

MARYLAND GRAZERS' NETWORK NEWS & NOTABLES

COLLABORATIVE PARTNERS:



Network Farmers Undertake Grazing Research

Michael Heller, Grazers' Project Coordinator

The MD Grazers Network has decided to support farmer research on cutting edge grazing practices that have the promise to improve pasture management practices – improving the bottom line and long-term pasture quality, while protecting water quality. Two emerging grazing practices will be the first projects that the Network will undertake to evaluate:

- ◆ Holistic High Density Grazing (HHDG)
- ◆ Keyline plowing/subsoiling using the Yeomans Keyline plow



Photo by Dale Johnson, UME Specialist

Holistic High Density Grazing (HHDG)

In this issue of the Grazing Newsletter there is an interesting and very

candid article by Curvin Eby in which he describes his first year of trying the holistic high density grazing

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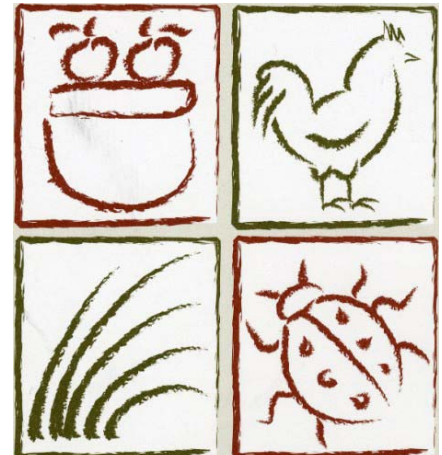
The sponsoring agencies' programs are open to all citizens without regard to race, color, gender, disability, religion, age, sexual orientation, marital or parental status, or national origin.

2011 Future Harvest Conference

"We Are What We Eat: Community Health Through Sustainable Farming"

The 12th annual conference of Future Harvest - A Chesapeake Alliance for Sustainable Agriculture will be held at the Pearlstone Center in Reisterstown, Baltimore County, Maryland on January 14-15, 2011.

The conference will feature four workshops dedicated to grazing systems, as well as a pre-conference field trip to Bobby Prigel's Bellevue Farm to learn about his recently opened processing facility. This year we are pleased to have Abe Collins from Vermont and Ridge Shinn from Massachusetts along with local Grazing Network producers.



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The following is a more detailed description of the four workshops:

WORKSHOP # 1

Improve Soil Health, Productivity and Water Cycling with Keyline Farming - Abe Collins

What is Keyline farming? Keyline soil development involves repeatedly physically loosening and aerating grassland soil with a subsoiler plow in conjunction with planned grazing of livestock during a 2-3 year "soil conversion phase." Keyline is designed to rapidly increase topsoil A-horizon depth and improve soil health by improving soil structure, rain-water absorption, and enhancing soil aeration. There is substantial information indicating that Keyline management can improve soil productivity, farm economics, and water quality.

Abe Collins is a Vermont grazer and a proponent of accelerated soil formation to meet broad social needs for agricultural productivity and environmental security. He is the founder of New Soil Security, Inc., New Soil Quantum, Inc., and a co-founder of the Soil Carbon Coalition.

WORKSHOP # 2

How to pick the right cattle for success in the 100% grass-fed and finished business. Consistent quality grass-fed and finished beef. Why it is critical to success and how to do it. – Ridge Shinn

Cattle that will optimize your grass will be tasty, tender, and have lots of meat in the high-value areas of the animal. Genetics and breed of cattle is a critical component of your choice; even more important is learning to choose the functional subset of the breed that will perform efficiently on a grass-only diet.

Ridge Shinn is a principal in the Rotokawa Cattle Company www.rotokawacattle.com – and a pioneer in the grass farming "movement." "We are still on a steep learning curve, but have the tools (grass and cattle) that will revive the rural economy and improve the land while positively changing human/bovine health."

WORKSHOP #3

Holistic High Density Grazing 'Observations from a first year Mob Grazer' – Ron Holter & Curvin Eby

Holistic Management Grazing is grazing that incorporates ecological, economical, and personal impacts. Does Holistic High Density Grazing show promise even after a brutally hot and dry year? I have seen very many encouraging results along with some challenges to overcome as we progress through the transition from a New Zealand grazing mindset to a HHDG mindset.

Ron Holter of Holterholm Farms in Frederick, MD, has finished his sixteenth grazing season on his family's 207 acre dairy farm that has seen a progression from pasture-based to seasonal to certified organic to no grain, and now to Holistic High Density Grazing.

Curvin Eby of Green Acres Farmstead in Hagerstown, MD, has finished his third grazing season on his family's 128 acre dairy farm. The farm was transitioned from a confinement/row crop to a grass based/seasonal system in 2007/2008. Beginning in the spring of 2010, Curvin is attempting to practice Holistic High Density Grazing.

WORKSHOP #4

Walking breweries, oregano, and omega 3's - the true benefits of pasture raised meats" – Michael Heller

- * How has the human diet changed since our early evolution? And, how does grass-fed meat relate to this?
- * What are the documented health benefits of pasture-raised meats?
- * Why would a beef farmer advocate eating less meat?
- * Ever wondered if there are differences in the benefits between pasture-raised ruminants (beef, bison, lamb, and goat) and pasture-raised non-ruminants (chicken, turkey, pork)?

These and many more questions will be answered in a thorough discussion of the health, humane, and environmental benefits of pasture-raised animals.

Michael Heller has been raising grass-fed beef for more than 25 years at the Chesapeake Bay Foundation's Clagett Farm, and on misty mornings is often seen (and heard) playing his bagpipes on pasture hillsides with the cows.

For those interested in multi-species, there will be three producers sharing their methods of raising broiler chickens for sale at Farmers' Markets. For a detailed description of the other conference tracks and details on the other 20 workshops please, visit the Future Harvest website at www.futureharvestcasa.org. The first 20 grazers' to contact Rob Schnabel with the Grazers' Network will receive \$100 towards the cost of the conference. Register early and contact Rob for this Grazing Network bonus at 443-482-2175 or rschnabel@cbf.org.

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(HHDG) system with his dairy herd near Hagerstown, MD.

HHDG, also called 'mob grazing' by some, is a new approach toward grazing that is gaining converts across the country. At this point there is little formal research to evaluate the HHDG system. The Grazers' Network Team approached Curvin and Ron Holter (another Network farmer who has begun implementing HHDG on his farm) to see if they would be willing to keep detailed, daily records so that it would be possible to determine the long-term (3-5 years) economic changes that result from the much more intensive grazing systems they are employing. Both were enthusiastic about very carefully documenting the changes that occur as a result of implementing the HHDG systems.

Each day they are tracking numbers of cows grazed, paddocks grazed, stocking density (lbs/acre), supplemental feed

used, and milk produced. In addition to this information, changes in certain soil quality parameters are being tracked on both of their farms by Dr. Ray Weil and graduate student, Jillian Blair. We will have updates in the Newsletter on this research as the information becomes available.

Keyline plowing/subsoiling using the Yeomans Keyline plow

This past August, 25 Network farmers took a road trip to Carlisle, PA to visit the farm of Bob Boyce, an advocate of the Keyline farming system for pastures. While what we saw was a modified version of the Keyline system (Bob has created his own sub-soiling implement which is not as streamlined as the Yeoman's Keyline plow), we were plenty intrigued by the possibilities. The Chesapeake Bay Foundation is planning to purchase a Yeoman's Keyline



plow so that a few Network farmers can help to evaluate the potential of Keyline plowing to enhance pasture quality, which would even further reduce runoff and improve water quality. We have not yet obtained the plow, but it is in the works so stay tuned.

Also, if you are intrigued by the Keyline system and want to learn more, check out this original video of Yeoman's farm in Australia and Keyline principles <http://vimeo.com/13323213>. Read about Keyline systems <http://www.keyline.com.au/detail01.htm>.

My First Year Experience With Holistic High Density Grazing

by Curvin L. Eby of Hagerstown, MD



In January 2010, I attended a Grazing Conference in Virginia where Mr. Greg Judy was the featured speaker. I was so impressed with the concept behind Holistic High Density Grazing (HHDG) that I decided to experiment with it on my dairy farm. So, beginning this spring, I jumped in with both feet. The first thing I did was to group all of my animals in one "mob" to increase my stocking density. This included cows (dry and fresh), calves, heifers, and yearling steers – about 110 animals total. One of the first problems I encountered was a few heifers and steers wanting to suckle their nurse cows from the previous year. This was remedied with weaning rings.

I began grazing on April 6 on hay ground and 15 acres of pasture I planned to renovate this year. I did this to allow my primary grazing paddocks to mature to boot stage before turning cows in. This was a mistake because: a) some cows died due to clostridium toxicity; and b) I sacrificed 1st and 2nd cutting hay. Half of my hay ground contains a large percentage of alfalfa and, apparently, the moist spring earth under it was harboring this bacteria. Cows had grazed these same fields the previous fall with amazing success. The alfalfa was grazed evenly and voraciously. Milk production increased 5-10 pounds.

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My First Year Experience With Holistic High Density Grazing ... continued from page 3



Beginning in mid-May, the cows started "grazing tall" in the 80 acres of grass that was stockpiling since green-up. It took approximately 7 weeks to graze across this once. The "mob" covered approximately 1.6 acres per day with five moves (6:00 AM, 8:30 AM, 11:00 AM, 1:30 PM, and 6:00 PM).

By July 4, we were in the middle of the brutally hot drought that plagued the Mid-Atlantic region in 2010. Everything was drying up. Nothing was growing except scattered patches of clover and alfalfa. And so ended my first experiment with HDDG. I began feeding stored hay around July 4 and had it all fed out in a month. From then on, it was purchased feedstuffs and just rotating cows through paddocks to scrounge what they could find.

With the refreshing rains of late September/early October, the grass has come back and the cows are grazing 100 percent again. It's like spring Management Intensive Grazing (MIG)-style with all the young, protein rich grass. So, what did I observe during that 7-week period? Cattle body condition was noticeably greater. My cows were fat. The first calf heifers did not lose condition after freshening. I remember commenting to my wife that we should be raising beef. The cattle started out eating well over 50 percent of the pasture sward and trampling the balance.

By the end of the 7 weeks, the cattle were eating well under 50 percent of the sward and trampling the balance. This, I think, was due to the maturity of the grass and the increasing drought conditions. I was amazed how the cattle seemingly ate everything except the mature ryegrass and com-

mon thistle. Cattle loved Canadian seed heads and leaves, before they went to seed, and lamb-quarter. The cows seemed content.

I was impressed with how well the paddocks were trampled, although not thoroughly flattened. The dry summer simulated a brittle environment and probably improved trampling. I did clip later in the summer to reduce prickly stubble and maximize grazing when the grass would start re-growing. What I clipped was brown and dead. Because we're normally a non-brittle environment with an average annual rainfall of 60 inches, and because my stocking density is low, I'm thinking I'll still need to clip pastures in the future.

Manure consistency was perfect – not too loose, not too stiff. Cow patties were perfectly round with a dimple in the center. Dung beetle activity was prolific. I didn't see too many earth worms (I didn't dig for them either), and they probably dug deeper to find moisture. I'm sure the grass roots pushed deeper – 1) I had grass nearly 5" tall, and 2) the drought probably caused the roots to reach downward for water. The ground surface was covered with a thick layer of mulch, which I'm sure kept it from drying out as fast. The additional organic matter will add fertility to the soil when it decomposes. I noticed a reduced fly problem. I noticed my cattle didn't group in a huddle as much when the sun got hot (and it was hot this summer!!).

My breeding success was poor this year. I contribute this to various things. I was feeding poor quality hay in late winter and early spring, and the winter was harsh. The cows were thinner than I prefer to have them during the calving season. By the time we were in to breeding season, the cows were well conditioned, but it was brutally hot. I think the combination of poor nutrition and cold and heat stress, had negatively affected the cows. I also used Finnish Red sires this year and I'm told they are low on fertility. Most significantly, milk production was down overall. The cows peaked in the spring within 5 pounds of last year, but dropped off quickly and held consistently through the summer at 40 percent below last year. Lower milk production is a harsh reality for a dairy farmer. I believe the heat and drought contributed to this. Over-mature grass was also a factor.

I think, with fine-tuned management, I can im-

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My First Year Experience With Holistic High Density Grazing ... continued from page 4

prove milk production. On the other hand, I had reduced input costs - no purchased lime or fertilizer, reduced seed and hay making expense, and most importantly, the soil was enriched by the additional organic matter and increased biological activity. Dung beetles tunnel nutrients from manure down to the plant roots and earthworms produce top soil - both help aerate the soil. Based on others' experience, this will eventually improve grass quality and quantity, which affects cow health and production.

Since the rains began and cooler weather is here, the cows' production is higher than it was all year. Of course, there is lush green grass all over my farm and the calves are weaned. The latest observation I have made is the phenomenal growth of new seedlings in my paddocks this fall.

So where do I go from here? I want to develop a grazing strategy that will allow me to graze each paddock once every 60 days, beginning April 15 and ending January 15. I'm planning to experiment with brassicas to extend grazing through December and January. In February and March,

I'll continue to rotate through paddocks while feeding good quality hay. At green-up in spring, I will move cattle to a 5-acre sacrifice lot and feed baleage until April 15 again. Then, at this time, I will begin with the paddock that lay fallow the longest last summer. I plan to continue feeding baleage until the grass in the daily paddock meets the dry matter intake needs of the herd. From then on, it will be 100 percent grazing.

Hopefully, this strategy will establish a grazing wedge that will maintain mature, fully-recovered grass that is not overgrazed or too mature. I'm also setting aside 30 acres solely for haymaking. These fields will only be grazed in a drought year and never in the spring. Also, with the support of the Maryland Grazers' Network, I want to maintain more accurate and detailed grazing and production records. This should help me chart my progress and provide a reference for future years.

Two things I have learned for sure this year - 1) I am in a steep learning curve and will probably continue so for several years, and 2) I will not take the blessing of adequate rainfall for granted.

The Oregano is Always Greener

Michael Heller, *Grazers' Project Coordinator*



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<http://agenvironment.blogspot.com/>

Cows have gotten a bad rap in the press for their world wide contributions to the global warming problem. And the truth is, that even pastured cows and other ruminants present a mixed bag when it comes to contributing to the global warming issue. On the plus side, the plants in pastures and on hay land are great for se-

questering carbon by removing carbon dioxide from the atmosphere and transferring it to the soil. In addition, the production of grass-fed meats uses considerably less fossil fuel than is required for conventionally raised meats. Because the animals are grazing healthy pastures (harvesting their own feed), farmers make less use of tractors and combine (which burn diesel fuel) to plant and harvest corn and soybeans, crops that require fertilizers and pesticides made from fossil fuels. We also don't have to take as much time to clean manure from the barns and spread it on fields.

However, ruminants do produce a large amount of methane gas, a major contributor to the global warming problem. Ruminants are great "walking fer-

mentation vats," and it is thanks to this fermentation that they are able to digest grass efficiently. Unfortunately, fermentation generates a lot of methane gas and this is a significant environmental problem. Carbon dioxide gets all the global warming attention, but methane traps more than twenty times as much heat per unit, which makes it the number two gas culprit in global warming.

So cows and other ruminants matter. But, even in this case, it appears that grass-fed animals may provide benefits over conventionally raised farm animals. Some emerging research suggests that grazing and other ways to increase omega-3s in cows' diets (such as including flaxseed) can reduce the meth-

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Calling All Maryland Rural Entrepreneurs! Get Coaching for Success

Are you a rural entrepreneur in Maryland? Entrepreneurs are innovators who assume the risk of organizing and operating a business or non-profit venture. Entrepreneurs question the status quo; they recognize opportunities for addressing needs, problems, and wants that others may not see.

According to the Small Business Administration, we are moving into an 'entrepreneurial age.' If current trends continue, it has been estimated that one out of every four rural citizens will be self-employed by 2015. Being self-employed is a big change. Having a good idea for a new product or service isn't enough – you'll need a lot more to get your idea to the people who want it and will pay for it. Even if you're smart about your industry or know how to do something unique, you might not know how to think like a business manager, or how to make the right connections to money, or where to go to get other information vital to your success.

The Maryland Rural Enterprise Development Center (MREDC), a web-based rural development initiative of the University of Maryland Extension, is providing Maryland's Rural Entrepreneurs with three opportunities to receive one-on-one coaching from trained industry leaders and farmers to help aspiring independent businessmen and women develop realistic plans and achieve their goals.

MREDC, in cooperation with its partnering agencies, is holding three Entrepreneur Coaching round tables. Just as athletes depend on a coach to help them



Photo by Edwin Remsberg

reach new horizons, an entrepreneurial coach can help you to think and act more creatively for success. At these roundtables, aspiring rural entrepreneurs can come in at anytime during the roundtable session and sit and talk with up to four different Entrepreneurial coaches.

This is your opportunity to sound out your business ideas or expansion plans and receive realistic and timely counsel on how to proceed. The bottom line: a coach can help you save time and money. Our Entrepreneurial coaches are well-trained *volunteer* leaders who come from diverse backgrounds including agribusiness, professional services, Extension, community and economic development, and education.

Those attending the coaching sessions will receive referrals to local business development resources, access to the business planning tools on the MREDC web site, and contacts for working with their regional Maryland Small Business Development Offices, University of Maryland Extension, MARBIDCO, Farm Credit, and other specialists in the areas of marketing and business development.

All session attendees will also receive follow-up consultation on writing business plans, mar-

keting plans, links to investors, technical assistance providers, and others.

No registration for the coaching is required. However, registration may be required to attend any event hosting one of the Roundtable Coaching Sessions as part of its program.

Roundtable Coaching Sessions are currently scheduled at these events:

November 6

University of Maryland Eastern Shore Small Farms Conference

Featured topics for the event include: generating profits from alternative fruits, growing herbs and specialty "niche" crops, income opportunities with pasture poultry, entrepreneurship coaching session, and food safety presentations.

New to the conference this year are programs and fun activities for youth, ages 5-18, and free one-on-one coaching sessions with business professionals. For more information, call 410-651-6206/6693 or send an email to Berran Rogers, conference coordinator, at bloggers@umes.edu.

Online registration and regularly updated information is available at www.umes.edu/1890-mce.

December 6

Maryland Farm Bureau Convention and Annual Meeting

(December 5-7 2010)
Clarion Resort – Fontainebleau Hotel,
10100 Coastal Highway
Ocean City, MD 21842

The session will be offered on Sunday afternoon, December 5, in Conference Room #3 from 2:00 p.m. – 7:00 p.m. This is part of the Young Farmers Program.

January 26, 2011

At the 10th Annual Women in Agriculture Conference

(January 25-26, 2011) at
Dover Downs, Dover, DE

Financial Comparison of Grazers to Confinement Farmers

Dale M. Johnson, University of Maryland Extension

Financial data collected from the Maryland Dairy Farm Business Summary (MDFBS) conducted by the University of Maryland Extension provides evidence that grazing may be a profitable alternative to help dairy farms stay in business. From 2007-2009 the 13 grazers who participated in the analysis averaged a \$132 higher annual profit per cow than the 19 participating confinement farms (see accompanying table). Confinement farms averaged much higher total income per cow (\$4,296) than grazers (\$3,041), but grazer's total expenses (\$2,457) were \$1,387 lower than confinement farms (\$3,844). The cost benefit for grazers was common across all expense categories except for interest expense. The biggest cost benefits occurred in purchased feed, depreciation, repairs, and labor. These four expense categories totaled gave grazers a \$759 per cow cost advantage over confinement farms.

It should be pointed out that this analysis is not a random sample. Farmers participate in the summary voluntarily and may not reflect the Maryland dairy industry as a whole. However, those conducting the analysis feel that the management of both the grazers and conventional farms involved in the analysis are comparable and represent average or better-than-average management of dairy farms.

It is important for all dairy farmers to analyze their income, costs, and profit. The MDFBS helps dairy farmers analyze

their financial data to determine their strengths and weaknesses in their operations. If you would like an analysis of your farm, please contact your Extension Agent or Dale Johnson at 301-432-2767 x325 (dmj@umd.edu). This service of the University of Maryland Extension will take about two hours of your time. The information needed is in your tax returns and milk check stubs. This small commitment of time will help you understand your operation better and improve your financial management.



Photo by Edwin Remsberg

Financial Comparison of Confinement and Grazing Farms 2007-2009 Average Income, Expenses, and Profit per COW

	Confinement 19 Farms	Grazing 13 Farms
Average number of cows	147	93
CWT of milk sold per cow	205	132
Farm income		
Milk sales	3,750	2,637
Cattle sales	179	196
Other income	367	208
Total income	4,296	3,041
Farm expenses		
Feed purchased	1,116	812
Seed, fertilizer, chemicals	332	150
Depreciation and repairs	654	436
Labor	314	78
Medical and breeding	177	78
Hauling and transportation	321	223
Rent	145	118
Interest	119	137
Custom hire	115	75
Other expenses	551	350
Total Expenses	3,844	2,457
Profit per COW	452	584
Profit per CWT	2.20	4.46

Green indicates favorable

Red indicates unfavorable

THE GRAZERS' NETWORK PROJECT TEAM

Michael Heller	Project Coordinator, Clagett Farm	301-627-4393
Elmer Dengler	Assistant Project Coordinator, USDA-NRCS	443-482-2922
Ned Sayre	Beef Grazer, Deer Creek Beef	410-808-7615
Rob Schnabel	Chesapeake Bay Foundation	443-482-2175
Dale Johnson	University of Maryland Extension	301-432-2767 ext. 325
Ginger Myers	University of Maryland Extension	301-432-2767 ext. 338
Les Vough	Forage Crops Specialist Emeritus	301-405-1322

The Oregano is Always Greener ...continued from page 5

are produced by cows by as much as 20 to 30 percent. Another new interesting discovery is the recent finding that oregano may be one of the better ways to reduce global warming! Dr. Alexander Hristov, a Penn State dairy scientist, has found that when he fed dairy cows an oregano-based feed, it reduced their methane emissions by 40%. In a recent conversation with Alex, he said he needs to follow up this one study, but that the best part is that reducing the methane emitted by the cows translated into an increase in milk production of 3 lbs. per cow per day. Reduced global warming emissions – increased production. Not a bad deal.

The beef farmer, or the sheep or goat or bison farmer, might wonder if spicing up their herd's diet with a little oregano would not only reduce methane emissions, but also increase the amount of meat produced. Because of the similarities between dairy cows and other ruminants one would predict similar results in all ruminants - comparable methane reductions and increases in production – so increases in meat production might easily result from a diet supplemented with oregano.

Hristov points out that the study and its findings must be replicated. However, he has thoroughly set the groundwork to get the research rolling. Before developing the oregano supplement so successful in this study, he examined and tested multiple essential oils, compounds, and plants.

So farmers don't need to run to their spice cabinets just yet. But pretty soon, that salt block might not be the only modified restaurant seasoning that will be on your cows' menus. Stay tuned.

MEET THE GRAZERS' NETWORK MENTORS

Ron Holter - Dairy	301-371-4255
Bobby Prigel - Dairy	410-592-6014
David Greene - Sheep	410-329-6241
Bill Poffenberger - Beef	301-432-8783
Ryan Bapst - Beef	301-874-0258
Myron Martin - Dairy	301-432-2974
Ned Sayre - Beef	410-808-7615
Glenn Shirley - Dairy	410-346-6604
Robin Way - Poultry Multi-Species	410-658-9731

Newsletter Editor:

Ginger S. Myers
Regional Marketing Specialist
University of Maryland Extension
Phone: 301-432-2767 ext. 338
Fax: 301-432-4089
E-mail: gsmyers@umd.edu

If you know someone who would benefit from receiving this publication, please send their contact information to Susan Barnes at sbarnes6@umd.edu.