

Looking to the Future

May 2008
Number 117

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The NSAS Newsletter is a bimonthly publication of Nebraska Sustainable Agriculture Society, a private, non-profit organization. Our mission is to promote agriculture & food systems that build healthy land, people, communities & quality of life, for present & future generations. The purpose of this newsletter is to inform its readers about sustainable agriculture issues, resources & activities. Members receive this newsletter as a benefit.



farm/ranch that I love very much. He certified organic in 1995, but was organic way before organic was cool.

I share his passion for the land, wildlife and the animals that I get to be around every day. I farm around 1,540 acres; 400 acres of cropland and 1,140 acres is in pasture. Dad started putting the side hills back to native grass and we now farm just the level ground. My biggest passion is the cattle. I have 84 head of cows and three bulls that are certified organic. I calve in May on grass.

In 1999 Dad had a wild idea. There was a new thing that came out called Grass-fed Beef and he just had to try it. He has a saying that anything can happen if you put your mind to it. So we started selling organic Grass-fed Beef. We started out with two head and now market 25 head. We also started our website which is www.walnutcreekorganicranch.com. We do not keep all the other calves (they are also grass-fed). They are sold at around 800 pounds to Phelps County Feeders. We keep everything grass because of the high cost of grain and the health benefits of Grass-fed Beef.

I am single, but I have a great family around me. A sister (Amy) and her husband, Patrick who have two children, Kristen and Michael; Dad (Richard); a step-mom (Donna); and a mom (Cindy). My sister's children help with the operation and, I can see in them the same passion that I have for the farm/ranch, which is a great thing for the next generation. I think that NSAS is getting set for exciting times as more people care where their food comes from. We have a great board and member-core and I look forward to working and talking with everybody in the future. I tell Dad that the best part of any meeting is the people you get to talk to. I like to talk with people with the same passion for things that I have. That's what I see in NSAS. People that are not afraid of what others may think of what they do because they know it is the right thing to do.

Hi everyone!

I am honored to be the new president of the NSAS board and look forward to the challenges in front of us. I am a 3rd generation farmer from South Central Nebraska near Deweese. I have just taken over the farm/ranch from my Dad (Richard Mazour) in 2007, as he has retired. He still has a few cows and crops. My Dad is one of the pioneers for sustainable ag and has served on the NSAS board in the past. I have learned so much from him and am so glad I get to take over the

Thank-You,
Joe Mazour

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Meet Your Board of Directors

Michael Braunstein grew up in Omaha and attended Creighton Prep and Creighton University. After 20 years living in Los Angeles, he returned to Omaha in 1994. He is director of Heartland Healing Center, a non-profit devoted to informing the public about more natural and holistic ways to improve health. He believes that the food chain starts with sustainable, family-owned farms and that leads to healthy people and a healthy planet. He writes a weekly column for Omaha's *Reader* newspaper and also publishes a bi-monthly magazine and several websites. In 2005, he founded the Village Pointe Farmers Market in Omaha and serves as coordinator. He is a backyard gardener and is proud that for many meals on his table, he can name the farmer that provided each item on the plate.

Laura Demmel is a junior agricultural economics and public policy major at the University of Nebraska-Lincoln. Annually, she raises and sells 1,600 pastured broilers to local customers on her farm near Ogallala, NE with the help of her father, Dennis. She is involved in Nebraska Human Resources Institute, her sorority Delta Gamma, the Navigators ministry, and Mortar Board Honor Society. This summer, she will be in Idaho at Lutheran Camp Perkins in the Sawtooth Mountains, serving on the leadership staff.

Dr. Thomas E. Hunt (Tom) is an Associate Professor of Entomology and Extension Entomology Specialist at the University of Nebraska NEREC Haskell Agricultural Laboratory, Concord, NE. He received his B.S. degree in Agriculture in 1990, a M.S. degree in Entomology in 1993, and a Ph.D. degree in Entomology in 1999 from the University of Nebraska, Lincoln, NE. He joined the University of Nebraska Entomology Department in 1999. His research focuses on the management and ecology of insect pests of crops in Nebraska. His research projects fall in the general categories of economic threshold development, resistance management, and applied insect pest biology & behavior. Tom lives near Carroll, Nebraska on a small acreage with two dogs, a couple cats, a few sheep, and some chickens and ducks. His hobbies are gardening, hiking, and un-powered boating (canoe, sailboat).

Corinne Kolm is originally from a cow/calf operation in Boone County. She studied biology at Wellesley College in Boston and then worked for the USDA in veterinary ectoparasitology before graduate school. While earning her masters in Agroecology through the Norwegian University of Life Sciences she was able to study on organic farms in Norway, Denmark and Italy. Corinne became involved with NSAS when she coordinated the Buy Fresh, Buy Local initiative during its first year. She is currently an Organic Certification Specialist with OneCert. Corinne looks forward to serving on the NSAS board because she believes that healthy land and food is at the core of a healthy society.

Gary Lesoing, is an Extension Educator in Nemaha County at Auburn with a focus in Crop Production. He has been in this position since July of 2004. Prior to this appointment he served as a Regional Agronomy Specialist in West Central Missouri at Richmond for the University of Missouri-Columbia Extension. In this position he had the opportunity to work with farmers who had received grants through the Missouri Department of Agriculture in their Missouri Sustainable Agriculture Demonstration Award Program. As of January 1, 2008, he took over as the Nebraska State SARE Coordinator from Jim Peterson, who retired from Extension. In February he was appointed as an Ex-officio member of the NSAS Board. He looks forward to serving in this capacity and hopes to help maintain a strong relationship between NSAS and the University of Nebraska-Lincoln Extension.

Richard Ness currently works for UNL Extension as an Extension Educator focusing on Niche Pork Production and Marketing. He has been with UNL since the fall of 05. He and his wife, Julia, live on a farmstead north of Stanton. She's the gardener while Richard loves raising animals. They met while working for the Center for Rural Affairs in Hartington, NE, 20 years ago. Richard also worked for the Land Stewardship Project in Minnesota for over 10 years. I'm extremely biased toward "family farming", healthy rural communities, sustainable animal agriculture and exploring creative ideas. His work in sustainable agriculture has included directing on-farm research projects in a wide variety of subjects, starting the Farm Beginnings program, teaching some of the first Holistic Management seminars offered in the upper Midwest, numerous educational projects involving management intensive grazing and being part of the management/labor of a family farm.

Victor Novak farms with his wife Cheri and daughter Hannah in Burt County in Northeastern Nebraska. They practice eco-friendly, diversified, and sustainable family based agriculture. On their farm, Beulahland Farm, the Novaks grow a wide variety of vegetables and fruits, are breeders of purebred Berkshire Hogs, and raise free range poultry. Their vegetables and fruits are *Certified Naturally Grown*; their hogs are raised naturally outdoors in large pens with portable housing and without the use of medicated feeds or routine antibiotics; and their layers and other poultry are never caged, debeaked



or fed medicated feed. The Novaks market their farm products directly to consumers through two major Omaha farmers markets (the Omaha Farmers

Market in the Old Market and the Village Point Farmers Market at 168th & West Dodge Rd); the Nebraska Food Cooperative; and through their Subscription CSA. Victor is a member of the Board of Directors of the Nebraska Sustainable Agriculture Society and of the Farmers Advisory Board of Certified Naturally Grown. Beulahland Farm is a member of Buy Fresh - Buy Local Nebraska; the Nebraska Food Cooperative; and the American Berkshire Association. You can visit the Beulahland Farm website at: www.beulahlandfarm.com.

Brian O'Malley is a chef-instructor at the Institute for the Culinary Arts at Metropolitan Community College. As President of the Heartland Chapter of the American Culinary Federation,

Coach of the Junior Culinary Competition Team, Board Member of the Nebraska Food Cooperative and the Nebraska Sustainable Agriculture Society, Father of two, and *Muse Extraordinaire* for Sage student bistro O'Malley spreads his passion for local and sustainable cuisine liberally throughout the community.

Jim Peterson is currently serving as the Vice President of the Nebraska Sustainable Agriculture Society. Jim grew up on a small farm at Osceola Nebraska. Following his graduation from high school at Osceola, he attended and graduated from Midland College in Fremont with a degree in General Science. He then spent three years in the Army stationed at Hanau, Germany. Following his release from the Army, he attended the University of Nebraska and received a Master Degree in Agronomy in 1976. He served 31 years as a University of Nebraska - Lincoln Extension educator. He was the Extension educator in Washington County for almost 30 years having served also in Cuming County prior to that. Jim retired from Extension on December 31, 2007. He has been involved in the Nebraska Sustainable Agriculture Society for the past five years and has received the Society's Research and Education Award in 2006.

Tom Pesek operates a small farm near Brainard that includes oats and wheat for certified seed, soybeans, milo, and hay. He also has woodland that includes oak and black walnut, small tracts of prairie, and CRP. He strongly believes in family farms and their contribution to rural communities. He is retired from the Nebraska Department of Natural Resources where he worked for 32 years in the fields of natural resources planning and management. Tom and his wife, Gretchen, have four children. Two have graduated from UNL and two are currently attending UNL.

Chris Rohrbaugh from Pawnee County Nebraska. I am interested in sustainable agriculture because of the future that it will provide my children within the world they will face. I raise grass-fed and chemical free meat products with my dad near Steinauer, Ne. We offer beef, pork, chicken, turkey, lamb, bison, and eggs. The lamb, bison, and pork are usually collaborations with like-minded neighbors who are trusted co-producers, and abide by the same strict standards of health and humaneness that we do. We have traditionally sold our products in 10 to 12 towns and cities in our area of the state. Farmers markets and other face-to-face venues provide the ultimate in Farmer/Consumer interaction, and on-farm sales provide a customer inspected operation that ensures the ultimate in product integrity. All of our customers become personal friends of ours. Our specific passion at Pawnee Pride Meats is to provide a healthy product to consumers while building our soil and prairie species. He currently is involved in prairie restoration and maintenance with the Nebraska Game and Parks. Chris is honored to serve on the NSAS board and thanks all of you who support this organization.



Ben Schole, with the help of his sons, farms near Hooper, NE and raise corn, soybeans, wheat, and hogs for Niman Ranch and have CRP in the prairie restoration

program. Prior to farming, Ben worked for Nebraska Game and Parks Commission for ten years. He decided to serve NSAS because of their committment to promote biological farming systems and methods that offer many solutions to ecological, economic, and social problems in agriculture today.



Ralph Tate is a systems engineer with Boeing, after completing a career in the Air Force. He and his wife graduated

from the first Nebraska Farm Beginnings program. He became interested in sustainable agriculture after reading Joel Salatin's books and states that land stewardship has been a central theme as they work on their farm in Jefferson County to prepare it for rotational grazing of beef cattle for the past two years. Ralph is currently attending a beekeeping class led by Dr. Marion Ellis and has been keeping bees for the past two years. His interest for serving on the NSAS Board is to work with those who are interested in accomplishing their goals to re-invigorate the rural communities of Nebraska.

Scott Willet has been employed by the Natural Resources Conservation Service (NRCS) and the Soil Conservation Service (SCS) since 1973. He is now the coordinator of the Nebraska Great Plains RC&D in David City, which includes Butler, Cass, Douglas, Lancaster, Polk, Sarpy, Saunders, Seward, and York Counties. He is the past president of the Nebraska Section-Society for Range Management, and has served as president of the Southeast Resources Network. He is a member of the Citizens Advisory Council for the Center of Grassland Studies, and serves on the S.A.R.E. Advisory Committee. He is a member of the Partnership for Rural Nebraska Education committee. Scott lives on a small farm near Malcolm with his wife Danis, and sons Quinn and Kellan.

A BIG Thank You to the 2008 Rural Advantage Healthy Farms Conference Sponsors

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site at www.thankfulharvest.com

Francis Aids Experiential Ed Program

Sara Gilliam, University Communications
UNL Scarlet Faculty and Staff newsletter, 4/10/08.

Chuck Francis envisions a new paradigm for secondary education that blows typical notions of classroom learning out of the water. He has helped create an experiential education program in Norway, and is eager to bring his ideas into practice at UNL.

Francis, a professor of agronomy and horticulture at UNL, is one of the founders of the Master of Science in Agroecology program at the Norwegian University of Life Sciences.

The idea for the course hatched after he met like-minded European colleagues at a conference in Washington. What started with workshops and classes has grown into a master's program taught in English for students from all over the world; last year, 17 students from 11 countries enrolled.

Students study organic farming practices, food quality and security, resource management, and environmental planning and analysis. They take classes in intensive eight-week modules, which push them into experiential activities from the start. Francis taught modules on farming systems and food systems, and his goal was to get his students "out in the real world and doing stuff right from day one." In the first course, students examine individual farms and design projects around the real-life needs of farmers.

"We dump people on the farm the first day," Francis said. "It's up to them to go figure things out. They ask themselves, 'what do we want to learn?' We don't train them, or give criteria; they develop those themselves. You can liken it to throwing a kid in deep water to teach him to swim. As a result, they have an immediate exposure to context. They are immersed in the real world of that farm. And as fast as possible, we want them to start visioning the future. They talk to farmers about their goals and philosophy, and what they want to do long-term, and use that information to create action plans."

Instruction in the Norwegian program is organized around a revised "Learning Ladder" paradigm. Traditionally, instructors following a learning ladder approach would guide students through five steps, in order: training, memorizing, exploring, visioning and implementing. Francis gets his students into the exploring phase immediately, then urges them to "descend the ladder" to learn needed skills - once they've had a chance to actually decipher what skills they'll use in the field - and "ascend the ladder" to vision desirable future situations and develop purposeful, not just theoretical, action.

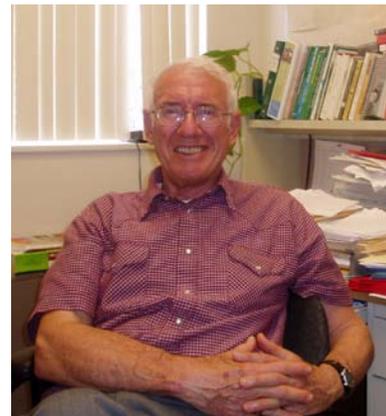
As the weeks pass, students engage in a variety of learning styles: farm visits, lectures on campus, consultations with experts, group discussions and journaling. After giving oral presentations to their classmates, they spend their final week of class on reflection, which Francis believes is one of the most valuable parts of the learning experience.

"The students come out of the first class exhausted, then get a week off and launch into the second course, agroecology and food systems," Francis said. "So now we're focusing on a community instead of an individual farm. They meet with county agriculture officers, marketers, focus groups of consumers, and the owners of multiple farms. They set up strategies, then evaluate scenarios. Some of their ideas are far out, some are feasible, others involve tweaking the current system slightly."

As students progress, Francis also emphasizes an internal learning ladder. He guides his students through practice, assimilation, connection, creation and action. By combining these two learning ladder practices - into what he terms a dual learning ladder - Francis sees in his students an increased involvement of moral and ethical issues and a real connection to not just academic research, but to the people and places impacted by their work.

These ideas of experiential education are highly translatable to UNL, Francis said. By engaging students in different ways, faculty can build a learning community in every classroom. Students can learn together and can organize co-learning or social learning. Classes can be organized around experiential activities with the goals not only of student education, but of creating useful real life outcomes. And, Francis believes that this teaching style would work in any department.

"I really am thinking about trans-disciplinary learning, breaking down the walls that confine us to one discipline," he said. "We could create a university that is connected by more than just the plumbing that runs from building to building."



Chuck Francis



OCIA News

Organic Crop Improvement Association, Nebraska Chapter #1 Newsletter

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OCIA Organic Farmer of the Year Winners

The *Outstanding Organic Farmer of the Year* is an annual award honoring and recognizing talented producers who certify to the Organic Crop Improvement Association (OCIA) level of excellence. OCIA International developed the award program to honor and showcase talented producers who excel in cropping and livestock practices, who are good stewards of the natural environment and who are committed to the organic community.

OCIA Research & Education, Inc. Board member, Larry Glassburn presented the award to Darrell and Marva Holt at the High Plains OCIA Nebraska Chapter Meeting in February and at the closing banquet of the OCIA Annual General Membership Meeting in Huatulco, Mexico. Lynn Brakke who lives near Moorhead, MN and Eric and Betty Leicht who live near Spalding, Saskatchewan were nominated for the award by their chapter peers and were named as honorable- mention winners at the banquet.

In response to being chosen as the 2008 winner, Marva said, "It is always an honor to be recognized for doing something that he (Darrell) has always loved and has always known was the right thing to do. Being able to produce quality food that is wholesome and nutritional for all of us to enjoy and helping protect and preserve the soil gives both Darrell and I a warm feeling at the end of the day as we watch those beautiful sunsets here in Western Nebraska." Sadly, Darrell Holt passed away on March 22 of this year.



He and Marva lived near the town of Dalton, NE located in the Panhandle. They had been certified since 1993 by OCIA. The Holts' farm integrates cropping and livestock, with careful soil building. They have been actively involved in the organic community, in promotion, certification, and marketing. They have been involved locally and internationally, and participate in their local farmers market. One quarter of their farm has been in Darrell's family since 1918.

Lynn Brakke, a 2008 farmer of the year honorable mention winner and MN chapter nominee, who lives in Moorhead, MN, grows alfalfa, soybeans, blue corn, and barley. Brakke raises organic Angus beef and direct markets some of it. "Soil quality is very important to our farm operation. Crop rotation is probably the main factor in maintaining soil quality. The addition of alfalfa in our rotation several years ago has been a great help. Adding compost minor elements, and compost tea for soil balancing has been helpful as well," said Brakke.

Eric & Betty Leicht, 2008 farmer of the year honorable mention winners, from Spalding, Saskatchewan grow a variety of pulse, cereal, and oilseed crops. This past year they grew five varieties of lentils including small green, large green, red crimson, beluga, and French green. They also grew peas, spelt, wheat, barley, oats, brown and golden flax-seed and brown and yellow mustard. When they feel the soil needs it, they plant a plow down crop or green manure of clover, peas or lentils.

OCIA R&E Offers Micro Grants to Organic Producers

OCIA Research and Education, Inc. (OCIA R & E) is offering a new program entitled, Micro Grants to all organic producers. The idea behind the Micro Grants Program is to support small projects (farm, livestock, market or garden) that are primarily farmer driven.

If you or a farmer you know have been wondering if a practice or a variety is suitable for your operation, but do not have the extra funds to experiment with, please consider applying for a \$300 to \$1500 grant from OCIA R & E for on-farm research.

Applications can be obtained at the OCIA R&E website: <http://www.ocia.org/ocia%20rne/index.html>

Contact Stephanie Newman, 1340 North Cotner Blvd., Lincoln, NE 68505, snewman@ocia.org, fax: 402-477-4325.

Projects will be funded on a first-come, first-served basis with a brief project report due in December and the project entirety finished within a year. Please read criteria.

Organic Crop Improvement Association Nebraska Chapter #1

OCIA is accredited by the USDA NOP, ISO-65, IFOAM, CAQ, JAS and the Costa Rican Ministry of Agriculture for the MAG program. The Organic Crop Improvement Association was established in 1985. It is a non-profit international association of organic farmers, processors, traders, and manufacturers who have joined forces to promote partnerships, provide information to help growers improve crops and soil, build environmental stewardship, and provide certification services.

OCIA NE #1
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UNL Organic Farm Tours: Winter wheat research plots. Realities of organic farming and weed control? Using a flamer to control weeds?

June 17, 2008 Haskell Agricultural Laboratory, Concord
“Organic Winter Wheat Varieties and Integrated Pest Management” Evening Tour 5:30 pm to 7:30 pm. BBQ afterwards.

Tom Hunt, Associate Professor of Entomology, NEREC: Integrated Pest Management, identify and attract beneficial insect, economic threshold development and resistance management.

Richard Little, UNL Organic Wheat Breeding Specialist, will discuss organic winter wheat variety research.

Santiago Ulloa, UNL graduate student, will demonstrate flaming research on various crops to control weeds.

Liz Sarno, Organic Project Coordinator, will give an update about the organic farming project and answer questions about organic farming.

June 18, 2008 - Agricultural Research and Development Center, Forestry near Mead
“Organic Winter Wheat Varieties and Various Methods and Equipment for Weed Control in Organic Crops” Evening Tour 5:30 pm to 7:30 pm. Picnic afterwards.

Richard Little, UNL Organic Wheat Breeding Specialist discuss organic winter wheat variety research.

Santiago Ulloa, UNL graduate student will demonstrate flaming research on various crops to control weeds.

John Quinn, UNL graduate student will demonstrate conservation of native bird populations in working farm systems and will discuss the Healthy Farm Index, an assessment tool to help evaluate your farm’s ecological and economic health.

Liz Sarno, Organic Project Coordinator will give an update about the organic farming project and answer questions about organic farming.

Hwy. 77 north out of Lincoln towards Wahoo. Turn east Hwy. 66 and travel 7 miles to the top of the hill just past the August N. Christenson Research and Education Building. Entrance to Forestry is on the left next to a row of trees. Take the farm road north ½ miles to the buildings on your left. If coming from the north via Mead, Ne., take Road 10 south to Hwy 66, turn west and go 1/2 mile to the gravel farm road on your right, enter and go 1/2 mile north to buildings in center of section.

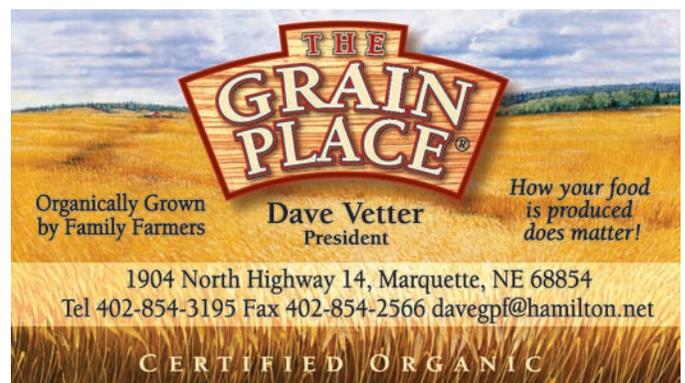
Call Pat at 402-584-3837 for meal count.

Auction Donors 2008

We would like to thank the following individuals and businesses who donated items or their time to make the NSAS fundraising auction a great success again this year. We raised over \$5,700 thanks to your support! And, a special thank you to Kobza Auction & Realty for helping make the live auction so entertaining!

A Novel Idea
 Acres USA
 Against the Wall Gallery and Framing
 Angelic Organics - John Peterson
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 Annie Berical
 BlueStem Books
 Bluff Valley Farm - Thiltges Family
 Branched Oat Farm - Krista Dittman
 Brownville Mills
 Buy Fresh, Buy Local Nebraska
 Ruth Chantry
 Community Crops
 Craig's Notecards - Craig Cassell
 Jim Crandall
 Elaine Cranford
 Cultiva Coffee - John Ferguson
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 Jo Lowe
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 Matt Cranford Photography
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 Midwest Microsystems
 MOSA - Erin Beard
 Jeanette Nakada
 Nebraska Cooperative Development Center
 Organic Valley
 Tom Pesek

Rezac Seed
 Susan Rivers
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 Roberts Seeds
 SAGE Bistro - Metro Community College
 Liz Sarno
 Schilling Bridge Winery
 ShadowBrook Farm - Charuth Loth
 Soul Desires Bookstore
 Spring Creek Prairie Audubon Center
 Sustainable Table
 The CoffeeHouse
 The Last Straw Journal - Joyce Coppinger
 The Mary Riepma Ross Media Arts Center
 Tween Creeks Farm
 UNL Dining Services
 UNL Food Processing Center
 Donald Vetter
 Wattermann Family Farm
 Wattermann Kids
 Sam Welsch
 Wise Oven Bakery



What's in That Lagoon? The Dangers of Using Lagoon Manures as Fertility Inputs

by Annie Berical, Beginning Farmer- Raymond, NE

I live on a certified organic dairy. If you asked me what goes into our small dairy lagoon, my answer would be simple: manure, urine, water, and probably a few squirts of milk. However, the answer isn't quite as simple if we consider the average conventional dairy or swine confinement lagoon. Many producers source liquid manure from conventional swine and dairy operations to use as a fertilizer, but many don't realize the potential for serious contamination lurking beneath the average lagoon's foamy upper crust.

The 9/27/2007 issue of *Hoard's Dairyman*, a popular dairy industry magazine, included the results of a survey returned by 105 dairy farmers whose operations averaged 463 cows. Over seventy percent of the respondents reported using footbaths, and 83% of respondents reported using copper sulfate in their footbaths. Formaldehyde, zinc sulfate, tetracycline and other brand name chemicals were preferred by the remainder of farmers as the footbath additives of choice. Nearly all of the survey's respondents reported that they disposed of their footbaths by emptying them into their dairy lagoons.

Much of what goes into a dairy lagoon is eventually utilized somewhere—by someone—as a crop fertilizer, but just how much copper sulfate (or tetracycline or formaldehyde, as the case may be) eventually makes it in to our soil, our crops, and consequently, our bodies? In an article by Jessica Davis and Bill Wailes, Extension Soils and Dairy Specialists at Colorado State University, the authors reported that the typical Colorado dairy used 1000 to 10,000 pounds of copper sulfate per year. “Five to ten pounds of copper sulfate is dissolved in 25 gallons of water; copper sulfate is 25% copper, footbaths hold 25-75 gallons of water and are changed about nine times per day and used two to three times per week.” Rich Stehouwer and Greg Roth of Pennsylvania State University report that copper sulfate does make up a significant portion of the average lagoon's dairy waste—up to 1000 ppm on a dry weight basis. Depending upon how much land this lagoon waste is eventually applied to (and for how long), this amount of copper can mean trouble.

The first victims of a high copper sulfate concentration are the beneficial microbes involved in the aerobic treatment of lagoon waste. Lagoon bacteria, like the proverbial canaries in the coal mine, begin to die off when copper levels get too high. In the lagoon, the copper binds to organic matter, which makes it highly available to crops once it is applied to the soil. If copper concentrations are too high, copper toxicity results and decreased root growth and cell membrane damage follow. According to Davis and Wailes, “Copper toxicity may also induce iron deficiencies or general chlorosis in plants.” Legumes like alfalfa are particularly sensitive to high concentrations of copper in the soil. Like lagoon microbes,

beneficial soil microbe numbers also suffer when copper levels increase beyond the micro-amounts needed by all living things.

Davis and Wailes go on to recommend that if crops fertilized by lagoon manure are used for livestock consumption, the forage should be tested to insure that the amount of copper present in the forage does not go beyond the particular type of livestock's normal tolerance. Dairy cows can tolerate a maximum of 100 ppm in forage, but copper sensitive animals like sheep will tolerate less than 20 ppm.

Somewhere down the line, we make our way into the food chain, and unfortunately, we're not immune to the damaging effects of toxic amounts of copper introduced into our food system. According to studies performed by Dr. Paul C. Eck, Dr. Larry Wilson, and a separate study performed by Dartmouth University's Toxic Metals Research Program, high copper consumption via food, water, and environmental sources can lead to liver failure, neurological disorders, and mental illnesses like schizophrenia. The EPA has recognized the danger posed by high levels of copper sulfate in dairy lagoons, and in some regions, discharging footbaths into dairy lagoons is a permit violation. However, the copper sulfate industry has proved powerful enough to challenge the EPA's position in court.

Many dairy supply companies have introduced alternatives to the common copper sulfate footbath, but many of these products contain harsh chemicals and sanitizers that are also potentially damaging to the environment and the food system. One thing is certain: as long as cattle stand in the muck, footbaths will continue to be a necessity in conventional livestock systems, which means dairy lagoon manure will not likely be safe to use as a fertilizer any time soon.

What about swine confinement lagoon manure? Could it be a safe alternative to using dairy lagoon manure as a fertility agent? Probably not. Formaldehyde is commonly used in hog confinement operations as a sanitizer for many indoor surfaces. Like copper sulfate, formaldehyde also makes its way in to the lagoon, along with a host of chemicals used as odor control additives, germicides and chemical deodorants.

It seems like a shame to let so much potentially nutrient-rich fertilizer go to waste, but where dairy and swine lagoon manures are concerned, the risks seem to out-weigh the benefits.

In light of this, we must find alternative methods of enriching our soils. An obvious choice might be the cultivation of green manure crops that will increase soil tilth and organic matter. One over-looked solution is to add on-farm livestock to our production systems. They provide a free source of safe, contaminant free manure, and may result in the creation of an additional “economy” for many small farmers.

Preserving Moisture and Controlling Weeds in an Organic Farming System

By Liz Sarno

Over the last ten years we have tried various methods of weed control for our organic farming operation. While we strive to increase sustainability, one of the aspects of our operation is to control the weeds enough to give the crop a chance to grow and shade the weeds out. Lately we have also had to be concerned with preserving moisture.

So how do you control weeds without drying out and over working the soil? Our strategies have changed over the years trying to adapt to weather and field conditions. Developing a good rotation is essential for an organic system. We farm with 20 row strips of corn, soybeans, small grain and green manure. In the past we used a Brillion to seed red clover/sweet clover mix into our spring wheat and after the wheat was harvested we left the clovers for one year as our green manure crop. Recently we are trying something different. We plant a strip of spring wheat or oats as a grain crop with no green manure. Then we plant the green manure strip by no-tilling field peas into them and let the peas grow enough for good organic matter and till them under. We would come back in summer and plant buckwheat for a second green manure crop. We are interested to see what this double green manure crop would do to our soils. After small grain harvest, we will try to no-till a green manure into the stubble. We are experimenting with these changes in our rotation to help continue controlling disease, weed and insect problem and improve our organic matter and nitrogen.

Another area we want is to improve our system is to reduce tillage to control weeds. We have over the past 30 years tried various methods of tillage. It is the middle of April and we still have cold weather so the weeds (penny cress, dock, wild oats etc) are small but with a few weeks of warm weather they will become moisture robbers and hard to control. What we have found in the past is that as we are busy concentrating on small grain planting, the weeds in the corn and soybean ground get big and need more aggressive tillage to control them.

Another tool we are trying is a Mulch Treader. This piece of equipment looks close to a rotary hoe with heavier spiders that dig into the ground and are treading when they drag into the ground. The Mulch Treader has two-section tandem treaders that can be set at different angles for more aggressive action on pulling up weeds. We are using this as a shallow tillage tool to throw the weeds out and lightly till the soil to conserve soil moisture. Considering the price of diesel we want to reduce the number of trips across the field when tilling and cultivating the crops.



Noble Blade Sweep Plow "Flex-King"

So how can we try to control some of these weeds while they are small, only a couple inches tall? We are experimenting with a Noble Blade Plow with a treader/weed picker behind it: (<http://www.sare.org/publications/steel/pg91.htm>). The wepps cuts under the surface of the soil about 2" for weed control on small weeds and the treader throws out weeds from the soil so they can dry out the roots.

These tools we have selected require less power to run because the tillage is shallow so more acres can be covered which helps us to be timely with our weeds control. As a result of using these tools we are leaving more residues on the surface so the planting equipment will have to be able to handle higher surface residues and not plug-up. We have started using a John Deere 750 no-till drill to handle the surface residue, save moisture and get good seed placement.

We are constantly trying to design methods that work in our system that consider timeliness to control weeds and our limits in labor. These are some of the new tools that we are trying to preserve moisture in the soil, not over work the soil and try to kill weeds earlier thus reducing the number of trips we have to make across the field. As the season progresses we will keep you posted on how our experiments are working.

The Niche Pork Learning Group

Anyone raising pigs for a niche market, whether that be a niche pork company or for direct sales, is invited to participate in a Learning Group that meets the last Wednesday of selected months. The initial kick off of the group was held in February and March, with niche pork farmers from three states meeting in-person to share ideas. The next meeting scheduled will be a tele-conference on the last Wednesday of July. The main topic for that meeting is dealing with heat stress. This is not a closed group, new participants are welcomed.

The simple basis behind the Learning Group is the belief that niche pork farmers have a wealth of knowledge and experience and very few occasions to share and swap ideas with other farmers. Yet one of the critical components of making a change in how something is done, think raising pigs without antibiotics and no farrowing crates, is that there must be a communication network among farmers to prevent them from making the same mistakes, and to quickly pass along anecdotal success stories and breakthroughs in their operations. This helps them all develop successful businesses more quickly.

The Niche Pork Learning Group is based on the highly successful Grazing Management Groups that are fairly common with grass based dairy farmers in other States. Some of these farmer groups have been meeting monthly for over 10 years.

If you want further information on the group, and/or want to be included in the mailing for the next meeting, contact Richard Ness, Extension Educator, Norfolk, NE 402-370-4061, rness3@unl.edu.

Nebraska Fresh Produce

Haymarket Farmers' Market - Seventh and P Streets, Lincoln
May 3 - October 11. 8:00 a.m. to 12:00 noon Saturdays. Features a performance showcase with folk, jazz, blues, classical and dance in Iron Horse Park, located at 7th & "Q" Street.

Old Cheney Farmers' Market - 55th Street and Old Cheney Road, Lincoln
May 3 - October 26. 10:00 a.m. to 2:00 p.m. Sundays. Educational and wellness events held on site.

Omaha Farmers' Market-Downtown - 11th and Jackson Streets, Omaha
May - October. 8:00 a.m. to 12:30 p.m. Saturdays AND June - September, 3:00 p.m. to 7:00 p.m. Wednesdays.

Omaha Rockbrook Farmers' Market - 10744 W. Center Rd., Omaha
Weekdays 10:00 a.m. to 6:00 p.m.

Village Pointe Farmers' Market - 168th and W. Dodge Rd., Omaha
May 3 - September 27. 8:00 a.m. to 1:00 p.m.

To find a farmers' market in your area, visit:
www.agr.state.ne.us/pub/apd/produce.htm

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Thank you for your support!

Please clip and return to: NSAS, PO Box 736, Hartington, NE 68739.
Please make checks payable to the Nebraska Sustainable Agriculture Society

Upcoming Events

July 12, 2008, 8:00 AM - 4:00 PM: Grain Place Farm Tour: Noon meal by Creative Cuisine featuring locally and organic grown foods. Call 402-854-3195, or info@grainplacefoods.com for information and lunch reservations, \$10.00/meal. Afternoon program - Steven Hoffman, Executive Director of The Organic Center: <http://www.organic-center.org/> will summarize the work of the center and give updates on recent reports. The Center's mission is to generate credible, peer reviewed scientific information and communicate the verifiable benefits of organic farming and products to society. Bob Quinn, an organic farmer, talks about his dry land vegetable production in North Central Montana and his challenge of meeting local needs with local production. Chuck Francis, Liz Sarno et al: will give an update on the organic research project and educational opportunities in organic farming at UNL.

August 24, 2008, 1:00 PM - 5:00 PM: Self-Guided Southeast Nebraska Protein Tour: Visit all of these high-quality livestock producers on the same afternoon!

"Niche Pork Paradise": TD Niche Pork focuses exclusively on full flavored pork products. Six breeds of purebred hogs (Berkshire, Chester White, Hereford, Poland China, Red Wattle, Tamworth) are finished outdoors on the farm. Order your custom processed 1/2 or whole hog early and pick it up the day of the tour. For more information, contact: Travis Dunekacke at 402-335-0197. 62550 724 Road Elk Creek - Directions: From Jct. of Hwys. 62 and 624 Ave., 1/2 mi. east of Elk Creek. 2 3/4 mi north on 624 Ave. and 1 1/2 mi. east on 724 Road. From Tecumseh, 3 mi east on Hwy. 136 to 624 Ave. (Elk Creek Road), 4 mi south on 624 Ave., 1 1/2 mi east on 724 Road.

"Pawnee Pride Meats": Pawnee Pride Meats focuses on the food chain. They start by feeding the soil through managed, multi-species grazing, hay feeding on pasture, and the elimination of artificial fertilizers and pesticides. This strategy produces abundant and diverse perennial grasses and legumes that are consumed by our grass-only beef, pastured poultry and pasture pork. Virgin native pasture plays a major role in the development of our beef. Meat is available on the farm, and is delivered to a neighborhood near you. Contact Paul Rohrbaugh at 402-869-2396 or pawneepridemeats@alltel.net for more information. Directions: From the west edge of Steinauer, go north 1/2 mi, west 1 mi, and north 1/4 mi.

"Bluff Valley Farm": Bluff Valley Farm is a family farm owned and operated by the Ken and Mary Grace Thiltges Family. The farm specializes in production of naturally-raised meats, using no added hormones or antibiotics. Products include beef, lamb, and pastured poultry. Rotational grazed is used with lamb and poultry. Organically-grown hay and non-GMO grains are used in the operation. Products are sold at the Lincoln Haymarket Farmers' Market, the Nebraska Food Cooperative, in some natural food stores and directly to the consumer. For more information: phone (402) 245-5460. Directions from Falls City, Nebraska are 4 mi. east on Hwy. 159, then 5 mi. north on 656 Ave., and east 3 and one fourth miles on 711 Rd.

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