UMass Extension
CENTER FOR AGRICULTURE
Agriculture and Landscape Program
at UMass Amherst

Crops, Dairy, Livestock, & Equine News

Vol. 15:1 Summer 2012

Masoud Hashemi, Editor

Center for Agriculture
Univ. of Massachusetts
Amherst, MA. 01003-9294

For further information:
(413) 545-5221

cdle@umext.umass.edu

www.extension.umass.edu/cdle

In this Issue…

Note: mention of any trade name or product carries no implied endorsement from UMass Extension

Welcome to our Summer 2012 Issue!

Announcements:

Visit our new Website!

For up to date, year-round assistance and information visit our new website: ***www.extension.umass.edu/cdle.*** Here you will find everything from upcoming events and recent news to past and present research projects and fact sheets. We also have a selection of Best Management Practices for livestock and dairy available for download and all past CDLE newsletter issues. Also, meet our faculty and staff and find out who to contact for help with any issues you might be experiencing within your operation. Don't wait until the next newsletter to see what's new with CDLE, log on today!

Don't throw out your baleage plastics and farm recyclables!

Amy Donovan, Program Director for Franklin County Solid Waste Management District, has applied for a grant for an **agricultural used plastics recycling program!** Through this program, primarily greenhouse/hoophouse film and baleage plastics/dairy wrap will be recycled. Additional target materials might be triple rinsed pesticide containers and nursery pots, as neither are accepted in municipal recycling. Several area farms are participating in this grant, and hopefully **UMass** will be as well! Keep your eyes peeled for upcoming announcements as we plan to have a "recycling day" at the UMass Research Farm in **South Deerfield** during which you can bring your plastic waste to dispose of in an environmentally sound way!

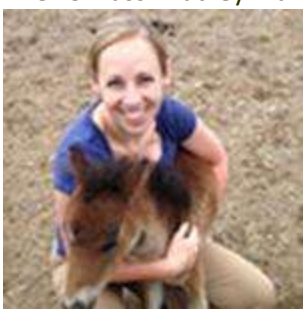
Raw Milk Anyone?

Check out the **MA Raw Milk Producers' Handbook** published by NOFA/Mass Raw Milk. The Handbook is a guide to compliance with the MA laws and regulations around the production, handling and sales of raw milk. This is the first guide of its kind, and is intended to answer most of the questions asked by farmers interested in selling raw milk. It includes sections on subjects such as cleaning equipment, the milking process, bottling, inspections, and more, as well as an annotated copy of the existing state regulations.

The publication was written in collaboration with many raw milk farmers, and was reviewed by the Massachusetts Department of Agricultural Resources (MDAR) to ensure that the information provided reflects the agency's recommended practices. The handbook was published thanks to a grant from the Sustainable Agriculture Research and Education (SARE) program of the USDA. The book is available online at:
http://www.nofamass.org/programs/organicdairy/pdfs/2012_producers_handbook.pdf
a limited number of hard copies are available upon request **(email winton@nofamass.org)**

New Director of Equine Management

The UMass Hadley Farm, home to the Equine and Animal science programs, is pleased to welcome Dr. Cassandra Uricchio as a new team member and Director of Equine Management for the Stockbridge School of Agriculture. Dr. Uricchio has been with the UMass community since January of this year, and brings a great deal of experience and innovative thinking to the Equine Science program. Originally from Enfield CT, she recently graduated from North Carolina State University (where she worked extensively with the Small Ruminant Educational Unit and rode for the NCSU Dressage Team) with a doctorate in Agricultural and Extension Education and a minor in Animal Science. She also holds a Master's degree in Agricultural Education from NCSU and a B.S. in Animal Science from the University of Connecticut where she rode for the University's Equestrian Team.



Her resume boasts a wide array of equine and agriculturally-related experiences including interning with the Bureau of Land Management's Wild Horse and Burro Program where she worked with Mustangs. Prior to receiving a doctorate degree, she taught Biology and Agriculture at Mt. Everett Regional School in Sheffield MA where she started an agricultural education program and chartered a chapter of Future Farmers of America. While teaching at Mt. Everett, she was named "Massachusetts Agricultural Teacher of the Year". Dr. Uricchio lives in Chester MA where she has a spirited Halflinger named Nicker.

What's New at the Hadley Horse Farm

Here at UMass, Dr. Uricchio will be the academic program director of the revamped 2-year Equine Science program within Stockbridge. The new curriculum includes over 8 new classes surrounding areas such as stable management, equine facilities and operation, equine business, equipment operation, equitation instruction, training, and breeding. With Dr. Uricchio's help, the program is now more business oriented than ever with the hope of providing students with the necessary tools and skills to build their own operation after graduating. New to this business educational component of the program is the addition of a business run by Equine students. Piloting this fall is the introduction of Stockbridge Stables, a student-run boarding operation at Hadley Farm. Seniors in the equine program will run and manage the enterprise which will be open to students wishing to board their horses on campus. Also as of this fall, the Western riding team will be based out of the Hadley Farm as well, and the hope is that soon all Equestrian teams will be operating out of the Farm. She hopes to strengthen the internship program, a graduation requirement of the Stockbridge School of Agriculture, and expand it to allow for more globally diversified internship options as she participated in a study abroad program to Ireland during her education and cites it as being an infinitely valuable experience. One of Dr. Uricchio's long term goals is to develop a 4-year Bachelor's degree option for the Equine Science program.

Dr. Uricchio has been working closely with Dr. Gradil, a reproductive specialist, and January Arkle, the Barn Manager of the Hadley Farm, to bring back the Bay State Morgan Line. This historical line of Morgans has been with UMass since 1951 when the U.S. Morgan Horse Farm, a breeding farm for cavalry horses, disbanded and distributed many of their horses to several land-grant colleges. Unfortunately the number of Morgans at UMass has been downsized drastically over the years, so this project is of great importance to the Equine community. Reviving this line will also give students the opportunity to be involved in all facets of raising Morgans from breeding and training to lessons and sales. As always, improvements around the barns are constant with updates and installations being made in regards to new footing in the indoor arena, dry paddocks, and fencing.

This photogenic foal is three-week old Bay State Harrison, the newest addition to the Bay State Line at the Hadley Horse Farm, and dam Bay State Roberta. Harrison is sired by Bay State Homeward Middlebury

Constructing Sacrifice Areas

Masoud Hashemi

When pastures are either wet or in a stage of slow regrowth they are deemed not ready to be grazed and horses should be kept off the pastures. Under these conditions, sacrifice lots can be an excellent practical solution to the problem. A sacrifice area, also called an exercise paddock, is a small non-grazing area that you, as a land manager must sacrifice to protect pastures from over use at critical times. Sacrifice areas are a valuable management tool and the key to good pasture management. Sacrifice areas also become handy during maintenance activities such as mowing, clipping, dragging, fertilizing, and chemical application. Sacrifice lots are especially crucial to horse facilities with insufficient land for grazing. An overgrazed pasture first turns into weeds and soon this gives way to muddy conditions.

Due to high traffic and severe compaction, sacrifice lots are usually free of vegetation. Therefore, footing is an important issue for consideration in order to avoid muddy conditions. Hog's fuel (wood chips), compacted gravel, and sand are common footing materials. There are advantages and disadvantages to each and opinions abound. For example, gravels can be compacted well to provide a firm surface while Hog's fuel is very absorbent and can break down the nitrogen in urine, therefore minimizing odor, but may easily shift around due to horse's movement. Other disadvantages of hog's fuel include breaking down over time. New materials should be added from time to time to compensate. Sand is also a good, low-cost footing material but sand particles can be ingested causing potentially serious digestive problems for horses. Feeding in sand sacrifice areas should be avoided to reduce the risk of digestive issues.

Example of sacrifice areas at the UMass Hadley Horse Farm

The following factors should be considered when establishing a sacrifice area:

1) Location: Sacrifice areas should be built on high, level, and dry ground. It is important to locate sacrifice areas on well drained soils away from water bodies including streams, wetlands, ponds, wells, and lakes. It is highly recommended that sacrifice areas be surrounded by vegetated areas to reduce runoff and capture nutrients and sediments.

2) Size: Some horse owners prefer a separate sacrifice area for each horse. Usually 600 square feet ($30' \times 20'$) per horse provides enough space for exercise. Keep in mind that larger sacrifice areas require more material resulting in a higher cost and needs more maintenance including cleaning.

3) Installation:

a) Divert any runoff from barns, sheds, and house downspouts so that water moves around, not through, the chosen area. Gravel trenches, downspout extenders, and swales are just a few ways to reroute water.

b) Excavate the area to a depth of 8-12 inches and replace the finely-textured topsoil with well-draining gravel. It is recommended that a layer of geotextile fabric be installed before adding gravel and sand. Geotextile fabric is porous so water passes through while soil and rock are held in place. Gravel should be well-graded, meaning it should have an assortment of particle sizes from sand and some fine grains up to stones of one inch in diameter. Put down 6 inches of #2 stone (about 2-2.5 inches in diameter), and then compact it well with a roller or other machinery and tools. Add 3 inches of ¾ inch stone or dust. Top with a minimum of 4 inches of sand, stone dust, or hog's fuel.

c) In wet areas, especially areas where the water table is high, subsurface drainage (curtain or tile drains) should be installed and drainage water should be directed to the vegetated areas. Subsurface tiling also helps to prevent nutrients in manure and urine from contaminating the groundwater.

Continued…..

Example of hog's fuel (wood chips) as footing in sacrifice area

Recently, the Crops, Dairy, Livestock, and Equine Team of UMass Extension has received funding from Mass DEP to install and demonstrate several Best Management Practices to reduce non-point source pollution from equine facilities on two pilot farms. Feel free to stop by the UMass Hadley Farm to observe sacrifice areas with various footing materials.

Contact Masoud Hashemi at 413-545-1843 or masoud@psis.umass.edu for further assistance.

Masoud Hashemi is an agronomist/nutrient management specialist at Stockbridge School of Agriculture.

A Retrospective Evaluation of Nitrogen Management: The Corn Stalk Nitrate Test

John Spargo and Masoud Hashemi

Nitrogen cycling is extremely dynamic. Its behavior in agronomic cropping systems is influenced by fertilizer source, timing, placement, soil conditions and weather, which makes it the most difficult nutrient to manage efficiently. Determining the economically optimum rate of nitrogen can be very challenging. This is especially true when animal manure is used as a nitrogen source and/or legume forages are grown in rotation.

Producers have access to several resources and tools to help inform their nitrogen management decisions. Good record keeping, manure testing, and the pre-sidedress nitrate test (PSNT) can all help improve estimates of corn nitrogen needs. While uncertainty can be reduced, it can never be eliminated and growers often ask, "Did I apply sufficient nitrogen?" An equally import question, from both an economic and environmental perspective, is, "Did I apply excessive nitrogen?"

The most resent USDA-ERS *Commodity Costs and Returns* reports that in 2011, fertilizer accounted for more than 45% of production costs for New England corn producers, and that number is expected to be even higher for 2012. Because fertilizer nitrogen accounts for the largest share of fertilizer expenses, anything we can do to reduce that expense will improve profit margins.

The Corn Stalk Nitrate Test (CSNT)

While dark green leaves and excellent yields are good indicators of sufficient nitrogen, they cannot identify excessive nitrogen, which is often a problem in fields with a history of manure application. Using the Corn Stalk Nitrate Test (CSNT) is one way to more effectively evaluate nitrogen management. Developed in the early 1990's by researchers in Iowa, the CSNT is an end of season test that is especially useful for determining if excessive nitrogen was applied.

Following pollination, nitrogen in the leaves and stalk is mobilized and transported to the developing kernels. At the same time, nitrogen continues to be taken up from the soil. If more nitrogen is available to the corn plant than is needed for maximum yield, nitrate accumulates in the lower stalk. Research conducted in Pennsylvania suggests that if the concentration of nitrate in the corn stalk exceeds 2000 ppm at the end of the season, excess nitrogen was applied (Fig. 1). Research conducted in Massachusetts, Connecticut, and New York supports this interpretation of the corn stalk nitrate test. Many states also use the CSNT to determine if nitrogen supply was optimal, marginal, or deficient; however, below 2000 ppm the relationship between corn stalk nitrate concentration and optimum nitrogen rate is not very clear cut. Recent research conducted in Iowa suggests that where nitrogen is optimal or deficient the variability in corn stalk nitrate concentration may be too great to use CSNT alone to determine if nitrogen supply was inadequate. Table 1 summarizes the general interpretation of CSNT for the Northeastern region. Note that interpretation of optimum

and deficient levels should be combined with other information; such has visual ratings of deficiency symptoms and nutrient management records, before making significant changes to nitrogen management.

The nitrate concentration in the corn stalk reflects nitrogen availability during the growing season and is impacted by **all** of the factors that affected yield during the growing season including, but not limited to, nitrogen management. If corn yield is limited by drought, other nutrient deficiencies, pest pressure, or other stress factors the CSNT may be artificially high. This is because reduced grain yield limited the nitrogen demand. Therefore, interpretation of CSNT results should consider all of the factors that influenced yield.

The CSNT is not meant to be a one-time assessment of nitrogen management. It is most valuable when used for multiple years on the same field to evaluate how it responds to nitrogen management. By keeping good nutrient management records and tracking CSNT over multiple years, growers can adapt their management practices to optimize nitrogen use efficiency and maximize the return on fertilizer investment. It may not be necessary to sample all fields. Regularly testing a set of representative fields may provide sufficient information to evaluate the overall nitrogen management program.

How to Collect a Sample for Testing

Samples can be collected anytime between ¼ milk line (just prior to silage harvest) and about 2 weeks after black-layer formation. For general purposes, one representative composite sample should be submitted for each management unit. Samples consist of 8 inch sections of stalk, with the bottom and top cuts 6 and 14 inches above the soil surface, respectively (Fig. 2). Samples should be collected in a random pattern across the entire management unit. Avoid damaged or diseased plants, skips and doubles, guess rows, and any unusual areas within the field. There is high spatial variability in CSNT so, composite samples should consist of at least 15 corn stalks. Once all stalks for a composite sample are collected, remove the leaf sheaths, cut each stalk section into 2 inch pieces and place the sample in a paper bag labeled with your name and the field ID. Refrigerate the stalk segments if the sample cannot be sent or delivered to a test lab within 24 hours. Do not ship or store samples in a plastic bag because this will prevent drying and may cause spoilage which will affect the results. The testing lab will oven dry and grind the samples prior to analysis.

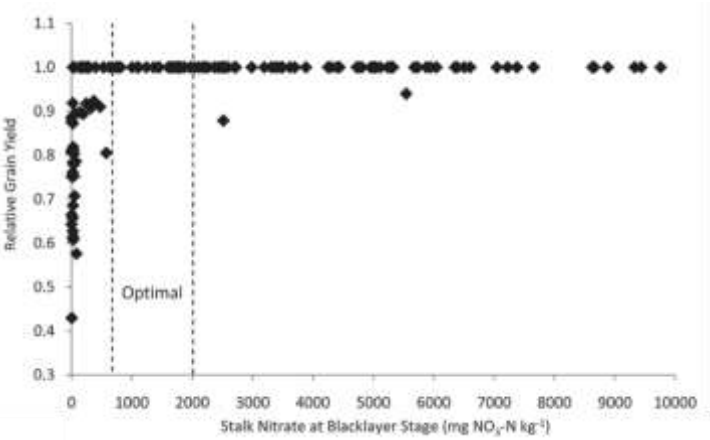


Figure 1. *Research data from work conducted in Pennsylvania by Drs. Piekielek and Fox illustrating the relationship between corn stalk nitrate concentration and relative yield. The test clearly indicates where excess nitrogen was applied.*

Figure 2*. An 8 inch section of stalk should be collected from 6 inches above the soil surface.*

Continued…

***Table 1**. Interpretation of corn stalk nitrate concentration test (CSNT)*

Category	Nitrate, PPM	Interpretation and Recommendations
Below Optimum	<700	Nitrogen may have limited yield. If corn also shows nitrogen deficiency symptoms fertility management should be evaluated to determine if/why nitrogen supply was inadequate and management adapted accordingly
Optimum	700-2000	Indicates that nitrogen supply was likely adequate but not excessive. There may be some yellowing of the lower leaves before corn reaches maturity but this is typical for a well-managed crop
Excessive	>2000	Associated with a high probability that N supply exceeded that required for the yield achieved. Corn plants probably show no signs of yellowing in the lower leaves all the way through black-layer development. Under these conditions economic loss is likely and nitrate leaching is a significant concern. Management should be evaluated to determine why nitrogen supply exceeded corn demand and adapted accordingly

The UMass Soil and Plant Tissue Testing Laboratory will offer the test for $12.00 per sample from August 1 through December 1. Sample submission forms can be found at the lab website (http://www.umass.edu/soiltest/).

Nearby Analytical Labs that Test Tissue and Soil:

UMass Soil and Plant Testing Laboratory is currently able to test soils for regulatory soil test, as well as contamination, however, at this time does not have the capacity to analyze *tissue (forage)* for contamination. For a complete listing of their services, please visit: www.umass.edu/soiltest

Phone: 413-545-2311
West Experiment Station
682 North Pleasant Street
University of Massachusetts
Amherst, MA 01003

Analytical Laboratory and Maine Soil Testing Services located at the University of Maine Orono campus can analyze soil, plant tissue, compost, manure, irrigation water, wood ash, fertilizers, organic residuals and other materials for nutrient content, organic matter, lead and other trace elements. For a complete listing of their services please visit: http://anlab.umesci.maine.edu

Phone: 207-581-3591.
Analytical Laboratory and Maine Soil Testing Services
5722 Deering Hall
Orono, ME 04469-5722

Dairy One Cooperative Inc., located in Ithica NY, can analyze feed and forages, as well as soil, water, and manure for regulatory and contaminated analysis. For a complete listing of their services please visit: www.dairyone.com/default.htm

Phone: 1-800-496-3344 or 607-257-1272
Dairy One Cooperative Inc.
730 Warren Road
Ithaca, New York 14850

Comprehensive Research Project on Switchgrass at UMass

Amir Sadeghpour, Leryn Gorlitsky, Dan Forberg, Stephen Herbert, Randal Prostak, Masoud Hashemi

Switchgrass is a warm season C_4 perennial grass with a deep fibrous root system native to North America. Researchers have become interested in switchgrass because of its numerous useful attributes including: its ability to grow on marginal land, its ability to survive for multiple years, its ability to improve soil and water quality and control soil erosion, and its low fertilizer requirements. It is also favorable due to its ability to adapt to various locations while sequestering carbon and providing wildlife habitat. It is easily harvested with conventional haying equipment.

Switchgrass varieties are generally divided into upland or lowland cultivars, depending on the climate where the ecotype has been developed. Upland varieties are cold tolerant and therefore are more adapted to the temperate weather of the North East, especially Massachusetts. A comprehensive research project on switchgrass as a feedstock for heat generation was started in 2005 at UMass Research and Education Center and continues. In this project various aspects of producing healthy, high-yielding switchgrass plants with high feedstock quality are investigated.

Agronomic Practices

Cultivar selection

Cultivar selection is expected to significantly influence switchgrass biomass yield, re-growth, and quality for bioenergy production. Switchgrass biomass yield has been reported to have high variation among cultivars depending on the location. The ultimate goal of the growers is to produce healthy, high-yielding switchgrass plants with high feedstock quality. To reach this end, it is necessary to select best adapted cultivar for each specific location. Twelve switchgrass cultivars were evaluated to determine which cultivars grow best under Massachusetts' growing condition. Cultivars included Alamo, Blackwell, Carthage, Cave-in-Rock, Dacotah, Ecotype-WI, Forestburg, NE28, Pathfinder, Shawnee, Shelter, Sunburst. Considering biomass production and winter survival, results indicated that Blackwell, Carthage, Cave-In-Rock, Shawnee, and Shelter performed the best while the other seven varieties were considered low yielding varieties. Among varieties, Carthage produced the highest biomass (12.6 Mg ha^{-1} in 2009 and 9.5 Mg ha^{-1} in 2011), while Blackwell was the superior variety in 2010 (10.5 Mg ha^{-1}). The Shelter variety consistently produced lower yield compared with other varieties in high yielding groups.

Time of Planting

The optimal time to establish switchgrass in the northeastern US is unclear. Late May or early June is often used by growers as suitable planting time mainly due to warmer soil causing rapid seedling emergence. Since weeds are major obstacles in the first year of establishing switchgrass delayed planting may significantly reduce the annual weed pressure. On the other hand, winter-chilling effect is considered as a factor for breaking the dormancy of switchgrass and enhances the plant emergence rate. Research is in progress with four planting times (Mid November, mid-May, mid-June, and mid-July) to determine the best time of planting for rapid switchgrass emergence, higher seedling growth and lowest weed pressure.

Seeding methods

The two major contributing factors in stand failure of switchgrass are poor planting methods and weed competition. Seedbed preparation for planting switchgrass seeds typically ranges from conventional to no-till planting into killed sods or bare soil. In this project three planting methods i.e. No-till, Drill, and broadcast, into three killed cover crops (Oat, Rye, and Bare soil) are being investigating. The plots are divided into two sections to further investigate if pre herbicide application (Atrazine and Quinclorac) is sufficient for successful weed control or a post application of herbicides (2,4-D, and Dicamba) is needed to effectively control the weeds in the establishing year.

Physiology

Cutting Height

Cutting height is an important management practice which affects both switchgrass biomass yield and feedstock quality. Our objective in studying cutting height was to determine whether decreasing the cutting height from 15 cm to 7.5 cm could enhance the yield of both young and established switchgrass stands while maintaining the quality of the feedstock. The results suggested that when switchgrass is harvested at 7.5 cm, the biomass production was higher in both young and aged switchgrass stands. Also, our findings showed that cutting height did not influence the feedstock quality therefore; a lower cutting height (7.5cm) is preferred for economic reasons.

Time of Harvest

Harvest time not only influences switchgrass biomass yield, it also affects the biofuel quality. Delaying harvest may reduce the biomass production but may lead to a decrease in ash content which is desirable for combustion. In addition, less nitrogen is required by the plant because of more translocation of nutrients from aerial parts into the roots. However, it is as-of-yet unclear whether the increase in fuel quality offsets the decrease in total production. Thus, two studies were conducted to determine the optimal harvest time for switchgrass grown in Massachusetts. The first study looks at how different harvest times influence biomass yield, re-growth and the quality of selected switchgrass varieties for heat energy production. Twelve varieties mentioned in variety trials were harvested in August (senescence), November (killing frost), and April (early spring). Results for the first year of the study indicated that all high-yielding varieties produced their maximum biomass at senescence. Carthage was the highest yielding variety, and harvesting in fall consistently produced higher yields than harvesting in winter or spring. Harvesting Cave-in-Rock, Shawnee, Blackwell, and Shelter, as plants went into senescence in the first year, caused a dramatic reduction in yield the following year, such that winter harvests were equivalent to or better than fall harvests. Nutrients such as N, P, K, Mg and ash all decreased in the feedstock when the harvest was delayed from fall to winter or spring. Soluble nonstructural carbohydrate concentrations (NSC) in the roots were three times higher in the winter than in the fall. The NSC levels decreased again in the spring. The biomass yields ranged from 6.8 Mg ha^{-1} to 12.6 Mg ha^{-1} across upland varieties in 3 years. Harvest at killing frost was the optimum harvest time for low-yielding varieties compared with fall or spring.

In another study, we evaluated wide ranges of harvest times (mid-September to mid-November) to develop harvest management recommendations for cultivation of switchgrass as biofuel. Cave-in-Rock had its peak yield in early to mid-October ranging from 10-11 Mg ha^{-1}. The yield varied on average by 2.5 Mg ha^{-1} over the fall growing season. Macro-nutrients content including N, P, K decreased linearly as harvest was delayed from mid-September to mid-November. Sucrose levels of the root system significantly increased in the harvest that followed peak yield. The unit energy content in the feedstock decreased linearly from mid-September to killing frost (mid-November). These values ranged from 7366-10,696 J g^{-1}. In 2011 energy per area was equivalent at mid-September to the values at peak yield in mid-October and then declined in the month of November. Although there was more energy per unit of dry matter in the mid-September harvest, there were also more nutrients. When burned at high temperatures, these nutrients form unwanted bi-products including ash, particulate matter, and emissions. Raw materials for e production of ethanol have different requirements. Nutrients and mobile non-structural carbohydrates are beneficial for the conversion to liquid fuel.

Nitrogen Management

Nitrogen is the primary nutrient of concern when determining nutrient requirements of switchgrass. The optimal rates change depending on cultivar, management practices, climate, soil conditions and age of stands. The capacity to create a sustainable bioenergy crop that is economically viable and thermodynamically positive requires a crop that has a low nitrogen fertilizer requirement. Application of nitrogen may also promote weed population. Therefore determination of minimum

nitrogen rate that provides successful biomass and does not promote weed competition is crucial in switchgrass cultivation. In a study, three nitrogen rates (0, 67, and 135 kg ha^{-1}) were applied to the young and established stands of switchgrass. Results showed no significant influence of nitrogen rates on enhancing the biomass production of switchgrass plants regardless of the age of the stands.

Switchgrass physiology research at the UMass Crop and Animal Research and Education Center in South Deerfield MA

Visitors to the UMass Crop and Animal Research and Education Center get a tour of switchgrass research plots

New England Green Pastures Award

The New England Green Pastures program emphasizes the importance of a viable dairy industry in New England. There are three activities within this program which are supported by a very modest budget. First, the program honors the "Outstanding Dairy Farm of the Year" from each of the six New England states; this includes a trip to the Eastern States Exposition where a banquet and evening program center around and highlight these outstanding farms. Second, the New England dairy story is told through the "Salute to Agriculture", at the Eastern States Exposition - the largest assembled group of consumers in New England. Finally, with the help of the Green Pastures program, prominent educators and researchers are brought to New England to conduct special in-service training sessions for Extension, agri-business and dairy leaders on problems the dairy industry faces. Each year, the CDLE Team chooses a Massachusetts Dairy Farm as the recipient of the "Outstanding Dairy Farm of the Year".

To nominate a farm for next year's award, visit www.extension.umass.edu and look under "News and Events". You may also contact Masoud Hashemi at masoud@psis.umass.edu or (413) 545-1843

Jordan Dairy Farm, Rutland MA: 2012 Massachusetts Outstanding Dairy Farm

The University of Massachusetts Crops, Dairy, Livestock, and Equine team would like to congratulate this year's Massachusetts winner of the Green Pastures Award. A 5th generation farm, Jordan Dairy Farm has been in existence since the late 1800s, and at its present location in Rutland, Massachusetts since 1941. Originally a vegetable operation in Holden MA run by William Jordan, his grandson Howard moved the Jordan Farm to Rutland in 1941, increased their herd of cows, at that time Guernseys, and began bottling milk. Howard worked side by side with his two sons Warren and Wayne until the two took over the farm in the 1970s. The two brothers still work side by side, but leadership of the farm has been handed on to Wayne's two sons, Randy and Brian Jordan. Approximately 5 years ago, Randy became President of the corporation and Brian, Treasurer. The two each have young children who hope to be involved with the operation in the future adding yet another generation of innovative dairy farming to the Jordan family legacy.

Randy graduated from Wachusett Regional High School where he was very involved in the FFA program and graduated from Vermont Technical College located in Randolph Center, VT in 1991 with a degree in Dairy Management. Brian is also a graduate of Wachusett Regional High School and graduated in 1996 with a Bachelor of Science Degree in Dairy Science from Delaware Valley College located in Pennsylvania. Randy is a 4-H volunteer and member of the Rutland Agricultural Commission and is also Captain of the Rutland Fire Brigade and Town Moderator. Brian serves on the board for the Select Sires organization and is an assistant coach for the Rutland Youth Softball. Both Randy and Brian are married and have two children each.

The Jordan's run an impressive operation, shipping an average of 23,000 lbs. of high quality milk daily through the DairyLee Corporation. The family currently milks 375 Holstein cows, averaging around 80 pounds of milk per cow per day with approximately 325 young stocks. Their state of the art barns house 600 pampered dairy cattle and are outfitted with amenities such as gel bedding mats and high powered cooling fans increasing the animals' comfort levels. The farm also manages 450 acres of land on which they produce their own grain and silage corn and hay. In addition to the dairy enterprise, the Jordan's also raise approximately 1,000 hybrid double-breasted white turkeys for holiday orders and cultivate around 2 acres of blueberries which they sell at local farmers markets and to roadside farm stands.

As the operation grows, so does the amount of land involved. In 2009, Randy and Brian decided to invest in a nearby dairy farm whose owners moved out of state. The Jordan's are now renting 400 acres and are maintaining several barns that house the Jordan's young stock.

The Jordan's main objective is to maintain a dairy operation utilizing the most effective technological advancements. This is something they are working towards quite substantially as they are the first of five farms in Massachusetts to install an anaerobic digester as part of a cooperative implemented by AGreen Energy, LLC. This digester has been a dream of theirs for 8 years and allows them to operate completely off-grid. It has a daily input of around 20,000 gallons of liquid food waste (from HP Hood, Cabot Creamery, Kayem Foods and Cains Foods) and manure waste creating a biogas that then generates electricity. The digester at Jordan Farm currently produces enough power to run and heat the farming operation as well as power an additional 300 homes! The Jordan's use the residual liquid waste as a nutrient rich fertilizer, as it has higher concentrations of nitrogen than non-digested waste. In addition to benefitting the farm, the digester also benefits the environment by preventing the release of methane into the atmosphere as well as reducing the amount of waste that is sent to landfills.

The Jordan family prides themselves on their commitment to their community and the agricultural industry. Family members are very active members of the Holden and Massachusetts State Grange and the Massachusetts Farm Bureau. The Jordan Farm holds membership in many dairy associations including the MA Association of Dairy Farms and Central Massachusetts Dairy Producers. UMass Extension is pleased to recognize Jordan Dairy Farm as the 2012 winner of the Massachusetts Green Pastures Award.

Upcoming Events for Summer 2012

July 9:'SARE Grass-Fed Beef All Year Long' Summer Workshop
10am-1pm @ Quentin Antes Farm, Conway MA
Visit www.extension.umass.edu/cdle for info or to register contact
Sonia Schloeman 413-545-4347
sgs@umext.umass.edu

July 11:'SARE Grass-Fed Beef All Year Long' Summer Workshop
10am-1pm @ Briar Ridge Farm, Amston CT
Visit www.extension.umass.edu/cdle for info or to register contact Rich Meinert 860-626-6240
richard.meinert@uconn.edu

July 13:'SARE Grass-Fed Beef All Year Long' Summer Workshop
10am-1pm @ Watson Farm, Jamestown RI
Visit www.extension.umass.edu/cdle for info or to register contact Heather Faubert 401-874-2967
hhf@uri.edu

July 18: Twilight Barn Meeting 5:30-8pm
@ Stillman Farm, Lunenburg MA
Contact Masoud Hashemi
masoud@psis.umass.edu
or Mallory Ottariano mottaria@psis.umass.edu
(413) 545-5221

August 9 & 10: MA All Breeds Dairy Show
@ Franklin County Fairgrounds, Greenfield MA
Contact Andrew Samuelson:
jersey_cow_guy@yahoo.com

Sept. 14: New England Green Pastures Award Ceremony
@ Eastern States Exposition, W. Springfield MA
Contact Carrie Chickering-Sears
ccsears@umext.umass.edu

Crops, Dairy, Livestock, & Equine News
UMass Extension
207 Bowditch Hall
University of Massachusetts
Amherst, MA. 01003-9294

NON PROFIT
ORG
U.S. POSTAGE
PAID
Permit No. 2