose from several free, downloadable grazing charts designed for a variety of different grazing operations. Other articles covered what makes a forage palatable, what weeds we can use as forage, and how to take the drudgery out of soil testing.

"Since this is an on-line magazine, we can also take advantage of sharing information in different ways," says our own Northeast Pasture Consortium member, co-editor Rachel Gilker. The publication includes videos, podcasts and lots of pictures. "We also want to entertain, and get folks to think outside the box from time to time, so we've included a section we call 'Consider This.' In the first issue we point readers to a funny podcast about the possibility of using pork bung as artificial calamari, and a new product called "Sna-Koil." More recent issues gave producers the low-down on keyline plowing and raw milk as a soil amendment, and what we know about the benefits and issues with

grazing near ponds and streams.

The contributors are mainly farmers and ranchers themselves. The team includes: Greg Judy, Karen Hoffman, Jim Cropper, Ed Rayburn, Gabe Clark, Will Ameden, Dan Hudson, Morgan Hartmann, Troy Bishopp, Jenn Colby, David Kennard, and Leah Ashley Esser. Many others have been added to the ranks as the on-line magazine has grown in popularity.



**Research and Experience Translated Into
Grazing Practices You Can Use NOW!**

Check it out and become a regular reader. New articles are posted every Tuesday.



Figure 8. Pasture Egg Mobile, and its Inhabitants freely roaming about a paddock

Remember after our conference:

**"Letting Nature Lead" PASA's 23rd Annual
Conference ~ February 5th to 8th, 2014**