

Northeast Pasture Consortium News Update August 2018

Linking Graziers, Researchers, Extension, and Technicians

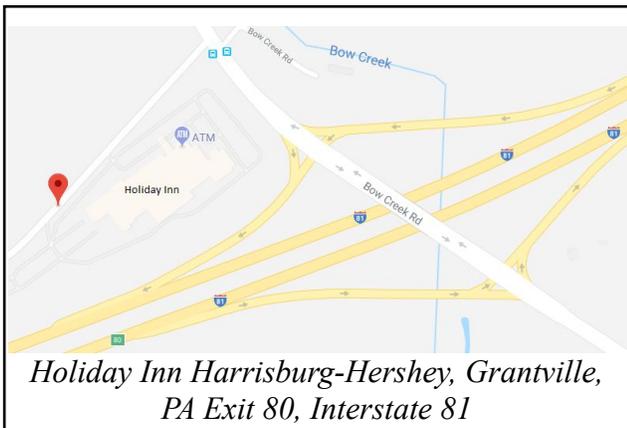
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James Cropper, Executive Director & Editor



2019 NORTHEAST PASTURE CONSORTIUM ANNUAL CONFERENCE

The 2019 annual conference will be held in Grantville, PA at the **Holiday Inn Harrisburg-Hershey** on February 19 and 20 prior to the PA Forage Conference being held on February 21 at the same location. The Holiday Inn Harrisburg-Hershey is located at 604 Station Road, Grantville, Pennsylvania off I-81, exit 80.



Holiday Inn Harrisburg-Hershey, Grantville, PA Exit 80, Interstate 81

Your Executive Committee are putting together the program for 2019 annual meeting. The December News Update will have the registration information and agenda. Look for it and the PA Forage Conference details in that News Update.

Driving Directions:

From the East:

I-78 West to I-81 South to Exit 80. Right off the Exit, then first left onto Station Road.

From the West:

PA Turnpike to Exit 226 to I-81 North to Exit 80. Left off the Exit and left onto Station Road.

From the South:

I-81 North to Exit 80. Turn left off the exit and then turn left onto Station Road. Hotel is on left.

From the North:

I-81 South to Exit 80 turn right off the exit then turn left onto Station Road.

From Harrisburg International Airport:

Route 283 West to Route 283 North to Route I-81 North. Hotel is located off of Exit 80 of I-81. The Holiday Inn offers shuttle service. Radius Covered: 25 miles (Airport is 20 miles away). Cost: \$50.00

From Philadelphia International Airport (PHL):

Take I-95 South to Route 476 North. Follow 476 North to 76 Route 76 West. Follow Route 76 West to the Pennsylvania Turnpike. Take the PA Turnpike to Exit 247. Follow Route 283 North to I-83 North to I-81 North. Hotel is located at Exit 80 of I-81.

This Holiday Inn has hosted many forage and pasture conferences over the years that yours truly has attended while working out of two different locations in Pennsylvania. It is a fine facility.



Below are pictures of the conference room and dining room facilities.



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Plan on attending as we have some new and very interesting technical sessions again. The sessions currently being planned are:

- How to Transition a Dairy Farm from Confinement Feeding to Pasture,
- Promoting Clover Growth in Pastures,
- Managing Pastures before, during, and after Weather Extremes,
- Meat Marketing Strategies & Results from Meat Packing Industry in NY and New England Survey Results,
- Dairy Issues – Grass-Only Milk, A1 versus A2 beta-casein milk, Protein Supplementation, and Milk Fatty Acid Analysis to Adjust Dairy Rations, and
- Producer Showcase.

How to Transition a Dairy Farm from Confinement Feeding to Pasture

As milk prices have tanked while the cost of production continues to rise on fully mechanized dairy farms, we continue to have some farmers thinking about putting their lactating cows, or at least their replacement heifers, out on pasture for as long as they can. What better organization than ours is there that has dairy farmer members who have made the conversion from confinement feeding to pasture feeding and the livestock specialists who have helped them to do so answer the how-to? We hope to address the most urgent issues facing someone wanting to pasture-feed their cows in lieu of year-around confinement feeding.

Promoting Clover Growth in Pastures

This has long been an elusive goal for both far-

mers and forage agronomists on pastures and hay-fields. Some of it is the nature of the clovers themselves and their susceptibility to insect feeding and diseases. It has also been a grazing and soil fertility management issue on pastures.



Butterfly on red clover flower in a pasture.

Yet, there are two strong reasons to have a good legume component in pastures: better livestock nutrition and better grass growth due to legumes fixing nitrogen that is released to the grasses as legume root and nodule slough off and decay. Now an ARS researcher in Kentucky, Dr. Michael Flythe, has found that a biologically active chemical called biochanin A in red clover reduces the effect the alkaloid in endophyte infected tall fescue has on grazing livestock by expanding constricted blood vessels. Many of the problems associated with endophyte infected tall fescue intake, such as increased heat stress, poor average daily gain of growing livestock, and lameness ('fescue foot'), are due to poor blood flow in constricted blood vessels. Biochanin A also increases fiber digestibility in the rumen of cattle by enhancing cellulolytic bacteria competition and rumen bacteria composition. This better utilizes the grass forage being digested in the rumen to produce more meat and milk and less manure. However, biochanin A is estrogenic and will decrease

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fertility in female livestock, especially sheep, if red clover is a large portion of their diet. Therefore, care has to be taken not to get too much clover in the forage mix being consumed.

We will address the new findings in more detail and suggest ways to introduce clovers into pastures and maintain levels that are good for grass production but not so high as to impact livestock performance through bloat hazard or reduced female fertility.

Managing Pastures before, during, and after Weather Extremes

There is a lot of talk about big weather nowadays. It can be extreme drought, torrential rain events, deep snow, tornados, hurricanes, and straight-line howling winds. Even though I can remember such events all the way back to the 1950's growing up in northwestern Illinois, I will grant you that these events can have a great impact on pastures and the management of them before, during, and after a weather extreme. Joshua Faulkner will head up a team of speakers on climate change and its impact on the resiliency of pastures. Permanent pastures are resilient as long as the operator is willing to roll with the punches too. A little bob and weave is necessary to avoid being hit squarely on the chin or in the breadbasket. Depending on the soils and lay of the land the pastures are on, contingency planning for drought, excessive rain, flooding, and other big weather events is and always has been required to manage pastures regardless of what weather event comes your way. The new term, adaptive grazing management, is good way of putting it. Adapt to how the weather is impacting your pastures, or is about to. Anticipate what is likely to go wrong and have a contingency plan in place so your livestock will still have something to eat and not graze the pasture into the ground or muck it up while frogs are drowning.

Meat Marketing Strategies and Results from Meat Packing Industry in NY & New England Survey Results

The Northeast Pasture Consortium has been concerned about the availability of small processing plants close to livestock farmers wanting to market their animals as meat rather than on the hoof. Based on a survey done by Cornell University last year, it would seem that the number of processing plants is not the problem. However, they do have the same problem that the farm community has - the average age of the processing plant owners is 56.6 years. How much longer will they continue to keep the plant open and are there younger people willing to step in and take over these operations? Logistical issues are the real problem with having meat processed locally. Most facilities lack enough cooler space to age meat if presented with too many animals at once and freezer capacity can also be a problem if farmers do not pick up their meat on time. Sixty percent of the plants are very busy from September through January, but things are slow the rest of the year. It is hard to keep a work force when they cannot count on full time work. It would also be good, if producing animals for local consumption, not to lamb and calve an entire flock or herd all at once to give processors a steady supply of slaughter ready animals year-around and not get turned down by them if asking them to do too many animals at one time or for a slot during deer hunting season. This is just a teaser to get you to come to hear the rest.

Dairy Issues – Grass-Only Milk, A1 versus A2 beta-casein milk, Protein Supplementation, & Milk Fatty Acid Analysis to Adjust Dairy Rations

Our eclectic session for this year's conference takes on four topics of interest to pasture-based and confinement dairy farmers. Grass-only milk or grassmilk is quite different than both organic and conventional milk in its omega-6 to omega-3

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ratio. The omega-6/omega-3 ratios were, respectively, 0.95, 2.28, and 5.77 in grassmilk, organic, and conventional milk in a recent study. A ratio of 4.0 or less is considered to be best for cardiovascular health. However, since very little if any supplementation of other feedstuffs is done, there can be an imbalance of energy versus protein intake by the dairy cow, this can lead to very low milk production and impact cow health adversely. A recent survey done by three Northeast scientists will delve into how grassmilk producers are coping with the problems of producing grassmilk.

A2 beta-casein milk is being touted as a better type of milk, in particular, for people who have digestive trouble consuming milk. Just now being introduced into the US in a big way, we thought we should have someone speak about it in comparison with conventional milk in the store that is mostly A1 beta-casein milk. This is due to Holstein herds producing mostly A1 milk and most dairy herds are Holsteins. So far there is not much science behind the health claims being made, but a few farms are making the transition to get cows that only give A2 milk. It takes a few years to do so as it has to be done through cattle selection and breeding. The two types of beta-casein cannot be separated at the processing plant.

Dairy cow milk protein also includes bioactive proteins and peptides that have been shown to enhance the health of animals and humans. Supplements in the dairy cow ration can influence the quantity and profile of proteins within cow's milk. We will have one of the people working on this from the University of Vermont share with us their latest findings.

The last topic covered by this session will look at means of doing on-farm milk fatty acid analysis milk samples to see if feeding them an all grass diet, or a mostly forage diet with some supple-

mentation, what those rations are doing to the fat composition of the milk. Are we getting a low omega-6 to omega-3 ratio that is considered to be better for cardiovascular health? What influence are we having on other milk fat components? One of our dairy farmer members has been taking infrequent samples so he at least knows whether the ration is working out the way he wants for the omega-6 to -3 ratio. However, the current test procedure that he is using is expensive. What test procedure currently being worked on would give him the test results he wants but reduce the cost per sample so that he could test more frequently without busting his budget?

Producer Showcase

Since 2012, the Producer Showcase has been a yearly session. Outstanding pasture-based farmers at this session share with us how they manage their pastures and their farm operations to improve profitability, their lifestyle, and the environment. They are innovators and often come up with ways of doing things that really show that necessity is the Mother of invention.



Holsteins on rotational pasture

**Pennsylvania Forage Conference,
February 21, 2019**

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The Pennsylvania Forage Conference will be held at the Holiday Inn Harrisburg Hershey in Grantville the day after our 2019 Conference. They are currently in the beginning stages of developing their program. The December issue of the NEPC News Update will provide their agenda and speaker information.

While cleaning out my file cabinet that I am moving to our new home not far from the old one in Greensboro, NC, I ran across a news article that I had cut out from a Cherry Hill, NJ newspaper, the Courier-Post published in May of 1988. I was just 5 months into my new job as the NRCS Northeast Region forage agronomist at Chester, PA and a member of Northeast Pasture Coordinating Committee, the forerunner of the Northeast Pasture Consortium. I had long forgotten that I had this article, but this will go to show everyone how long that we have known that the saturated fat, stearic acid, found in meat and milk has been known to lower blood cholesterol in humans. It will also demonstrate that the study reported here was dismissed as good piece of work, but not good enough to change dietary recommendations. In 2004, at our 2004 Northeast Pasture Consortium Annual Meeting (now renamed conference), we held a session, Research on CLA and "good" fatty acids in livestock products from pasture and their role in human nutrition" where Dr. David Baer, ARS-Beltsville, also reported that stearic acid lowered blood cholesterol in humans. Nothing changed this fact when Dr. Baer reported to us at our 2017 Conference. Given this span of time, the study from 1988 must have been vindicated by further clinical trials or research. Yet here we are today with saturated fats still being blamed for cardiovascular disease as a whole even though there is evidence that they all do not have the same impact on blood cholesterol or cardiovascular disease. One has to suspect that

old bromides die hard just like the blood vessels of high cholesterol patients eventually. Or, no one wants to admit they were wrong originally or only partially right. Here is the 1988 news article:

Study: Beef fat can cut cholesterol

BOSTON (AP) – A major form of saturated fat in beef appears to lower cholesterol rather than raise it, so meat may not be as bad for the heart as many experts had believed, new research concludes.

Dr. Scott M. Grundy said his work suggests that people should be able to eat moderate amounts of lean beef without worry, although he believes they should stick with widely endorsed guidelines for cutting fat consumption.

"Beef is okay for most people in moderate amounts," he said in an interview.

Other experts cautioned that his study, based on liquid diets given to 11 men, is too small and preliminary to be the basis for saying how people should eat. All 11 were healthy volunteers, in their late 50s to early 70s. The researchers cautioned that only men were enrolled in the study and that the findings might not apply to women.

Grundy found that, contrary to widely held beliefs, not all saturated fat raises the body's supply of cholesterol. Instead, one type found in beef and many other foods seems to lower it, just as monosaturated and polyunsaturated fat does, while another kind found in beef raises it.

If confirmed by other research, the finding means that food makers may be able to use the cholesterol-lowering saturated fat to create margarine that's more like real butter as well as healthy shortening for cooking.

Grundy said his work does not imply that people

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can gorge on prime ribs or other fatty beef with abandon. But, he says it appears that three-ounce portions of select-grade beef are reasonable, and people need not give up beef entirely to protect their hearts.

The research was conducted by Grundy and Dr. Andrea Bonanome at the University of Texas Southwestern Medical Center at Dallas. It was published in today's New England Journal of Medicine.

Cholesterol clogs the arteries and leads to heart attacks and strokes.

In an interview, Grundy noted that American are already eating leaner beef than in the recent past.

“By removing the fat from beef, we can still maintain its quality and yet have very little fat,” he said. “Furthermore, the fat that remains, if we eat lean beef, does not raise cholesterol as much as we thought. So, I think we can say that if beef is obtained in the proper way, it really should not be feared as a cholesterol-raising food.”

Grundy is a past chairman of the American Heart Association's Nutrition Committee and contributed to the association's dietary guidelines suggesting that people limit their total fat intake to 30 percent of total calories. Saturated fat should be less than 10 percent of the day's calories.

In an accompanying editorial in the journal, Drs. Irwin H. Rosenberg and Ernst J. Schaefer of the U.S. Department of Agriculture Human Nutrition Research Center at Tufts University said the latest research “demonstrates convincingly” that one form of saturated fat lowers cholesterol.

However, they said people should still hold down fat consumption.

“This study should not change our chief dietary message to the American public,” they wrote.

Dr. John C. LaRosa of George Washington University, chairman of the heart association's Nutrition Committee, agreed. “It is a nice little piece of work,” he said, “but it is not the basis for dietary recommendations.”

Fats from plants and animals differ in their proportions of various fatty acids. Safflower oil, for instance, is high in oleic acid, which lower the body's cholesterol levels, while palm oil contains high levels of palmitic acid, which raises cholesterol.

Beef fat is high in both palmitic acid and stearic acid; both are saturated fatty acids. Unlike polyunsaturates such as corn oil, saturated fats are solid when cool.

In the study, men drank three liquid formula diets for three weeks each. They were high in palmitic acid, stearic acid, and oleic acid.

The researchers found that compared with using the high-palmitic acid diet, the men's blood cholesterol levels dropped 14 percent while they consumed stearic acid and 10 percent while on oleic acid.

Grundy said that 3 percent to 4 percent of the calories in the typical American diet are from stearic acid.

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Beef cattle grazing near pond in a rotational paddock, note banks are in excellent grass cover.

Renovation of pastures for this year is pretty much forgone at this point. However, it is not too early to think about it for next year if the need is really there. The following article was written a couple of years ago in the *Progressive Forage Grower* magazine. It is as clear-eyed as you will ever find on whether you really need to renovate or not. It also sets the record straight that if you do not manage grazing and soil fertility that you are going to be perpetually renovating until you change your mindset on how to stock your live-stock and loosen up the purse strings a bit to lime and fertilize your pastures according to soil test recommendations. I have sprinkled a few paren-thetical words or phrases in the article to address some issues in the Northeast.

Introducing forages: to renovate pasture or not

James Rogers, Noble Foundation, for Progressive Forage Grower

Several considerations should be evaluated prior to making the decision to renovate an existing pasture. In some cases, there may not be an alter-native. Mother Nature may have hit with a flood or an extended drought that eliminated the pasture through no fault of your own. On the other hand, if a pasture has deteriorated because of over-grazing, failure to test and fertilize, or control weed pressure, or some other management-related issue, then management will need to change or the decision to renovate will be a recurring event. Here are considerations to run through when making the decision to renovate or not.

Why do you need to renovate?

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If the cause for renovation is management-related such as overgrazing or fertility, are you willing to change your management to be successful?

Assess your current stand

The decision to renovate based on stand survival will vary by species and the environment in which you are making the decision. Stand recovery will be much easier in areas with higher rainfall compared to arid regions; it is impossible to develop guidelines that apply to all ecological regions. In general, for an aggressive-spreading species such as bermudagrass (bluegrass in the NE), a stand loss of 30 percent has an excellent chance of recovery by controlling weeds, applying fertilizer and applying best management practices. A stand loss of 30 to 60 percent still has a good chance of recovery but will require more time and patience. At a stand loss of greater than 70 percent, there are probably not enough rhizomes (bluegrass) and stolons left in the pasture for recovery, and renovation is probably required. For bunch-type grasses like tall fescue (or orchardgrass) a stand loss of 25 to 30 percent provides a good opportunity to add another species such as a legume to the stand. Renovation or re-establishment should be considered at a stand loss of 50 percent or greater.



No-till drill in operation to interseed new forage.

Sacrifices during renovation

Keep in mind that during the renovation process, forage production and livestock carrying capacity will go down. This may require additional supplemental feed to maintain the current animal demand, destocking, or finding additional forage from another location. Renovation may also require more than one growing season to complete, which should be kept in mind as well (native warm season grasses).

What are your goals?

What are you trying to achieve by adding new forage or renovating what you have? Are you trying to provide grazing during a season of the year in which you are short? If so, make sure you choose the right type of forage to fit your goal.

Assess your resources

Soils, rainfall, and growing season will dictate what forages will perform best on your operation. Many mistakes have been made by selecting a forage based strictly on yield data (/sales pitch) and then putting it onto soil or into an environment where it is not adapted (perennial ryegrass), resulting in poor performance (or short survival). Avoid this mistake by doing your homework. Take a look at the soil that make up your property. Are they clays, sands, or loams? What is the water-holding capacity? How well does the soil drain? If you do not know where to get started, start at your computer by going to the Web Soil Survey (websoilsurvey.nrcs.usda.gov) or contact your local university extension or Natural Resources Conservation Service personnel.

Time

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Time may be the most important consideration when it comes to renovation. Allow yourself time to put all the pieces in place for a successful renovation. For example, if your soils are acidic, you will need to allow up to six months from lime application to planting in order for pH change to occur. Another example would be if you need to eliminate an existing perennial grass in order to introduce a new perennial grass. This can take up to one year or more, especially if you are trying to eliminate something as tough as bermudagrass (or reed canarygrass or tall fescue).

Research

Per-acre cost of renovation or the introduction of a new forage will vary based on the species that is being established. However, a per-acre cost of \$125 to \$200 is not unusual, so doing it right the first time is paramount. This includes spending time researching the species and variety that will fit best in your environment, soils, and management. Look for replicated variety trial data from university trials or other unbiased sources to help you make your variety decision. The data should come from an environment similar to yours. Also see how the variety has performed over time and across numerous locations to make sure its performance is stable. Know that a variety that performs well in a humid, moist environment may fall flat on its face in an arid climate (or low water-holding sand).

Soil test

Soil test prior to forage establishment. This is one of the most basic management practices, yet a lot of forage producers fail to do so. Forage nutrient requirements will vary based on species. Nutrient levels required for legumes will differ from that of grasses. How you fertilize for the establishment of grass-legume mixtures will be different from (grass) monocultures, and it is all just a guess unless you test.



No-till drill with trailing chains to cover seed slot. Grass grazed/cut close to suppress regrowth to allow seedling development before canopy closes.

Do a good job of seedbed preparation

Whether you are using tillage or no-till to establish, make sure you do a good job of preparing the seedbed. Creating a seedbed environment where good seed-to-soil contact can be obtained goes a long way to achieving successful stand establishment. (Seed slot closure is critical for no-till seed drills. Too much surface trash or wet soil.)

Obtain good seed or sprigs

Planting seed from a known source that is high in germination and vigor with no weed contamination will eliminate a lot of headaches later on. Many stand failures can be traced back to poor seed. If establishing a forage such as bermudagrass from springs, locate a sprig source as close as possible to where you will be sprigging. Allowing sprigs to dry out from the field to the sprigging site will greatly reduce sprig viability and success.

Calibrate and make sure planting equipment is in good working order.

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Take time to go through your equipment prior to going to the field to make sure everything is in good working order. Spider webs in drop tubes can plug up seed flow and cause skips in the field. Inspect bearings to ensure they are in working order and that press and gauge wheels are adjusted properly. Also, make sure you have the right equipment of the job. Many of the native grass seeds are “fluffy”. They will absolutely not flow through a regular grain drill and require oversized cups and drop tubes with an agitator in order to be metered through. Calibrate the equipment as well. There is a lot of variety in seed size and weight; while the guides in the drill boxes will get you close, it still pays to calibrate.

Plant at the right depth, then follow up

Plant at the right depth for the forage type with good seed-to-soil contact. Following establishment, control weeds with the right herbicide for the target species and follow all label requirements. Fertilize appropriately according to soil test results. Graze or harvest only after the forage has become firmly established.

The decision to renovate or introduce a new forage can be challenging, but there is information available to help make the process easier. It is also a long-term investment into your operation, and taking the necessary steps to ensure success the first time will pay dividends into the future.

The News Update Credo

The Northeast Pasture Consortium News Update is published semi-annually, early fall and winter issues. The goal of these news updates is to keep our Consortium members abreast of the latest research and technology that most impact pasture-based farmers, inform them about the upcoming annual conference, and provide a forum to guide and formulate good policies and best management practices that keep pasture-based farms

profitable, efficient, and environmentally sound.



Angus cattle on a pasture with a high white clover component, perhaps too high. Grass component being too closely grazed; a higher residual grass stubble will dial back clover percentage of forage mass if grass component is just suppressed rather than virtually eliminated.