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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](http://www.extension.umass.edu/cdle)

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University Announcements

Interested in Animals?

Explore the possibilities of hand-on agriculture and prepare for one of the exciting career choices in the rapidly changing field of agriculture. The University of Massachusetts offers two specialty majors that lead to a Bachelor of Science (BS) degree – BS-Animal Science and BS-Pre-Veterinary. Students who are enrolled in the Animal Science major have a choice of two concentrations: Biotechnology or Animal Management. The Stockbridge School of Agriculture offers a two year Associate's Degree Program in Equine Science.

The UMass Veterinary & Animal Science Program combines the best of current and developing technology with appropriate basic science and management principles in a curriculum that provides many "hands-on" opportunities working with domestic animals and giving students a chance to participate in production projects and apply technology under the supervision of skilled faculty. Additionally, the program offers the opportunity for research training in the field of Animal Biotechnology and Biomedical Science under the supervision of nationally and internationally renowned faculty.

Over 400 undergraduates are enrolled at the University of Massachusetts in the Veterinary & Animal Science Program. Fifteen percent of graduates every year are accepted into a veterinary college and federal reports indicate that there are 10-15 percent more professional job openings in the agriculture sector than qualified graduates to fill those positions. An anticipated shortage of college trained agriculture graduates in the coming years has made the college's programs an important element for the training of agriculturists for tomorrow's world.

If you are interested in visiting the campus to explore the Veterinary & Animal Science major, please contact Carrie Chickering-Sears at (413) 549-3257 or via email at ccsears@umext.umass.edu Visit the UMass Veterinary & Animal Science website at www.umass.edu/vasci/index.html

Save the Date! UMass Equine Field Day

Saturday, April 27th 2013– UMass Equine Field Day at the Hadley Horse Farm Equine Field Day will be a full-day event featuring hands on training workshops on topics including Reproduction, Nutrition and Management, Veterinary Care, Horsemanship and Transportation, Manure and Mud Management and more.

More information to follow.

Contact Masoud Hashemi for more information

Grass-Fed All Year Long
Strategies for Expanding Year-round Production of Local, Grass-fed Meat
Mallory Ottariano

As many of you consumers have observed, local, year-round meat is somewhat of an anomaly and as many of you meat-producers have experienced, there is a huge limitation to year-round production that stems from the capacity of New England's slaughtering facilities. Because our current production system revolves around farms carrying the largest amount of animals during summer and slaughtering during fall, the few USDA-inspected slaughtering facilities in the region operate at full capacity during this time and experience an extreme influx of animals causing bottlenecks and untimely processing not to mention huge amounts of stress for producers and processors alike. Investigation has shown that that once fall slaughter is over, most facilities operate well below capacity and would welcome a year-round supply of animals, equating to year-round income.

What if the meat processing infrastructure were modified to be able to support year-round production, offering a more stable income to farmers and processors, while satisfying consumers? Well, that is exactly what a Tri-state project between collaborators at the University of Massachusetts, University of Connecticut and University of Rhode Island is working towards. The USDA-NESARE Professional Development Program grant titled "Grass-Fed All Year Long", now in its second three-year phase, is developing and implementing strategies for expanding winter production of local, grass-fed meat and providing an exciting professional development opportunity for those interested in and working with grass-based meat systems. The goal of the project is to increase local meat production and availability while moving towards a sustainable meat production system with the hope that consumers will benefit from the availability of locally grown natural meats, farmers will benefit from selling their meat directly to consumers resulting in increased utilization and preservation of farm land in Southern New England. This will be accomplished through improving understanding of seasonal forages and animal nutrition, breed selection, breeding, environmental impacts, facility design and maintenance, and other factors that will help to maximize year-round production.

It may sound as if there is a simple remedy to the issue, but in fact, the fix requires a significant change in both philosophy and practice of multiple parties. The project leaders and coordinators have been conducting work under this project, relating to the establishment of a year-round system, for the past 4 years. Outreach has involved meetings with agricultural organizations, Extension, and Food Policy

Councils, educational events and workshops, and extensive surveying to assess the industry situation and to determine the effectiveness of the project's efforts including the long-lasting impacts of such efforts. •

Interested in learning more and getting involved? Now is the time! There are several events planned for the coming year (details to follow):

March 2013-Winter Heavy Use Area and Livestock Health Learning Stations for Year-round Beef Production at sites in Connecticut, Massachusetts and Rhode Island
Presented in partnership with the USDA Natural Resources Conservation Service

April 2013-Soil Health, Forage Analysis and Seasonal Nutrition Issues

July 2013-Using Livestock for Weed and Invasive Plant Control – Animal Behavior Modification at sites in Connecticut, Massachusetts and Rhode Island

And of course you can always visit the project's website (www.meatsystems.uconn.edu) or contact the project's leaders and coordinators:

Tri-State Project Leaders:

Joseph Bonelli UCONN joseph.bonelli@uconn.edu
Sonia Schloemann UMASS sgs@umext.umass.edu
Heather Faubert URI hfh@uri.edu
Kyle Bostrom UMASS kbostrom@cns.umass.edu
Masoud Hashemi UMASS masoud@umass.edu

Project Coordinators:

Michael T. Keilty
UCONN Sustainable Agriculture Systems Coordinator
michael.keilty@uconn.edu

Jean C. King
Food Policy Consultant
jeanking@uconn.edu

Local Profile – Natural Roots, Conway, MA

David Fisher and Anna Maclay

Mallory Ottariano

Tucked away in a scenic corner of Conway along the South River and surrounded by a landscape of undulating foothills lies Natural Roots. After crossing the river on a cable suspension footbridge and which gives way to open fields, it becomes evident that the principle by which the vegetable farm operates can only be described as harmoniously cyclical. Owners and operators, and husband and wife team, David Fisher and Anna Maclay, fully abide by their motto “nourish the land so that in turn it will nourish us”. The components of their farming system run astoundingly seamlessly, and complement each other to create a perfect, sustainably minded system.

There are many unique characteristics that set Natural Roots apart from the crowd, but most striking is the absence of mechanized farm equipment. A team of 5 draft horses and a host of beautifully made field implements prepare and massage the 7.5 acres of land that is Natural Roots’ vegetable fields. David says of the horses, they are “solar powered without the technology”. He cites the benefits of using draft horses being that they cause less soil compaction than tractors might, they are incredibly versatile, and they generate fertilizer in the form of manure. They also have a therapeutic quality. “I enjoy working with them,” says David, “and they fit with my lifestyle goals.”

Natural Roots was born 15 years ago out of David’s farming practice at the HorsePower Farm in Maine and homesteading experience. “[farming] met my needs and goals for my lifestyle”, he says. In addition to their roughly 200 share CSA, they also have an on-farm retail store and sell produce to a few local restaurants. Aside from vegetables and draft horses (who provide the sole source of manure fertilizer



for the farm) the farm also manages a flock of about 200 laying hens. The chickens are rotated on and off fallow crop fields where they play a part in the soil’s cycle as they distress the surface layers and add valuable nitrogen through their manure. There are also a few hogs living at Natural Roots, and it is no surprise that their natural instincts and abilities are put to work within the sequence. Their role in the system is to turn the compost pile which includes manure from the draft horses. Compost must be turned both to aid the decomposition process and to control the temperature to prevent the heat from becoming excessive and killing off beneficial bacteria within the compost. The hogs are fed by having their grain drilled into the compost pile and, as they root around for their feed with their snouts, they turn the compost, and compress it removing air and thereby limiting the heating process. Additionally, the farm currently has a few sheep.

Around this time of year, things are beginning to wind down for the season with respect to the operating



Natural Roots’ fields are under various cover crops during late fall-winter period

David Fisher, taking willow cuttings



farm itself, yet there are numerous other activities to complete in preparation for the following season. Packing and cleanup from the growing season, road maintenance and new construction all take place during this time. At the time of my visit, David and a few of his apprentices were taking cuttings from willows along the riverbank that would later be planted in other areas of the riverbank to grow and eventually prevent erosion. A hugely important part of the growing process also receives a lot of attention this time of year; cover cropping, the main weed control effort and source of fertility building on the farm. Currently, fields are planted in combinations of either oats and peas, or rye and vetch or sweet clover.



Some of the farm's draft horse team

Oats and peas will winterkill, and be tilled early in the following spring for early-planted vegetable. Rye and vetch or sweet clover will overwinter and continue to grow next spring. Eventually they will be either mow-killed or rolled and crimped.

Once winter truly begins, they will start logging on the 100 acres of woodland they currently manage. "We are doing timber stand improvement work," says David "and we take the timber out with the horses. We sell saw logs and pulp

wood logs to a mill, sometimes firewood logs to a processor, and a lot of the firewood logs we harvest, we'll process ourselves and sell firewood the next fall." Of course there's the usual crop planning, budgeting, etc. as well.

Even in a system this complementary there will be obstacles and challenges. One challenge, David notes, is "balancing environmental sustainability with financial sustainability". For example a larger, commercial wholesale farm may be better off financially, yet may have less sustainable practices than a small operation that produces most of its own necessities and sells to local consumers. David says he is always trying to find ways to make purchasing the few outside supplies they need, such as fertilizer and equipment, more sustainable.

Of course, when your livelihood relies on the land and seasonal weather, dealing with abnormal weather patterns and storms is challenging and sometimes devastating. "We had a tough time during hurricane Irene," says David. "We lost lots of crops and topsoil and our fields acquired a lot of unwanted sand. It took a lot of work to remedy." Though, every folly can be a learning experience. As a result of the devastation they experienced during Irene, they now plant cover crops even earlier, prior to hurricane season so that the plants roots will help to secure soil and prevent erosion.

The rewards the family reaps grandly outweigh the challenges. When I asked David what he finds most rewarding about his work, he replied that it is "the big picture farming relates to. It leads toward my pursuit of happiness and a good quality of life." Natural Roots is an extension of the values and ideals the family holds close, and as David says, "our practices are informed by our goals". David and Anna have two adorable young children who show eagerness in continuing the family venture, and both love being involved in the farmwork. •

Heating Greenhouses and Residential with Grain Corn

Masoud Hashemi, John Spargo, Sarah Weis, Stephen Herbert

Most corn grown in Massachusetts is harvested for silage; however, increasing costs of grain corn and fossil fuels has persuaded some dairy and livestock producers to grow shelled corn for feed or heat. Corn is both a high energy feed and high energy source of heat. One bushel of shelled corn with 15.5% moisture produces 375,000 BTU. In recent years many vegetable growers have shown interest in using corn to heat their green houses. Thermal efficiency of shelled corn is reduced with higher moisture. For example, each % point

of moisture above 15.5 reduces the heat energy by 5000 BTU per bushel.. Therefore, one important decision in growing grain corn especially as heating source is hybrid selection. Choosing the wrong hybrid could mean the difference between a profit and a loss. The first consideration in choosing a grain corn hybrid is the ability of the hybrid to reach maturity before frost in the fall. Frozen immature corn is of inferior quality and difficult to market. Yields of frost damaged corn are

lower and, when combined, the percentage of broken kernels is higher than for mature corn. However, a hybrid that matures too early for a locality usually yields less because it does not make full use of the growing season.

Another important quality criterion for grain corn is test weight. Test weight often ranges between 45-60 lbs/bu; the market standard is 56 lbs/bu. In general, high test weight indicates better filled kernels and higher percentage of hard endosperm. Early planting, sufficient N, and proper seeding density are among the factors that result in higher test weight. On the other hand, low test weight indicates that the crop did not mature and was under stress. Grain corn with lower test weight contains more starch and lower protein, which slow field dry



down rates and increase drying costs.

In Massachusetts we encourage dairy farmers to use shorter season corn hybrids along with earlier planting that together can provide the opportunity for timely planting of cover crops to maximize N recovery after corn harvest and fall manure application. Grain corn is normally harvested in November-December so, planting cover crops for N recovery after corn is not a common practice. In fact when corn is grown for grain, almost half of the biomass is returned to the soil at harvest, which helps minimizing soil erosion, adds nutrients to the soil and builds organic matter.. If shorter season hybrids yield similar to full season hybrids then it provides the opportunity for growers to harvest the crop with lower moisture content which reduces drying costs. Other plant characteristics for more rapid natural kernel drying in the field include:

- Fewer number and thinner husk leaves.
- Rapid senescence of husk leaves.
- Less husk covering the ear.
- Early ear drop from upright position.
- Narrow cob diameter.
- Dent kernel types which dry faster than flint types.

We evaluated corn hybrids for grain yield performance and moisture content at the time of harvest at the University of Massachusetts Research Farm, in South Deerfield, Massachusetts in 2008-2011. The number of corn hybrids evaluated each year were; 19 (2008), 15 (2009), 20 (2010), and 21 (2011). Hybrids were placed in three groups based on relative maturity (RM) provided by the seed companies; Group I, shorter season maturity group (85-94 days), group II mid maturity group (95-100 days), and group III, full season group (101-115 days). Results of this work can be summarized as follow:

- 1) Average grain yield differed in each year; 178-224 bushel (2008), 121-224 bushel (2009), 152-208 bushel (2010), and 160-239 bushel (2011).
- 2) No significant difference was found between the yields of the 3 maturity groups in 2008, 2010, 2011, but in 2009 the full-season hybrids out yielded shorter-season hybrids by 50 bushel/acre.
- 3) The moisture content at the harvest varied between 17-25%. In general, the shorter-maturity hybrids had lower moisture content at harvest.
- 4) Grain yield improved linearly as population density increased from 28,000 plants/acre to 33,000.

In summary, if you grow corn for heating purposes:

- a) plant as early as you can,
- b) new grain corn hybrids are adapted to higher population therefore higher densities around 33,000 plants per acre is recommended, and
- c) choose a hybrids with RM of 90-95 days. •

Preparing Your Livestock for the Winter Months

Carrie Chickering-Sears

Cold weather will soon be arriving and now is the time to start winterizing your barns and chicken coops. Poultry, cattle, goats, sheep or any other livestock, all need shelter from the freezing winds. If you can keep your animals eating and drinking and keep them out of the worst winds, they do remarkably well. The following are a few quick fixes that you can make to help keep your animals healthy during the cold winter months:

Bedding and insulation around coops or sheds

The most common bedding is hay and straw. You can also use it to help winterize your coop and sheds. By stacking large or small bales of hay or straw around the outside of the building on the north and west sides, you will see quite a difference in temperature that this makes.

Water

The most frustrating part of the winter months is keeping the water tank from freezing. Many feed stores carry stock tank heaters. These heaters should be tested regularly to ensure they are working properly. A tank heater that is malfunctioning can discourage animals from drinking. You should also insulate pipes and faucets to minimize freezing. In the case of poultry, use a black rubber feed pan since this is more insulated than plastic and if you do not have electricity to run a water heater or heating tape in your coop then you will have to haul water to the birds at least twice a day. Do not use hot water since this tends to freeze faster and it is not good for your birds.

Vaccination and worming

Worming and vaccinations schedules should be followed as a precaution. Though many parasites routinely die-out during persistent cold temperatures, they can be reintroduced. Animals in poor health or that show signs of weakness may be prime candidates for culling.

Feeding during the cold weather

Nutrition should be a primary concern. With sheep and goats, you need to be cautious of feeding alfalfa hay since alfalfa is high in phosphorus and if it is fed, a supplement containing calcium should be included in the diet in order to maintain the desired 2:1 calcium-to-phosphorus ratio. Make sure that mineral blocks are available to your animals at all times. Watch your animal's body condition. If they are starting to lose weight then increase their energy intake. During the cold weather, a little extra grain will help them since they use more energy to stay warm. While the extra grain might cost you a little more, it is worth the cost since it can have a positive effect on the next year's calf, lamb or kid crop.

Creatures of habit

Livestock like regular schedules and they become accustomed to the feeding routine of the same time seven days a week. Your animals will know when it is time for you to come tend to them. By training yourself to go out at the same time, you are actually working with the internal clocks of your livestock and will have healthier animals because of it. The most important piece to this advice is that you will not have to wait for them each morning when you may be running late for work! •



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on variety of topics associated
with horse health, care, management
and welfare are available at
TheHorse.com

Weed Management for Pasture and Hayfields:

Part 2 –Preventative strategies and Cultural Practices

Randall G. Probst, UMass extension weed specialist

The best defense against weeds in pastures and hayfields is a dense, healthy sward of desirable pasture species. The growth habit and vigor of many pasture grasses and forage species make them well-suited to compete effectively with many weeds. In order for these desirable species to reach their peak competitive advantage against weeds certain requirements need to be met. Soil fertility including soil pH should be corrected based on the soil test to insure pasture growth and productivity. UMass soil testing lab information can be found at: <http://soiltest.umass.edu/ordering-information>.

Grazing frequency and intensity is a critical factor in the ability of pasture species to remain competitive against weeds. The amount of forage available can vary greatly and is affected by many factors including pasture species and vigor, pasture age, soil and environmental conditions and number of livestock being grazed. While horses are closer grazers than sheep, goats or dairy and beef cattle, if the frequency and intensity of grazing is not managed properly all animals have the potential to overgraze a specific pasture and increase the likelihood of weed infestations.

The presence of summer or winter annual weeds in a pasture is a good indication the pasture is being over-grazed. Summer annual weeds might include smartweed, crabgrass, pigweed, common lambsquarters, yellow or giant foxtail, fall panicum and common ragweed. Winter annual weeds may include common chickweed, henbit, shepardspurse, annual bluegrass and purple deadnettle. When annual weeds occur in pastures, mowing can be an effective strategy to prevent these weeds from setting seed. The potential for over-grazing should be decreased through the development and use of a rotational grazing program in conjunction with correct animal to pasture ratios.

Pastures that are under-grazed may also become weed infested. Lax grazing allows animals to be selective and often means over-grazing the more palatable species and opening up the pasture for less palatable weeds. Managing the pasture so that it is grazed evenly helps to eliminate the animal's ability to be selective in grazing. The use of a rotational grazing program, where pastures are permanently or temporary subdivided, can be used to adjust the size of the area provided for grazing. Neglect or poorly implemented cultural practices as well as over- and under-grazing can cause a pasture to become infested with weeds. In some instances, weeds may increase to a point where they comprise more than half of the vegetation in a pasture. At this time a pasture manager should consider renovating the pasture.

Pasture renovation, while somewhat costly and time consuming, can be an effective and appropriate solution to many weed problems and in the long run result in a significant increase in the quality and quantity of pasture available for grazing. Prior to seeding, the pasture should be treated with glyphosate to control existing weeds especially those perennials which have the ability to propagate vegetatively. Renovation is best conducted in late summer through very early fall. Proper selection of pasture species and cultivars is a critical step in pasture renovation. Pasture species and cultivars that are best adapted to the type of grazing and site conditions will provide the best weed control. A discussion of herbicides for pastures and hayfields will be featured in Part 3 of this article series in an upcoming newsletter.



2012 Massachusetts Corn Hybrid Evaluation

Masoud Hashemi, Sarah Weis, and Mallory Ottariano

Twenty seven corn hybrids were evaluated for silage and grain yield at the University of Massachusetts Crops Research and Education Center, in South Deerfield, Massachusetts in 2012. Each hybrid was assigned to one of three groups based on the relative maturity (RM) provided by the seed companies; Group I, early maturity group (88-94 days), group II mid maturity group (95-100 days), and group III, full season group (101-114 days). All hybrids were planted on May 7, 2012. A cone type distributor mounted on a double disc opening corn planter was used in a conventionally prepared seed bed. Plots were planted at the rate of 37,000 seeds per acre in 30 inch rows. A complete randomized block design with four replications was used. Weeds were controlled using glyphosate.

The experimental site received 600 lb/acre of 15-8-12 and 2000 lb/acre of lime prior to planting. Pre-sidedress soil nitrate test (PSNT) taken in early July indicated insufficient nitrogen available, thus 600 lb/acre calcium ammonium nitrate (27% N) was applied as sidedress.

Ten feet of the central rows was harvested by hand for evaluation of silage yield. Harvested hybrids were evaluated for silage and ear yield, percentage ears. Silage yield was adjusted to 70% moisture and earcorn yield to 25% moisture.

Ten feet of the central rows was also harvested by hand for evaluation of grain yield and moisture content at harvest. Harvested ears were hand shelled and weighed to measure grain yield. Grain yield were adjusted to 15%. Kernel samples were taken to measure grain moisture at harvest, using a Dickey-John Mini GAC moisture tester.

Climate data for the evaluation site is presented in Table 1. Overall, the 2012 the corn crop experienced an extremely hot and dry growing season.

Table 1: Climate data for 2012 in South Deerfield, MA.

	GDD ¹			Rainfall (inches)		
	2012	Norm	Deviation	2012	Norm	Deviation
May 7-31	367	179	188	3.17	3.42	-0.25
Jun	484	463	20	3.44	4.17	-0.73
Jul	746	606	140	0.57	4.18	-3.61
Aug	693	566	127	1.66	4.03	-2.37
Total	2289	1814	475	8.84	15.80	-6.96

¹ Growing Degree Days was calculated as: $GDD = \sum (T_{max} + T_{min}) / 2 - 50$

Table 2: Mean comparisons of silage, earcorn yield, and percent ear, for three maturity group hybrids in 2012 trial.

Maturity	Silage T/ac @ 70% moist	Earcorn T/ac @ 25% moist	Pctear ¹	Grain Yld. bu/acre @ 15% moisture	Grain % moisture @ harvest
Group I	31.0 c [†]	8.5 c	68.7 a	241 c	18.0 c
Group II	34.5 b	9.2 b	66.9 b	264 b	18.9 b
Group III	37.5 a	9.8 a	65.5 b	281 a	20.5 a

¹ Percent of silage dry weight coming from ears.

[†] Means with the same letter within each column are not significantly different at $P \leq 0.05$.

In 2012 the corn crop experienced hotter and drier condition especially in July and August which coincides with fertilization and grain filling stage. However, no visual symptoms of drought stress were observed in the corn canopy. The silage and grain yield of shorter season corn hybrids were lower than mid maturity and full season maturity groups. In Massachusetts we are encouraging farmers to use shorter season corn hybrids along with earlier planting that together can provide the opportunity for early planting of cover crops which maximizes N recovery after corn and fall manure application. Our multi-year research studies have shown that well-established cover crops, planted by September 1 (achieving 1100 GDDs) can accumulate more than 100 lb N per acre. The results of 2012 hybrid evaluation however indicated at least in some years earlier maturity corn hybrids may produce lower yield than later maturity hybrids.



Table 3: Mean comparisons of silage, earcorn yield, and percent ear, within maturity group of hybrids planted on May 7, 2012 and harvested in November.

Brand	Hybrid	Maturity group	Silage ¹ T/ac	Earcorn ² T/ac	Pct ears	Grain ³ bu/acre	Pct moisture at harvest
Pioneer	P9917AMX	I	31.7	9.0	59.1	256	19.1
Pioneer	P9690HR	I	31.1	8.7	60.4	245	18.0
Pioneer	P9675AMX	I	30.9	8.3	52.1	238	17.6
Pioneer	P9519AM	I	27.5	7.7	60.0	219	18.6
Doebler's	329GRQ	I	32.4	8.7	48.9	250	17.9
Doebler's	357AM1	I	31.2	8.3	55.5	236	17.2
Doebler's	437AM1	I	31.9	8.8	56.5	246	18.0
Mean			31.0	8.5	56.1	241	18.0
Pioneer	P9807HR	II	36.4	10.0	57.0 ab	292	19.1 ab
Pioneer	P9630AM1	II	31.2	9.2	57.0 a	264	18.0 b
Doebler's	459GRQ	II	35.8	9.7	40.0 ab	277	19.8 a
Doebler's	468AMX-R	II	33.3	8.9	48.7 ab	254	19.5 a
Doebler's	472XRR	II	33.6	8.9	38.4 b	253	18.7 ab
Doebler's	478AM-R	II	36.8	9.0	50.7 b	252	18.8 ab
Croplan	1097NDSAS300GT	II	33.2	8.8	36.4 c	256	18.8 ab
Mean			34.5	9.2	48.6	264	18.9
Pioneer	P1498AM	III	40.5 abc	10.5 b	40.0	299 b	22.2 ab
Pioneer	P1376XR	III	36.7 bcde	9.6 bc	44.8	274 bc	22.4 a
Pioneer	P0448AMX	III	39.6 abcd	10.1 bc	47.3	285 bc	20.6 cde
Pioneer	P0216AM	III	36.3 bcde	10.1 bc	42.0	289 bc	19.4 ef
Pioneer	P0210AM	III	35.4 cde	9.5 bc	35.8	274 bc	19.5 def
Pioneer	P0115AM1	III	35.2 cde	8.6 c	48.5	247 c	18.8 f
Doebler's	547AM1	III	34.1 de	9.1 bc	57.7	262 bc	20.2 cde
Doebler's	588AMX	III	33.9 de	9.2 bc	44.5	262bc	20.9 bcd
Doebler's	594GRQ	III	36.4 bcde	9.3 bc	54.3	267 bc	20.6 cde
Doebler's	609AM1	III	41.6 ab	9.8 bc	44.2	284 bc	19.6 def
Doebler's	633HXR	III	41.0 abc	10.6 ab	55.0	304 b	21.1 abc
Doebler's	643HXR	III	43.2 a	12.1 a	59.6	353 a	21.1 abc
Croplan	1105NDSAS300GT	III	32.9 e	8.9 c	52.9	247 c	20.4 cde
Mean			37.5	9.8	48.2	281	20.5
Overall Mean			35.0	9.3	66.7	266	19.5

¹Silage @ 70% moisture ²Earcorn including cob @ 25% moisture ³Grain @ 15% moisture

* Means with the same letter within each column are not significantly different at $P \leq 0.05$.

Crops, Dairy, Livestock, & Equine News
Stockbridge School of Agriculture
207 Bowditch Hall
University of Massachusetts
Amherst, MA. 01003-9294

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Upcoming Events for Winter/Spring 2012-2013

December 4th 2012 – Farmer’s Policy Toolbox

“Nuts and bolts of agricultural resources and policy for local farms from local experts.”
Presented by Stockbridge School of Agriculture
3pm-5pm UMass Campus Ctr, Rm 165-169
Contact Katie Campbell-Nelson
(kcampbel@umass.edu)

December 18th 2012 – Improve your Business with on Farm Research

“The tools knowledge, and management it takes to do your own field crop research and participate in state-wide programs.”
Presented by Cornell University Cooperative Extension. 9:30am-3:30pm
The Century House, Commons Room,
997 Rte 9, Latham
Contact Aaron Gabriel for more information:
adg12@cornell.edu or 518-380-1496

January 17th 2013- Cost-Reducing Strategies for Livestock Operations

UMass Crop Research and Education Center
89-91 River Road
South Deerfield, MA
10am-3pm
Contact Masoud Hashemi: masoud@umass.edu
or 413-545-1843

March 23rd, 2013 - MA Blue Ribbon 4-H Calf Sale

Eastern States Exposition,
West Springfield, MA
<http://www.blueribboncalfsale.com/>
Facebook – Massachusetts Blue Ribbon Calf Sale

April 27th 2013 – Equine Field Day

UMass Equine Field Day. A full-day event featuring educational tracts on Reproduction, Nutrition and Management, Veterinary Care, Horsemanship and Transportation.
Contact Masoud Hashemi: masoud@umass.edu or 413-545-1843.

